THE CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
INVITATION FOR BIDS
AND
AGREEMENT
FOR
ON-CALL GENERAL CONSTRUCTION SERVICES AT VARIOUS DOHMH FACILITIES
DATE OF ISSUE: March 13, 2017
PIN: 17BS007500R0X00

_____________________________________

AUTHORIZED AGENCY CONTACT
Bidders are advised that the Agency's authorized contact person for ALL matters concerning this IFB is:

Marc Dombrowski, Esq., Contract Manager
Email: Bids@health.nyc.gov
New York City Department of Health and Mental Hygiene
Office of the Agency Chief Contracting Officer
42-09 28th Street, 17th Floor, CN-30A
Long Island City, NY 11101-4132
P: (347) 396-6794

_____________________________________

EPIN: 81616B0014

The New York City Comptroller is charged with the audit of contracts in New York City, Any vendor/provider who believes that there has been unfairness, favoritism or impropriety in the bid process, should inform the Comptroller, Office of Contract Administration, 1 Centre Street, Room 835, New York, New York 10007 (212-669-3870).
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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, by emailing DSBS at MWBE@sbs.nyc.gov, by calling the DSBS certification hotline at (212) 513-6311, or by visiting or writing DSBS at 110 William St., 7th 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, 9th Fl
New York, New York 10014
Phone: (212) 366-7500
Fax: (212) 675-3140
Business Manager: Joe Geiger

CEMENT MASONS NO. 780
150-50 14th 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 35th Avenue
Long Island City, NY 11106
Phone: (718) 392-5077
Fax: (718) 392-5087
Business Manager: Alex Castaldi
DERRICKMEN & RIGGERS LOCAL 197
35-53 24th Street
Long Island City, NY 11101
Phone: (718) 361-6534
Fax: (718) 361-6584
Business Manager: William Hayes
Billhayes197@yahoo.com

DRYWALL TAPERS 1974
265 West 14th 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) 380-8998
Fax: (718) 591-4000
Business Manager: Chris Erickson
Construction

ELEVATOR CONSTRUCTORS NO. 1
47-24 27th Avenue
Long Island City, NY 11101
Phone: (718) 767-7004
Fax: (718) 767-6730
Business Manager: Lenny Legotte
llegotte@localoneieec.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 11th 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  
331-337 West 44th Street  
New York, NY 10036  
Phone: (212) 245-7040  
Fax: (212) 245-7886  
Business Manager: Kuba Brown  
kubabrown@local94.com

GLAZIERS NO. 1087  
45 West 14th 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 24th Street  
Long Island City, NY 11101  
Phone: (718) 784-3456  
Fax: (718) 784-8357  
Business Manager: Matty Aracich  
matty@insulatorslocal12.com

HEAT & FROST INSULATORS  
LOCAL UNION NO. 12A  
1536 127th Street  
College Point, NY 11356  
Phone: (718) 886-7226  
Business Manager: Jaime Soto

IRON WORKERS DISTRICT COUNCIL  
22 West 46th Street  
New York, NY 10036  
Phone: (212) 302-1868  
Business Manager: James Mahoney  
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 97th 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 8th Avenue
New York, NY 10018
Phone: (212) 465-7900
Fax: (212) 465-7903
Business Manager: Michael Prohaska

LABORERS NO. 731
34-11 35th 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 8th 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 33rd Street 2nd Fl.
Long Island City, NY 11106
Phone: (718) 361-1770
Fax: (718) 361-1934
Business Manager: Hector Lopez

MILLWRIGHT AND MACHINERY ERECTORS 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 42nd Street
New York, NY 10036
Phone: (212) 594-1662
Fax: (212) 564-2748
Business Manager: Pete Myers

PAINTERS DISTRICT COUNCIL NO. 9
45 West 14th Street
New York, NY 10011
Phone: (212) 255-2950
Fax: (212) 255-1151
Business Manager: Joseph Azzopardi

PAINTERS STRUCTURAL STEEL NO. 806
40 West 27th 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 37th 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 43rd 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 44th 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 48th 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 44th 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
M/WBE UTILIZATION GOALS

NOTICE TO BIDDERS: THIS CONTRACT IS SUBJECT TO M/WBE UTILIZATION GOALS

VENDORS ARE ADVISED THAT THIS IS CONTRACT IS SUBJECT TO MINORITY/WOMEN BUSINESS ENTERPRISE (M/WBE) REQUIREMENTS AS APPLICABLE.

IN ORDER FOR THIS BID TO BE CONSIDERED, YOU MUST COMPLETE, SIGN, AND SUBMIT A SEALED ENVELOPE MARKED “SCHEDULE B – M/WBE UTILIZATION PLAN” AT THE TIME OF THE BID SUBMISSION.

THE MINORITY/WOMEN BUSINESS ENTERPRISE (M/WBE) UTILIZATION PLAN IS LOCATED ON PAGE 327. THE FORM MUST BE FILLED OUT IN ITS ENTIRETY AS APPLICABLE, AND MUST BE SIGNED. ANY CHANGES MUST BE INITIALED IN INK BY THE BIDDER.

NOTE: BIDDERS WHO WISH TO APPLY FOR A WAIVER OF THE M/WBE PARTICIPATION GOALS MUST COMPLETE PART III – REQUEST FOR WAIVER OF M/WBE PARTICIPATION IF YOU ARE APPLYING FOR A WAIVER, YOU MUST SUBMIT THE WAIVER TO THE DEPARTMENT VIA FAX (718) 999-0177 NO LATER THAN SEVEN (7) DAYS PRIOR TO THE BID OPENING DATE.

If the waiver is not received by the waiver due date, then you must complete the form on Page 337 and submit it with the Bid.

YOUR BID WILL NOT BE CONSIDERED IF YOU SUBMIT YOUR WAIVER REQUEST WITH THE BID.
NOTICE TO BIDDERS

Please be advised that the City of New York has revised the form of the performance bond that is required for City construction contracts that exceed $5 million. The form of bond required for contracts that do not exceed $5 million has not changed. The City’s payment bond remains unchanged.

The bond form for contracts that do not exceed $5 million has been approved by the U.S. Small Business Administration ("SBA") for participation in their Bond Guarantee Program. The SBA’s Bond Guarantee Program enables eligible small businesses to obtain or increase bonding by having the SBA act as a partial guarantor of the contractor to the surety. For information concerning the SBA program, including current limits on what size contracts are eligible for participation in the program, go to www.sba.gov/osg. If you are interested in participating in this program, we suggest that you contact your broker or the SBA.

In order to maximize participation by small businesses in the SBA Guarantee Program, the City also encourages prime contractors who are awarded contracts greater than $5 million to allow their subcontractors to use the SBA-approved form, particularly on contracts that are subject to Local Law 129 (the M/WBE program), if the prime contractor requires subcontractors to obtain performance bonds.
NOTE TO BIDDERS:

YOU MUST READ THE ENTIRE DOCUMENT. HOWEVER, PLEASE COMPLETE AND SUBMIT ONLY THE BID PACKAGE (SECTION IV).

RETAIN THE REMAINING PARTS FOR YOUR INFORMATION. READ SECTION IV FOR DETAILED INSTRUCTIONS ON BID SUBMISSION.

SECTION I: TIMETABLE AND OVERVIEW

1. Release Date of this IFB: March 13, 2017
2. Pre-Bid Conference: March 20, 2017

Attendance by bidders is optional but strongly recommended by DOHMH. To register for the conference, please email the name, title, and affiliation of each attendee to Bids@health.nyc.gov. Please state “ATTENDEE GC SERVICES” in the subject line of the email. On the day of the conference, please bring photo ID with you and arrive thirty minutes early to allow for the time that it will take to proceed through security.

3. Deadline for Questions: March 22, 2017

All questions must be submitted in writing to the Authorized Agency Contact person, preferably by email to Bids@health.nyc.gov. Questions received after the Deadline for Questions will not be considered.

4. Bid Due Date and Time, Public Bid Opening Location are as follows:

Date: April 5, 2017
Time: 11:00 A.M.
Location: New York City Department of Health and Mental Hygiene
Office of the Agency Chief Contracting Officer
42-09 28th Street, 17th Floor, CN-30A
Long Island City, NY 11101-4132
Attention: Marc Dombrowski, Esq., Contract Manager
Email: Bids@health.nyc.gov

NOTE: Any bids received after 11:00 A.M. on the Bid Due Date will be considered late and will not be accepted.

General Bid Submission Information:
• To ensure that bids are properly received and recorded, contractors submitting
bids prior to the Bid Due Date must contact the Authorized Agency Contact
to pre-arrange a bid drop-off.
• Emailed or faxed bids will not be accepted.
• DOHMH will not be responsible for bids that are deposited with anyone other
than the Authorized Agency Contact.

5. Projected Contract Start Date: September 1, 2017

A. GENERAL STATEMENT OF PURPOSE

The New York City (“City”) Department of Health and Mental Hygiene (“Department” or
“Agency” or “DOHMH”) seeks a qualified vendor to provide on-call general construction
services, as described in these Specifications, in various buildings owned and/or operated by
DOHMH within the five (5) boroughs of New York City.

DOHMH maintains approximately 26 facilities throughout the five boroughs of New York
City. The Contractor shall provide, as directed by the Department, general contracting
services to include but not be limited to site work, concrete, masonry, metals, wood and
plastic, thermal moisture protection, doors and windows, finishes, specialties, equipment and
furnishings and including but not limited to the following trades:

1. General Conditions
2. General Requirements
3. Existing Conditions
4. Concrete
5. Masonry
6. Metals
7. Wood and Plastics
8. Thermal and Moisture Protection
9. Openings
10. Finishes
11. Specialties
12. Furnishings
13. Earthwork
14. Exterior Improvements

B. MINIMUM CONTRACTOR QUALIFICATIONS

The Bidder must demonstrate all of the following experience requirements at the time of bid
submission in order to be considered responsive:

1) Bidder firm must be licensed by the City of New York to perform general contracting
services. Copy of such license shall be included with the bid submission.
2) Bidder must have at least five (5) years of experience performing the same or similar services to those being sought in this solicitation for a commercial/industrial/public sector customer(s).

3) At the time of the bid submission, the Bidder shall have successfully completed within the past three (3) years from the date of the bid submission, a minimum of ten (10) commercial construction jobs where the contract amount was five hundred thousand dollars ($500,000) or greater, or as otherwise deemed by DOHMH to be comparable in size and complexity to the general contracting services required by this specification. The Bidder shall provide the name, address, contact name, and telephone number of all clients for whom the Bidder performed general construction work in excess of five hundred thousand dollars ($500,000) per contract or task order/Task Order within the past three (3) years.

   a. Individual experience as a principal, officer or employee of an organization cannot be used to satisfy this requirement.

4) The Bidder must provide three (3) written reference letters from different clients for whom work, as specified herein, has been performed within the past three (3) years who can attest to the Bidder’s experience and quality of service. Letters from DOHMH are not acceptable for this purpose. Written reference letters must be on the reference’s letterhead and must include the following:
   1. The name of the reference
   2. The title of the individual signing the reference letter; letter must be signed in ink by the signatory
   3. The address of the reference entity
   4. The contact information for the reference (including phone number and email address)
   5. A description of the services provided to the reference

5) Subcontractor experience wherein the Bidder was not a prime contractor cannot be used to satisfy any of the requirements listed in this subsection.

C. ANTICIPATED TERM OF CONTRACT

It is anticipated that the term for this contract will commence upon written notice to proceed and will continue for five (5) years unless otherwise terminated or amended.

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SECTION II: SPECIFICATIONS/SCOPE OF SERVICES

A. SCOPE OF SERVICES

1. The Contractor shall provide all labor, equipment, tools, parts, materials and supplies required to provide services as specified in this Agreement and in accordance with individual project task orders. Contractor shall perform the work in accordance with the following terms and in compliance with all applicable federal, state, and local laws, rules and regulations. This contract is for general contracting services only. Any architectural and engineering design services, and/or construction management services, shall be performed by DOHMH or others pursuant to separate agreements with the Department. The general contracting services provided shall include, but not be limited to the following:
   a. Interior renovation including but not limited to kitchen renovation, toilet renovation.
   b. Site work including but not limited to sidewalks, paving and retaining walls.
   c. Floor replacement
   d. Roof replacement
   e. Waterproofing and façade repair
   f. Overhead door repair and replacement
   g. Miscellaneous roof work.
   h. Painting services.
   i. Masonry services.
   j. Window replacement and repair services.
   k. Boiler replacement and repair services.
   l. HVAC replacement and repair services.
   m. Construction clean-up, contractor cleaning services and emergency cleaning services.

   Please refer to Appendix R (Technical Specifications) for details.

2. The Contractor shall provide all supervision, labor, materials, supplies, equipment, coordination, procurement, and expediting of all required general contracting services.

3. The Contractor shall monitor all deliverables and services and shall promptly notify the DOHMH Authorized Representative, by telephone or other means, of any failure to provide such deliverables and services in accordance with the contract schedule. The Department shall determine if failure to provide such deliverables and services have caused or are likely to cause impairment to the operation of the Department or an inconvenience to the Department. If it is determined that such failure to provide deliverables and services has caused or is likely to cause such impairment or inconvenience, then the Department shall notify the Contractor in writing, and provide a cure date to the Contractor. The cure date shall provide the Contractor with a time period to cure the situation to avoid liquidated damages. Decisions of the Department in this regard shall be final and shall not be arbitrary or capricious.
4. Subcontracting will be permitted up to a maximum of forty (40%) percent of the workload subject to the requirements in Schedule B and as otherwise applicable in the Agreement. The subcontracting maximum is subject to review by the DOHMH, and at the sole discretion of the DOHMH, this amount may be increased provided the M/WBE participation is proportionally adjusted once satisfactory evidence of the Contractor’s need to modify the subcontracting requirement has been reviewed by DOHMH and accepted.

a. The Contractor shall provide the supervision necessary to ensure subcontractors provide all services as specified in their award contracts and in accordance with the requirements of all construction documents, project plans and schedule milestones.

b. The Contractor shall not enter into a contract with any subcontractor for the performance of Services under this Agreement without the prior written consent of DOHMH. (See Subcontractor Approval Form, Appendix J.)

c. The Contractor shall be solely responsible for the performance and quality of all Services under this Agreement and the sole point of contact for all requirements. All terms and conditions of this Agreement shall apply to any subcontractor retained by the Contractor. The Contractor shall so provide in its contract with a subcontractor, shall annex to such contract the provisions of this Agreement applicable to the work to be performed by the subcontractor, and shall be responsible for enforcing all such provisions. The Contractor shall remain responsible for the performance of any requirements of this Agreement that the subcontractor fails to perform.

d. All subcontracts are subject to the terms and conditions of this Agreement including the requirements of the Project Labor Agreement appended herein, as applicable, over the life of the Agreement.

B. TASK ORDERS

For each project, the Department will provide the Contractor with a Task Order, which may include a single site or multiple sites. At a minimum, the Task Order will specify the name and address of the DOHMH Facility where the work is to be performed, detail the required work for the facility(ies), and include an estimated timeframe for completion of the work. The Department may also provide, as applicable, current facility drawings, detailed design drawings for the new work, engineering calculations, bills of materials, catalog cuts for equipment, or any other supporting documentation as deemed necessary by the Department for the required Services.

1. The Task Order shall specify the name and address of the DOHMH Facility where the work is to be performed. For projects involving capital funds expenditure, the Task Order shall indicate a Capis ID Number. The Contractor shall reference the Capis ID Number on all correspondence and invoices pertaining to the Task Order.
2. In addition to the general contracting services, DOHMH may request that the Contractor prepare supporting documentation and materials that includes but are not be limited to: project plans, project milestone schedules, shop drawings, material and equipment drawings, work progress photographs, catalog cut drawings, as-built drawings, and other documentation requirements for general contracting services as specified herein, and obtain all necessary permits and certificates and sign-offs to complete the Services specified in the Task Order.

3. The Contractor shall review the Task Order, all supporting documentation, and examine the condition of the work site prior to submitting a written price proposal. The Contractor shall notify the DOHMH Authorized Representative, in writing, of any problem or discrepancy noted during such review and site examination. The Department will not be responsible for any costs arising from existing conditions that would have been disclosed or should have been foreseen by such review and site examination, and which the Contractor failed to put in the required notification.

4. Subcontracting Competitive Bid Procedures
   Before entering into any subcontract for construction and construction related Task Order work, the Contractor shall conduct a Competitive Sealed Bid ("CSB") procedure. Such CSB procedures shall be in accordance with all DOHMH requirements including without limitation, the items set forth below.

   The CSB requirement shall be waived in the event of Task Order Work designated in writing as an emergency by the DOHMH Authorized Representative.

   a. The Contractor shall prepare a CSB with a specification for the required work and shall submit the CSB and specification to the DOHMH Authorized Representative for approval prior to issuance. The CSB shall specify the format for the submission of bid prices and shall include a form of subcontract conforming to the requirements of the Agreement.

   b. The Contractor shall solicit a minimum of five (5) sealed bids for the required work from vendors qualified in the specific trades required for the Work. The Contractor may also solicit bids exclusively from NYC certified M/WBE subcontractors in order to fulfill their subcontractor participation goals pursuant to Local Law § 129 of 2005 and Local Law § 1 of 2013.
c. The Contractor shall set a date and time for bid opening, and the bids shall be stored in a secure place until the time and date set for bid opening. The Contractor shall advise the DOHMH Authorized Representative in writing not less than three (3) business days in advance of the bid opening. A DOHMH Authorized Representative may be present at each bid opening. Those vendors submitting bids shall be permitted to attend the bid opening.

d. The Contractor shall submit a bid tabulation sheet and a copy of each bid with all supporting documentation to the DOHMH Authorized Representative within three (3) business days of bid opening.

e. After receipt of the bids, the Contractor shall review each bid submission for responsiveness. The Contractor shall check the price schedule calculations for all bid submissions and submit corrected bid submission documentation and a revised bid tabulation sheet, noting any discrepancies, to the DOHMH Authorized Representative.

f. The Contractor shall perform preliminary due diligence for the lowest responsive bidders to ascertain responsibility to include but not be limited to the subcontractor’s financial capability, technical expertise, prior experience with similar projects, verified references, record of compliance with all applicable statutes, organization and staffing sufficient to meet the requirements, and possession of up-to-date required licenses, permits and/or certificates as of the date of the subcontract bid submission.

If the PLA Agreement is in effect at the time of the CSB, the winning bidder will be required to sign the Letter of Assent. Failure to do so would disqualify the bidder.

g. At the conclusion of the preliminary responsibility review, the Contractor shall submit the name of the lowest responsive bidder to the Department utilizing the Subcontractor Approval Form (Appendix J) herein.

h. The Contractor shall provide a completed Subcontractor Approval Form for each proposed subcontractor. The apparent Contractor shall review the requirements in the section marked “Agency” on the Subcontractor Approval Form and provide all information as required. Additional information obtained by the Contractor during its preliminary due diligence shall be submitted to the DOHMH with the Subcontractor
Approval Form.

i. The Contractor shall award the subcontract to the lowest responsive and responsible bidder upon receipt of the approval by the DOHMH.

j. If an approved subcontractor elects to subcontract any portion of its subcontract, the proposed sub-subcontractor and the dollar amount of the sub-subcontract are subject to prior written approval of the DOHMH. No subcontractor or sub-subcontractor shall be permitted on the site until such written approval as required herein has been obtained. A Subcontractor Approval Form is required for each individual subcontractor.

k. In the event that less than three (3) bids have been received or available, no subcontract shall be awarded without the express written authorization of the DOHMH.

5. Equipment, Materials and Parts (“Parts”) Competitive Bid Procedures
The Contractor shall conduct a CSB procedure for all required Parts in excess of twenty thousand dollars ($20,000). Such CSB procedures shall be in accordance with all DOHMH requirements including without limitation, the items set forth below. The CSB requirement shall be waived in the event of Task Order Work designated in writing as an emergency by the DOHMH Authorized Representative.

a. The Contractor shall prepare a CSB with a specification for required Parts and shall submit the CSB and specification to the DOHMH Authorized Representative for approval prior to issuance. The CSB shall specify the format for the submission of bid prices and shall include a form of purchase order for the equipment, materials and parts to be purchased upon approval.

b. The Contractor shall solicit a minimum of five (5) sealed bids for the required Parts unless such items are sole source or brand specific. If an item is sole source or brand specific without equivalents, the Contractor shall provide documentation for approval by the DOHMH Authorized Representative verifying such classification. Upon authorization to procure the item by the DOHMH Authorized Representative, the Contractor shall negotiate the best available pricing for the sole source item, or solicit from a maximum quantity of providers, if there are less than five (5) providers. The Contractor may also solicit bids exclusively from NYC certified M/WBE manufacturers and suppliers, however such
solicitations shall not fulfill their subcontractor participation goals pursuant to Local Law § 129 of 2005 and Local Law §1 of 2013.

c. The Contractor shall set a date and time for bid opening, and the bids shall be stored in a secure place until the time and date set for bid opening. The Contractor shall advise the DOHMH Authorized Representative in writing not less than three (3) business days in advance of the bid opening. A DOHMH Authorized Representative may be present at each bid opening. Those vendors submitting bids shall be permitted to attend the bid opening.

d. The Contractor shall submit a bid tabulation sheet and a copy of each bid with all supporting documentation to the DOHMH Authorized Representative within three (3) business days of bid opening.

e. After receipt of the bids, the Contractor shall review each bid submission for responsiveness. The Contractor shall check the price schedule calculation for all bid submissions and submit corrected bid submission documentation and a revised bid tabulation sheet, noting any discrepancies, to the DOHMH Authorized Representative.

f. The Contractor shall perform preliminary due diligence for the lowest responsive bidders to ascertain responsibility to include but not be limited to the supplier’s financial capability, technical expertise, prior experience with similar projects and verified references as applicable, organization, and possession of up-to-date required licenses, permits and/or certificates as applicable as of the date of the equipment, materials and parts bid submission.

g. The Contractor shall award the purchase order to the lowest responsive and responsible bidder upon receipt of the approval by the DOHMH.

h. In the event that less than three (3) bids have been received or available, no purchase order shall be awarded without the express written authorization of the DOHMH.

6. The Contractor shall provide a typed written price proposal within ten (10) business days from the date of receipt of the Task Order unless otherwise agreed upon to the DOHMH Authorized Representative. The price proposal shall include but not be limited to the following information:
a. Name and address of facility(ies) where work will be performed.

b. Detailed description of services to be performed including but not limited to all requirements for subcontractor solicitation(s), equipment/materials/parts purchase(s) and/or equipment/materials/parts solicitation(s) and/or requirements for scheduling and/or phasing of the Services.

c. Number of labor hours required for the requested Services, multiplied by the composite labor rate listed in the Contractor’s price schedule. (Net labor costs based on net base wage rates and supplemental benefits in effect at the time of task order pursuant to published Labor Law § 220 and/or § 230 plus the Contractor’s Cost Factor.)

d. All required permits, filing and/or inspection fees, at net cost.

e. Description of equipment, parts and materials to be used, if applicable.

f. Bill of equipment, materials and parts, cost basis for the equipment, material and parts noting the net price, based on the lowest bid as required in Section B(5) as applicable, multiplied by the Contractor’s Cost Factor as listed in the Contractor’s price schedule, for the total price of all equipment, materials and parts to be purchased at the time of the Task Order with copies of applicable cut sheets, bid sheets and pricing.

g. Expediting fees for permits and drawing approvals, as required based upon the composite labor rate listed in the Contractor’s price schedule. (Net labor cost of Contractor employee engineering and expediting services plus the Contractor’s Cost Factor.)

h. Subcontracting services cost basis required for the requested Services, based on the lowest bid as required in Section B(4) multiplied by the applicable Contractor’s Cost Factor as listed in the Contractor’s price schedule.

i. Engineering fees for shop or as built drawings, as required based upon the composite labor rate listed in the Contractor’s price schedule. (Net labor cost of Contractor employee engineering and expediting services plus the Contractor’s Cost Factor.)

j. Fixed schedule for completion of work.
k. Payment schedule.

l. Each Task Order pricing proposal shall be valid for a total of one hundred and eighty (180) days from date of submission to the date of the Notice to Commence Services. If the Notice to Commence Services is received after one hundred and eighty (180) days, the Contractor may apply for a price adjustment in such case where the price of equipment, materials or parts have changed by greater than ten (10%) percent of the price in the submitted Task Order price proposal. Such application for a price adjustment shall include but not be limited to catalog pricing sheets, supplier price quotes, commodity listings and related materials and submitted to the DOHMH Authorized Representative and the ACCO. The decision to allow a price adjustment shall be solely at the discretion of the Department.

7. The Contractor shall attach the Task Order to each price proposal. The price proposal shall include the total cost of all Services required for each Task Order. All price proposals shall be subject to the review and written approval of the DOHMH Authorized representative. Upon approval by the DOHMH Authorized Representative, the total amount of the price proposal shall be an all-inclusive lump sum to provide all Services required for each Task Order. The lump sum total price shall be fully burdened and include but not be limited to all labor, equipment, parts, materials, supplies, consumable materials, capital equipment costs, statutory payroll taxes, worker’s compensation, expediting costs, engineering services, filing fees, fringe benefits, union fees and related costs, overhead, indirect labor costs, insurance, bonds, travel time, transportation costs, tolls, tools, vehicles, attendant expenses, permits, general and administrative expenses, and Contractor profit.

8. The Contractor shall commence the work within five (5) business days from the date of the written Notice to Commence Services, or upon a date mutually agreed upon by DOHMH and the Contractor. The Contractor shall provide forty-eight (48) hour notice to the DOHMH Authorized Representative and the DOHMH Facility prior to the start of work. All work shall be completed in accordance with the written price proposal schedule accepted by the Department.

9. The Contractor shall contact the DOHMH Authorized Representative for further instructions and authorization, if the work is more extensive than the Services defined within the Task Order, supporting documentation, or arising from conditions that could not have been disclosed or could not have been foreseen by
the Contractor during the site review and examination. The Department will not be responsible for any additional costs incurred by the Contractor without the prior written approval of the Department. All subsequent changes to the Services shall require a new Task Order with a price proposal that shall be submitted to the Department in accordance with the terms of this Section B (1) through (6).

10. Unless otherwise requested by the DOHMH Authorized Representative in writing, the Contractor shall provide general contracting services during regular working hours.

11. The project scheduling and coordination of contracting services with other vendors shall be performed by the DOHMH Authorized Representative, and/or by the Department construction manager.

12. The Contractor shall submit copies of the following items to the DOHMH Authorized Representative during the Task Order work period:

   a. Security and safety logs, showing names of persons entering workspace, date and time of entry and exit, record of any accident, emergency evacuation, and other safety and/or health incident.

   b. Progress logs showing the number of workers, supervisors, hours of work and tasks completed shall be submitted daily to the DOHMH Authorized Representative.

   c. Progress schedule indicating Contractor’s current work progress shall be submitted for review by the DOHMH Authorized Representative at weekly progress meetings.

   d. All Contractors’ air monitoring and inspection results as applicable.

13. Project Closeout Submittals:
Upon completion of the Task Order work project and as a condition of acceptance, the Contractor shall present one (1) paper bound and indexed one (1) electronic copy of the following:

   a. Lien Waivers from Contractor, Sub-Contractors and Suppliers.

   b. Field Sign-in/Sign-out Logs for every shift.

   c. Copies of all Forms and Permits from all governing agencies with
approvals.

d. A Letter of Compliance stating that all the Work performed on the Task Task Order was performed in accordance with the specifications and all applicable Federal, State and Local regulations.

e. All Warranties as stated in the specifications.

f. Operation and Maintenance manuals.

g. As-built drawings signed and sealed by a New York State Registered Engineer.

h. Punch list of all completed Work noted during the final facility inspection.

C. QUALITY CONTROL (QC) PROGRAM

1. The Contractor shall be responsible for the monitoring and inspection of all work performed to ensure compliance with the Agreement requirements. The Contractor shall establish a complete QC program to ensure the requirements of the Agreement are provided as specified. The program shall include, but not be limited to the following:
   a. An inspection system covering all Services provided by the Contractor.
   b. A checklist for use in reviewing performance during regularly scheduled or unscheduled inspections.
   c. The results of the inspections, including documentation of all corrective action taken shall be documented in on-going inspection reports along with the names of the individuals performing the inspections. These reports shall be made available to the DOHMH Authorized Representative within twenty four (24) hours of written or oral notification.

2. The Contractor shall be responsible for all work performed to ensure compliance with the Agreement requirements. The Contractor shall be responsible for correcting all Contractor deficiencies within three (3) calendar days after written
D. GENERAL TERMS AND CONDITIONS

1. Materials and Workmanship

a. All work pursuant to this Agreement shall be performed in accordance with all applicable Federal, State, and City laws, rules, and regulations and the Contractor shall meet or exceed industry standards. The Contractor shall be responsible for any and all fines and penalties imposed by any Federal, State, or City agency for failure to comply with all applicable Federal, State, or City laws, rules and regulations.

b. The Contractor shall provide all materials necessary to complete the work, including, but not limited to, paint and plaster.

c. The Contractor shall perform all work in accordance with the best industry practice, using only current up-to-date methods and must use only materials that are new, unused, free from defects, of the best grade or quality, furnished in sufficient quantities to prevent delays and entirely satisfactory for the purpose intended.

d. All work requiring work permits in accordance with Federal, State, or City regulations must be filed and posted at the project site by the general contractor prior to commencing work.

e. The Contractor shall provide experienced laborers and capable supervisory personnel to direct and complete the work of this contract in a manner satisfactory to the Project Manager or a designated DOHMH employee. The Contractor shall supervise all workmanship to ensure that it be of the highest grade and according to best standard practice.

f. All Contractors’ workers shall wear plastic identification cards bearing the name of the employee and the name of the company for which he works. Cards may not contain any official City, State or Federal logo nor imply that the bearer of the card is a government worker.

g. The Contractor must take all precautions to protect the property of the City of New York. Contractor shall be liable for loss, damage, or destruction resulting from Contractor’s operations.
h. The Contractor is permitted to move furniture, office equipment, pictures, tack boards, shades, Venetian blinds and all items required for proper performance of the work. The Contractor shall handle this task in a satisfactory manner and return all moved items to the position they were situated prior to the required work. Contractor must properly cover furniture, equipment and floors located in the work area with a drop cloth or tarp during the working phase. All materials removed from a DOHMH building will remain the property of DOHMH and will be stored as directed by DOHMH, unless otherwise provided for in these Scope of Services or in the Agreement. Upon completion of the work, Contractor shall ready the area for occupancy by returning all furniture and equipment to its original location. The Contractor must also restore, repair or replace all parts of the premises and its contents damaged by Contractor’s work to their original condition at Contractor’s expense.

i. The Contractor shall dispose of all materials, debris, and waste products in accordance with all applicable Federal, State, and City laws, rules and regulations.

j. All buildings, appurtenances and finishing shall be protected by the Contractor from damage that might be done or caused by work performed under this contract.

k. Such damages to the foregoing shall be repaired and/or replaced by approved methods to restore the damaged areas to their original condition at the expense of the Contractor.

l. The Contractor shall keep the premises and adjacent areas free from accumulations of waste material or rubbish. At the completion of each work day, the Contractor shall remove from and about the premises all rubbish, tools, surplus materials, temporary structures and equipment and shall leave the work area clean and ready for use. The Contractor shall be responsible on a daily basis to maintain a clean work site, to remove debris and rubbish to dispose of it properly on a daily basis at the Contractor’s expense. The Contractor shall be responsible for maintaining the work area in such a manner to avoid fire, safety or health hazards to the public and to Department of Health staff. The Contractor will be responsible for all costs associated with debris/waste/rubbish removal.
m. The Contractor shall be entirely responsible for any loss or damage to its own materials, supplies, equipment, and to the personal property of his employees while they are maintained on the work site. The Contractor shall take every precaution to prevent fire from any cause whatsoever.

n. All equipment, materials and articles used in the work covered by this contract, shall be of the most suitable grade and all materials shall be delivered in new original packaging. All materials shall be used without adulteration and in full compliance with the manufacturer’s instructions.

o. Contractor will carefully store, as directed by DOHMH, all materials, tools and equipment delivered to the job-site to be protected from damage. Any loss and/or damage of materials, tools and equipment will be borne solely by the Contractor.

p. For every trade and for every product, the installation and application techniques shall be in strict accordance with the highest quality prescribed by the applicable trade standards and by such recommendations as are called for by the manufacturer.

q. The Contractor shall not utilize any Department equipment, tools or supplies.

2. Supervision by Contractor

a. The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

b. The Contractor shall have and employ and/or have trade union labor under union referral, as applicable, at all times, a sufficient number of capable and qualified employees to enable it to complete the services pursuant to this Agreement. The employees shall have training and demonstrated ability in the specified areas, and possess all required licenses, permits, and other similar certificates and qualifications. In the absence of any licensing requirements by Federal, State or City authority, the Contractor shall certify in writing that the persons
involved in the performance of the work are competent to perform the Services.

c. The Contractor shall designate one of its employees to function in the role of primary contact person. The contact person shall be the liaison for the Contractor for the term of the Agreement, and shall handle issues, problems or questions arising from the performance of Services.

d. The Contractor shall coordinate the Work with the DOHMH Authorized Representative and any other Contractors who are present at the DOHMH Facility. Upon oral notification from the DOHMH Authorized Representative, the Contractor shall provide all required information and measurements relating to the work being performed to the subcontractors and other trades performing contracting services related to the work within one (1) business day unless otherwise agreed upon.

e. The Project Manager or a designated DOHMH employee will provide a written confirmation of such orders or directions when so requested by the Contractor.

f. During the performance and up to the date of final acceptance, the Contractor must take all reasonable precautions to protect the persons and property of the City and of others from damage, loss or injury resulting from the Contractor’s operations under this Contract. The Contractor's obligation to protect shall include the duty to provide, replace and adequately maintain at or about the site suitable and sufficient guards, lights, barricades and enclosures.

g. The Contractor shall notify the City of any damage to the work or any accidents on the site within twenty-four hours of the occurrence. Within three days after notice, of any such loss, damage or injury to work, persons’ property, the Contractor shall provide a full and complete report thereof in writing to the Project Manager or a designated DOHMH employee.

h. If persons, City property or property of others sustains a loss, damage or injury resulting from the negligence or carelessness of the Contractor, in the performance of this Contract, or from his or their failure to comply with any of the provisions of this Contract or of law, the Contractor shall indemnify and hold the city harmless from any and all claims and
judgments for damages, cost and expenses to which the City may be subjected or which may suffer or incur by reason thereof.

i. The Contractor shall ensure that its employees observe and exercise all necessary caution and discretion to avoid injury to persons or damage to property.

j. All buildings, appurtenances and finished surfaces shall be protected by the Contractor from damage, which might be done or caused by work performed under this contract.

k. Such damages to the foregoing shall be repaired and/or replaced by approved methods to restore the damaged areas to their original condition at the expense of the Contractor.

l. The Contractor shall erect, install and maintain all temporary public walks, warning signs, barricades and other protective means as may be necessary for the protection of the public from injury.

m. Contractor employees shall sign a logbook upon arriving at and departing from DOHMH Facilities. A DOHMH Authorized Representative will verify the arrival and departure time and countersign the entries.

n. Contractor Daily Sign-in Logs:
   1. Contractor, subcontractor and sub-subcontractor employees are required to maintain daily sign-in/sign-out logs (“Daily Sign-in Logs”). Employees must list their sign-in and sign-out times in ink and add an original signature. Daily Sign-in Logs must be countersigned by the appropriate Contractor Manager as being true and correct.
   2. Each payment requisition must include copies of the Daily Sign-in Logs for the payment period. Failure to provide Sign-in Logs may result in rejection of the payment requisition until copies of the Sign-in Logs are received.

o. This Agreement is not intended to create any rights in third parties other than successors and assignees of the parties.

p. In the event of termination of this Agreement, the Contractor shall remain liable for the full performance of all the terms and conditions of this Agreement that the Contractor was obligated to perform up to the
time of such termination. Any and all continuing obligations and liabilities of the Contractor under this Agreement shall survive the termination of this Agreement.

3. **Sufficiency of Personnel**

The amount of Work and scope of individual projects will vary and, therefore, the amount of personnel needed to complete a project will vary accordingly. It is the Contractor’s responsibility to ensure it has sufficient personnel to complete each project on time. If, during the project, the Project Manager or a designated DOHMH employee are of the opinion that the services required by the specification are not satisfactorily performed because of insufficiency of personnel, the Department reserves the right to require the Contractor to use such additional personnel and/or take such other steps necessary to perform the services satisfactorily and on time, at no additional cost to the City.

4. **Inspection of Work**

During the progress of work and up to the date of final acceptance, all materials and workmanship will be subject to inspection or examination by the DOHMH designee. The Department will have the right to reject to defective material or workmanship. Contractor must correct any rejected workmanship to the satisfaction of DOHMH and must replace any rejected materials with approved materials without additional expense to the City. The Department may by contract, or otherwise, replace such materials and/or correct such workmanship and charge the cost thereof to the contractor or may terminate the contract as provided elsewhere in these specifications.

5. **Subcontractor(s)**

a. The Contractor shall not enter into a contract with any subcontractor for the performance of Services under this Agreement without the prior written consent of the Department. (See Subcontractor Approval Form, Appendix J.)

b. The Contractor shall be solely responsible for the performance and quality of all Services under this Agreement and the sole point of contact for all requirements. All terms and conditions of this Agreement shall apply to any subcontractor retained by the Contractor. The Contractor shall so provide in its contract with a subcontractor, shall annex to such contract the provisions of this Agreement applicable to the work to be performed by the subcontractor, and shall be responsible for enforcing all such provisions. The Contractor shall remain
responsible for the performance of any requirements of this Agreement that the subcontractor fails to perform.

c. All subcontracts are subject to the terms and conditions of this Agreement including the requirements of the Project Labor Agreement appended herein, as applicable, over the life of the Agreement. (See Appendix O)

6. Final Acceptance of Work

Final acceptance of each Task Order by DOHMH will be made only after Contractor has demonstrated that Contractor has fulfilled the requirements of the Task Order and has received approval of the work from DOHMH.

7. Warranty

a. The Contractor shall warrant for a period of one (1) year, after final acceptance of Services, including any and all construction work, installations, additions, and modifications, and that such additions, modifications and equipment, and all components or parts thereof, shall be free from defects in material and workmanship and shall operate in accordance with their intended uses and manufacturers’ published specification or better. If the warranty for the manufacturers’ system, component or parts is in excess of time period specified in this Agreement, then that period of time shall be in effect for the covered system, installation, component or parts. The warranty period shall commence after the installation or work has been completed by the Contractor and accepted by the DOHMH Authorized Representative.

b. This warranty shall survive the expiration or termination of the Agreement for a period equal to the balance of the warranty period for any Service provided.

c. The Department will use its best efforts to notify the Contractor during the warranty period if any installation is not in good working order.

d. The Contractor shall either repair or replace, at the Department’s sole option, any installation or parts not in good working order, at no additional cost to the Department, within five (5) business days from oral or written notification by the DOHMH Representative.
e. Repair or replacement installations or component parts shall be new or equivalent to new in performance.

f. The Contractor shall provide and bear the cost of all labor and material required to meet its obligations under this warranty.

g. The Contractor shall bear the cost of transportation and insurance of both personnel and material to designated locations and return, to meet its obligations under this warranty.

8. General Terms

a. Contractor must notify DOHMH in advance of a shut-down or interruption in services at a DOHMH building due to Contractor’s work. Contractor must receive prior, written approval from DOHMH for any shut-down or interruption in services. If a shut-down or interruption in services is necessary, Contractor must use its best efforts to minimize the period of time and inconveniences.

b. Contractor is responsible for taking measurements, data, etc., at the premises and for ensuring that there is no discrepancy between plans and field conditions.

E. INVOICING AND PAYMENT

1. Contractor will submit invoices at the conclusion of each Task Order. A separate invoice document will be submitted for each individual Task Order. Each invoice must contain the following information:

- Task Order Number;
- The Building address and date(s) worked;
- The location(s) in the DOHMH Facility where the work was performed (including room number);
- Price listed on written price proposal prepared by Contractor presented to DOHMH prior to performance for the work described in the Task Order;
- The number of trades persons, their labor classification(s), and the number of hours worked by each trades person, and the cost of labor for each trades person;
• The Contractor’s costs and markup for materials used (with supporting documentation for all materials used);
• Certified Payroll Report(s) reflecting labor costs on invoice; and
• A total dollar amount for all work performed and materials installed.

2. The Contractor must submit invoices to: InvoiceIntake@health.nyc.gov

3. Upon receipt and approval of each of the Contractor’s invoices, DOHMH will remit payment to the Contractor for its approved charges in accordance with the Price Proposal.

4. Contractor must submit invoices no later than fifteen (15) days after the completion of a Task Order. Failure to promptly submit an invoice may result in delayed payments or nonpayment, as the City of New York can only pay for work that can be verified as being satisfactorily completed. Substantial completion will not be granted unless Contractor submits all filings, proofs of compliance and acceptance of the work by the NYC DOB, and as-built drawings, if required.

5. The Contractor’s workers will be paid no less than the rate stated for each trade in the Prevailing Wage Schedule for the applicable fiscal year attached to any Contract resulting from this solicitation, and any modifications thereto made by the New York City Comptroller.

6. The City of New York is tax exempt from New York State and local sales and use taxes. The Contractor must file with New York State all appropriate forms in this regard.

F. LIQUIDATED DAMAGES

Due to the difficulty of accurately ascertaining the loss which the DOHMH will suffer by reason of the lack of, or delay in, the satisfactory completion of the work hereunder, below are sums fixed and agreed as the liquidated damages that the DOHMH will suffer by reason of such lack or delay, and not as a penalty. The parties acknowledge that the damages to the Department for Contractor’s failure to complete the work to the satisfaction of the Department in a timely manner in accordance with all applicable laws and standards are impossible to quantify, and therefore, the parties agree that the Department may fix certain charges in lieu thereof, which the Department, in its sole judgment believe to be within the reasonable control of the Contractor, as follows:
1. If the Contractor fails to commence, perform or complete the Services pursuant to this Agreement within the time frame established herein, or the time schedule for a Task Order agreed on by the parties pursuant to Section II.B., above, then the Contractor shall be subject to fixed and liquidated damages of three hundred and fifty dollars ($350.00) per calendar day beyond the established time frames that the Contractor fails to provide the Services.

2. If the Contractor fails to respond to a warranty service request and/or complete the warranty services within the time frames established herein, then the Contractor may be subject to fixed and liquidated damages of two hundred and fifty dollars ($250.00) per calendar day for each calendar day that the Contractor fails to provide such warranty services.

3. If the Contractor fails to comply with its Minority- and Women-owned Business ("M/WBE") utilization plan (Appendix L), DOHMH may assess liquidated damages in the amount of ten percent (10%) of the difference between the value of the M/WBE participation goals agreed-to by the Contractor and the value of the M/WBE participation goals for which the Contractor obtained qualifying subcontractors and received credit.

4. If the Contractor fails to list a subcontractor and/or report subcontractor payments in a timely fashion it may result in the Department declaring the Contractor in default of the Contract and may subject the Contractor to liquidated damages in the amount of one hundred dollars ($100.00) 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, in accordance with Article 15 herein (Page 319).

5. The Contractor shall monitor all deliverables and services and shall promptly notify the ACCO and the DOHMH Authorized Representative, by telephone or other means, of any failure to provide such deliverables and services in accordance with the contract schedule. The Department shall determine if failure to provide such deliverables and services have caused or are likely to cause such impairment or inconvenience, then the Department shall notify the Contractor in writing, and provide a cure date to the Contractor. The cure date shall provide the Contractor with a time period to cure the situation to avoid liquidated damages. Decisions of the Department in this regard shall be final and shall not be arbitrary or capricious.

**G. ADDITION OR REMOVAL OF FACILITIES**

DOHMH reserves the right to add or remove sites from the Facility Locations list, located in Appendix C.

**H. INSURANCE REQUIREMENTS**
Bidders are advised that the insurance requirements contained herein be regarded as a material term of this contract. During the performance and up to the date of final acceptance, the contractor must effect and maintain with companies authorized to do business in the State of New York, the types of amounts of insurance specified in Schedule A. (Refer to Schedule A, Page 175, herein.)

I. BID ITEMS AND METHOD OF BIDDING

Please see the Price Schedule in Section IV on pages 66-67, “Bid Items and Instructions.”

J. IRREVOCABILITY OF BID

The prices set forth in the bid cannot be revoked and shall be in effect until the award and completion of the contract.

K. TERMINATION OF CONTRACT

DOHMH, at its option, may terminate this Contract, at any time with five (5) days written notice to the Contractor. In the event of termination, DOHMH will be liable to the Contractor only for the cost of all work deemed satisfactorily completed by the Project Manager up to the time of termination.

L. PERMITS AND FEES

The Contractor shall give all required notices, pay all legal and required fees, and penalties incurred by him or his agents. The Contractor shall be responsible for obtaining any necessary permits for work directed under this contract at their expense.

M. COMPLIANCE WITH LAWS

1. The Contractor shall comply with all local, State and Federal laws, rules and regulations applicable to this Contract and to the work to be done herein including but not limited to the Federal Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1969, as amended.

2. All components shall be in accordance with all applicable New York City and State laws, codes and rules. Nothing in these specifications is to be construed as not to conform to codes and regulations. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, the Contractor shall bear all costs arising from them.

3. Material Safety Data Sheets (MSDS) shall be provided for all products used under this contract.
4. The Contractor shall abide by all laws, wages and benefits pursuant to Section 220 of the New York State Labor Law. The Contractor is advised that such compliance will be closely monitored. A properly completed NYC Office of the Comptroller, Bureau of Labor Law Payroll Report, shall accompany each invoice. No payment shall be issued without this report. A copy of this report is attached. Additional copies are available on request.

N. WHISTLEBLOWER PROTECTION EXPANSION ACT RIDER

Local Law Nos. 30 and 33 of 2012, codified at sections 6-132 and 12-113 of the New York City Administrative Code, the Whistleblower Protection Expansion Act, protect employees of certain City contractors from adverse personnel action based on whistleblower activity relating to a City contract and require contractors to post a notice informing employees of their rights. Please read Appendix H, the Whistleblower Protection Expansion Act Rider, carefully.

O. COMPLIANCE WITH IRAN DIVESTMENT ACT

Pursuant to State Finance Law Section 165-a and General Municipal Law Section 103-g, the City is prohibited from entering into contracts with persons engaged in investment activities in the energy sector of Iran. Each proposer is required to complete the attached Bidders Certification of Compliance with the Iran Divestment Act, certifying that it is not on a list of entities engaged in investments activities in Iran created by the Commissioner of the NYS Office of General Services. If a proposer appears on that list, the Agency/Department will be able to award a contract to such proposer only in situations where the proposer is taking steps to cease its investments in Iran or where the proposer is a necessary sole source. Please refer to Appendix I for information on the Iran Divestment Act required for this solicitation and instructions on how to complete the required form and to http://www.ogs.ny.gov/About/regs/ida.asp for additional information concerning the list of entities.

P. COMPLIANCE WITH HIRENYC AND REPORTING REQUIREMENTS

The Hiring and Employment Rider 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
Q. COMPLIANCE WITH PAID SICK LEAVE LAW

Pursuant to the Earned Sick Time Act, also known as the Paid Sick Leave Law (“PSLL”), employers are required to provide paid sick time to employees who annually perform more than 80 hours of work in New York City during any consecutive 12-month period. Contractors of the City of New York or of other governmental entities may be required to provide sick time pursuant to the PSLL. The Paid Sick Leave Law Rider describes the requirements of the PSLL as well as exceptions and exemptions to the law. The Rider will be included in any contract(s) resulting from this solicitation and will incorporate the PSSL as a material term to the contract(s). Please see Appendix N for the Rider.

R. MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISE

This Contract is subject to the Minority-Owned and Women-Owned Business Enterprise (“M/WBE”) program created by Local Law 129, the specific requirements of M/WBE participation for this Contract are set forth in Schedule B (Part of Appendix L) entitled the “Subcontractor Utilization Plan”, and are detailed in a separate Notice to Prospective Contractors included with this bid package as Appendix L. The City strongly advises Contractors to read those provisions carefully. A list of M/WBE firms may be obtained from the DSBS website at: www.nyc.gov/buycertified, by emailing DSBS at buyer@sbs.nyc.gov, by calling (212) 513-6356, or by visiting or writing DSBS at 110 William St., New York, New York, 10038, 7th floor. Eligible firms that have not yet been certified may contact DSBS in order to seek certification by visiting www.nyc.gov/getcertified, emailing MWBE@sbs.nyc.gov, or calling the DSBS certification helpline at (212) 513-6311.
SECTION III: BID PROCEDURES AND REQUIREMENTS

1. **Status of Information**
   
a. The Department shall not be bound by any oral or written information released prior to the issuance of the IFB.

b. The Department shall not be bound by any oral or written representations, statements or explanations other than those made in this IFB in Department written responses to proposer inquiries or in a formal written addendum to this IFB.

2. **Communication With the Agency**
   
a. Proposers agree that from the date this IFB is issued until the award of the Contract, NO contact with Department personnel related to this solicitation is permitted, except as is authorized by the Authorized Agency Contact, as identified in Section I of this IFB.

b. All inquiries regarding this solicitation must be addressed in writing to the Authorized Agency Contact.

c. All inquiries must be responded to in writing.

3. **Pre-Bid Conference**
   
Please refer to Section I: Timetable for information regarding site visits.

4. **Addenda to the IFB**
   
a. The Department will issue corrections or amendments to the IFB it deems necessary prior to the Bid Due Date in the form of written addenda.

b. It is the bidder's responsibility to assure receipt of all addenda. It is recommended that the bidder verify with the designated Authorized Agency Contact prior to submitting a proposal that all addenda have been received. It is required that bidders acknowledge the number of addenda received as part of their proposals. (See Section IV).

5. **Site Visit**
   
Please refer to Section I: Timetable for information regarding site visits.

6. **Form of Bid**
   
a. Each bid must be submitted upon the prescribed form (See Section IV – Bid Package) and must contain all information required therein. FAILURE TO SUBMIT ALL REQUIRED DOCUMENTS WITH THE BID WILL RENDER THE BID
INCOMPLETE AND NON-RESPONSIVE AND WILL RESULT IN DISQUALIFICATION OF THE BIDDER.

b. The completed bid must be submitted in a sealed envelope on or before the time and at the place indicated in Section I above. The envelope must be marked with the name of the person, firm or corporation presenting it, the bid opening date, bid number and bid title. The bid and all other documents requiring signatures must be signed and notarized. Bid Bonds (if required by General Conditions, Appendix A) must be submitted with the Bid, but in a separate sealed envelope, also as identified above.

c. **The Bid must be typewritten or handwritten legibly in ink. The Bid must be hand-signed in ink. Erasures or alterations must be initialed by the signer in ink.**

d. 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. 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 this Contract between the City and the Bidder. The Bidder may also be barred from participating in future City contracts and may be subject to possible criminal prosecution.

e. Any bids submitted electronically or via fax will not be accepted.

f. **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 will not be examined or tested and shall not be deemed to vary any of the provisions of this Contract.**

g. 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 Section 8, below.

7. **Proprietary Information, Trade Secrets**

a. A bidder is responsible for identifying those portions of its bid that it deems to be confidential, proprietary information or trade secrets and must provide justification why such materials should not be disclosed by the City. A bidder is responsible for indicating all materials that the bidder desires to remain confidential 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 portions of the bid.

b. All materials indicated as “Confidential” will be reviewed by the Department, and the Department will communicate to the bidder, in writing, any decision not to honor a request for confidentiality. For those bids which are unsuccessful, all confidential materials will be returned to the bidder. Prices, makes and model or catalog numbers
of the items offered, deliveries, and terms of payment will be publicly available after bid opening regardless of any designation of confidentiality made by the bidder.

8. **Modification or Withdrawal of Bids, Late Bids**

a. A Bidder may modify or a withdrawn bid by written notice received in the office designated in Section I, paragraph 4, so long as any modifications are received by the Department by the time and date set for the bid opening.

b. If a bid is withdrawn in accordance with this Section, the bid security, if any, shall be returned to the bidder.

c. Any bid received at the place designated in the solicitation after the time and date set for receipt of bids is deemed 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 deemed late and shall not be considered. However, a modification of a successful bid that is received after the time and date set for receipt of bids but that makes the bid terms more favorable to the City shall be considered at any time it is received.

d. Except as provided for in paragraph (a) 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.

9. **Mistakes in Bids**

a. A bidder may correct mistakes discovered before the time and date set for bid opening by withdrawing or correcting the bid as provided by Section 3-02(j) of the Procurement Policy Board Rules.

b. In accordance with Section 3-02(m) of the Procurement Policy Board Rules, if a bidder alleges a mistake in bid after bid opening and before award, the bid may be corrected or withdrawn upon written approval of the Agency Chief Contracting Officer (ACCO).

c. Mistakes Discovered After Vendor Selection: Mistakes shall not be corrected after vendor selection except where the ACCO subject to the approval of the City Chief Procurement Officer makes a written determination that it would be unconscionable not to allow the mistake to be corrected.

10. **Bid Evaluation and Award**

a. 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 lowest responsive and responsible bid price or, if the Invitation For Bids so states, the lowest responsive and responsible evaluated bid price. A bid may not be evaluated for any requirement or criterion that is not disclosed in the Invitation
for Bid. For the purposes of this IFB, the award will be made to the responsive and responsible bidder that offers the lowest bid price.

b. In accordance with Section 3-02 (o)(2) of the Procurement Policy Board Rules, negotiations with the lowest bidder who is also responsive and responsible, shall be allowed to take place in those circumstances in which such negotiations result in terms which are more favorable to the City.

c. 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 Bid if that bid is not also the most favorable bid.

d. In accordance with Section 3-02(p) of the Procurement Policy Board Rules, 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 shall break the tie in the following order of priority:

(i) Select a certified New York City small minority or woman-owned business entity bidder;

(ii) Select a New York City bidder;

(iii) Select a certified New York State small, minority or woman-owned business bidder;

(iv) Select a New York State bidder.

(v) Conduct a Drawing. Tie bidders shall be invited to witness the drawing. A witness shall be present to verify the drawing and shall certify the results on the bid tabulation sheet.

e. The Agency may reject a bid if the bidder is determined to be not responsive and not responsible pursuant to the Procurement Policy Board Rules. 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, pursuant to Sections 2-07, 2-08, and 2-10 respectively, of the Procurement Policy Board Rules.

f. The Department, upon written approval by the Agency Chief Contracting Officer (“ACCO”), may reject all bids and may elect to re-solicit if in its sole opinion it shall deem it in the best interest of the City to do so. The Agency, upon written approval of the ACCO, may determine that it is appropriate to cancel the Invitation for Bids after Bid Opening and before award.

g. Unit Price Contracts
(i) 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 multiplied by the corresponding unit prices, and including any lump sum bids on individual items, in accordance with the Estimate of Quantities set forth in the Bid Form.

(ii) Variations from Estimates: Bidders are advised that the Estimate of Quantities of 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 a part of this 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. If during the progress of the work, the actual quantity of items required to complete the work of any unit item approaches the estimated quantity, and due to errors, site conditions, changes in design or any other reason, it appears that the actual quantity necessary to complete the work will exceed the estimated quantity by 25 percent, the Contractor shall immediately notify the Agency of such anticipated overruns. The Contractor shall not be compensated for work performed in excess of 125 percent of the estimated quantities in the bid schedule without written authorization from the Department.

h. Lump Sum Contracts

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.

11. Bonds

If required in the Schedule of Bonds and Liability Insurance, as detailed in General Conditions, Appendix A, then:

a. Bid Bond

If required in the Schedule of Bonds and Liability insurance in this Invitation for Bids, the successful bidder shall, prior to or at the time of the execution of the contract deliver to the City an executed bond in a form prescribed herein, and having as surety thereunder, such surety company or companies as are approved by the Comptroller, in the amount set forth in said Schedule of Bonds and Liability Insurance.

As per New York City policy, Bid bonds are required for construction contracts that are greater than One Million ($1,000,000).

b. Performance and Payment Bonds

If required in the Schedule of Bonds and Liability insurance in this Invitation for Bids, the successful bidder shall, prior to or at the time of the execution of the contract deliver to the City an executed bond in a form prescribed herein, and having as surety thereunder, such surety company or companies as are approved by the Comptroller, in the amount set forth in said Schedule of Bonds and Liability Insurance to secure the faithful performance and the completion of the contract.
Performance and payment bonds are required only for construction contracts that are greater than Five Hundred Thousand Dollars ($500,000). Each bond shall be for one hundred percent (100%) of the total Task Order price. *Failure to comply with the requirements of this section may be grounds for default.*

c. Failure to Execute Contract

In the event of failure of the successful bidder to execute the contract and furnish any required security and insurances, 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 re-let, including the cost of such re-letting and less the amount 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.

12. **Power of Attorney**

Attorneys in fact who sign performance or payment bonds must file with each bond a certified copy of their power of attorney to sign said bond or bonds.

13. **Contractor Requirements**

a. Financial Qualifications

(i) In addition to the Experience Questionnaire (Section IV) required to be submitted with the bid, after the opening of bids and when directed by the Commissioner, the bidder may also be required to submit a sworn statement setting forth such information as the Commissioner may require concerning its financial condition, present and proposed plant and equipment, the personnel and qualifications of its working organizations, prior experience and performance record.

The Department 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 bidder's responsibility and capability to perform the contract.
If the bidder fails or refuses to supply any of the documents or information set forth in paragraph (a) hereof or fails to comply with any of the requirements thereof, the Department may reject the bid.

(ii) When directed by the Department, 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. If required by the ACCO, each person so examined must sign and verify a stenographic transcript of such examination, noting thereon such corrections therein as such person may desire to make.

b. Vendex Questionnaires:

(i) Pursuant to Administrative Code Section 6-116.2 and Section 2-08 of the Rules of the Procurement Policy Board, bidders may be obligated to submit completed VENDEX questionnaires with this bid. 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. Any questions concerning this requirement must be submitted to the Authorized Agency Contact. The selected bidder will be required to submit the completed Vendex questionnaires (www.nyc.gov/Vendex) within 10 days of notice.

(ii) The same requirements apply to all subcontractors.

c. Employment report:

(i) In accordance with Executive Order No. 50 (1980), the filing of a completed Employment Report (ER) is required to do business with the City of New York if the contract value exceeds $100,000, and if your firm employs 50 or more people. If your company or any of its facilities performing on the contract has fewer than 50 employees, although the contract value exceeds $100,000, you need only submit a "Less Than 50 Employees Certificate". Selected vendors will be required to submit the completed Employment report to the Agency within 10 days of notice.

(ii) The same requirements apply to all subcontractors.

d. Americans with Disability Act

This Invitation to Bid is subject to Title II of the Americans with Disabilities Act of 1990 (ADA) and regulations promulgated pursuant thereto which prohibits discrimination against individuals with a disability, as defined in the ADA, by a public entity in providing services, programs or activities to the public.
e. 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.

f. Tropical hardwoods

Tropical hardwoods as defined in Section 167-b of the State Finance Law shall not be utilized in the performance of this contract except as expressly permitted by the foregoing provision of law.

14. **Comptroller Certificate**

This contract shall not be binding or of any force unless and until the Comptroller of the City endorses hereon his certificate that there remains unexpended and unapplied, as provided in Section 93C-3.0 of the Administrative Code of the City of New York, a balance of the appropriation of funds applicable thereto sufficient to pay the estimated expense of executing this contract as certified by the officer making the same. This contract shall continue in force only after annual appropriation of funds by the City of New York and Certification as herein above set forth.

15. **Prompt Payment**

The Prompt Payment provisions set forth in Section 4-06 of the Procurement Policy Board Rules in effect at the time of this solicitation will be applicable to payments made under a contract resulting from this solicitation. The Contractor must submit a proper invoice to receive payment, except where the Contract provides that the Contractor will be paid at pre-determined intervals without having to submit an invoice for each scheduled payment. Determinations of interest due will be made in accordance with the provisions of Section 4-06 of the Procurement Policy Board Rules and General Municipal Law 3-A.

16. **Procurement Policy Board Rules**

This Invitation For Bids is subject to the Rules of the Procurement Policy Board of the City of New York (“Rules”). In the event of a conflict between said Rules and a provision of this Invitation for Bids, the Rules shall take precedence.

17. **Environmentally Preferable Purchasing Laws**

a. Projects designed under this contract may be subject to one or more environmental laws. For each specific task order, the Department will inform the Contractor whether these requirements apply. In particular, projects may be subjected to Local Law §86 of 2005 (the Green Building Law) or one or more of the following local laws on environmentally
preferable purchasing ("EPP"), including: Local Law Number §118 of 2005, Local Law Number §119 of 2005, Local Law Number §120 of 2005, and Local Law Number §121 of 2005.

b. The EPP laws apply to construction projects not covered by Local Law 86, subject to certain exemptions and waivers. In general, the requirements in the EPP laws for construction projects relate to Energy Star-certified products, bathroom fixtures, lighting products, carpets, architectural coatings and construction or furnishing materials. A list of these products/materials and their minimum standards are available in the *New York City EPP Construction Products Minimum Standards*. A hard copy of the standards may be obtained from the Mayor’s Office of Contracts.

18. **Labor Law and Living Wage Requirements**

The successful bidder will be required to comply strictly with all Federal, State and Local laws and regulations, including but not limited to providing on-the-job training opportunities and payment of prevailing wages, and in accordance with all requirements of Local Law §220 and Executive Order 102 (2007). *Failure to comply with the requirements of this subsection may be grounds for default and/or withholding payments due under the contract.*

a. *For public works or building service contracts:*

i. The successful bidder shall be required to enter into written agreements with subcontractors prior to the subcontractors commencing work under the contract, which shall include prevailing wage and supplement requirements.

ii. Compliance with the Labor Law prevailing wage and supplement requirements are material terms of the contract with the City, and in the event a Contractor is found liable for a violation of such requirements, the Contractor shall be liable to the City for all of its costs in enforcing such requirements.

iii. Contractors and subcontractors shall maintain standard sign-in and sign-out logs, or alternatively, and subject to the approval of the Department, an equivalent electronic or biometric, and submit such logs and other payroll records to the Department or the Comptroller upon request.

iv. Contractors and subcontractors shall pay their workers under the Contract by check. For all contractors in excess of one million dollars ($1,000,000) and all subcontracts in excess of ($750,000) such checks shall be generated by a payroll system (or an in-house system may be used, subject to the approval of the Department), and in either case, provide check stubs or other documentation to the employees at least once each month containing information sufficient to document compliance with the requirements of the Labor Law concerning prevailing wages and supplements.

b. *For contracts subject to the Living Wage Law:*
i. The successful bidder shall be required to enter into written agreements with subcontractors prior to the subcontractors commencing work under the contract, which shall include provisions relating to wages, supplements, and health benefits required by the Living Wage Law.

ii. Compliance with the Living Wage Law as material terms of the contract with the City, and in the event a Contractor is found liable for a violation of such requirements, the Contractor shall be liable to the City for all of its costs in enforcing such requirements.

iii. Contractors and subcontractors shall maintain standard sign-in and sign-out logs, or alternatively, and subject to the approval of the Department, an equivalent electronic or biometric, and submit such logs and other payroll records to the Department or the Comptroller upon request.

iv. Contractors and subcontractors shall pay their workers under the Contract by check. For all contracts in excess of one million dollars ($1,000,000) and all subcontracts in excess of ($750,000) such checks shall be generated by a payroll system (or an in-house system may be used, subject to the approval of the Department), and in either case, provide check stubs or other documentation to the employees at least once each month containing information sufficient to document compliance with the requirements of the Living Wage Law concerning prevailing wages, supplements and health benefits.
SECTION IV: BID PACKAGE

Instructions for submitting a bid:

A. This package contains the following forms that must be completed and returned with the bid:

ITEM 1. Bidder Representations

ITEM 2. Bid Price Sheet

This form must be completed and signed by a principal of the bidding firm, the corporate seal must be affixed, and the form must be notarized.

ITEM 3. Acknowledgement of Addenda

This form must be completed and signed by an authorized person representing the bidder.

ITEM 4. Experience Questionnaire

This form must be completed and signed by an authorized person representing the bidder and the form must be notarized. Bidder must include all certifications and other evidence that the bidder and its service technicians meet the threshold requirements necessary to perform the services required hereunder. Be sure to attach all relevant evidence of training, prior experience and certifications for service technicians who will be performing services.

APPENDIX D: Tax Affirmation

Must be completed and signed by Bidder.

APPENDIX I: Iran Divestment Rider

Must be completed, signed by Bidder, and notarized.

APPENDIX L. Schedule B – M/WBE Utilization Plan

Bidder must submit either a fully completed M/WBE Utilization Plan, or approved Waiver (Part III).

APPENDIX O. Project Labor Agreement Letter of Assent

Bidder must fill out the Letter in its entirety, as applicable, and sign the letter.

APPENDIX Q. Bid Bond Forms
B. The following items, supplied by the Bidder, must also be included with the Bid Submission:

ITEM 5. Safety

Workers Compensation document or signed letter from your broker/insurance carrier indicating the bidder’s Experience Modification Rating (EMR).

Copies of OSHA training card(s).

ITEM 6. Audited/Reviewed Financial Statements

Most recent audited or reviewed financial statements signed by the CPA.

ITEM 7. References

Bidder must provide three (3) written reference letters from different clients who can attest to the bidder’s experience and quality of services, including, without limitation, in at least two of such references, references who or which can verify the past experience and quality of service in performing similar painting and plastering services. Reference letters must be written on the client’s letterhead, signed in ink by the authorized representative of the client. Reference letters must be from clients for whom services were provided within the last three (3) years. DOHMH references are not acceptable for this Bid. References must not be related to the bidder by blood or marriage.

C. The following items must be completed and returned within 10 days of notice by the Department of the winning Bidder:

VENDEX Questionnaires

Required for contracts exceeding $100,000.

Employment Report

Required for contracts exceeding $100,000.

Insurance Certificate and Worker’s Compensation document

See Article 22 of the Agreement and Appendix A – General Conditions for Insurance Requirements for this bid.

Do not return Sections I, II, or III of this Invitation for Bid; also do not return the attached Agreement with the Bid Submission. However please review and submit the forms as required in the Appendices.

Upon award of this contract, DOHMH will send the entire Bid/Agreement to the winning Bidder for execution. It will contain this entire Bid Package as part of the contract.
THE CITY OF NEW YORK
Department of Health and Mental Hygiene
Bid Submission for:
GENERAL CONSTRUCTION SERVICES
DATE OF ISSUE: March 13, 2017
PIN: 17BS007500R0X00

COVER SHEET/ CHECKLIST

Name of Bidder: ___________________________ Bidder’s Tax ID #: ________________

The following items, as checked by the Bidder, are included with this Bid:

Item 1: Bidder Representations [ ]
Item 2: Bid Sheet [ ]
Item 3: Acknowledgement of Addenda [ ]
Item 4: Experience Questionnaire [ ]
Item 5: Safety Documents
Workers Compensation Document [ ]
Copies of OSHA training card [ ]
Item 6: Audited/Reviewed Financial Statements [ ]
Item 7: Reference Letters (3) [ ]

Appendix D: Tax Affirmation [ ]
Appendix I: Iran Contractor Divestment Rider [ ]
Appendix L: M/WBE Notice to Bidders and Schedule B [ ]
Appendix O: PLA Letter of Assent [ ]
Appendix Q: Bid Bonds [ ]
**Item 1: Bidder Representations**

Name of Bidder: 

Place of Business: 

Telephone No. ____________ Tax Identification No: ____________

Date of Bid: ____________

Bidder is: Individual ( ) Partner ( ) LLC ( ) Corporation ( )

A). If Bidder is Individual:

   Home Address of Bidder ____________________________

B). If Bidder is Partnership:

   Name(s) and Home Address(es) of Partners:
       ____________________________________________
       ____________________________________________
       ____________________________________________

C). If Bidder is Corporation:

   Organized under the laws of the State of ____________________________

   Name and Home Address of President ____________________________

   Name and Home Address of Secretary ____________________________

   Name and Home Address of Treasurer ____________________________

The above-named bidder affirms and declares:

1. The several matters stated and information furnished therein are in all aspects true.

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

3. 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 his/her knowledge and belief:

   (I) 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 or potential competitor; (2) Unless otherwise required by law, the prices which have been 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 or potential 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.

4. That 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.

5. That said bidder is not in arrears to the City of New York upon debt, taxes or contract, 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 (describe in detail)

6. 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 him, he and his subcontractors engaged in the performance: (1) will comply with the provisions of Section 343-8.0 of the Administrative Code of the City of New York and the non-discrimination provisions of Sect. 220a of the NYS Labor Law as more expressly and in detail set forth in the contract form; (2) will comply with the provisions of Section 343-9.0 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 date, 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 breach or violation of any of the foregoing, the bidder may be subject to damages, liquidated or otherwise, cancellation of the Contract and suspension as a bidder for a period of three years. (The words, "the bidder", "he", "his", and "him" where used herein shall mean the individual bidder, firm, partnership or corporation executing this bid).

7. 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 their attention has been specifically drawn to Executive Order No. 50, dated April 25, 1980, on Equal Employment Compliance of the contract Agreement, and (2) warrants that they will comply with the provisions of Executive Order No. 50. 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 they will comply with the provision of the contract Agreement in providing records, Chapter 8.

8. By submission of this bid, bidder certifies that they now have 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.

9. That said 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 of 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.

10. That the party signing the Bid Sheet is duly authorized to sign this agreement on behalf of the Contractor.
Item 2
Price Schedule Sheet
Instructions

NOTICE TO ALL BIDDERS: FAILURE TO COMPLETE THIS SECTION IN DETAIL WILL RESULT IN REJECTION OF YOUR BID.

This is a requirements contract and is intended to cover, during the term of this Contract, the requirements of DOHMH. The quantities listed are estimated for the full term of this contract, and DOHMH may use more, less or none of the quantities listed. The Department will not guarantee a minimum amount for this contract.

Compliance with all provisions of the New York Labor Law is mandatory under this contract. Pursuant to Sections 220 and 230 of the New York State Labor Law, the Comptroller of the City of New York has promulgated a schedule of prevailing wages and supplemental benefits. These wages and benefits have been established solely for laborers, workmen, and mechanics engaged by private contractors to perform public work contracts. The wages to be paid and the benefits to be provided are those which prevail when the work is performed. A copy of the current relevant wage rates is attached as Appendix F.

The appropriate job title(s) as defined in labor Law Section 220, Prevailing Wage Schedule, shall be used throughout the terms of this contract. Certified payroll reports shall be provided with each partial payment request to verify that the appropriate job title(s) are being used and that the provisions of the labor Law, as to the hours of employment, rates, and supplemental benefits are being observed.

The undersigned agrees, if this bid is accepted, that it will, within 10 days of receipt of notice of award, submit executed copies of insurance policies as may be required, execute the Agreement set forth in this Invitation for Bid, and will proceed, when directed to do so, with the work required hereunder in strict compliance with the terms and conditions set forth in this Bid AT THE PRICES SET FORTH BELOW.

Note 1: Table I: Prevailing Wage Net Labor Costs
Column A: The Prevailing Wage Net Labor costs are limited to the prevailing base wage rates plus supplemental benefits in effect at the time of the Task Order.

Column B: The Contractor’s Cost Factor shall be fully burdened and include, but not be limited to, labor, consumable materials, supplies, capital equipment costs, statutory payroll taxes, worker’s compensation, fringe benefits, union fees and related costs, indirect labor costs, overhead, insurance, bonds, transportation costs, tolls, vehicles, tools, attendant expenses, general and administrative expense, and Contractor profit.

Column C: The Total Price shall be the all inclusive price of the Prevailing Wage Net Labor (Column A) times (x) the Contractor’s Cost Factor (Column B).

Note 2: Tables I, II, and III: Calculating the Contractor’s Cost Factor
Example: a 5% mark-up is a Contractor’s Cost Factor (Column B) of 1.05 and a Total Price (Column C) of $2,000,000 x 1.05 = $2,100,000.

**Note 3:** Table II: Subcontractor Costs.
The Contractor shall provide the net price for all subcontracted services. Net labor shall be based on the prevailing base wage rates plus supplemental benefits in effect at the time of the Task Order as applicable. The Contractor’s Cost Factor shall be net of all trade, industry, bulk and early payment discounts. **The Maximum allowable Cost Factor is 1.05.**

**Note 4:** Table III: Equipment, Materials and Parts (“Parts”) Costs.
The Contractor shall provide the net pricing for supplied Parts, net of all trade, industry, bulk and early payment discounts, in effect at the time of the submission of the Task Order price proposal. **The Maximum allowable Cost Factor is 1.05.**

**Note 5:** Table IV: Engineering and Expediting Services.
The Contractor shall provide a fixed hourly rate per title which shall be fully burdened and include, but not be limited to, labor, consumable materials, supplies, capital equipment costs, statutory payroll taxes, worker’s compensation, fringe benefits, union fees and related costs, indirect labor costs, overhead, insurance, bonds, transportation costs, tolls, vehicles, tools, attendant expenses, general and administrative expense, and Contractor profit.

**Note 6:** Table V: Filing Fees.
The net cost of filing fees shall be without mark up.
Price Schedule  
PIN 17BS007500R0X00  
General Construction Services for DOHMH  

Name of Bidder  EIN of Bidder  

I. Prevailing Wage Net Labor (Note 1)  

<table>
<thead>
<tr>
<th>LABOR COSTS BASED ON NET BASE WAGE RATES AND SUPPLEMENTAL BENEFITS IN EFFECT AT TIME OF TASK ORDER PURSUANT TO PUBLISHED LABOR LAW §220</th>
<th>CONTRACTOR’S COST FACTOR (Note 2) (1 + % mark up, in points: 1.____)</th>
<th>TOTAL PRICE (Note 2) (A) x (B) = (C) Section I</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A)</td>
<td>(B)</td>
<td>(C)</td>
</tr>
<tr>
<td>$6,950,000</td>
<td>1.____</td>
<td>$6,950,000 x 1.____ = $_______________</td>
</tr>
</tbody>
</table>

II. Subcontracted Services (Note 3)  

<table>
<thead>
<tr>
<th>NET PRICE FOR SUBCONTRACTED SERVICES</th>
<th>CONTRACTOR’S COST FACTOR (Note 2) (1 + % mark up, in points: 1.____)</th>
<th>TOTAL PRICE (Note 2) (A) x (B) = (C) Section II</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A)</td>
<td>(B)</td>
<td>(C)</td>
</tr>
<tr>
<td>$3,505,000</td>
<td>1.____</td>
<td>$3,505,000 x 1.____ = $_______________</td>
</tr>
</tbody>
</table>

Price Schedule Sheet p. 1 of 3
# Price Schedule
**PIN 17BS007500R0X00**
**General Construction Services for DOHMH**

Name of Bidder ___________________________ EIN of Bidder _________

## III. Equipment, Materials and Parts (“Parts”) (Note 4)

<table>
<thead>
<tr>
<th>NET PRICE FOR EQUIPMENT, MATERIALS AND PARTS</th>
<th>CONTRACTOR’S COST FACTOR (Note 2)</th>
<th>TOTAL PRICE (Note 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A)</td>
<td>(B)</td>
<td>(C)</td>
</tr>
<tr>
<td>$3,984,500</td>
<td>1.______</td>
<td>$3,984,500 x 1.______ = $______</td>
</tr>
</tbody>
</table>

### IV. Expediting/CADD Design/Engineering Services

<table>
<thead>
<tr>
<th>TITLE</th>
<th>HOURLY RATE (Note 5)</th>
<th>ESTIMATED HOURS</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(A)</td>
<td>(B)</td>
<td>(C)</td>
</tr>
<tr>
<td>EXPEDITER Filing services</td>
<td>$_________</td>
<td>600</td>
<td>$_________</td>
</tr>
<tr>
<td>CADD Designer</td>
<td>$_________</td>
<td>300</td>
<td>$_________</td>
</tr>
<tr>
<td>ENGINEER</td>
<td>$_________</td>
<td>300</td>
<td>$_________</td>
</tr>
</tbody>
</table>

TOTAL (Sum of Column C) $_________

## V. Filing Fees (Note 6) $50,000

TOTAL BID PRICE (Sum of Section I + II + III + IV + V) $_________

(amount in words) ____________________________
Price Schedule
PIN 17BS007500R0X00
General Construction Services for DOHMH

Name of Bidder ____________________________  EIN of Bidder ____________

Bid Price Submission Certifications

The undersigned agrees, if this bid is accepted, that they will within 10 days of receipt of notice of an award submit executed copies of insurance policies as may be required, execute the Agreement set forth in this Invitation for Bid, and will proceed, when directed to do so, with the work required hereunder in strict compliance with the terms and conditions set forth in this Bid.

The undersigned, in submitting this bid, expressly states and represents that it is made in good faith, and that calculations were made on reasonable estimates. The undersigned hereby certifies to the truth and accuracy of all figures and answers contained herein, and authorizes the Department to make any necessary examination of the books of account, records and vouchers of the bidder or other investigation to determine its responsibility.

Bidder __________________________________________________

(Company Name)

By _______________________________________________________

(Signature of person authorized to sign this bid)

Attest ___________________________________________________

(Secretary of Corporate Bidder)

(Corporate Seal)
ITEM 3: ACKNOWLEDGMENT OF ADDENDA

Complete Part I or Part II, whichever is applicable, and sign your name in Part III:

PART I: LISTED BELOW ARE THE DATES OF ISSUE FOR EACH ADDENDUM RECEIVED IN CONNECTION WITH THIS IFB:

ADDENDUM # 1, DATED_________________________ , 20__
ADDENDUM # 2, DATED_________________________ , 20__
ADDENDUM # 3, DATED_________________________ , 20__
ADDENDUM # 4, DATED_________________________ , 20__
ADDENDUM # 5, DATED_________________________ , 20__
ADDENDUM # 6, DATED_________________________ , 20__

PART II: ____NO ADDENDUM WAS RECEIVED IN CONNECTION WITH THIS INVITATION FOR BIDS.

PART III:

BIDDER (NAME)______________________________________ DATE__/__/__
BIDDER (SIGNATURE)______________________________________
ITEM 4: EXPERIENCE QUESTIONNAIRE

*NOTE: The principal owner of the bidding firm must sign this questionnaire guaranteeing the truth and accuracy of all statements and of all answers to interrogatories hereinafter made.

Bidding Firm Name: ________________________________________________________________

Bidding Firm Federal Tax Identification No: __________________________________________

Principal Owner(s) name: ___________________________________________________________

Telephone No: (____)_____________ Fax No. (____)_____________

Principal Owner E-Mail Address: ___________________________________________________

Bidding Firm is: Corporation ( ) Partnership ( ) Proprietorship ( )

Date: ______________________, 20___

Address of Principal Business Office:
______________________________________________________________________________

1. How many years’ experience in work relevant to this bid has your organization had?
   (a) As a Prime Contractor _____ Type of work: _________________________________
   (b) As a Subcontractor _____ Type of work: _________________________________

2. Do you intend to use subcontractors to perform the services requested?
   _____ Yes _____ No
   If so, describe the Work that you anticipate will be subcontracted:
   ____________________________________________________________________________
3. Please indicate the highest ranking person responsible for safety and their title. Provide a current resume for this individual.

          Name  Title

4. During the past three (3) years has the bidding firm completed general construction work for any City or State agency?  _____YES _____NO
   
   If YES, please list the City or State agency (include bureaus and/or departments) and provide the number of contracts held:

   

5. During the past three (3) years has the bidding firm ever performed general construction work for the U.S. Government?  _____Yes _____No
   
   If YES, provide dates, include the State Contract Reference No., the name and telephone number of the government contract administrator for such federal contract.

   

6. During the past three (3) years has the bidding firm ever failed to complete a city/state/government contract?  _____YES _____NO
   
   If YES, please indicate the agency/company, Month/Year and give the reason:

   

7. During the past five (5) years, has the bidding firm ever been debarred from entering into any city/state/government contracts?  _____YES _____NO
   
   If YES please provide details and dates:

   

8. Is the bidding firm controlled by any other entity?  _____YES _____NO
   
   If YES please indicate the name of the controlling entity
9. During the past five (5) years has a principal of the bidding firm ever been affiliated or connected with any other entity other than the bidding firm as a member, partner, director or officer? _____YES _____NO

   If YES, Indicate From and To dates of affiliation or current status: ____________________________

   ____________________________

   ____________________________

10. If YES to above, during the past five (5) years has the affiliate entity ever been declared in default by any City, State or Federal Agency? _____YES _____NO

   If YES, give details and dates. Attach additional pages if needed: ____________________________

   ____________________________

   ____________________________

11. During the past five (5) years, has any principal of the bidding firm been called to a Grand Jury to testify, refused to sign a Waiver of Immunity to answer any relevant questions or have been indicted for any reason whatsoever? _____YES _____NO

   If YES, give details and dates. Attach additional pages if needed: ____________________________

   ____________________________

   ____________________________

12. Below provide five projects that the bidding firm has completed within the past THREE (3) years performing the same type of work specified in the Bid Documents, including general construction work for commercial/industrial/public sector customers:

   1. Project Description and Location: ____________________________

   ____________________________

   Name and Address of Owner: ____________________________

   Phone Number of Owner: ____________________________

   Contract Amount: $ ____________________________ Date Started: __________

   Completion Date __________

   2. Project Description and Location: ____________________________

   ____________________________

   Name and Address of Owner: ____________________________

   Phone Number of Owner: ____________________________

   Contract Amount: $ ____________________________ Date Started: __________

   Completion Date __________
3. **Project Description and Location:**

   Name and Address of Owner: ____________________________________________

   Phone Number of Owner: ____________________________________________

   Contract Amount: $_________ Date Started: __________

   Completion Date __________

4. **Project Description and Location:**

   Name and Address of Owner: ____________________________________________

   Phone Number of Owner: ____________________________________________

   Contract Amount: $_________ Date Started: __________

   Completion Date __________

5. **Project Description and Location:**

   Name and Address of Owner: ____________________________________________

   Phone Number of Owner: ____________________________________________

   Contract Amount: $_________ Date Started: __________

   Completion Date __________

13. Indicate the number of projects that the bidding firm **currently** has under contract performing general construction work on projects that are similar to the Work required under this IFB? ________

14. Provide one project that the bidding firm **currently** has under contract performing the same type of work specified in the IFB of which this Experience Questionnaire is a part, including performing general construction work for a commercial/industrial/public sector customer:

   **Project Description:** ____________________________________________

   Name and Address of Owner: ____________________________________________

   Phone Number of Owner: ____________________________________________

   Contract Amount: $_________ Date Started: __________

   Contract duration: __________ % of Contract Time elapsed as of this date: __________

   % Work completed as of this date: __________

   If % of time elapsed exceeds % of work completed, give reasons therefor: __________
ITEM 5: Safety

1. The contractor must attach a copy of the principal owner’s OSHA safety training(s) (i.e. OSHA 10 hour, 30 hour, etc.).

2. The contractor must indicate the firm’s Experience Modification Rating (EMR) for 2016. This number must be specified on your Workers Compensation document or by requesting a letter from your broker or insurance carrier that indicates the firm’s EMR.

Experience Modification Rating (EMR) 2016 ______________________.
SECTION V: AGREEMENT
CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

TABLE OF CONTENTS

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CHAPTER III: TIME PROVISIONS
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CONTRACT SIGNATURE PAGES
THE CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

AGREEMENT

THIS AGREEMENT, made and entered into this ______________ day of __________________, in the year 20__, by and between The City of New York (the “City), acting through its Department of Health and Mental Hygiene (“DOHMH”), having administrative offices at Gotham Center, 42-09 28th Street, Queens, New York, and _________________________________,

having offices at:

______________________________________________________________________________(“Contractor”).

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; and

1.1.7 Work Orders or Supplemental Work Orders issued under this Contract.
1.2 If there is any conflict in or between the Specifications, the General Conditions, Special Conditions or any part of this Contract 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 Department of Health and Mental Hygiene (DOHMH) 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 DOHMH.

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 Commissioner of DOHMH and his/her duly authorized representative(s).

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, and any Work Orders issued hereunder.

2.1.10 "Contract Drawings" shall mean those drawings furnished by the Commissioner in any Work Order.
2.1.11 "Contract Work" and "Work" and "Services" shall mean everything required to be furnished and done by the Contractor by any one or more of the parts of the Contract or any Work Order. This shall include, without limitation, all services required to complete the assigned tasks in accordance with the Contract documents including labor, Materials, superintendence, management, administration, equipment and incidentals including cleaning, and obtaining any and all regulatory agency approvals such as permits, certifications and licenses, necessary and required to complete the Work.

2.1.12 "Contractor" shall mean the entity (successful bidder) which executed the Contract, and its representatives, obligated to perform Contract Work in accordance with the terms and conditions of the 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 "DOHMH", “Director of Operations”, “DOHMH Project Architect” and words of similar import shall mean the DOHMH staff assigned to oversee the Contractor’s Work and coordinate and communicate with the Contractor on a given project.

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

2.1.15 "Engineer" or "Architect" or "Project Manager" or “Construction 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 or Construction Project Manager, as the case may be. For purposes of this Contract, individuals serving in these capacities shall be deemed equivalent with respect to their power and authority under this Contract. Subject to written approval by the Commissioner, the Engineer, Architect, Project Manager or Construction Project Manager may designate an authorized representative.

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

2.1.17 “Equal” or “Approved Equal” shall mean equal as determined by DOHMH, in its sole discretion.

2.1.18 "Extra Work" shall mean Work performed as other than Unit Price Work or labor and Materials as specified in Chapter VI of this Contract. Additional Work ordered in a Supplemental Work Order shall not be deemed Extra Work unless such Work cannot be performed as Unit Price Work or on labor and Materials basis.

2.1.19 “Facility” or “Facilities”, unless otherwise specified, shall refer to any and all of the DOHMH owned or managed properties/ sites/ buildings listed in the Specifications and shall include, but not be limited to, all interior and exterior portions of such properties, up to and including the building’s property line as determined by the City. DOHMH reserves the right, in its sole discretion, to add or delete Facilities from the list contained in the Specifications, and will notify the Contractor of an addition or deletion in writing.
2.1.20 "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.

2.1.21 "Final Acceptance" shall mean final written acceptance of all the Work in a particular Work Order by the Commissioner, a copy of which shall be sent to the Contractor.

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

2.1.23 "Labor Rate" shall mean the hourly amount that must be paid to individuals performing Contract Work under Sections 220 and/or 230 of the Labor Law of the State of New York or any other applicable prevailing wage law. All payments to Contractor for Contract Work done on a labor or “Time” basis (“Time and Materials” “or “T&M”), shall be based on the Labor Rate for an individual multiplied by the number of hours worked and increased by the Percentage Mark-Up bid by the Contractor.

2.1.24 "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.

2.1.25 "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.

2.1.26 "Materials" shall include, but shall not be limited to, any and all physical items necessary and required to complete the Work, as determined by the Commissioner in her/his sole discretion, including, without limitation, supplies, consumables, and any and all other assets and/or resources which may provide the basis for, or be incorporated into, the Work. Payment for Materials shall be limited to the actual and reasonable cost of the Materials or any discounted price paid by the Contractor increased by the Percentage Mark-Up bid by the Contractor.

2.1.27 "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.

2.1.28 "Notice to Proceed” or “Order to Work” shall mean the written notice issued by the Commissioner specifying the time for commencement of the Work under a Work Order.

2.1.29 "NYC", “New York City”, “City of New York” and “City” shall mean the City of New York.

2.1.30 "Occupants" shall mean employees, visitors or invitees at NYC owned or managed buildings.

2.1.31 "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 Facility or Site of the Work.

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

2.1.33 "Percentage Mark-Up" or "% mark-up", if included in the Bid Sheet, shall mean the percentage bid by the Contractor to be added as a multiplier to the amount paid to the Contractor for labor and Materials. The Percentage Mark-Up shall be deemed to include, without limitation, any and all elements of overhead and profit and all direct and indirect costs incurred by the Contractor, any and all elements of overhead and profit including the cost of all insurance and bonds, governmental fees, licenses, and permits of any kind or nature whatsoever that the Contractor must carry or incurs pursuant to the Contract as well as all Payroll Taxes or other statutory, or contractual costs or expenses that the Contractor must pay on behalf of its employees. The Percentage Mark-Up shall also include Contractor’s costs or expenses for tools, Small Tools, equipment and accessories, whether owned or rented, scaffolding, travel, transportation, mobilization, supervision, management and superintendence. Unless otherwise set forth in the Specifications, the Percentage Mark-Up shall further be deemed to include any costs, expenses, overhead or profit if the Contractor subcontracts all or any part of the Work.

2.1.34 "Project" shall mean the public improvement to which this Contract or any Work Order relates;

2.1.35 “Project Meeting” shall mean a meeting between DOHMH staff, the Contractor and, if appropriate, other contractors and/or consultants working at the Facility, prior to, or during the performance of Work detailed under a specific Work Order.

2.1.36 “Provide” shall mean “furnish and install”, unless otherwise specified.

2.1.37 "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.

2.1.38 "Required Quantity" in a Unit Price Contract shall mean the actual quantity of any item of Unit Price Work or labor or Materials which is required to be performed or furnished in order to comply with the Contract.

2.1.39 "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 and shall include any of the individuals named in Section 2.1.14.

2.1.40 "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.

2.1.41 “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.
2.1.42 "Specifications" shall mean all of the directions, requirements, and standards of performance applying to the Work as hereinafter detailed and designated in the Contract or any Work Order.

2.1.43 "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.

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

2.1.45 “Supplemental Work Order” shall mean any and all written amendments, modifications or changes to a Work Order deemed necessary by DOHMH, in its sole discretion, in the best interests of the City. Unless required by Law, Supplemental Work Orders need not be registered with the Comptroller and shall not be deemed Extra Work.

2.1.46 “Tenant Services” shall mean DOHMH AM’s Tenant Services unit.

2.1.47 “Unit Price” shall mean the total amount to be paid to the Contractor for Unit Price Work, by application of the Unit Price to an estimated quantity of services to be performed under each item, irrespective of whether such amount is derived from separate labor and Material components or combined in a single sum. Unless otherwise specified, each Unit Price shall be deemed to include, without limitation, any and all direct or indirect costs incurred by the Contractor and any and all elements of overhead and profit as well as any and all direct and indirect costs of the Contractor including, but not limited to: including the cost of all insurance and bonds of any kind or nature whatsoever that the Contractor must carry pursuant to the Contract, as well as all Payroll Taxes or other statutory, or contractual costs or expenses that the Contractor must pay on behalf of its employees. The Unit Price shall also include Contractor’s costs or expenses for tools, Small Tools, equipment and accessories, whether owned or rented, scaffolding, travel, transportation, and mobilization. Unless otherwise specified, the Unit Price shall further be deemed to include any costs, expenses, overhead or profit if the Contractor subcontracts all or any part of the Work.

2.1.48 “Unit Price Work” shall mean a defined scope of Work as described in the Contract Documents for which the Contractor will be paid based on its “Unit Price” bid.

2.1.49 "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.

2.1.50 “Work Order” or “Work Request” shall mean a written order issued to the Contractor by the Commissioner that shall include a specified scope of Work to be completed within a definite time period with a “not to exceed” amount provided, however, that the “not to exceed” amount, scope of work and time within which a Work Order is to be completed may be amended, changed or modified by
the Commissioner, in her/his sole discretion, in a Supplemental Work Order or the time may be
extended pursuant to Article 13A. Any additional time that may be necessary for the Contractor to
complete the Work due to the issuance of a Supplemental Work Order or a time extension shall not be
deemed a delay for which the Contractor shall be entitled to any damages whatsoever. All references
herein to a Work Order shall be deemed to include Supplemental Work Orders.

CHAPTER II
THE WORK AND ITS PERFORMANCE

ARTICLE 3. CHARACTER OF THE WORK

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

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

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

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

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

ARTICLE 5. COMPLIANCE WITH LAWS

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

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

5.3 Noise Control Code provisions.

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

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

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

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

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

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

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

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

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

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

5.4.2 Ultra Low Sulfur Diesel Fuel

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

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

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

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

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

5.4.2 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.

5.4.3 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.

5.4.4 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. 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.

5.7 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, Construction 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 Appendix A to 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 “Indemnities”) 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 Indemnies 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 Indemnies 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 Term of the Contract: The Contract shall commence as of the date of the Notice to Proceed or issuance of the first Work Order hereunder and shall remain in effect during the initial term of the Contract set forth in General Conditions, Appendix A. At the Commissioner's sole option, the term of this Contract may be renewed for the period set forth in Appendix A. The Contract may also be extended, at the Commissioner's sole option, for a cumulative period not to exceed one year from the date of expiration of either the original term or the renewal term of the Contract.

8.2 Continuation of the Contract:

8.2.1 Notwithstanding the provisions of Article 8.1, in the event:

(a) Services are required for a Project; and,

(b) A Work Order for the Project is issued by the Commissioner during the "term of the Contract," as such quoted term is defined below, including the last day thereof; and,

(c) The time frame for completion of the Project extends beyond the term of the Contract,

(d) Then and in such event, the Contract shall remain in full force and effect for whatever period of time is necessary for completion of such Work Order or any Supplemental Work Order required to complete the Project.

8.2.2 For the purposes of Article 8.2, the phrase "term of the Contract" shall mean whichever of the following is the latest of the following Contract periods: (1) the initial term of the Contract as set forth in General Conditions, Appendix A, (2) the extended term of the Contract, or (3) the renewal term of the Contract.

8.3 Commencement/Prosecution of the Work:

8.3.1 The Contractor shall commence Work on the date specified in a Work Order signed by the Commissioner. The time for performance of the Work shall be computed from the date specified in such Work Order, which shall remain in effect until completion of all required services for the Work Order. 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 the Work Order, or the date to which the time for completion may be extended.

8.3.2 Unless terminated or cancelled by the Commissioner, Work Orders shall
be effective and binding upon the Contractor when placed in the mail prior to the termination of the term of the Contract as hereinabove defined in 8.2, addressed to the Contractor at the address shown on the advice of award, or emailed to the Contractor at the email address or telefax number provided by the Contractor for the purposes of this Contract.

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 or issuance of a Work Order, 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 the Work Order; 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

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

9.3 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.

9.4 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.

9.5 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, which 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 General Conditions, Appendix 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 General Conditions, Appendix A unless acceleration has been directed by the Commissioner to meet the date of Substantial Completion set forth in General Conditions, Appendix 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.

11.5.8 Required Content of Submission of Statement of Delay Damages. In the verified written statement of delay damages required by Article 11.1.2, the following information shall be provided by the Contractor:

11.5.8.1 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.

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

11.5.8.3 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.

11.5.8.4 Any additional information requested by the Commissioner.

11.6 Recoverable Costs

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

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

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

11.6.1.3 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;

11.6.1.4 Insurance and bond costs;

11.6.1.5 Extended field office costs;

11.6.1.6 Extended Site overhead; and

11.6.1.7 Extended home office overhead.

11.6.2 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.
11.6.3 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:

11.6.3.1 Profit, or loss of anticipated or unanticipated profit;

11.6.3.2 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;

11.6.3.3 Indirect costs or expenses of any nature;

11.6.3.4 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

11.6.3.5 Attorneys’ fees and dispute and claims preparation expenses.

11.7 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.

11.8 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 If the Contractor sustains 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 If 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 FOR THE CONTRACT

13.1 If performance by the Contractor is delayed beyond the Contract completion date 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 13A. EXTENSION OF TIME FOR PERFORMANCE OF A WORK ORDER

13A.1 If performance by the Contractor in connection with a particular Work Order is delayed for a reason set forth below, the Contractor may submit an application for an extension of time in accordance with this Article 13A.

13A.2 The Contractor shall, however, be entitled to an extension of time for such causes only for the number of Days of delay which the Engineer or the ACCO 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.

13A.3 Grounds for Extension: The Contractor shall be granted an extension of time for delay caused solely:

13A.3.1 By the acts or omissions of the City, its officers, agents, or employees;

13A.3.2 By the act or omissions of other Contractors on a project; or

13A.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).

13A.4 Extension for Concurrent Causes of Delay: 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 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 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.

13A.5 Application for Extension of Time for a Work Order.

13A.5.1 The Contractor shall, within five (5) days after commencement of the condition which allegedly has caused or is causing a delay, submit a written application to the Engineer identifying: the Contractor, the Contract registration number, the Work Order number, and project description;

a) liquidated damage assessment rate, if applicable;

b) the original Work Order start date, completion date and approved construction schedule;

c) any previous time extensions granted (number and duration);

d) the number of days for which an extension of time is requested along with a new construction schedule showing the requested completion date;

e) the nature of each alleged cause of delay; and

f) the date upon which each such cause of delay began and ended and the number of days attributable to each such cause; and

g) 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 final completion payments, the application shall include a detailed statement of the dollar amounts of each element of claim item reserved; and

h) a statement indicating the Contractor's understanding that the time extension is granted only for purposes of permitting continuation of the Work Order 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; and

i) A statement indicating the Contractor's understanding that the time extension is granted only for purposes of permitting continuation of Work Order 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.

13A.6 The Engineer shall prepare a written determination granting or denying the application for an extension of time setting forth the reasons for such determination and the new
completion date. The determination made by the Engineer granting or denying an extension of time shall be binding and conclusive on the Contractor.

13A.7 A determination to grant an extension of time for causes of delay other than those set forth herein shall be entirely within the discretion of the Engineer.

13A.8 Permitting the Contractor to continue with the Work Order after the time 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 not operate as a waiver by the City of any of its rights under this Contract. Neither the granting of any application for an extension of time to the Contractor or any Other Contractor on this Work Order 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.

13A.9 Assessment of Liquidated Damages: In the event, a request for an extension is denied, a report including the written determination, analysis and related documentation shall be forwarded to the ACCO for consideration and assessment of liquidated damages. Notwithstanding the foregoing, neither the failure to assess liquidated damages at this time, nor the report itself, nor the granting of a 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.

**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 the Work Order, Appendix A of the General Conditions, or within the time to which such Substantial Completion may be extended by Supplemental Work Order.

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.

14.2 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 a **Work Order**, 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 Appendix 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 or a Work Order, 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; the Contractor shall be relieved of its absolute obligation to protect such part of the unfinished Work in accordance with Article 7;

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 General Conditions, Appendix A, or a particular Work Order, 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. 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.

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

17.5 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.

17.6 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.

17.7 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**.

17.8 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.

17.9 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.

17.10 If the **Subcontractor** fails to maintain the necessary facilities, skill, integrity, past

1 In order to use the new system, a PIP account will be required. Detailed instructions on creating a PIP account and using the new system are also available at www.nyc.gov/pip. Additional assistance with PIP may be obtained by emailing the Financial Information Services Agency Help Desk at pip@fisa.nyc.gov.
17.11 The Contractor shall be responsible for ensuring that all Subcontractors performing Work at the Site maintain all insurance required by Law.

17.12 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:

17.12.1 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.

17.12.2 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.

17.12.3 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.)

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

17.13 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.

17.14 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.

17.15 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 sub-lessees, 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, except as set forth in Section 21.3.

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, either at the time of solicitation or as the value of the Contract may be increased during the term thereof, then as further security for the faithful performance of this Contract, the Commissioner shall deduct, and retain until the substantial completion of the Work, ten (10%) percent of the value of Work certified for payment in each partial payment voucher unless a lesser percentage to be retained is set forth in the Specifications or Appendix A of the General Conditions. Notwithstanding the foregoing, if the value of the Contract is increased to exceed one million ($1,000,000) dollars, the Agency reserves the right to require the Contractor to provide performance and payment security, the fair and reasonable cost of which shall be reimbursed by the Agency after submission of acceptable documentation of such cost.

ARTICLE 22. INSURANCE

22.1 Types of Insurance: The Contractor shall procure and maintain the following types of insurance if, and as indicated in Article 22 of the Agreement and General Conditions, Appendix A, (with the minimum limits and special conditions specified in such Appendix 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 the General Conditions, Appendix 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 the General Conditions, Appendix 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
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 general conditions, appendix 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 appendix a of the general conditions or in a particular work order, the contractor shall provide builders risk insurance on a completed value form for the total value of the work in the work order 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 Appendix 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 General Conditions, Appendix 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 Appendix 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 General Conditions, Appendix 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 Appendix 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 Appendix 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 Appendix 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 Appendix 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 Appendix A of the General Conditions shall be the greater of (i) the minimum limits set forth in Appendix 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 General Conditions, Appendix 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 General Conditions, Appendix 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 Appendix B 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 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 Appendix A of the General Conditions. In the event no address is set forth in the General Conditions, Appendix 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 General Conditions, Appendix A and/or a Work Order.

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 Appendix 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
ARTICLE 25. CHANGES/SUPPLEMENTAL WORK ORDERS

25.1 Changes may be made to this Contract or any Work Order by Supplemental Work Order as duly authorized in writing by the Commissioner in accordance with the Laws and this Contract. All such Supplemental Work Orders will become a part of the Contract. Work so ordered shall be performed by the Contractor.

25.2 Supplemental Work Orders will be issued for Work necessary to complete the Work included in the original scope of a Work Order or for changes to the scope of such Work Order deemed necessary by the Commissioner, in his/her sole discretion, to meet the programmatic or operational needs of DOHMH or its client agencies.

25.3 The Contractor shall be not entitled to a price adjustment for Work performed pursuant to a Work Order or Supplemental Work Order unless the cost of such Work cannot be determined:

25.3.1 By applicable Unit Prices specified in the Contract; and/or

25.3.2 By labor and Materials (time and materials) records subject to the Percentage Mark-Up.

25.4 Work required by a Work Order or Supplemental Work Order which cannot be paid under Section 25.3 shall be considered as Extra Work and payment for such Extra Work shall be computed in one or more of the following ways:

25.4.1 agreement of a fixed price; and/or

25.4.2 In any other manner approved by the CCPO.

25.5 All payments for price adjustments for Extra Work 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 25.4.1 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) x (HP rating) x (Fuel cost/gallon). Reasonable rental value is defined as the lower of either seventy-five percent of the monthly prorated rental rates established in “The AED Green Book, Rental Rates and Specifications for Construction Equipment” published by 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: \((0.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})\). 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 Appendix 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%) 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 Appendix 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, if the Contractor makes 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; and (ii) a copy of the written decision of the Commissioner; and (iii) a copy of all materials submitted by the Contractor to the Agency, including the Notice of Dispute. The Contractor may not present to the Comptroller any material not presented to the Commissioner, except at the request of the Comptroller.

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

27.5.3 Comptroller Investigation. The Comptroller may investigate the claim in dispute and, in the course of such investigation, may exercise all powers provided in 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
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**
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, who may also serve as or be described as the “Engineer,” “Architect,” “Project Manager,” or “Construction Project Manager,” shall have the power to inspect, supervise, and control the performance of the Work, subject to review by the Commissioner. The Resident Engineer shall not, however, have the power to issue an Extra Work order, except as specifically designated in writing by the Commissioner.

ARTICLE 32. THE ENGINEER OR ARCHITECT OR PROJECT MANAGER

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

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

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

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

32.1.4 To make minor changes in the Work as he/she deems necessary, provided such changes do not result in a net change in the cost to the City or to the Contractor of the Work to be done under the Contract; and

32.1.5 To amplify the Contract Drawings, add explanatory information and furnish additional Specifications and drawings, consistent with this Contract.

32.2 The foregoing enumeration shall not imply any limitation upon the power of the Engineer or Architect or Project Manager, for it is the intent of this Contract that all of the Work shall generally be subject to his/her determination, direction, and approval, except where the determination, direction or approval of someone other than the Engineer or Architect or Project Manager is expressly called for herein.
32.3 The Engineer or Architect or Project Manager shall not, however, have the power to issue an Extra Work order, except as specifically designated in writing by the Commissioner.

ARTICLE 33. THE COMMISSIONER

33.1 The Commissioner, in addition to those matters elsewhere herein expressly made subject to his/her determination, direction or approval, shall have the power:

33.1.1 To review and make determinations on any and all questions in relation to this Contract and its performance; and

33.1.2 To modify or change this Contract so as to require the performance of Extra Work (subject, however, to the limitations specified in Article 25) or the omission of Contract Work; and

33.1.3 To suspend the whole or any part of the Work whenever in his/her judgment such suspension is required:

33.1.3(a) In the interest of the City generally; or

33.1.3(b) To coordinate the Work of the various contractors engaged on this Project pursuant to the provisions of Article 12; or

33.1.3(c) To expedite the completion of the entire Project even though the completion of this particular Contract may thereby be delayed.

ARTICLE 34. NO ESTOPPEL

34.1 Neither the City nor any Agency, official, agent or employee thereof, shall be bound, precluded or estopped by any determination, decision, approval, order, letter, payment or certificate made or given under or in connection with this Contract by the City, the Commissioner, the Engineer, the Resident Engineer, or any other official, agent or employee of the City, either before or after the final completion and acceptance of the Work and payment therefor:

34.1.1 From showing the true and correct classification, amount, quality or character of the Work actually done; or that any such determination, decision, order, letter, payment or certificate was untrue, incorrect or improperly made in any particular, or that the Work, or any part thereof, does not in fact conform to the requirements of this Contract; and

34.1.2 From demanding and recovering from the Contractor any overpayment made to it, or such damages as the City may sustain by reason of the Contractor's failure to perform each and every part of its Contract.

CHAPTER VIII
LABOR PROVISIONS

ARTICLE 35. EMPLOYEES
35.1 The Contractor and its Subcontractors shall not employ on the Work:

35.1.1 Anyone who is not competent, faithful and skilled in the Work for which he/she shall be employed; and whenever the Commissioner shall inform the Contractor, in writing, that any employee is, in his/her opinion, incompetent, unfaithful or disobedient, that employee shall be discharged from the Work forthwith, and shall not again be employed upon it; or

35.1.2 Any labor, materials or means whose employment, or utilization during the course of this Contract, may tend to or in any way cause or result in strikes, work stoppages, delays, suspension of Work or similar troubles by workers employed by the Contractor or its Subcontractors, or by any of the trades working in or about the buildings and premises where Work is being performed under this Contract, or by Other Contractors or their Subcontractors pursuant to other contracts, or on any other building or premises owned or operated by the City, its Agencies, departments, boards or authorities. Any violation by the Contractor of this requirement may, upon certification of the Commissioner, be considered as proper and sufficient cause for declaring the Contractor to be in default, and for the City to take action against it as set forth in Chapter X of this Contract, or such other article of this Contract as the Commissioner may deem proper; or

35.1.3 In accordance with Section 220.3-e of the Labor Law of the State of New York (hereinafter "Labor Law"), the Contractor and its Subcontractors shall not employ on the Work any apprentice, unless he/she is a registered individual, under a bona fide program registered with the New York State Department of Labor. The allowable ratio of apprentices to journey-level workers in any craft classification shall not be greater than the ratio permitted to the Contractor as to its work force on any job under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the Comptroller of the City for the classification of Work actually performed. The Contractor or Subcontractor will be required to furnish written evidence of the registration of its program and apprentices as well as all the appropriate ratios and wage rates, for the area of the construction prior to using any apprentices on the Contract Work.

35.2 If the total cost of the Work under this Contract is at least two hundred fifty thousand ($250,000) dollars, all laborers, workers, and mechanics employed in the performance of the Contract on the public work site, either by the Contractor, Subcontractor or other person doing or contracting to do the whole or a part of the Work contemplated by the Contract, shall be certified prior to performing any Work as having successfully completed a course in construction safety and health approved by the United States Department of Labor’s Occupational Safety and Health Administration that is at least ten (10) hours in duration.

35.3 In accordance with Local Law Nos. 30-2012 and 33-2012, codified at sections 6-132 and 12-113 of the Administrative Code, respectively,

35.3.1 The Contractor shall not take an adverse personnel action with respect to an officer or employee in retaliation for such officer or employee making a report of information concerning conduct which such officer or employee knows or reasonably believes to involve corruption, criminal activity, conflict of interest, gross mismanagement or abuse of authority by any officer or employee relating to this Contract to (a) the Commissioner of the Department of Investigation, (b) a member of the New York City Council, the Public Advocate, or the Comptroller, or (c) the CCPO, ACCO, Agency head, or Commissioner.
35.3.2 If any of the Contractor's officers or employees believes that he or she has been the subject of an adverse personnel action in violation of Article 35.3.1, he or she shall be entitled to bring a cause of action against the Contractor to recover all relief necessary to make him or her whole. Such relief may include but is not limited to: (a) an injunction to restrain continued retaliation, (b) reinstatement to the position such employee would have had but for the retaliation or to an equivalent position, (c) reinstatement of full fringe benefits and seniority rights, (d) payment of two times back pay, plus interest, and (e) compensation for any special damages sustained as a result of the retaliation, including litigation costs and reasonable attorney's fees.

35.3.3 The Contractor shall post a notice provided by the City in a prominent and accessible place on any site where work pursuant to the Contract is performed that contains information about:

35.3.3(a) how its employees can report to the New York City Department of Investigation allegations of fraud, false claims, criminality or corruption arising out of or in connection with the Contract; and

35.3.3(b) the rights and remedies afforded to its employees under Administrative Code sections 7-805 (the New York City False Claims Act) and 12-113 (the Whistleblower Protection Expansion Act) for lawful acts taken in connection with the reporting of allegations of fraud, false claims, criminality or corruption in connection with the Contract.

35.3.4 For the purposes of this Article 35.3, “adverse personnel action” includes dismissal, demotion, suspension, disciplinary action, negative performance evaluation, any action resulting in loss of staff, office space, equipment or other benefit, failure to appoint, failure to promote, or any transfer or assignment or failure to transfer or assign against the wishes of the affected officer or employee.

35.3.5 This Article 35.3 is applicable to all of the Contractor's Subcontractors having subcontracts with a value in excess of $100,000; accordingly, the Contractor shall include this rider in all subcontracts with a value a value in excess of $100,000.

35.4 Article 35.3 is not applicable to this Contract if it is valued at $100,000 or less. Articles 35.3.1, 35.3.2, 35.3.4, and 35.3.5 are not applicable to this Contract if it was solicited pursuant to a finding of an emergency.

ARTICLE 36. NO DISCRIMINATION

36.1 The Contractor specifically agrees, as required by Labor Law Section 220-e, as amended, that:

36.1.1 In the hiring of employees for the performance of Work under this Contract or any subcontract hereunder, neither the Contractor, Subcontractor, nor any person acting on behalf of such Contractor or Subcontractor, shall by reason of race, creed, color or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the Work to which the employment relates;

36.1.2 Neither the Contractor, Subcontractor, nor any person on its behalf shall, in any
manner, discriminate against or intimidate any employee hired for the performance of Work under this Contract on account of race, creed, color or national origin;

36.1.3 There may be deducted from the amount payable to the Contractor by the City under this Contract a penalty of fifty ($50.00) dollars for each person for each Day during which such person was discriminated against or intimidated in violation of the provisions of this Contract; and

36.1.4 This Contract may be cancelled or terminated by the City and all moneys due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this Article 36.

36.1.5 This Article 36 covers all construction, alteration and repair of any public building or public work occurring in the State of New York and the manufacture, sale, and distribution of materials, equipment, and supplies to the extent that such operations are performed within the State of New York pursuant to this Contract.

36.2 The Contractor specifically agrees, as required by Section 6-108 of the Administrative Code, as amended, that:

36.2.1 It shall be unlawful for any person engaged in the construction, alteration or repair of buildings or engaged in the construction or repair of streets or highways pursuant to a Contract with the City or engaged in the manufacture, sale or distribution of materials, equipment or supplies pursuant to a Contract with the City to refuse to employ or to refuse to continue in any employment any person on account of the race, color or creed of such person.

36.2.2 It shall be unlawful for any person or any servant, agent or employee of any person, described in Article 36.1.2, to ask, indicate or transmit, orally or in writing, directly or indirectly, the race, color or creed or religious affiliation of any person employed or seeking employment from such person, firm or corporation.

36.2.3 Breach of the foregoing provisions shall be deemed a violation of a material provision of this Contract.

36.2.4 Any person, or the employee, manager or owner of or officer of such firm or corporation who shall violate any of the provisions of this Article 36.2 shall, upon conviction thereof, be punished by a fine of not more than one hundred ($100.00) dollars or by imprisonment for not more than thirty (30) Days, or both.

36.3 This Contract is subject to the requirements of Executive Order No. 50 (1980) ("E.O. 50"), as revised, and the rules and regulations promulgated thereunder. No contract will be awarded unless and until these requirements have been complied with in their entirety. By signing this Contract, the Contractor agrees that it:

36.3.1 Will not engage in any unlawful discrimination against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability, marital status or sexual orientation with respect to all employment decisions including, but not limited to, recruitment, hiring, upgrading, demotion, downgrading, transfer, training, rates of pay or other forms of compensation, layoff, termination, and all other terms and conditions of employment; and

36.3.2 Will not engage in any unlawful discrimination in the selection of Subcontractors on
the basis of the owner's race, color, creed, national origin, sex, age, disability, marital status or sexual orientation; and

36.3.3 Will state in all solicitations or advertisements for employees placed by or on behalf of the Contractor that all qualified applicants will receive consideration for employment without unlawful discrimination based on race, creed, color, national origin, sex, age, citizens status, disability, marital status, sexual orientation, or that it is an equal employment opportunity employer; and

36.3.4 Will send to each labor organization or representative of workers with which it has a collective bargaining agreement or other contract or memorandum of understanding, written notification of its equal employment opportunity commitments under E.O. 50 and the rules and regulations promulgated thereunder; and

36.3.5 Will furnish, before the award of the Contract, all information and reports, including an employment report, that are required by E.O. 50, the rules and regulations promulgated thereunder, and orders of the City Department of Business Services, Division of Labor Services (DLS) and will permit access to its books, records, and accounts by the DLS for the purposes of investigation to ascertain compliance with such rules, regulations, and orders.

36.4 The Contractor understands that in the event of its noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations, or orders, such noncompliance shall constitute a material breach of this Contract and noncompliance with E.O. 50 and the rules and regulations promulgated thereunder. After a hearing held pursuant to the rules of the DLS, the Director of the DLS may direct the Commissioner to impose any or all of the following sanctions:

36.4.1 Disapproval of the Contractor; and/or

36.4.2 Suspension or termination of the Contract; and/or

36.4.3 Declaring the Contractor in default; and/or

36.4.4 In lieu of any of the foregoing sanctions, the Director of the DLS may impose an employment program.

In addition to any actions taken under this Contract, failure to comply with E.O. 50 and the rules and regulations promulgated thereunder, in one or more instances, may result in a City Agency declaring the Contractor to be non-responsible in future procurements. The Contractor further agrees that it will refrain from entering into any Contract or Contract modification subject to E.O. 50 and the rules and regulations promulgated thereunder with a Subcontractor who is not in compliance with the requirements of E.O. 50 and the rules and regulations promulgated thereunder.

36.5 The Contractor specifically agrees, as required by Section 6-123 of the Administrative Code, that:

36.5.1 The Contractor will not engage in any unlawful discriminatory practice in violation of Title 8 of the Administrative Code; and

36.5.2 Any failure to comply with this Article 36.5 may subject the Contractor to the
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" (including the wage and benefit rate) set by law for each trade or occupation for employees of contractors performing public works projects and building service work for government agencies pursuant to Labor Law Section 220, and as fixed by the Comptroller Wage Schedule of Wage Rates established by the Comptroller of the City of New York pursuant to §220 of the Labor Law and in updated schedules thereto. The prevailing wage rates and supplemental benefits to be paid are those in effect at the time the Work is being performed. See more at:

http://comptroller.nyc.gov/general-information/prevailing-wage/

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 if it fails or refuses 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 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 37.5.3, 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
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; 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 If a harmful dust hazard is 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 price set forth in a Work Order, plus the amount required to be paid for any Supplemental Work Orders or Extra Work ordered by the Commissioner under Article 25, less credit for any Work omitted pursuant to Article 29.

ARTICLE 41. BID BREAKDOWN

41.1 Within fifteen (15) Days after the commencement date specified in the Notice to Proceed or Order to Work in any Work Order, unless otherwise directed by the Resident Engineer, the Contractor shall submit to the Resident Engineer a breakdown of its cost for the Work required by a Work Order, showing the various operations to be performed under the Work Order, how much will be performed as Unit Price Work and in what quantities, and how much as labor and Materials 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 price set forth in the Work Order. Said breakdown must be approved in writing by the Resident Engineer.

41.2 No partial payment will be approved until the Contractor submits a cost breakdown that is acceptable to the Resident Engineer.

41.3 The Contractor shall also submit such other information relating to the cost 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 When the Work required by a particular Work Order, in the opinion of the Commissioner, has been substantially but not entirely completed, he/she shall issue a certificate of Substantial
Completion with respect to such Work Order.

44.2 The Contractor shall submit with the Substantial Completion requisition for a Work Order:

44.2.1 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.

44.2.1(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.

44.2.2 A Final Commissioner approved Punch List.

44.2.3 Where required, a request for an extension of time to achieve Substantial Completion or final extension of time.

44.3 The Commissioner shall issue a voucher calling for payment of any part or all of the balance due for Work performed under the Work Order, 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 Work Order, or within the time to which completion may have been extended by Supplemental Work Order, until an extension or extensions of time for the completion of Work have been acted upon pursuant to Article 13.

44.4 No further partial payments shall be made to the Contractor after the Commissioner issues a Certificate of Substantial Completion for a Work Order, 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.

44.5 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 for a Work Order, 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 for such Work Order. 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 If the Contractor refuses 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 or any Work Order issued hereunder 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 to the Department upon demand.

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 the date the Commissioner issues a Certificate of Substantial Completion pursuant to Article 44; except that:

56.2.1 Any claims arising out of events occurring after the date the Commissioner issues a Certificate of Substantial Completion and before Final Acceptance of the Work for a particular Work Order shall be asserted within six (6) months of Final Acceptance of the Work for a particular Work Order;
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 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.
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.

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.

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.

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.

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

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.

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.
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.

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.

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.

For purposes of this Article, the following terms shall have the following meanings:

- "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:

  - increase the representation of individuals from under-represented religious groups in the workforce, including managerial, supervisory, administrative, clerical and technical jobs;
  - take steps to promote adequate security for the protection of employees from under-represented religious groups both at the work-place and while traveling to and from Work;
69.3.1(c) ban provocative religious or political emblems from the workplace;

69.3.1(d) publicly advertise all job openings and make special recruitment efforts to attract applicants from under-represented religious groups;

69.3.1(e) establish layoff, recall, and termination procedures which do not in practice favor a particular religious group;

69.3.1(f) abolish all job reservations, apprenticeship restrictions and different employment criteria which discriminate on the basis of religion;

69.3.1(g) develop training programs that will prepare substantial numbers of current employees from under-represented religious groups for skilled jobs, including the expansion of existing programs and the creation of new programs to train, upgrade, and improve the skills of workers from under-represented religious groups;

69.3.1(h) establish procedures to assess, identify, and actively recruit employees from under-represented religious groups with potential for further advancement; and

69.3.1(i) appoint a senior management staff member to oversee affirmative action efforts and develop a timetable to ensure their full implementation.

69.4 The Contractor agrees that the covenants and representations in Article 69.2 are material conditions to this Contract. In the event the Agency receives information that the Contractor who made the stipulation required by this Article 69 is in violation thereof, the Agency shall review such information and give the Contractor an opportunity to respond. If the Agency finds that a violation has occurred, the Agency shall have the right to declare the Contractor in default and/or terminate this Contract for cause and procure supplies, services or Work from another source in the manner the Agency deems proper. In the event of such termination, the Contractor shall pay to the Agency, or the Agency in its sole discretion may withhold from any amounts otherwise payable to the Contractor, the difference between the Contract price for the uncompleted portion of this Contract and the cost to the Agency of completing performance of this Contract either itself or by engaging another Contractor or Contractors. In the case of a requirement Contract, the Contractor shall be liable for such difference in price for the entire amount of supplies required by the Agency for the uncompleted term of Contractor's Contract. In the case of a construction Contract, the Agency shall also have the right to hold the Contractor in partial or total default in accordance with the default provisions of this Contract, and/or may seek debarment or suspension of the Contractor. The rights and remedies of the Agency hereunder shall be in addition to, and not in lieu of, any rights and remedies the Agency has pursuant to this Contract or by operation of Law.

ARTICLE 70. ELECTRONIC FILING/NYC DEVELOPMENT HUB

70.1 The Contractor shall electronically file all alteration type-2 and alteration type-3 applications via the New York City Development Hub Web site, except applications for the following types of minor alterations: enlargements, curb cuts, legalizations, fire alarms, builders pavement plans, and jobs filed on Landmark Preservation Commission calendared properties. All such filings must be professionally certified. Information about electronic filing via the New York City Development Hub is available on the City Department of Buildings Web site at www.nyc.gov/buildings.
ARTICLE 71. PROHIBITION OF TROPICAL HARDWOODS

71.1 Tropical hardwoods, as defined in Section 165 of the New York State Finance Law (Finance Law), shall not be utilized in the performance of this Contract except as expressly permitted by Section 165 of the Finance Law.

ARTICLE 72. CONFLICTS OF INTEREST

72.1 Section 2604 of the City Charter and other related provisions of the City Charter, the Administrative Code, and the Penal Law are applicable under the terms of this Contract in relation to conflicts of interest and shall be extended to Subcontractors authorized to perform Work, labor and services pursuant to this Contract and further, it shall be the duty and responsibility of the Contractor to so inform its respective Subcontractors. Notice is hereby given that, under certain circumstances, penalties may be invoked against the donor as well as the recipient of any form of valuable gift.

ARTICLE 73. MERGER CLAUSE

73.1 The written Contract herein, contains all the terms and conditions agreed upon by the parties hereto, and no other agreement, oral or otherwise, regarding the subject matter of this Contract shall be deemed to exist or to bind any of the parties hereto, or to vary any of the terms contained herein.

ARTICLE 74. STATEMENT OF WORK

74.1 The Contractor shall furnish all labor and materials and perform all Work in strict accordance with the Specifications and Addenda thereto, numbered as shown in Appendix A of the General Conditions.

ARTICLE 75. COMPENSATION TO BE PAID TO CONTRACTOR

75.1 The City will pay and the Contractor will accept in full consideration for the performance of the Contract, subject to additions and deductions as provided herein, the total sum shown in Schedule A, this said sum being the amount at which the Contract was awarded to the Contractor at a public letting thereof, based upon the Contractor's bid for the Contract.

ARTICLE 76. ELECTRONIC FUNDS TRANSFER

76.1 In accordance with Section 6-107.1 of the Administrative Code, the Contractor agrees to accept payments under this Contract from the City by electronic funds transfer (EFT). An EFT is any transfer of funds, other than a transaction originated by check, draft or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument or computer or magnetic tape so as to order, instructor authorize a financial institution to debit or credit an account. Prior to the first payment made under this Contract, the Contractor shall designate one financial institution or other authorized payment
agent and shall complete the attached “EFT Vendor Payment Enrollment Form” in order to provide the Commissioner of the City Department of Finance with information necessary for the Contractor to receive electronic funds transfer payments through a designated financial institution or authorized payment agent. The crediting of the amount of a payment to the appropriate account on the books of a financial institution or other authorized payment agent designated by the Contractor shall constitute full satisfaction by the City for the amount of the payment under this Contract. The account information supplied by the Contractor to facilitate the electronic funds transfer shall remain confidential to the fullest extent provided by Law.

76.2 The Commissioner may waive the application of the requirements of this Article 76 to payments on contracts entered into pursuant to Section 315 of the City Charter. In addition, the Commissioner of the Department of Finance and the Comptroller may jointly issue standards pursuant to which the Agency may waive the requirements of this Article 76 for payments in the following circumstances: (i) for individuals or classes of individuals for whom compliance imposes a hardship; (ii) for classifications or types of checks; or (iii) in other circumstances as may be necessary in the interest of the City.

ARTICLE 77. RECORDS RETENTION

77.1 The Contractor agrees to retain all books, records, and other documents relevant to this Contract for six years after the final payment or termination of this Contract, whichever is later. City, state, and federal auditors and any other persons duly authorized by the City shall have full access to and the right to examine any such books, records, and other documents during the retention period.

[NO FURTHER TEXT ON THIS PAGE—SIGNATURE PAGE ON FOLLOWING PAGE]
IN WITNESS WHEREOF, the First Deputy Commissioner, on behalf of the City of New York, and the Contractor, have executed this Agreement in triplicate.

THE CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

By: ______________________________________________________
    First Deputy Commissioner

(Print full legal name of Contractor)

By: ______________________________________________________
    (Partner, Member of Firm or Officer of Corporation)

(Place Seal Here)

Approved as to Form
Certified as to Legal Authority:

___________________________________________________
Corporation Counsel

Date: __________________________
STATE OF NEW YORK

ss:

COUNTY OF QUEENS

On this __________ day of ____________________, 20______ before me personally came __________________________________, to me known and known to me to be the First Deputy Commissioner of the Department of Health and Mental Hygiene of the City of New York, the person described in whom, as such Commissioner, executed the foregoing agreement, and he duly acknowledged to me that he executed the same on behalf of the City of New York and the Department of Health and Mental Hygiene for the purpose herein mentioned.

=================================
Notary Public or Commissioner of Deeds
ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

STATE OF NEW YORK

ss:

COUNTY OF NEW YORK

On this ______ day of __________________ 20____ before me personally came
_______________________________, who being by me duly sworn, did depose and say that (s)he resides
in the City of _______________; that (s)he is the ___________________ of the corporation described in and
which executed the foregoing instrument; that (s)he knows the seal of 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 (s)he signed his/her name thereto by like order for the purposes therein
mentioned.

=================================
Notary Public or Commissioner of Deeds
ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

STATE OF NEW YORK   )
ss:
COUNTY OF __________ )

On this ___ day of _______________, 2016 before me personally came __________________ to me known and known to me to be a member of __________________ the firm described in and which executed the foregoing instrument and (s)he acknowledged to me that (s)he subscribed the name of said firm thereto on behalf of said firm for the purposes therein mentioned.

=================================
Notary Public or Commissioner of Deeds
ACKNOWLEDGMENT BY INDIVIDUAL

STATE OF NEW YORK      )

ss:

COUNTY OF ____________ )

On this______ day of _________________, 2016 before me personally came ________________________ to me known and known to me to be the same person described and who executed the foregoing instrument and ne acknowledged to me that he executed the same for the purposes therein mentioned.
CORPORATION COUNSEL CONTRACT APPROVAL

Agency DOHMH

E-PIN 81616B0014

Contractor

Approved as to form

Certified as to legal authority

Electronically Signed By ISABEL GALIS-MENENDEZ Date 02/24/2017 18:24

Acting Corporation Counsel
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.
(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)

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.

New York City Department of Health and Mental Hygiene
Office of the ACCO
42-09 28th Street, 17th Fl, CN30A
Long Island City, NY 11101
### APPENDIX A

**GENERAL CONDITIONS TO CONSTRUCTION CONTRACT**
*(INCLUDING GENERAL CONDITIONS RELATING TO ARTICLE 22 -- INSURANCE)*

**PART I. REQUIRED INFORMATION**

<table>
<thead>
<tr>
<th>INFORMATION FOR BIDDERS</th>
<th></th>
</tr>
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<tbody>
<tr>
<td><strong>BID BOND</strong></td>
<td></td>
</tr>
<tr>
<td>The Contractor shall obtain a bid bond in the amount indicated to the right.</td>
<td>5% percent of the total bid for the Contract price.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INFORMATION FOR BIDDERS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERFORMANCE AND PAYMENT BONDS</strong></td>
<td></td>
</tr>
<tr>
<td>The Contractor shall obtain performance and payment bonds in the amount indicated to the right.</td>
<td>100% Performance Bond and Payment Bond for each Task Order in excess of $500,000 at the time of the individual Task Order Notice to Proceed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONTRACT ARTICLE 14.</th>
<th>DATE FOR SUBSTANTIAL COMPLETION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Contractor shall substantially complete the Work in the time indicated to the right.</td>
<td>In accordance with Section II.B., on a Task Order basis.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONTRACT ARTICLE 15.</th>
<th>LIQUIDATED DAMAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the Contractor fails to substantially complete the Work within the time fixed for substantial completion plus authorized time extensions or if the Contractor, in the sole determination of the Commissioner, has abandoned the Work, the Contractor shall pay to the City the amount indicated to the right.</td>
<td>In accordance with Section II.F., Liquidated Damages</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONTRACT ARTICLE 17.</th>
<th>SUB-CONTRACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>CONTRACT ARTICLE 21.</strong></td>
<td><strong>RETAINAGE</strong>&lt;br&gt;The <strong>Commissioner</strong> shall deduct and retain until the substantial completion of the <strong>Work</strong> the percent value of the <strong>Work</strong> indicated to the right.</td>
</tr>
<tr>
<td></td>
<td>5% of the value of the <strong>Work</strong></td>
</tr>
<tr>
<td><strong>CONTRACT ARTICLE 22.</strong></td>
<td><em>(Per Directions Below)</em>&lt;br&gt;See <strong>PART II. TYPES OF INSURANCE, MINIMUM LIMITS AND SPECIAL CONDITIONS</strong>, below.</td>
</tr>
<tr>
<td><strong>CONTRACT ARTICLE 24.</strong></td>
<td><strong>DEPOSIT GUARANTEE</strong>&lt;br&gt;As security for the faithful performance of its obligations, the <strong>Contractor</strong>, upon filing its requisition for payment on <strong>Substantial Completion</strong>, shall deposit with the <strong>Commissioner</strong> a sum equal to the percentage of the <strong>Contract</strong> price indicated to the right.</td>
</tr>
<tr>
<td></td>
<td>0% of Contract Price</td>
</tr>
<tr>
<td><strong>CONTRACT ARTICLE 24.</strong></td>
<td><strong>PERIOD OF GUARANTEE</strong>&lt;br&gt;Periods of maintenance and guarantee other than the period set forth in Article 24.1 are indicated to the right.</td>
</tr>
<tr>
<td></td>
<td>In accordance with Section II.D.7., Warranty.</td>
</tr>
<tr>
<td><strong>CONTRACT ARTICLE 74.</strong></td>
<td><strong>STATEMENT OF WORK</strong>&lt;br&gt;The <strong>Contractor</strong> shall furnish all labor and materials and perform all <strong>Work</strong> in strict accordance with the <strong>Contract Drawings, Specifications</strong>, and all <strong>Addenda</strong> thereto, numbered as shown in the column to the right.</td>
</tr>
<tr>
<td></td>
<td>In accordance with Section II (Specifications/Scope of Services), Appendix R (Technical Specifications), and Task Order-specific contract drawings, specifications and related materials issued at such time as a Task Order is requested.</td>
</tr>
</tbody>
</table>
| **CONTRACT ARTICLE 75.**  
**COMPENSATION TO BE PAID TO CONTRACTOR** |
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The City shall pay and the Contractor shall accept in full consideration for the performance of the Contract, subject to additions and deductions as provided herein, the total sum <strong>shown in the column to the right</strong>, 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.</td>
</tr>
<tr>
<td>Not-to-exceed the rates bid on the Price Schedule (Item 2 in Section IV), for a total not-to-exceed amount of:</td>
</tr>
<tr>
<td>$ ___________________________</td>
</tr>
</tbody>
</table>
(GENERAL CONDITIONS RELATING TO ARTICLE 22 – INSURANCE)

PART II. TYPES OF INSURANCE, MINIMUM LIMITS AND SPECIAL CONDITIONS

Note: All certificate(s) of insurance submitted pursuant to Contract Article 22.3. 3 must be accompanied by a Certification by Broker consistent with Part III below and include the following information:

- For each insurance policy, the name and NAIC number of issuing company, number of policy, and effective dates;
- Policy limits consistent with the requirements listed below;
- Additional insureds or loss payees consistent with the requirements listed below; and
- The number assigned to the Contract by the City (in the “Description of Operations” field).

Insurance indicated by a blackened box (■) or by X in a □ to left will be required under this contract

<table>
<thead>
<tr>
<th>Types of Insurance (per Article 22 in its entirety, including listed paragraph)</th>
<th>Minimum Limits and Special Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>■ Commercial General Liability</td>
<td>Art. 22.1.1</td>
</tr>
</tbody>
</table>

The minimum limits shall be $1,000,000.00 per occurrence and $2,000,000 per project aggregate applicable to this Contract unless the Work requires a permit from the Department of Buildings and greater limits of Commercial General Liability Insurance are required pursuant to 1 RCNY section 101-08.

Additional Insureds:
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

2. All person(s) or organization(s), if any, that Article 22.1.1(b) of the Contract requires to be named as Additional Insured(s), with coverage at least as broad as ISO Form CG 20 26. The Additional Insured endorsement shall either specify the entity's name, if known, or the entity's title (e.g., Project Manager).

3. [Agency: If appropriate, insert names of other entities to be covered as Additional Insureds.]
<table>
<thead>
<tr>
<th>Insurance Type</th>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
</table>
| Workers’ Compensation                              | Art. 22.1.2 | Workers’ Compensation, Employers’ Liability, and Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction.  
**Note:** The following forms are acceptable: (1) New York State Workers’ Compensation Board Form No. C-105.2, (2) State Insurance Fund Form No. U-26.3, (3) New York State Workers’ Compensation Board Form No. DB-120.1 and (3) Request for WC/DB Exemption Form No. CE-200. The City will not accept an ACORD form as proof of Workers’ Compensation or Disability Insurance. Jones Act and U.S. Longshoremen’s and Harbor Workers’ Compensation Act: Statutory per U.S. law. |
| Disability Benefits Insurance                      | Art. 22.1.2 | |
| Employers’ Liability                               | Art. 22.1.2 | |
| Jones Act                                          | Art. 22.1.3 | |
| U.S. Longshoremen’s and Harbor Workers Compensation Act | Art. 22.1.3 | |
| Builders Risk                                      | Art. 22.1.4 | 100% of total value of **Work**  
**Contractor** the Named Insured; the **City** both an Additional Insured and one of the loss payees as its interests may appear.  
If the **Work** does not involve construction of a new building or gut renovation work, the **Contractor** may provide an installation floater in lieu of Builders Risk insurance.  
Note: Builders Risk Insurance may terminate upon **Substantial Completion** of the **Work** in its entirety. |
| Commercial Auto Liability                          | Art. 22.1.5 | $1,000,000 per accident combined single limit  
If vehicles are used for transporting hazardous materials, the **Contractor** shall provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90 |
<table>
<thead>
<tr>
<th>Contractors Pollution Liability</th>
<th>Art. 22.1.6</th>
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<tr>
<td>1. City of New York, including</td>
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<tr>
<td>its officials and employees,</td>
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<td>its officials and employees,</td>
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<td>its officials and employees,</td>
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<tbody>
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<tr>
<td>1. City of New York, including</td>
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<tr>
<td>its officials and employees,</td>
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<td>2. __________________________</td>
<td></td>
<td></td>
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<tr>
<td>[OTHER]</td>
<td>Art. 22.1.8</td>
<td>[If other type(s) of insurance need to be required under the <strong>Contract</strong>, the Contracting Agency should (a) check the box and fill in the type of insurance in left-hand column, and (b) in this right-hand column, specify appropriate limit(s) and appropriate Named Insured and Additional Insured(s). Note that if Railroad Protective Liability Insurance is required, the appropriate Named Insured is the owner of the railroad and there are no additional insureds.]</td>
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<tr>
<th>[OTHER]</th>
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<th>[See directly above.]</th>
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APPENDIX B

CERTIFICATES OF INSURANCE

Instructions to New York City Agencies, Departments, and Offices

All certificates of insurance (except certificates of insurance solely evidencing Workers’ Compensation Insurance, Employer’s Liability Insurance, and/or Disability Benefits Insurance) must be accompanied by one of the following:

(1) the Certification by Insurance Broker or Agent on the following page setting forth the required information and signatures;

-- OR --

(2) copies of all policies as certified by an authorized representative of the issuing insurance carrier that are referenced in such certificate of insurance. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.
CITY OF NEW YORK

CERTIFICATION BY INSURANCE BROKER OR AGENT

The undersigned insurance broker 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, 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 __________________
# APPENDIX C

List of all facilities owned and/or operated by DOHMH

<table>
<thead>
<tr>
<th>Facility Location</th>
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<tbody>
<tr>
<td><strong>Brooklyn</strong></td>
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</tr>
<tr>
<td>Brownsville Health Center</td>
<td>259 Bristol St, Brooklyn, NY 11212</td>
</tr>
<tr>
<td>Bedford Health Center</td>
<td>485 Throop Ave, Brooklyn, NY 11221</td>
</tr>
<tr>
<td>Bushwick Health Center</td>
<td>335 Central Ave, Brooklyn, NY 11221</td>
</tr>
<tr>
<td>Homecrest Health Center</td>
<td>1601 Ave S, Brooklyn, NY 11229</td>
</tr>
<tr>
<td>Ft. Greene Health Center</td>
<td>295 Flatbush Ave, Brooklyn, NY 11201</td>
</tr>
<tr>
<td>Crown Heights Health Center</td>
<td>1218 Prospect Place, Brooklyn, NY 11213</td>
</tr>
<tr>
<td>Williamsburg Health Center</td>
<td>151 Mauer St, Brooklyn, NY 11206</td>
</tr>
<tr>
<td>Brooklyn Animal Shelter</td>
<td>2336 Linden Blvd, Brooklyn, NY 11208</td>
</tr>
<tr>
<td><strong>Queens</strong></td>
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</tr>
<tr>
<td>Prison Health Warehouse</td>
<td>18-39 42nd St, Astoria, NY 11105</td>
</tr>
<tr>
<td>Astoria Health Center</td>
<td>12-26 31st Ave, LIC, NY 11106</td>
</tr>
<tr>
<td>Corona Health Center</td>
<td>34-33 Junction Blvd, Jackson Heights, NY 11372</td>
</tr>
<tr>
<td>Jamaica Main &amp; Jamaica-Annex Health Centers</td>
<td>90-27 Parsons Blvd, Jamaica, NY 11432</td>
</tr>
<tr>
<td><strong>Manhattan</strong></td>
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</tr>
<tr>
<td>Central Harlem Health Center</td>
<td>2238 Fifth Ave, New York, NY 10035</td>
</tr>
<tr>
<td>East Harlem Health Center</td>
<td>158 East 115 St, New York, NY 10029</td>
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<tr>
<td>Manhattanville Health Center</td>
<td>21 Old Broadway, New York, NY 10027</td>
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<tr>
<td>Riverside Health Center</td>
<td>160 West 100 St, New York, NY 10025</td>
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<tr>
<td>Washington Heights Health Center</td>
<td>600 West 168 St, New York, NY 10032</td>
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<tr>
<td>Chelsea Health Center</td>
<td>303 Ninth Ave, New York, NY 10029</td>
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<tr>
<td>Public Health Labs</td>
<td>455 First Ave, New York, NY 10029</td>
</tr>
<tr>
<td>Manhattan Animal Shelter</td>
<td>326 E. 110th St, New York, NY 10029</td>
</tr>
<tr>
<td><strong>Bronx</strong></td>
<td></td>
</tr>
<tr>
<td>Morrisania Health Center</td>
<td>1309 Fulton Ave, Bronx, NY 10456</td>
</tr>
<tr>
<td>Tremont Health Center</td>
<td>1826 Arthur Ave, Bronx, NY 10457</td>
</tr>
<tr>
<td>Westchester/Glebe</td>
<td>2527 Glebe Ave, Bronx NY 10461</td>
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<tr>
<td><strong>Staten Island</strong></td>
<td></td>
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<tr>
<td>Staten Island Animal Shelter</td>
<td>3139 Veterans Road W, Staten Island NY 10309</td>
</tr>
<tr>
<td>Richmond District Health Center</td>
<td>51 Stuyvesant Pl, Staten Island, NY 10302</td>
</tr>
</tbody>
</table>
APPENDIX D

Tax Affirmation

The undersigned proposer or bidder Affirms and declares that said proposer or 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 proposer or bidder to receive public contracts except: __________________________________________________________

Full name of proposer or bidder: __________________________________________

Address: __________________________________________________________________

City ___________________________ State_____ Zip_____________________

CHECK ONE AND INCLUDE APPROPRIATE NUMBER:

(   ) A Individual or Sole Proprietorship SS# _____________________________

(   ) B Partnership, Joint Venture or other unincorporated organization EIN# ______________________________

(    ) C Corporation EIN# _______________________________

By: _____________________________________  ______________________________
     Signature    Title

Date:  _____________

If a corporation, place seal here:

Must be signed by an officer or duly authorized representative.

Under the Federal Privacy Act the furnishing of Social Security Number 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 businesses which seek City contracts.
APPENDIX E

Charter Section 312(a) Certification

☐ The Agency has determined that the contract(s) to be awarded through this procurement action will not result in the displacement of any New York City employee within this Agency. See attached Displacement Determination Form.

☐ The Agency has determined that the contract(s) to be awarded through this procurement action will result in the displacement of New York City employee(s) within this Agency. See attached Displacement Determination Form.

☐ The contract to be awarded through this procurement action is a task order contract that does not simultaneously result in the award of a first task order; a displacement determination will be made in conjunction with the issuance of each task order pursuant to such task order contract. Determinations for any subsequent task orders will be made in conjunction with such subsequent task orders.

Agency Chief Contracting Officer or Designee: [Signature]

Date: 8/10/17
Displacement Determination Form – Pursuant to City Charter § 312(a)  
(for PSRs or equivalent pre-procurement documents)

This form must be used to certify whether or not there is displacement in the instant contracting action, as defined in City Charter § 312(a) (as amended by Local Law 63 of 2011). You can either certify that there is no displacement by completing Part 1 of this form, or you can certify that there is displacement by completing Part 2 of this form.

If the contract that you are awarding is a task order contract that does not simultaneously result in the award of a first task order, then you must check the box on the bottom of this page; displacement determinations will be made in conjunction with the issuance of task orders pursuant to the subject contract. If the contract that you are awarding does simultaneously result in the award of a first task order, then the displacement determination for that first task order must be done prior to issuance of the solicitation and you must complete either Part 1 or Part 2 of this form.

If you have any questions about Local Law 63 or about completing this form, please contact the Mayor’s Office of Contract Services at APTLL63@cityhall.nyc.gov or (212) 788-0010.

Procurement Description:

**APT EPIN:** 8161680014

**Your Name:** Jeannette Soto-Pacheco

**Phone:** 347-396-6639  
**Email:** jsoto@health.nyc.gov

Please specifically identify the service(s) being procured.

The Contractor shall provide all labor, equipment, tools, parts, materials and supplies necessary to provide services for all DOHMH facilities in accordance with individual project task orders.

If the contract to be awarded as a result of this procurement action is a task order contract (multiple or single award and multiple or single agency) that does not simultaneously result in the award of a first task order, then displacement determinations will be made in conjunction with the issuance of task orders pursuant to the subject contract. (Check this box *only* if you are completing this form for a task order contract that will *not* simultaneously result in the award of the first task order. If you check this box, do not fill out the remainder of this form.)

If the contract to be awarded as a result of this procurement action *does* simultaneously result in the award of a first task order, then the displacement determination for that first task order must be done prior to issuance of the solicitation and you must complete either Part 1 or Part 2 of this form.
Part 1: Certification of No Displacement

☒ The Agency has determined that the contract resulting from this procurement action will not result in the displacement of any City employee within this Agency, as defined by Charter § 312(a).

The basis upon which the Agency has made this determination (Please answer all questions under Part 1):

Do any civil service and/or job titles within this Agency currently perform the services sought by the proposed contract and/or services of a substantially similar nature or purpose?

Yes ☒ No ☐

If so, list the names of such titles and the extent to which Agency employees within such titles currently perform such services.

Do the services sought by the proposed contract expand, supplement, or replace existing services?

Yes ☒ No ☐

In either event, include a detailed description comparing the services sought by the proposed contract with such existing services.

The contractor shall provide all labor, equipment, instruments, required and necessary for On-Call General Construction Services.

Is there capacity within the Agency to perform the services sought by the proposed contract?

Yes ☐ No ☒

If not, provide a detailed description specifying the ways in which the Agency lacks such capacity.

DOHMH employees do not possess the required experience, skills and are not certified in General Construction.

For the term of the proposed contract, list the projected headcount of employees within such titles or employees who perform such services and/or services of a substantially similar nature or purpose.

N/A
Check this box to confirm that none of the below events have occurred within the Agency in the past three years.

- The displacement of a City employee within the agency who performs or has performed the services sought by the proposed contract and/or services of a substantially similar nature or purpose; or

- The announcement of spending reductions in connection with a budgetary program, including but not limited to a Program to Eliminate the Gap, that could result or has resulted in the displacement of a City employee within the Agency who performs or has performed the services sought by the proposed contract and/or services of a substantially similar nature or purpose; or

- Any other statement by an Agency or by the Mayor of a specific anticipated employment action that could result or has resulted in the displacement of a City employee within the Agency who performs or has performed the services sought by the proposed contract and/or services of a substantially similar nature or purpose.

List any other bases for the Agency’s determination that the contract resulting from this procurement action will not result in the displacement of any City employee within this Agency.

DOHMH employees do not possess the required experience, skills and are not certified in General Construction.

Part 2: Certification of Displacement

The agency has determined that displacement, as defined by Charter § 312(a), has or will occur as a result of this contracting action. The agency has performed the required cost-benefit analysis, as described in Charter § 312(a).
**Message from the New York City Vendor Enrollment Center**

Get on mailing lists for New York City contract opportunities!

Submit a NYC-FMS Vendor Application - Call 212/857-1680

---

**Message from New York City’s Department of Small Business Services**

The Department of Small Business Services (SBS) offers One-on-One Technical Assistance to businesses that are interested in bidding on City contracts for the following goods and services: construction, construction related, standardized and architectural and engineering. If you plan on bidding on this or any other City contract, contact SBS to schedule an appointment. The Department of Small Business Services will meet with you to review your particular proposal or submission, and provide feedback and guidance to help you submit the best proposal possible.

To schedule One-on-One Technical Assistance, email techassist@sbs.nyc.gov and an SBS representative will contact you.
APPENDIX F
LABOR LAW §220 and §230 and PREVAILING WAGE SCHEDULES
(See Following Pages)

1. The omission of any pertinent wage rates from this list shall not be presumed as an indication that such type of labor will not be required on this project. The most current Prevailing Wage Schedule can be obtained at http://www.comptroller.nyc.gov/.

2. This schedule sets forth the wage rate and supplements required to be annexed to and to form part of the specifications in contracts for public works pursuant to Labor Law §220, (or pursuant to Section 231 if the work is for Building Services), of the Labor Law of the State of New York.

3. The schedule of wages and supplements are considered the prevailing wage rate and the Contractor engaged in public work is obligated to pay each employee not less than the wages specified in this schedule for his craft, trade or occupation.

4. All rates and supplements are just basic rates and supplements and do not include overtime, shift differentials (if any), holidays, Saturday or Sunday rates or any other type of premium payments.

5. The appropriate classification for work under this contract shall include but not be limited to:
   • Asbestos Handler
   • Carpenter – Building Commercial
   • Cement & Concrete Worker
   • Cement Mason
   • Electrician “A”
   • Glazier
   • Iron Worker – Structural
   • Laborer
   • Mason Tender
   • Mason Tender (Interior Demolition Worker)
   • Millwright
   • Painter
   • Plumber
   • Pointer – Waterproofer, Caulker Mechanic (Exterior Building Renovation)
   • Roofer
   • Sheet Metal Worker
   • Steamfitter
   • Steamfitter – Refrigeration and Air Conditioner
   • Taper
   • Tile Finisher
   • Tile Layer - Setter
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. Contractors must pay the wages and supplements in effect when the worker, laborer, mechanic performs the work. Preliminary schedules for future one-year periods appear in the City Record on or about June 1 each succeeding year. Final schedules appear on or about July 1 in the City Record and on our web site www.comptroller.nyc.gov.

The Comptroller’s Office has attempted to include all overtime, shift and night differential, Holiday, Saturday, Sunday or other premium time work. However, this schedule does not set forth every prevailing practice with respect to such rates with which employers must comply. All such practices are nevertheless part of the employer’s prevailing wage obligation and contained in the collective bargaining agreements of the prevailing wage unions. These collective bargaining agreements are available for inspection by appointment. Requests for appointments may be made by calling (212) 669-4443, Monday through Friday between the hours of 9 a.m. and 5 p.m.
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.

Wasyl Kinach, P.E.
Director of Classifications
Bureau of Labor Law
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<td>BOILERM AKE</td>
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<td>CARPENTER - BUILDING COMMERCIAL</td>
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<td>CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST</td>
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<tr>
<td>CEMENT &amp; CONCRETE WORKER</td>
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<td>DOCKBUILDER - PILE DRIVER</td>
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<tr>
<td>ELECTRICIAN-STREET LIGHTING WORKER</td>
<td>24</td>
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<tr>
<td>ELEVATOR CONSTRUCTOR</td>
<td>26</td>
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<tr>
<td>ELEVATOR REPAIR &amp; MAINTENANCE</td>
<td>27</td>
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<tr>
<td>ENGINEER</td>
<td>28</td>
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<tr>
<td>ENGINEER - CITY SURVEYOR AND CONSULTANT</td>
<td>32</td>
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<tr>
<td>ENGINEER - FIELD (BUILDING CONSTRUCTION)</td>
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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)

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
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
Overtime Description

Magazine Keepers:
Time and one half for work performed in excess of forty (40) hours per week and for work performed on Saturdays, Sundays and Holidays.

All Other Employees:
Time and one-half for the first two hours of overtime Monday through Friday, the first ten hours, the first ten hours of work on Saturday and for Make-up Time. Double time for all hours over ten Monday through Saturday (except make-up hours) and for all hours worked on Sunday and Holidays.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year’s Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
A single shift shall be 8 hours plus an unpaid lunch, starting at 8:00 A.M (or between 6:00 A.M. and 10:00 A.M. on weekdays). When two (2) shifts are employed, each shift shall be 8 hours plus ½ hour unpaid lunch. When three (3) shifts are employed, each shift will work seven and one-half (7 ½) hours, but will be paid for eight (8) hours, since only one-half (½) hour is allowed for mealtime. When two (2) or more shifts are employed, single time will be paid for each shift. The first 8 hours of any and all work performed Monday through Friday inclusive of any off-shift shall be at the single time rate.

(Local #29)

BOILERMAKER

Boilermaker

Effective Period: 7/1/2016 - 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
Overtime Description
For Repair and Maintenance work:
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
For New Construction work:
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year’s Day
President’s Day
Memorial Day
Independence Day
Columbus Day
Election Day
Veteran’s Day
Thanksgiving Day
Christmas Day

Quadruple time the regular rate for work on the following holiday(s).
Labor Day

Paid Holidays
Good Friday
Day after Thanksgiving
Day before Christmas
Day before New Year’s Day

Shift Rates
When shifts are required, the first shift shall work eight (8) hours at the regular straight-time hourly rate. The second shift shall work seven and one-half (7 ½) hours and receive eight hours at the regular straight time hourly rate plus twenty-five cents ($0.25) per hour. The third shift shall work seven (7) hours and receive eight hours at the regular straight time hourly rate plus fifty cents ($0.50) per hour. A thirty (30) minute lunch period shall not be considered as time worked. Work in excess of the above shall be paid overtime at the appropriate new construction work or repair work overtime wage and supplemental benefit hourly rate.

(Local #5)

BRICKLAYER

Bricklayer
Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $52.59
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)

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
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)

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
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)

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
The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight hours pay for seven hours of work, nine hours pay for eight hours of work. There must be a first shift in order to work a second shift.

(Carpenters District Council)

CEMENT & CONCRETE WORKER

Cement & Concrete Worker
Effective Period: 7/1/2016 - 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
1/2 day before New Year's Day

Shift Rates
On shift work extending over a twenty-four hour period, all shifts are paid at straight time.

(Cement Concrete Workers District Council)

CEMENT MASON

Cement Mason

Effective Period: 7/1/2016 - 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)
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
Thanksgiving Day
Christmas Day

Shift Rates
The shift day shall be the continuous eight and one-half (8½) hours from 6:00 A.M. to 2:30 P.M. and from 2:30 P.M. to 11:00 P.M., including one-half (½) hour of employees regular rate of pay for lunch. When two (2) or more shifts are employed, single time shall be paid for each shift, but those employees employed on a shift other than from 8:00 A.M. to 5:00 P.M. shall, in addition, receive seventy-five cents ($0.75) per hour differential for each hour worked. When three (3) shifts are needed, each shift shall work seven and one-half (7 ½) hours paid for eight (8) hours of labor and be permitted one-half (½) hour for mealtime.

(Carpenters District Council)

DERRICKPERSON AND RIGGER

Derrick Person & Rigger

Effective Period: 7/1/2016 - 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)
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)
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
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 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.
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)
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
Wage Rate per Hour: $63.36
Supplemental Benefit Rate per Hour: $59.01
Effective Period: 5/1/2017 - 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
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.

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
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

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
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.

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)

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
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
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.
**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)
ENGINEER

Engineer - Heavy Construction Operating Engineer I

Cherrypickers 20 tons and over and Loaders (rubber tired and/or tractor type with a manufacturer's minimum rated capacity of six cubic yards and over).

Effective Period: 7/1/2016 - 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, Cherrypickers. Austin Western, Grove and machines of a similar nature, Scoopmobiles, Monorails, Conveyors, Trenchers: Loaders-Rubber Tired and Tractor: Barber Greene and Eimco Loaders and Eimco Backhoes; Mighty Midget and similar breakers and Tamper, 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
of a similar nature; Personnel, Inspection & Safety Boats or any boats used to perform functions of same, Mine
Hoists, Whirleys, 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
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.
Overtime
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Engineer - Building Work Maintenance Engineers I
Installing, repairing, maintaining, dismantling (of all equipment including: Steel Cutting and Bending Machines, Mechanical Heaters, Mine Hoists, Climbing Cranes, Tower Cranes, Linden Peine, Lorain, Liebherr, Mannes, or machines of a similar nature, Well Point Systems, Deep Well Pumps, Concrete Mixers with loading Device, Concrete Plants, Motor Generators when used for temporary power and lights), skid steer machines of a similar nature including bobcat.

Effective Period: 7/1/2016 - 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.
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)

ENGINEER - CITY SURVEYOR AND CONSULTANT
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)
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)

ENGINEER - FIELD (HEAVY CONSTRUCTION)
(Construction of Roads, Tunnels, Bridges, Sewers, Building Foundations, Engineering Structures etc.)
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)
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)
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
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
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
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
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
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
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
On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

For House Cars and Rack & Pinion only: Overtime paid at time and one-half for all hours in excess of eight hours in a day, Saturday, Sunday and Holidays worked.

Overtime
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays
New Year’s Day
Lincoln’s Birthday
President’s Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran’s Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Shift Rates
For Steel Erection Only: Shifts may be worked at the single time rate at other than the regular working hours (8:00 A.M. to 4:30 P.M.) on the following work ONLY: Heavy construction jobs on work below the street level, over railroad tracks and on building jobs.

(Operating Engineer Local #14)

FLOOR COVERER
(Interior vinyl composition tile, sheath vinyl linoleum and wood parquet tile including site preparation and synthetic turf not including site preparation)

Floor Coverer
Effective Period: 7/1/2016 - 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.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year’s Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
1/2 day on Christmas Eve if work is performed in the A.M.
1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates
Two shifts may be utilized with the first shift working 8:00 A.M. to the end of the shift at the straight time of pay.
The second shift will receive one hour at double time rate for the last hour of the shift. (eight for seven, nine for eight).

(Carpenters District Council)

GLAZIER
(New Construction, Remodeling, and Alteration)

Glazier
Effective Period: 7/1/2016 - 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.
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.

(GLocal #1281)

GLAZIER - REPAIR & MAINTENANCE
(For the Installation of Glass - All repair and maintenance work on a particular building, whenever performed, where the total cumulative contract value is under $127,628. Except where enumerated (i.e. plate glass windows) does not apply to non-residential buildings.)

Craft Jurisdiction for repair, maintenance and fabrication
Plate glass replacement, Residential glass replacement, Residential mirrors and shower doors, Storm windows and storm doors, Residential replacement windows, Herculite door repairs, Door closer repairs, Retrofit apartment house (non commercial buildings), Glass tinting.

Effective Period: 7/1/2016 - 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
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**
The first shift shall work seven hours at the regular straight time rate. The second and third shift shall work seven hours the regular straight time hourly rate plus a fourteen percent wage and benefit premium. Off hour work in occupied or retail buildings may be worked on weekdays with an increment of $1.00 per hour and eight hours pay for seven (7) hours worked. Double time will apply for over seven (7) hours worked on weekdays, weekends or holidays.

(Local #12) (BCA)

HOUSE WRECKER
(TOTAL DEMOLITION)

House Wrecker - Tier A

On all work sites the first, second, eleventh and every third House Wrecker thereafter will be Tier A House Wreckers (i.e. 1st, 2nd, 11th, 14th etc). Other House Wreckers may be Tier B House Wreckers.

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
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.
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)

LABORER
(Foundation, Concrete, Excavating, Street Pipe Layer and Common)
Laborer

Excavation and foundation work for buildings, heavy construction, engineering work, and hazardous waste removal in connection with the above work. Landscaping tasks in connection with heavy construction work, engineering work and building projects. Projects include, but are not limited to pollution plants, sewers, parks, subways, bridges, highways, etc.

Effective Period: 7/1/2016 - 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)

LANDSCAPING

(Landscaping tasks, as well as tree pruning, tree removing, spraying and maintenance in connection with the planting of street trees and the planting of trees in city parks but not when such activities are performed as part of, or in connection with, other construction or reconstruction projects.)
**Landscaper (Above 6 years experience)**

Effective Period: 7/1/2016 - 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.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays
New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Shift Rates
Work performed on a 4pm to 12am shift has a 15% differential. Work performed on a 12am to 8am shift has a 20% differential.

(Local #175)

MARBLE MECHANIC

Marble Setter
Effective Period: 7/1/2016 - 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
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)

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.
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
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)

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
Paid Holidays
1/2 day on Christmas Eve if work is performed in the A.M.
1/2 day on New Year’s Eve if work is performed in the A.M.

Shift Rates
There will be no shift differential paid on the first shift if more than one shift is employed. The shift differential will remain $12/hour on the second and third shift for the first eight (8) hours if worked. There will be no pyramiding on overtime worked on second and third shifts. The time and one half (1.5x) rate will be against the base wage rate, not the shift differential

(Local #46)

MILLWRIGHT

Millwright
Effective Period: 7/1/2016 - 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.
Shift Rates
The first shift shall receive the straight time rate of pay. The second shift receives the straight time rate of pay plus fifteen (15%) per cent. Members of the second shift shall be allowed one half hour to eat, with this time being included in the hours of the workday established. There must be a first shift to work a second shift. All additional hours worked shall be paid at the time and one-half rate of pay plus fifteen (15%) per cent for weekday hours.

(Local #740)

MOSAIC MECHANIC

Mosaic Mechanic - Mosaic & Terrazzo Mechanic
Effective Period: 7/1/2016 - 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
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day  

Paid Holidays  
None  

(Local #7)  

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
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

(District Council of Painters #9)

PAINTER - METAL POLISHER

METAL POLISHER

Effective Period: 7/1/2016 - 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).
Paid Holidays
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates
Four Days a week at Ten (10) hours straight a day.

Local 8A-28A

PAINTER - STRIPER

Striper (paint)
Effective Period: 7/1/2016 - 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
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
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
Regular hourly rates plus a ten per cent (10%) differential

(Local #806)

PAPERHANGER

Paperhanger

Effective Period: 7/1/2016 - 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.
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
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 shovlers 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.
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**
Double time the regular rate for work on the following holiday(s).
New Year’s Day
Washington’s Birthday
Memorial Day
Independence Day
Labor Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
When work commences outside regular work hours, workers receive an hour additional (differential) wage and supplement payment. Eight hours pay for seven hours work or nine hours pay for eight hours work.

(Mason Tenders District Council)

PLUMBER

Plumber
Effective Period: 7/1/2016 - 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.
Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates
Shift work, when directly specified in public agency or authority documents where plumbing contract is $8 million or less, will be permitted. 30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday. 50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER (MECHANICAL EQUIPMENT AND SERVICE)
(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

Plumber

Effective Period: 7/1/2016 - 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

259
Day after Thanksgiving
Christmas Day

Paid Holidays
None

(Plumbers Local #1)

PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION)

Effective Period: 7/1/2016 - 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)
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)

POINTER, WATERPROOFER, CAULKER, SANDBLASTER, STEAMBLASTER
(Exterior Building Renovation)

Journeyperson
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)

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
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.

(Sheet Metal Worker)

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.
Overtime Holidays
Double time the regular rate for work on the following holiday(s).
- New Year's Day
- Martin Luther King Jr. Day
- President's Day
- Memorial Day
- Independence Day
- Labor Day
- Columbus Day
- Veteran's Day
- Thanksgiving Day
- Day after Thanksgiving
- Christmas Day

Paid Holidays
None

Shift Rates
Work that can only be performed outside regular working hours (eight hours of work between 7:30 A.M. and 3:30 P.M.) - First shift (work between 3:30 P.M. and 11:30 P.M.) - 10% differential above the established hourly rate.
Second shift (work between 11:30 P.M. and 7:30 A.M.) - 15% differential above the established hourly rate.

For Fan Maintenance: On all full shifts of fan maintenance work the straight time hourly rate of pay will be paid for each shift, including nights, Saturdays, Sundays, and holidays.

(Local #28)

SHEET METAL WORKER - SPECIALTY
(Decking & Siding)

Sheet Metal Specialty Worker
The first worker to perform this work must be paid at the rate of the Sheet Metal Worker. The second and third workers shall be paid the Specialty Worker Rate. The ratio of One Sheet Metal Worker, then Two Specialty Workers shall be utilized thereafter.

Effective Period: 7/1/2016 - 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.
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
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

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
Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Time and one half the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates
Time and one half the regular hourly rate is to be paid for all hours worked outside the regular workday either
(7:00 A.M. through 2:30 P.M.) or (8:00 A.M. through 3:30 P.M.)

(Local #137)

STEAMFITTER

Steamfitter I
Effective Period: 7/1/2016 - 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.
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.

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**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**
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
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**
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

(Local #638B)

STONE MASON - SETTER

Stone Mason - Setters

Effective Period: 7/1/2016 - 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)
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)
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.
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.

(TILE LAYER - SETTER

Tile Layer - Setter
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)

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.
Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Local #1536)

TUNNEL WORKER

Blasters, Mucking Machine Operators (Compressed Air Rates)
Effective Period: 7/1/2016 - 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
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).
Paid Holidays
New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

(Local #147)

WELDER
TO BE PAID AT THE RATE OF THE JOURNEYPERSON IN THE TRADE PERFORMING THE WORK.
OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§230 PREVAILING WAGE SCHEDULE

LABOR LAW §230 AND NYC ADMINISTRATIVE CODE §6-130  
BUILDING SERVICE EMPLOYEES

PREVAILING WAGE FOR BUILDING SERVICE EMPLOYEES ON NYC CONTRACTS PURSUANT TO LABOR LAW §230 ET SEQ.

Building service employees on public contracts must receive not less than the prevailing rate of wage and supplements for the classification of work performed. In accordance with Labor Law §230 et seq. the Comptroller of the City of New York has promulgated this schedule of prevailing wages and supplemental benefits for building service employees engaged on New York City public building service contracts in excess of $1,500.00. Prevailing rates are required to be annexed to and form part of the contract pursuant to §231 (4).

This schedule is a compilation of separate determinations of the prevailing rate of wage and supplements made by the Comptroller for each trade classification listed herein pursuant to New York State Labor Law section 234 (1). The source of the wage and supplement rates, whether a collective bargaining agreement, survey data or other, is listed at the end of each classification.

Agency Chief Contracting Officers should contact the Bureau of Labor Law’s Classification Unit with any questions concerning trade classifications, prevailing rates or prevailing practices with respect to procurement on New York City building services contracts. Contractors are advised to review the Comptroller’s Prevailing Wage Schedule before bidding on building services contracts. Contractors with questions concerning trade classifications, prevailing rates or prevailing practices with respect to building services contracts in the procurement stage must contact the contracting agency responsible for the procurement.

Any error as to compensation under the prevailing wage law or other information as to trade classification, made by the contracting agency in the contract documents or in any other communication, will not preclude a finding against the contractor of prevailing wage violation.

Any questions concerning trade classifications, prevailing rates or prevailing practices on New York City building services contracts that have already been awarded may be directed to the Bureau of Labor Law’s Classification Unit by calling (212) 669-7974. All callers must have the agency name and contract registration number available when calling with questions on building services contracts. Please direct all other compliance issues to: Bureau of Labor Law, Attn: Wasyl Kinach, P.E., Office of the Comptroller, 1 Centre Street, Room 1122, New York, N.Y. 10007; Fax (212) 669-4002.

PREVAILING WAGE FOR BUILDING SERVICE EMPLOYEES IN BUILDINGS WITH TAX ABATEMENTS PURSUANT TO REAL PROPERTY TAX LAW §421-A

Covered Landlords shall ensure that all building service employees performing work in buildings with 50 or more dwelling units for which construction was commenced after December 27, 2007 but no later than December 31, 2015, that receive a tax abatement pursuant to Real Property Tax Law §421-a, are paid no less than the prevailing wage listed in the Labor Law §230 Prevailing Wage Schedule, unless the New York City Department of Housing Preservation and Development certifies that, at initial occupancy, at least 50 percent of the dwelling units are affordable to individuals or families with a gross household income at or below 125 percent of the area median income and that any such units which are
located in rental buildings will be subject to restrictions to insure that they will remain affordable for the entire period during which they receive benefits under Real Property Tax Law §421-a.

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**PREVAILING WAGE FOR BUILDING SERVICE EMPLOYEES IN NEW YORK CITY LEASED OR FINANCIALLY ASSISTED FACILITIES PURSUANT TO NYC ADMINISTRATIVE CODE § 6-130**

Covered landlords & covered financial assistance recipients shall ensure that all building service employees performing building service work at the premises to which a lease or financial assistance pertains are paid no less than the prevailing wage listed in the Labor Law §230 Prevailing Wage Schedule.

**Covered Landlords include:**

Businesses (other than not-for-profit organizations) leasing to New York City agencies commercial office space or commercial office facilities of 10,000 square feet or more where the City leases or rents no less than 51% of the total square footage of the building to which the lease applies (no less than 80% in Staten Island or in an area not defined as an exclusion area pursuant to section 421-a of the real property tax law on the date of enactment of the local law).

**Covered Financial Assistance Recipients include:**

Businesses (other than not-for-profit organizations) with annual gross revenues of five million dollars or more who have received financial assistance from the City of New York (as defined in New York City Administrative Code §§6-130) with a total value of one million dollars or more.

Exemptions: Business Improvement Districts and employers with manufacturing operations at the premises to which the financial assistance pertains.

The information is intended to assist you in meeting your prevailing wage obligation. You should consult New York City Administrative Code §6-130 to determine whether you are covered by this prevailing wage law. New York City Administrative Code § 6-130 requires the City to maintain an updated list of covered landlords and financial assistance recipients who are subject to the prevailing wage requirement.

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Labor Law § 231 (6) and NYC Administrative Law §6-130 requires contractors to post on the site of the work a current copy of this schedule of wages and supplements.

This schedule is applicable to work performed during the effective period, unless otherwise noted. Changes to this schedule are published on our web site www.comptroller.nyc.gov. Contractors must pay the wages and supplements in effect when the building service employee performs the work. Preliminary schedules for future one-year periods appear in the City Record on or about June 1 each succeeding year. Final schedules appear on or about July 1 in the City Record and on our web site www.comptroller.nyc.gov.

Contractors are solely responsible for maintaining original payroll records delineating, among other things, the hours worked by each employee within a given classification.
Some of the rates in this schedule are based on collective bargaining agreements. The Comptroller’s Office has attempted to include all overtime, shift and night differential, Holiday, Saturday, Sunday or other premium time work. However, this schedule does not set forth every prevailing practice with respect to such rates with which employers must comply. All such practices are nevertheless part of the employer’s prevailing wage obligation and contained in the collective bargaining agreements of the prevailing wage unions. These collective bargaining agreements are available for inspection by appointment. Requests for appointments may be made by calling (212) 669-4443, Monday through Friday between the hours of 9 a.m. and 5 p.m.

In order to meet their obligation to provide prevailing supplemental benefits to each covered employee, employers must either:

1) Provide bona-fide benefits which cost the employer no less than the prevailing supplemental benefits rate; or
2) Supplement the employee’s hourly wage by an amount no less than the prevailing supplemental benefits rate; or
3) Provide a combination of bona-fide benefits and wage supplements which cost the employer no less than the prevailing supplemental benefits rate in total.

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.
If you are a Covered Building Service Employee and you have been paid less than the Prevailing Wage and Benefits, please contact us at 212–669–4443 or download our complaint form from our website at WWW.COMPTROLLER.NYC.GOV (click on the Bureau of Labor Law).

Si es un empleado de servicios a edificios elegible y recibió menos del sueldo prevalente y beneficios, por favor contáctenos en 212-669-4443 o descarga un formulario de reclamo del sitio del Internet WWW.COMPTROLLER.NYC.GOV (oprim “Oficina de Derecho Laboral”).

Wasyl Kinach, P.E.
Director of Classifications
Bureau of Labor Law
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BUILDING CLEANER AND MAINTAINER (OFFICE)

Office Building Class "A" Handyperson (Over 280,000 square feet gross area)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $26.95
Supplemental Benefit Rate per Hour: $10.98
Supplemental Note: for new hire 0-3 months of employment - $0.00

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $27.60
Supplemental Benefit Rate per Hour: $11.56
Supplemental Note: for new hire 0-3 months of employment - $0.00

Office Building Class "A" Foreperson, Starter (Over 280,000 square feet gross area)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $26.84
Supplemental Benefit Rate per Hour: $10.98
Supplemental Note: for new hire 0-3 months of employment - $0.00

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $27.49
Supplemental Benefit Rate per Hour: $11.56
Supplemental Note: for new hire 0-3 months of employment - $0.00

Office Building Class "A" Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director (Over 280,000 square feet gross area)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $24.62
Supplemental Benefit Rate per Hour: $10.98
Supplemental Note: for new hire 0-3 months of employment - $0.00; for new hire 4-12 months of employment - $8.09; for new hire 13-24 months of employment - $10.65

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate.

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $25.22
Supplemental Benefit Rate per Hour: $11.56
Supplemental Note: for new hire 0-3 months of employment - $0.00; for new hire 4-12 months of employment - $8.57; for new hire 13-24 months of employment - $11.23

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate.
Office Building Class "B" Handyperson (Over 120,000 and less than 280,000 square feet gross area)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $26.92
Supplemental Benefit Rate per Hour: $10.98
Supplemental Note: for new hire 0-3 months of employment - $0.00

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $27.57
Supplemental Benefit Rate per Hour: $11.56
Supplemental Note: for new hire 0-3 months of employment - $0.00

Office Building Class "B" Foreperson, Starter (Over 120,000 and less than 280,000 square feet gross area)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $26.80
Supplemental Benefit Rate per Hour: $10.98
Supplemental Note: for new hire 0-3 months of employment - $0.00

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $27.45
Supplemental Benefit Rate per Hour: $11.56
Supplemental Note: for new hire 0-3 months of employment - $0.00

Office Building Class "B" Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director (Over 120,000 and less than 280,000 square feet gross area)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $24.59
Supplemental Benefit Rate per Hour: $10.98
Supplemental Note: for new hire 0-3 months of employment - $0.00; for new hire 4-12 months of employment - $8.09; for new hire 13-24 months of employment - $10.65

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate.

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $25.19
Supplemental Benefit Rate per Hour: $11.56
Supplemental Note: for new hire 0-3 months of employment - $0.00; for new hire 4-12 months of employment - $8.57; for new hire 13-24 months of employment - $11.23

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate.
Office Building Class "C" Handyperson (Less than 120,000 square feet gross area)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $26.87
Supplemental Benefit Rate per Hour: $10.98
Supplemental Note: for new hire 0-3 months of employment - $0.00

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $27.52
Supplemental Benefit Rate per Hour: $11.56
Supplemental Note: for new hire 0-3 months of employment - $0.00

Office Building Class "C" Foreperson, Starter (Less than 120,000 square feet gross area)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $26.76
Supplemental Benefit Rate per Hour: $10.98
Supplemental Note: for new hire 0-3 months of employment - $0.00

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $27.41
Supplemental Benefit Rate per Hour: $11.56
Supplemental Note: for new hire 0-3 months of employment - $0.00

Office Building Class "C" Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director (Less than 120,000 square feet gross area)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $24.55
Supplemental Benefit Rate per Hour: $10.98
Supplemental Note: for new hire 0-3 months of employment - $0.00; for new hire 4-12 months of employment - $8.09; for new hire 13-24 months of employment - $10.65

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate.

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $25.15
Supplemental Benefit Rate per Hour: $11.56
Supplemental Note: for new hire 0-3 months of employment - $0.00; for new hire 4-12 months of employment - $8.57; for new hire 13-24 months of employment - $11.23

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate.
For all BUILDING CLEANER AND MAINTAINER (OFFICE) titles, New Hire shall be defined as an employee who has not worked any hours during the previous six-month period, and Months of Employment shall be defined as an Employee's total length of service with the Employer or at the Facility, whichever is greater.

**Overtime Description**
Supplemental Benefits shall be paid for each hour paid, up to forty (40) paid hours per week.

**Overtime**
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for 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.
Time and one half the regular hourly rate after 40 hours in any work week.

**Paid Holidays**
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

**Vacation**
Less than 6 months of work......no vacation
6 months of work..........................three (3) days
1 year of work..............................ten (10) days
5 years of work............................fifteen (15) days
15 years of work.........................twenty (20) days
21 years of work..........................twenty-one (21) days
22 years of work..........................twenty-two (22) days
23 years of work..........................twenty-three (23) days
24 years of work..........................twenty-four (24) days
25 years or more of work..............twenty-five (25) days
Plus two Personal Days per year.

Sick Leave:
10 sick days per year.
Unused sick leave paid in the succeeding January, one full day pay for each unused sick day.

(Local #32 B/J)

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**BUILDING CLEANER AND MAINTAINER (RESIDENTIAL)**

**Residential Building Handyperson**
OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§230 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2016 - 12/31/2016  
Wage Rate per Hour: $25.43  
Supplemental Benefit Rate per Hour: $10.90  
Supplemental Note: for new hire 0-3 months of employment - $0.00

Effective Period: 1/1/2017 - 4/20/2017  
Wage Rate per Hour: $25.43  
Supplemental Benefit Rate per Hour: $11.48  
Supplemental Note: for new hire 0-3 months of employment - $0.00

Effective Period: 4/21/2017 - 6/30/2017  
Wage Rate per Hour: $26.18  
Supplemental Benefit Rate per Hour: $11.48  
Supplemental Note: for new hire 0-3 months of employment - $0.00

Residential Building Cleaner/Porter, Doorperson, Elevator Operator

Effective Period: 7/1/2016 - 12/31/2016  
Wage Rate per Hour: $23.06  
Supplemental Benefit Rate per Hour: $10.90  
Supplemental Note: for new hire 0-3 months of employment - $0.00; for new hire 4-12 months of employment - $8.09; for new hire 13-24 months of employment - $10.65

NEW HIRE - Cleaner/Porter, Doorperson, Elevator Operator: 0-21 months may be paid 75% of the hourly wage rate published above, 22-42 months may be paid 85% of the hourly wage rate published above. Upon completion of 42 months of employment, the new hire shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Effective Period: 1/1/2017 - 4/20/2017  
Wage Rate per Hour: $23.06  
Supplemental Benefit Rate per Hour: $11.48  
Supplemental Note: for new hire 0-3 months of employment - $0.00; for new hire 4-12 months of employment - $8.57; for new hire 13-24 months of employment - $11.23

NEW HIRE - Cleaner/Porter, Doorperson, Elevator Operator: 0-21 months may be paid 75% of the hourly wage rate published above, 22-42 months may be paid 85% of the hourly wage rate published above. Upon completion of 42 months of employment, the new hire shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Effective Period: 4/21/2017 - 6/30/2017  
Wage Rate per Hour: $23.75  
Supplemental Benefit Rate per Hour: $11.48  
Supplemental Note: for new hire 0-3 months of employment - $0.00; for new hire 4-12 months of employment - $8.57; for new hire 13-24 months of employment - $11.23

NEW HIRE - Cleaner/Porter, Doorperson, Elevator Operator: 0-21 months may be paid 75% of the hourly wage rate published above, 22-42 months may be paid 85% of the hourly wage rate published above. Upon completion of 42 months of employment, the new hire shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Overtime Description
Supplemental Benefits shall be paid for each hour paid, up to forty (40) paid hours per week.
Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for work on a holiday plus the day’s pay.
Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays
New Year's Day
Martin Luther King Jr. Day
President’s Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Christmas Day

Vacation
6 months..................................three (3) days
1 year.....................................ten (10) days
5 years....................................fifteen (15) days
15 years....................................twenty (20) days
21 years..................................twenty-one (21) days
22 years..................................twenty-two (22) days
23 years..................................twenty-three (23) days
24 years..................................twenty-four (24) days
25 years..................................twenty-five (25) days
Plus two Personal Days per year.

SICK LEAVE
After 1 year of service................ten (10) days per year

(Local #32 B/J)

BUILDING HVAC SERVICES OPERATOR

Engineer (Refrigeration)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $38.96
Supplemental Benefit Rate per Hour: $17.26

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $40.13
Supplemental Benefit Rate per Hour: $17.77
NEW HIRE - Engineer (Refrigeration): for the first year may be paid a starting rate of 85% of the hourly wage rate published above.

**Fireperson**

Fireperson (Helper): Assist the Engineer

Effective Period: 7/1/2016 - 12/31/2016  
Wage Rate per Hour: $30.34  
Supplemental Benefit Rate per Hour: $16.86

Effective Period: 1/1/2017 - 6/30/2017  
Wage Rate per Hour: $31.25  
Supplemental Benefit Rate per Hour: $17.36

Please note that the NYC Comptroller’s Office does not publish rates for the Stationary Engineer title.

**Overtime Description**

All hours worked on a holiday shall be paid at two and one half times the regular wage rate in lieu of the paid day off.

**Overtime**

Time and one half the regular rate after an 8 hour day.  
Time and one half the regular rate for Saturday.  
Time and one half the regular rate for Sunday.

**Paid Holidays**

New Year's Day  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Christmas Day  
Plus six (6) floating Holidays

**Vacation**

6 months .................................................. three (3) days  
1 year .......................................................... ten (10) days  
5 years ....................................................... fifteen (15) days  
15 years ..................................................... twenty (20) days  
21 years ..................................................... twenty-one (21) days  
22 years ..................................................... twenty-two (22) days  
23 years ..................................................... twenty-three (23) days  
24 years ..................................................... twenty-four (24) days  
25 years ..................................................... twenty-five (25) days

(Local #94)
CLEANER (PARKING GARAGE)

Garage Cleaner

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $11.23
Supplemental Benefit Rate per Hour: $1.75

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular hourly rate after 40 hours in any work week.

(Based on data from NYS Department of Labor Occupational Employment Statistics and US Department of Labor Bureau of Labor Statistics)

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FUEL OIL

Fuel Oil, Coal, Fuel Gas, Petroleum Product Chauffeur (5th Year and above)

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $32.36
Supplemental Benefit Rate per Hour: $22.59

Fuel Oil, Coal, Fuel Gas, Petroleum Product Chauffeur (4th Year)

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $29.75
Supplemental Benefit Rate per Hour: $22.59

Fuel Oil, Coal, Fuel Gas, Petroleum Product Chauffeur (3rd Year)

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $27.75
Supplemental Benefit Rate per Hour: $22.59

Fuel Oil, Coal, Fuel Gas, Petroleum Product Chauffeur (2nd Year)

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $25.75
Supplemental Benefit Rate per Hour: $22.59

Fuel Oil, Coal, Fuel Gas, Petroleum Product Chauffeur (1st Year)

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $23.75
Supplemental Benefit Rate per Hour: $22.59

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
Martin Luther King Jr. Day
Lincoln's Birthday
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day

Triple time the regular rate for work on the following holiday(s).
New Year's Day
Thanksgiving Day
Christmas Day

Paid Holidays
New Year's Day
Martin Luther King Jr. Day
Lincoln's Birthday
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

Vacation
Less than 75 days worked...........................................................................................................no vacation.
75 days worked, but less than 110 days worked in a calendar year..................five (5) days the following year.
110 days or more worked in a calendar year.................................................................ten (10) days the following year.

SICK LEAVE:
1 day sick leave earned for each 40 days worked in the preceding calendar year for a maximum of five (5) days per calendar year.

(Local #553)
LANDSCAPING AND GROUNDSKEEPING WORKER

Landscaper / Groundskeeper

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $18.23
Supplemental Benefit Rate per Hour: $1.75

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular hourly rate after 40 hours in any work week.

(Based on data from NYS Department of Labor Occupational Employment Statistics and US Department of Labor Bureau of Labor Statistics)

LOCKSMITH

Locksmith

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $20.39
Supplemental Benefit Rate per Hour: $6.12

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular hourly rate after 40 hours in any work week.

(Based on data from NYS Department of Labor Occupational Employment Statistics and US Department of Labor Bureau of Labor Statistics)

MAINTENANCE WORKER, MACHINERY

Mechanic

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $33.00
Supplemental Benefit Rate per Hour: $6.12

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular hourly rate after 40 hours in any work week.

(Based on data from NYS Department of Labor Occupational Employment Statistics and US Department of Labor Bureau of Labor Statistics)

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**MEDICAL WASTE REMOVAL**

**Driver**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: $20.47  
Supplemental Benefit Rate per Hour: $11.32

**Helper**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: $16.72  
Supplemental Benefit Rate per Hour: $11.32

**Tractor Trailer Driver**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: $22.97  
Supplemental Benefit Rate per Hour: $11.32

**Overtime Description**

Time and one half the regular hourly rate after an 8 hour day or after 40 hours in any work week. The seventh day of work in a workweek is paid at double time the regular hourly rate. Time and one half the regular hourly rate for work on a holiday plus days pay for below paid holidays.

**Paid Holidays**

President's Day  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Christmas Day

**Vacation**

1 year of service but less than five years.................................ten (10) days  
5 years of service but less than ten years...............................fifteen (15) days  
10 years of service.............................................................sixteen (16) days  
11 years..........................................................seventeen (17) days  
12 years..........................................................eighteen (18) days  
13 years..........................................................nineteen (19) days  
14 years..........................................................twenty (20) days
MOVER - OFFICE FURNITURE AND EQUIPMENT

Heavy and Tractor Trailer Truck Driver

Tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW)

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $23.52
Supplemental Benefit Rate per Hour: $5.37

Light Truck Driver

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $18.17
Supplemental Benefit Rate per Hour: $5.37

Laborer and Freight, Stock, and Material Mover, Hand

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $15.52
Supplemental Benefit Rate per Hour: $5.37

Packer and Packager, Hand

Packs, wraps and labels office furniture and equipment and loads it onto dollies and into elevators.

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $11.87
Supplemental Benefit Rate per Hour: $5.37

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular hourly rate after 40 hours in any work week.

(Based on data from NYS Department of Labor Occupational Employment Statistics and US Department of Labor Bureau of Labor Statistics)
REFUSE REMOVER

Refuse Remover

Effective Period: 7/1/2016 - 6/30/2017
Wage Rate per Hour: $28.32
Supplemental Benefit Rate per Hour: $5.37

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular hourly rate after 40 hours in any work week.

(Based on data from NYS Department of Labor Occupational Employment Statistics and US Department of Labor Bureau of Labor Statistics)

SECURITY GUARD (ARMED)

Security Guard (Armed)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $28.75
Supplemental Benefit Rate per Hour: $5.48
Supplemental Note: for new employee 0-30 days of employment - $4.76; for new employee 31-120 days of employment - $4.93; for new employee 121 days - 2 years of employment - $5.04

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $29.00
Supplemental Benefit Rate per Hour: $5.66
Supplemental Note: for new employee 0-30 days of employment - $4.94; for new employee 31-120 days of employment - $5.11; for new employee 121 days - 2 years of employment - $5.22

Months of employment shall be defined as an Employee’s length of service with the Employer or at the Facility, whichever is greater.

Overtime Description
If President’s Day is not observed, then the employer may substitute another holiday not listed below. If an employer observes a holiday not listed they may substitute said holiday with one on the list. A guard is eligible for Paid Holidays after one year of continuous employment. A guard who works a holiday is paid the regular rate plus receives the paid holiday.

Supplemental Benefits shall be paid for each hour paid, up to forty (40) paid hours per week.
Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day
Personal Day

Vacation

<table>
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<tr>
<th>Months on payroll</th>
<th>Vacation with Pay</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3 days</td>
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<td>180</td>
<td>4 weeks</td>
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<tr>
<td>300</td>
<td>5 weeks</td>
</tr>
</tbody>
</table>

Sick Leave
Employees accrue paid sick leave at the rate of one (1) sick day for every six (6) months worked, up to a maximum of six (6) days a year.

(Local #32B/J)

__________________________________________________________

SECURITY GUARD (UNARMED)

Security Guard (Unarmed) 0 - 6 months

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $14.00
Supplemental Benefit Rate per Hour: $5.04
Supplemental Note: for new employee 0-30 days of employment - $4.76; for new employee 31-120 days of employment - $4.93

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $14.40
Supplemental Benefit Rate per Hour: $5.22
Supplemental Note: for new employee 0-30 days of employment - 4.94; for new employee 31-120 days of employment - $5.11

Security Guard (Unarmed) 7 - 12 months
Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $14.30
Supplemental Benefit Rate per Hour: $5.04

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $14.40
Supplemental Benefit Rate per Hour: $5.22

Security Guard (Unarmed) 13 - 18 months

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $14.80
Supplemental Benefit Rate per Hour: $5.04

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $15.25
Supplemental Benefit Rate per Hour: $5.22

Security Guard (Unarmed) 19 - 24 months

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $15.30
Supplemental Benefit Rate per Hour: $5.04

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $15.75
Supplemental Benefit Rate per Hour: $5.22

Security Guard (Unarmed) 25 - 30 months

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $15.80
Supplemental Benefit Rate per Hour: $5.48

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $16.25
Supplemental Benefit Rate per Hour: $5.66

Security Guard (Unarmed) 31 months or more

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $16.45
Supplemental Benefit Rate per Hour: $5.48

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $16.90
Supplemental Benefit Rate per Hour: $5.66
Months of employment shall be defined as an Employee's length of service with the Employer or at the Facility, whichever is greater.

Overtime Description
If President's Day is not observed, then the employer may substitute another holiday not listed below. If an employer observes a holiday not listed they may substitute said holiday with one on the list.
A guard is eligible for Paid Holidays after one year of continuous employment.
A guard who works a holiday is paid the regular rate plus receives the paid holiday.

Supplemental Benefits shall be paid for each hour paid, up to forty (40) paid hours per week.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day
Personal Day

Vacation
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<td>4 weeks</td>
</tr>
<tr>
<td>300</td>
<td>5 weeks</td>
</tr>
</tbody>
</table>

Sick Leave
Employees accrue paid sick leave at the rate of one (1) sick day for every six (6) months worked, up to a maximum of six (6) days a year.

(Local #32B/J)

WINDOW CLEANER

Window Cleaner

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $28.10
Supplemental Benefit Rate per Hour: $11.00

Effective Period: 1/1/2017 - 6/30/2017
OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§230 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: $28.70
Supplemental Benefit Rate per Hour: $11.56

**Power Operated Scaffolds, Manual Scaffolds, and Boatswain Chairs**

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $30.66
Supplemental Benefit Rate per Hour: $11.00

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $31.33
Supplemental Benefit Rate per Hour: $11.56

**Window Cleaner Apprentice (0 - 3 months)**

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $20.73
Supplemental Benefit Rate per Hour: None

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $21.24
Supplemental Benefit Rate per Hour: None

**Window Cleaner Apprentice (4 - 7 months)**

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $22.41
Supplemental Benefit Rate per Hour: $11.00

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $22.96
Supplemental Benefit Rate per Hour: $11.56

**Window Cleaner Apprentice (8 - 11 months)**

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $23.75
Supplemental Benefit Rate per Hour: $11.00

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $24.34
Supplemental Benefit Rate per Hour: $11.56

**Window Cleaner Apprentice (12 - 15 months)**

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $25.12
Supplemental Benefit Rate per Hour: $11.00
OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $25.74
Supplemental Benefit Rate per Hour: $11.56

Window Cleaner Apprentice (16 - 17 months)

Effective Period: 7/1/2016 - 12/31/2016
Wage Rate per Hour: $26.47
Supplemental Benefit Rate per Hour: $11.00

Effective Period: 1/1/2017 - 6/30/2017
Wage Rate per Hour: $27.12
Supplemental Benefit Rate per Hour: $11.56

Months of employment shall be defined as an Employee's length of service with the Employer or at the Facility, whichever is greater.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays
New Year's Day
Martin Luther King Jr. Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day
Personal Day

Vacation
After 7 months but less than 1 year of service..................................................five (5) days
1 year but less than 5 years of service...............................................................ten (10) days
5 years of service but less than 15 years of service.............................................fifteen (15) days
15 years of service but less than 21 years of service..........................................twenty (20) days
21 years...........................................................................................................twenty-one (21) days
22 years...........................................................................................................twenty-two (22) days
23 years...........................................................................................................twenty-three (23) days
24 years...........................................................................................................twenty-four (24) days
25 years or more of service...............................................................................twenty-five (25) days

Plus 1 day per year for medical visit

SICK LEAVE:
10 days after one year worked. Unused sick days to be paid in cash.

(Local #32 B/J)
APPENDIX G

CITY OF NEW YORK
DEPARTMENT OF HEALTH AND MENTAL HYGIENE (DOHMH)
OFFICE OF THE AGENCY CHIEF CONTRACTING OFFICER
“NO BID RESPONSE”

PIN: 17BS007500R0X00

__________________________ HAS OPTED NOT TO BID ON

(Contractor name)

General Contracting IFB

For the following reason(s):

Contact Name ___________________________ Phone________________________

(Signature)

Date _____/_____/_____

Please return this form to the DOHMH Authorized Agency Contact(s) no later than the bid opening date.
APPENDIX H

WHISTLEBLOWER PROTECTION EXPANSION ACT RIDER

1. In accordance with Local Law Nos. 30-2012 and 33-2012, codified at sections 6-132 and 12-113 of the New York City Administrative Code, respectively,

(a) Contractor shall not take an adverse personnel action with respect to an officer or employee in retaliation for such officer or employee making a report of information concerning conduct which such officer or employee knows or reasonably believes to involve corruption, criminal activity, conflict of interest, gross mismanagement or abuse of authority by any officer or employee relating to this Contract to (i) the Commissioner of the Department of Investigation, (ii) a member of the New York City Council, the Public Advocate, or the Comptroller, or (iii) the City Chief Procurement Officer, ACCO, Agency head, or Commissioner.

(b) If any of Contractor’s officers or employees believes that he or she has been the subject of an adverse personnel action in violation of subparagraph (a) of paragraph 1 of this rider, he or she shall be entitled to bring a cause of action against Contractor to recover all relief necessary to make him or her whole. Such relief may include but is not limited to: (i) an injunction to restrain continued retaliation, (ii) reinstatement to the position such employee would have had but for the retaliation or to an equivalent position, (iii) reinstatement of full fringe benefits and seniority rights, (iv) payment of two times back pay, plus interest, and (v) compensation for any special damages sustained as a result of the retaliation, including litigation costs and reasonable attorney’s fees.

(c) Contractor shall post a notice provided by the City in a prominent and accessible place on any site where work pursuant to the Contract is performed that contains information about:

(i) how its employees can report to the New York City Department of Investigation allegations of fraud, false claims, criminality or corruption arising out of or in connection with the Contract; and
(ii) the rights and remedies afforded to its employees under New York City Administrative Code sections 7-805 (the New York City False Claims Act) and 12-113 (the Whistleblower Protection Expansion Act) for lawful acts taken in connection with the reporting of allegations of fraud, false claims, criminality or corruption in connection with the Contract.

(d) For the purposes of this rider, “adverse personnel action” includes dismissal, demotion, suspension, disciplinary action, negative performance evaluation, any action resulting in loss of staff, office space, equipment or other benefit, failure to appoint, failure to promote, or any transfer or assignment or failure to transfer or assign against the wishes of the affected officer or employee.
(e) This rider is applicable to all of Contractor’s subcontractors having subcontracts with a value in excess of $100,000; accordingly, Contractor shall include this rider in all subcontracts with a value in excess of $100,000.

2. Paragraph 1 is not applicable to this Contract if it is valued at $100,000 or less. Subparagraphs (a), (b), (d), and (e) of paragraph 1 are not applicable to this Contract if it was solicited pursuant to a finding of an emergency. Subparagraph (c) of paragraph 1 is neither applicable to this Contract if it was solicited prior to October 18, 2012 nor if it is a renewal of a contract executed prior to October 18, 2012.
NOTICE TO BIDDERS, PROPOSERS, CONTRACTORS, AND RENEWAL CONTRACTORS

This contract includes a provision concerning the protection of employees for whistleblowing activity, pursuant to New York City Local Law Nos. 30-2012 and 33-2012, effective October 18, 2012 and September 18, 2012, respectively. The provisions apply to contracts with a value in excess of $100,000.

Local Law No. 33-2012, the Whistleblower Protection Expansion Act ("WPEA"), prohibits a contractor or its subcontractor from taking an adverse personnel action against an employee or officer for whistleblowing activity in connection with a City contract; requires that certain City contracts include a provision to that effect; and provides that a contractor or subcontractor may be subject to penalties and injunctive relief if a court finds that it retaliated in violation of the WPEA. The WPEA is codified at Section 12-113 of the New York City Administrative Code.

Local Law No. 30-2012 requires a contractor to prominently post information explaining how its employees can report allegations of fraud, false claims, criminality, or corruption in connection with a City contract to City officials and the rights and remedies afforded to employees for whistleblowing activity. Local Law No. 30-2012 is codified at Section 6-132 of the New York City Administrative Code.
Local Law 30-2012

By Council Members Garodnick, Barron, Brewer, Chin, Dromm, Ferreras, Fidler, Gennaro, Gentile, Jackson, James, Koppell, Lander, Mark-Viverito, Mealy, Mendez, Palma, Rose, Seabrook, Vann, Williams, Nelson, Foster, Van Bramer, Halloran and Koo

A Local Law to amend the administrative code of the city of New York, in relation to requiring city contractors and subcontractors to post information concerning their employees' reporting of fraud, false claims, criminality or corruption and their whistleblower protection rights.

Be it enacted by the Council as follows:

Section 1. Title 6 of the administrative code of the city of New York is amended by adding a new section 6-132 to read as follows:

§6-132. Posting of notice of whistleblower protection rights.

a. Definitions. For the purposes of this section, the following terms shall have the following meanings:

(1) "Contract" shall mean any written agreement, purchase order or instrument valued in excess of one hundred thousand dollars or more pursuant to which a contracting agency is committed to expend or does expend funds in return for work, labor, services, supplies, equipment, materials, or any combination of the foregoing, and shall include a subcontract between a contractor and a subcontractor.

(2) "Contracting agency" shall mean a city, county, borough, or other office, position, administration, 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.

(3) "Contractor" shall mean a person or business entity who is a party to a contract with a contracting agency valued in excess of one hundred thousand dollars, and "subcontractor" shall mean a person or entity who is a party to a contract with a contractor valued in excess of one hundred thousand dollars.

b. Posting of information about reporting fraud, false claims, criminality or corruption. Every contractor or subcontractor having a contract valued in excess of one hundred thousand dollars or more shall post a notice, in a prominent and accessible place on any site where work pursuant to such contract or subcontract is performed, containing information about

(1) 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 such contract or subcontract, and
(2) the rights and remedies afforded to its employees under sections 7-805 and 12-113 of the administrative code for lawful acts taken in connection with the reporting of allegations of fraud, false claims, criminality or corruption in connection with such contract or subcontract.

c. Contract provisions. Every city contract or subcontract valued in excess of one hundred thousand dollars shall contain a provision detailing the requirements of this section. If a contracting agency determines that there has been a violation of this section, it shall take such action it deems appropriate consistent with the remedies available under the contract or subcontract.

d. Nothing in this section shall be construed to limit an agency's authority to cancel or terminate a contract, issue a non-responsibility finding, issue a non-responsiveness finding, deny a person or entity pre-qualification, or otherwise deny a contractor city business.

§2. This local law shall take effect 120 days after its enactment into law and shall apply to contracts and subcontracts for which bids or proposals are first solicited after such effective date; provided, however, that the commissioner of investigation and the city's chief procurement officer shall take such measures as are necessary for its implementation, including the promulgation of rules, prior to such effective date.
Local Law 33-2012

By Council Members Garodnick, Halloran, Dromm, Barron, Brewer, Ferreras, Fidler, Gentile, Jackson, James, Koo, Koppell, Lander, Levin, Mark-Viverito, Palma, Rose, Sanders Jr., Seabrook, Van Bramer, Vann, Williams, Rivera, Rodriguez, Foster, Chin, Mealy, Gennaro and Ulrich

A Local Law to amend the administrative code of the city of New York, in relation to extending whistleblower protection for officers and employees of city contractors and subcontractors.

Be it enacted by the Council as follows:

Section 1. This bill shall be known and may be cited as the "Whistleblower Protection Expansion Act."

§ 2. Section 12-113 of the administrative code of the city of New York, as amended by local law number 10 for the year 2003, paragraphs 4, 5 and 6 of subdivision a and paragraph 3 of subdivision b as added by local law number 25 for the year 2007, and subdivision f as amended by local law number 25 for the year 2007, is amended to read as follows:

§ 12-113 Protection of sources of information. a. Definitions. For purposes of this section:

1. "Adverse personnel action" shall include dismissal, demotion, suspension, disciplinary action, negative performance evaluation, any action resulting in loss of staff, office space or 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.

2. "Remedial action" means an appropriate action to restore the officer or employee to his or her former status, which may include one or more of the following:

(i) reinstatement of the officer or employee to a position the same as or comparable to the position the officer or employee held or would have held if not for the adverse personnel action, or, as appropriate, to an equivalent position;

(ii) reinstatement of full seniority rights;

(iii) payment of lost compensation; and

(iv) other measures necessary to address the effects of the adverse personnel action.

3. "Commissioner" shall mean the commissioner of investigation.
4. "Child" shall mean any person under the age of nineteen, or any person ages nineteen through twenty-one if such person receives instruction pursuant to an individualized education plan.

5. "Educational welfare" shall mean any aspect of a child's education or educational environment that significantly impacts upon such child's ability to receive appropriate instruction, as mandated by any relevant law, rule, regulation or sound educational practice.

6. "Superior officer" shall mean an agency head, deputy agency head or other person designated by the head of the agency to receive a report pursuant to this section, who is employed in the agency in which the conduct described in such report occurred.

7. "Contract" shall mean any written agreement, purchase order or instrument having a value in excess of one hundred thousand dollars pursuant to which a contracting agency is committed to expend or does expend funds in return for work, labor, services, supplies, equipment, materials, or any combination of the foregoing, and shall include a subcontract between a covered contractor and a covered subcontractor. Such term shall not include contracts or subcontracts resulting from emergency procurements or that are government-to-government procurements.

8. "Contracting agency" shall mean a city, county, borough, or other office, position, administration, 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.

9. "Covered contractor" shall mean a person or business entity who is a party or a proposed party to a contract with a contracting agency valued in excess of one hundred thousand dollars, and "covered subcontractor" shall mean a person or entity who is a party or a proposed party to a contract with a covered contractor valued in excess of one hundred thousand dollars.

10. "Officers or employees of an agency of the city" shall be deemed to include officers or employees of local development corporations or other not-for-profit corporations that are parties to contracts with contracting agencies and the governing boards of which include city officials acting in their official capacity or appointees of city officials. Such officers and employees shall not be deemed to be officers or employees of a covered contractor or covered subcontractor.
b. 1. No officer or employee of an agency of the city shall take an adverse personnel action with respect to another officer or employee in retaliation for his or her making a report of information concerning conduct which he or she knows or reasonably believes to involve corruption, criminal activity, conflict of interest, gross mismanagement or abuse of authority by another city officer or employee, which concerns his or her office or employment, or by persons dealing with the city, which concerns their dealings with the city, (i) to the commissioner, or (ii) to a council member, the public advocate or the comptroller, who shall refer such report to the commissioner. For purposes of this subdivision, an agency of the city shall be deemed to include, but not be limited to, an agency the head or members of which are appointed by one or more city officers, and the offices of elected city officers.

2. No officer or employee of a covered contractor or covered subcontractor shall take an adverse personnel action with respect to another officer or employee of such contractor or subcontractor 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 of such contractor or subcontractor, which concerns a contract with a contracting agency, (i) to the commissioner, (ii) to a council member, the public advocate or the comptroller, who shall refer such report to the commissioner, or (iii) to the city chief procurement officer, agency chief contracting officer, or agency head or commissioner of the contracting agency, who shall refer such report to the commissioner.

3. Every contract or subcontract in excess of one hundred thousand dollars shall contain a provision detailing the provisions of paragraph two of this subdivision and of paragraph two of subdivision e of this section.

[2.] 4. Upon request, the commissioner, council member, public advocate or comptroller receiving the report of alleged adverse personnel action shall make reasonable efforts to protect the anonymity and confidentiality of the officer or employee making such report.

[3.] 5. No officer or employee of an agency of the city shall take an adverse personnel action with respect to another officer or employee in retaliation for his or her making a report of information concerning
conduct which he or she knows or reasonably believes to present a substantial and specific risk of harm to the health, safety or educational welfare of a child by another city officer or employee, which concerns his or her office or employment, or by persons dealing with the city, which concerns their dealings with the city, (i) to the commissioner, (ii) to a council member, the public advocate, the comptroller or the mayor, or (iii) to any superior officer.

c. An officer or employee (i) of an agency of the city, or (ii) of a public agency or public entity subject to the jurisdiction of the commissioner pursuant to chapter thirty-four of the charter who believes that another officer or employee has taken an adverse personnel action in violation of subdivision b of this section may report such action to the commissioner.

d. 1. Upon receipt of a report made pursuant to subdivision c of this section, the commissioner shall conduct an inquiry to determine whether retaliatory adverse personnel action has been taken.

2. Within fifteen days after receipt of an allegation pursuant to subdivision c of this section of a prohibited adverse personnel action, the commissioner shall provide written notice to the officer or employee making the allegation that the allegation has been received by the commissioner. Such notice shall include the name of the person in the department of investigation who shall serve as a contact with the officer or employee making the allegation.

3. Upon the completion of an investigation initiated under subdivision c of this section, the commissioner shall provide a written statement of the final determination to the officer or employee who complained of the retaliatory adverse personnel action. The statement shall include the commissioner's recommendations, if any, for remedial action, or shall state the commissioner has determined to dismiss the complaint and terminate the investigation.

e. 1. Upon a determination that a retaliatory adverse personnel action has been taken with respect to an officer or employee of an agency of the city in violation of paragraph one or five of subdivision b of this section, the commissioner shall without undue delay report his or her findings and, if appropriate, recommendations to the head of the appropriate agency or entity, who (i) shall determine whether to take remedial action and (ii) shall report such determination to the commissioner in writing. Upon a
determination that the agency or entity head has failed to take appropriate remedial action, the commissioner shall consult with the agency or entity head and afford the agency or entity head reasonable opportunity to take such action. If such action is not taken, the commissioner shall report his or her findings and the response of the agency or entity head (i) if the complainant was employed by an agency the head or members of which are appointed by the mayor, to the mayor, (ii) if the complainant was employed by a non-mayoral agency of the city, to the city officer or officers who appointed the agency head, or (iii) if the complainant was employed by a public agency or other public entity not covered by the preceding categories but subject to the jurisdiction of the commissioner pursuant to chapter thirty-four of the charter, to the officer or officers who appointed the head of the public agency or public entity, who shall take such action as is deemed appropriate.

2. Any officer or employee of a covered contractor or covered subcontractor who believes that he or she has been the subject of an adverse personnel action in violation of paragraph two of subdivision b shall be entitled to bring a cause of action against such covered contractor or covered subcontractor to recover all relief necessary to make him or her whole. Such relief may include but shall not be limited to: (i) an injunction to restrain continued retaliation, (ii) reinstatement to the position such employee would have had but for the retaliation or to an equivalent position, (iii) reinstatement of full fringe benefits and seniority rights, (iv) payment of two times back pay, plus interest, and (v) compensation for any special damages sustained as a result of the retaliation, including litigation costs and reasonable attorneys' fees. An officer or employee described in this paragraph may bring an action in any court of competent jurisdiction for such relief. An officer or employee who brings a cause of action pursuant to this paragraph shall notify the agency chief contracting officer or agency head or commissioner of the contracting agency of such action; provided, however, that failure to provide such notice shall not be a jurisdictional defect, and shall not be a defense to an action brought pursuant to this paragraph. This paragraph shall not be deemed to create a right of action against the city, any public agency or other public entity, or local development corporations or not-for-profit corporations the governing boards of which include city officials acting in their official capacity or
appointees of city officials, nor shall any such public agency, entity or corporation be made a party to an action brought pursuant to this subdivision.

f. Nothing in this section shall be construed to limit the rights of any officer or employee with regard to any administrative procedure or judicial review, nor shall anything in this section be construed to diminish or impair the rights of a public employee or employer under any law, rule, regulation or collective bargaining agreement or to prohibit any personnel action which otherwise would have been taken regardless of any report of information made pursuant to this section.

g. Violation of this section may constitute cause for administrative penalties.

h. The commissioner shall conduct ongoing public education efforts as necessary to inform employees and officers of covered agencies and contractors of their rights and responsibilities under this section.

i. Not later than October thirty-first of each year, the commissioner shall prepare and forward to the mayor and the council a report on the complaints governed by this section during the preceding fiscal year. The report shall include, but not be limited to, the number of complaints received pursuant to this section, and the disposition of such complaints.

§ 3. This local law shall take effect ninety days after its enactment into law; provided, however, that the provisions of this local law shall apply only to contracts or subcontracts solicited or renewed on or after such effective date.
New York City Administrative Code section 7-805
Remedies of employees.

a. (1) Any officer or employee of the city of New York who believes that he or she has been the subject of an adverse personnel action, as such term is defined in paragraph one of subdivision a of section 12-113 of the administrative code of the city of New York; or

(2) any officer or employee of the city or state of New York, who believes that he or she has been the subject of a retaliatory action, as defined by section seventy-five-b of the civil service law; or

(3) any non-public employee who believes that he or she has been the subject of a retaliatory action by his or her employer, as defined by section seven hundred forty of the labor law because of lawful acts of such employee in furtherance of a civil enforcement action brought under this section, including the investigation, initiation, testimony, or assistance in connection with, a civil enforcement action commenced or to be commenced under this section, shall be entitled to all relief necessary to make the employee whole. Such relief shall include but not be limited to: (i) an injunction to restrain continued discrimination, (ii) reinstatement to the position such employee would have had but for the discrimination or to an equivalent position, (iii) reinstatement of full fringe benefits and seniority rights, (iv) payment of two times back pay, plus interest, and (v) compensation for any special damages sustained as a result of the discrimination, including litigation costs and reasonable attorneys' fees.

b. An employee described in subdivision a of this section may bring an action in any court of competent jurisdiction for the relief provided in this section.
REPORTING INFORMATION TO THE NEW YORK CITY DEPARTMENT OF INVESTIGATION

If you have information of any corrupt or fraudulent activities or unethical conduct relating to a New York City funded project or contract, contact:

Department of Investigation (DOI) Complaint Bureau
212-825-5959

or by mail or in person at:

DEPARTMENT OF INVESTIGATION
80 MAIDEN LANE, 17th FLOOR
NEW YORK, NEW YORK 10038
Attention: COMPLAINT BUREAU

or file a complaint on-line at:

www.nyc.gov/doi

All communications are confidential.

THE LAW PROTECTS EMPLOYEES OF CITY CONTRACTORS WHO REPORT CORRUPTION

- Any employee of a contractor or subcontractor that has a contract with the City or a City contractor of more than $100,000 is protected under the law from retaliation by his or her employer if the employee reports wrongdoing related to the contract to the DOI.
- To be protected by this law, an employee must report information about fraud, false claims, corruption, criminality, conflict of interest, gross mismanagement, or abuse of authority relating to a City contract over $100,000 to DOI or to certain other government officials all of whom must forward the report to DOI.
- Any employee who has made such a report and who believes he or she has been dismissed, demoted, suspended, or otherwise subject to an adverse personnel action because of that report is entitled to bring a lawsuit against the contractor and recover damages.
APPENDIX I
Iran Contractor Divestment Rider

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

[Please Check One]

**BIDDER’S CERTIFICATION**

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

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

Dated: __________, New York
________, 20__

________________________________________
SIGNATURE

________________________________________
PRINTED NAME

________________________________________
TITLE

Sworn to before me this
______ day of____, 20__

Notary Public

Dated:
APPENDIX J

Subcontract Approval Form
NOTICE TO BIDDERS

As of March 2013 the City has implemented a new web based subcontractor reporting system through the City's Payee Information Portal (PIP), available at [www.nyc.gov/pip](http://www.nyc.gov/pip). 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 that site. Additional assistance with PIP may be received by emailing the Financial Information Services Agency Help Desk at pip@fisa.nyc.gov.

In order to obtain subcontractor approval under section 3.02 of Appendix A or Article 17 of the Standard Construction Contract and PPB Rule § 4-13 Contractor is required to list the subcontractor in the system. For each subcontractor listed, Contractor is required to provide the following information: maximum contract value, description of subcontractor work, start and end date of the subcontract and identification of the subcontractor’s industry. 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 Agency 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. For construction contracts, the provisions of Article 15 of the Standard Construction Contract shall govern the issue of liquidated damages.

Contractor hereby agrees to these provisions.
APPENDIX K

Direct Deposit/Electronic Funds Transfer (EFT) Vendor Payment Enrollment

(See Following Pages)
**DIRECT DEPOSIT/ELECTRONIC FUNDS TRANSFER (EFT)**

**VENDOR PAYMENT ENROLLMENT FORM**

Mail to: NYC Department of Finance, Treasury Division, 66 John Street, 12th Floor, New York, NY 10038 - Attention: EFT, or Fax to: EFT at 212-487-3027 or 212-487-3026

<table>
<thead>
<tr>
<th>ENROLLMENT</th>
<th>MODIFICATION</th>
</tr>
</thead>
</table>

**INSTRUCTIONS:** Please check only one of the two boxes above. Check the Enrollment box to sign up for EFT. Check the Modification box if you are currently enrolled and are making changes to the Vendor and/or Financial Institution information you have already submitted.

The person completing this form must be an individual who can authorize changes related to **SECTION II - FINANCIAL INSTITUTION INFORMATION**. The Person signing this form in Section III must be the same Contact Person in Section I.

Please complete all sections of this Enrollment Form and attach a voided check, a copy of an encoded deposit slip that includes an imprinted vendor’s name, the first page of a bank statement OR a letter signed by your bank representative, confirming account name, account number, and ABA routing number for ACH payments.

Note: Your application cannot be processed without this documentation. See the reverse side for more information and instructions.

### SECTION I - VENDOR INFORMATION

1. SOCIAL SECURITY NUMBER OR TAXPAYER ID NUMBER:  
   (AS IT APPEARS ON W-9 FORM)

2. VENDOR NAME (AS IT APPEARS ON W-9 FORM):

3. VENDOR’S ADDRESS (FOR EFT ENROLLMENT PURPOSES):

4. VENDOR'S EMAIL ADDRESS:

5. CONTACT PERSON'S NAME:  
   6. CONTACT TELEPHONE NUMBER:

### SECTION II - FINANCIAL INSTITUTION INFORMATION

1. BANK ACCOUNT NUMBER:  
   2. ACCOUNT NAME:

3. BANK NAME:

4. BANK BRANCH ADDRESS:

5. BANK 9-DIGIT ROUTING NUMBER:  
   (LOCATED AT THE BOTTOM OF CHECK)  
   6. ACCOUNT TYPE - MUST BE EITHER CHECKING OR SAVINGS:  
   (CHECK ONE BOX ONLY)  
   [ ] CHECKING  
   [ ] SAVINGS

7. DIRECT DEPOSIT/ACH/EFT COORDINATOR’S NAME:  
   8. TELEPHONE NUMBER:

### SECTION III - VENDOR SIGNATURE AND AUTHORIZATION

I, hereby confirm my authority, as an authorized signer of the above-referenced bank account, to issue these instructions to credit and/or debit the bank account. I authorize the City of New York to Direct Deposit all entitled payments to the account specified above and to initiate (if necessary) debit entries or adjustments for any credit (i) made in error, (ii) of an incorrect amount, (iii) that were duplicates of a correct payment. I understand that this authorization will remain in effect until a written authorization requesting cancellation is submitted to the fax number(s) above.

1. VENDOR SIGNATURE - MUST BE THE SAME CONTACT PERSON FROM SECTION I  
   2. DATE - MM/DD/YYYY
**GENERAL INSTRUCTIONS**

Please complete all sections of the Direct Deposit EFT Enrollment Application and forward the completed application along with a voided check or a copy of an encoded deposit slip that includes an imprinted vendor’s name to:

NYC Department of Finance  
Treasury Division  
66 John Street, 12th Floor  
New York, NY 10038  
Attention: EFT

or Fax to: EFT at 212-487-3027 or 212-487-3026.

This completed form can be saved to your computer. Please retain a copy for your records.

**SECTION I - VENDOR INFORMATION**

1. Enter the vendor’s social security number or taxpayer ID, the 9-digit number reported on the W-9 form.

2. Provide the name of the vendor (as it appears on the W-9).

3. Enter the vendor’s complete address for EFT correspondence associated with this account.

4. Provide the vendor’s email address, if you have one.

5. Indicate the name and telephone number of the vendor’s contact person. The contact person must be authorized to make changes in the Financial Institution Information below in Section II. (If you are enrolling yourself individually, you are the contact person.)

**SECTION II - FINANCIAL INSTITUTION INFORMATION**

1. Indicate the vendor’s bank account number.

2. Indicate the vendor’s account name.

3. Bank name

4. Bank address

5. Indicate 9-digit routing (ABA) transit number (located at the bottom of your check).

6. Indicate type of account. Account must be designated as either checking or savings. (Check one box only).

7. List name and telephone number of your bank’s Direct Deposit/EFT Coordinator.

**SECTION III - VENDOR SIGNATURE AND AUTHORIZATION**

Sign and date where indicated. Note: The person signing this form must be the same contact person as stated in Section I.
1. WHAT ARE THE BENEFITS OF DIRECT DEPOSIT?

There are several advantages to direct deposit:
- Payments are secure – Paper checks can be lost in the mail or stolen, but money deposited directly into your account is more secure.
- Payments arrive sooner – You don’t have to wait for a check to arrive in the mail. Electronic payments are deposited directly into your bank account, saving days of waiting for checks to clear.
- You save time – Money deposited into your bank account is automatic. You save the time you used to spend at the bank depositing the check.

2. AM I REQUIRED TO ENROLL?

In accordance of Local Law 43 enacted by City Council in 2007, all vendors with City contracts over $25,000, and human service providers are required to enroll in the payment Direct Deposit program. All vendors are encouraged to enroll in the program.

3. CAN FOREIGN COMPANIES ENROLL?

Foreign vendors must enroll with a bank domiciled within the continental United States. For a foreign vendor to do business with the City of New York, they are required to follow the following steps:

Step 1:
- The foreign vendor needs to complete a W8 and a foreign vendor questionnaire (1st page).
- Please note that the vendor will need to determine which of the 3 types of W8s they will need to complete.
- The W8s and the Foreign Vendor Questionnaire can be accessed at http://comptroller.nyc.gov/forms-n-rfps/w9substitute-w8/.

Step 2:
- The foreign vendor has to submit the original W8 and the Foreign Vendor Questionnaire to the paying agency.
- The paying agency has to fill out the 2nd page of the Foreign Vendor Questionnaire.
- Both documents (once completed) have to be sent (in Adobe.pdf format) by the paying agency to 1042vendor@comptroller.nyc.gov to begin the validation process.
- Please note that the Comptroller’s Office will need the original forms to meet IRS compliance.

If you have any questions about the foreign vendor validation process, you may contact the Comptroller’s Office via email at 1042vendor@comptroller.nyc.gov

4. ARE MY PAYMENTS GOING TO BE PROCESSED ON THE SAME SCHEDULE AS THEY WERE BEFORE DIRECT DEPOSIT/EFT?

Yes.

5. HOW QUICKLY WILL A PAYMENT BE DEPOSITED INTO MY ACCOUNT?

Payments are deposited two business days after the date of issuance. Saturdays, Sundays, and legal holidays are not considered business days. In addition to not having to wait for mail delivery, with direct deposit, vendors save additional time by not having to travel to the bank to wait in line to deposit checks or worry about lost, misplaced or stolen checks.

6. HOW WILL I KNOW WHEN THE PAYMENT IS IN OUR BANK ACCOUNT?

Once you are enrolled in direct deposit, the Department of Finance will email you a link that will allow you to enroll in the Payee Information Portal, or PIP. The Payee Information Portal is a service that allows you, as a payee/vendor for the City of New York, to manage your own account information, view your financial transactions with the City of New York and much more.
In addition, you may contact your bank directly or use online banking, mobile applications, and regular bank statements to confirm the deposit.

7. **HOW WILL I KNOW WHAT THE PAYMENT IS FOR?**

   All payment information is transferred electronically to your bank account from Citibank. The City of New York now offers vendor access to the Payee Information Portal (PIP), which permits them, if they enroll in this program, to track up to three years of issued payments, as well as all scheduled payments. Direct deposits may reflect several invoices from one or more agencies, but the Payee Information Portal will provide information about each and every payment.

8. **WHAT IF THERE IS A DISCREPANCY IN THE AMOUNT WE REQUESTED AND THE AMOUNT WE RECEIVED?**

   Please contact your agency representative.

9. **CAN DIRECT DEPOSITS BE CREDITED TO THE WRONG ACCOUNT? IF THAT HAPPENS, WHO IS RESPONSIBLE?**

   The vendor is responsible for submitting to the Department of Finance correct information for the proper bank account to which it wishes to receive payments. The Department of Finance will not be able to ascertain if the vendor has supplied information for the wrong bank account.

   However, if the bank account information that has been submitted is inconsistent and/or incorrect, the receiving bank will reject the payment and the Department of Finance will be notified. Finance will notify the agency and/or vendor and together we will do whatever is necessary to correct the problem. In order not to delay your payment, we will issue check(s) for your payment until the problem is resolved.

10. **WHAT MUST I DO IF I CHANGE MY BANK OR MY ACCOUNT NUMBER?**

    Whenever you change any information or close your account, you must notify the Finance Treasury Division, in writing, indicating the type of change you are requesting (i.e. change in bank, change in bank account number). A copy of an imprinted voided check or imprinted, encoded deposit slip with the new account information must be included with your letter. Mail correspondence to: Department of Finance, Treasury Division, 66 John Street, 12th Floor, New York, New York 10038, Att: Direct Deposit/EFT.

    It is important that you do not close the account that is linked to your direct deposits until the new account has been established and payments are being credited to your new account. When the change is complete, you may then close the old account. If, however the account is closed and direct deposit payments are returned, you must provide the Department of Finance with new account information, including a copy of an imprinted voided check or imprinted encoded deposit slip. The new account data will be verified with your bank ("pre-note"), for a period of approximately 10 calendar days, during which only paper checks are available. At the conclusion of a successful "pre-note," you will again be activated for EFT, and future deposits will be made to the new account.

11. **CAN I CANCEL MY DIRECT DEPOSIT ENROLLMENT?**

    If you have a contract with the City for more than $25,000, or if you are a human service provider, the law requires that you receive your payments by direct deposit. Other vendors may cancel their participation in the program by sending a letter indicating the effective date of cancellation enrollment. Mail Correspondence to Department of Finance, Treasury Division, 66 John Street, 12th Floor, New York, New York 10038, Att: Direct Deposit/EFT.

12. **HOW DO I KNOW IF I AM A HUMAN SERVICE PROVIDER?**

    Human service providers are defined as those vendors such as health care organizations, educational institutions, and religious institutions who provide services to people. If you have a question about whether you are a human service provider please call: 212-487-2592.
13. **DO I NEED TO SEND SEPARATE DIRECT DEPOSIT ENROLLMENT FORMS FOR EACH CITY AGENCY WITH WHICH I DO BUSINESS?**

No. One enrollment form is sufficient.

14. **WHAT IF MY NAME OR TAX ID # CHANGES (OR BOTH)? HOW DOES THIS AFFECT MY DIRECT DEPOSIT? WHO SHOULD BE NOTIFIED?**

**NON PIP VENDORS**

If your name or Tax ID # changes (or both), the Comptroller's Office must validate a new Vendor Code. If you do not use the Payee Information Portal (PIP), you must complete and send to the agency you are doing business with the necessary supporting documents from the state in which you were incorporated justifying the changes e.g., a Certificate of Amendment, a new Substitute Form W-9 and a 147-C IRS letter. If you do not have the letter, you can call the IRS Main Business Line at 1-800-829-4933 (option 1 for Employer Identification Number questions) between 7a.m.-7p.m. Monday-Friday, except holidays, for assistance.

Once the Comptroller has validated the change, you must notify the Department of Finance and submit a new EFT Vendor Enrollment Form.

**PIP VENDORS**

If your name or Tax ID change (or both) the Comptroller's Office must validate a new Vendor Code. If you are enrolled in the Payee Information Portal (PIP), you must make the changes in PIP. In addition you must complete and send a new PIP Substitute Form W-9 and 147-C IRS letter to the PIP Unit of the Comptroller's Office, One Centre Street, New York, NY 10007, or by FAX: 212-815-8555. Once the Comptroller has registered the change, you must notify the Department of Finance and submit a new direct deposit enrollment form.

15. **WHAT IF MY ADDRESS CHANGES? HOW DOES THIS AFFECT MY DIRECT DEPOSIT? WHO SHOULD BE NOTIFIED?**

If your address changes, the Comptroller's Office does NOT validate a new Vendor Code. The vendor should follow the procedures above regarding Forms W-9, but does not have to submit to the Department of Finance new enrollment paperwork.
APPENDIX L

Notice to all Prospective Contractors - Participation By Minority-Owned And Women-Owned Business Enterprises In City Procurement and Schedule B
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.


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

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

8. If payments made to, or work performed by, MBEs or WBEs are less than the amount specified in the Contractor’s M/WBE Utilization Plan, Agency shall take appropriate action, in accordance with Section 6-129 and Article II below, unless the Contractor has obtained a modification of its M/WBE Utilization Plan in accordance with Section 6-129 and Part A, Section 11 below.
9. Where an M/WBE Utilization Plan has been submitted, and the Contractor requests a change order the value of which exceeds the greater of 10 percent of the Contract or Task Order, as applicable, or $500,000, Agency shall review the scope of work for the Contract or Task Order, as applicable, and the scale and types of work involved in the change order, and determine whether the Participation Goals should be modified.

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

(b) To apply for a full or partial waiver of the Participation Goals, a bidder, proposer, or contractor, as applicable, must complete Part III (Page 5) of Schedule B and submit such request no later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due, in writing to the Agency by email at RFP@health.nyc.gov. 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 a 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 a M/WBE Utilization Plan shall not be subject to the law governing Locally Based Enterprises set forth in Section 6-108.1 of the Administrative Code of the City of New York.

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

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

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

ARTICLE II. ENFORCEMENT

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

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

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

   (a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;

   (b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;

   (c) making a finding that the Contractor is in default of the Contract;

   (d) terminating the Contract;

   (e) declaring the Contractor to be in breach of Contract;

   (f) withholding payment or reimbursement;

   (g) determining not to renew the Contract;

   (h) assessing actual and consequential damages;

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

(k) taking any other appropriate remedy.

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

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

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

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

Part I to be completed by contracting agency

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Project Description (attach additional pages if necessary)

The Department of Health and Mental Hygiene requires the services of a general contractor to furnish, during the term of the Contract, the labor, materials and equipment necessary to perform interior and exterior general construction work at various DOHMH buildings within the five (5) boroughs of New York City.

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

Prime Contract Industry: Construction

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<td>or</td>
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Total Participation Goals 10%

Page 1 of 6
**SCHEDULE B - Part II: M/WBE Participation Plan**

*Part II to be completed by the bidder/proposer.*

Please note: For Non-M/WBE Prime Contractors who will NOT subcontract any services and will self-perform the entire contract, you must obtain a FULL waiver by completing the Waiver Application on pages 5 and 6 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

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

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

- [ ] For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals.

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

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

  Total Bid/Proposal Value | Agency Total Participation Goals (Line 1, Page 1) | Calculated M/WBE Participation Amount
  ------------------------|-----------------------------------------------|----------------------------------
  $X                      |                                               | $ Line 2

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

- [ ] For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Modified M/WBE Participation Goals.

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

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

  Total Bid/Proposal Value | Adjusted Participation Goal (From Partial Waiver) | Calculated M/WBE Participation Amount
  ------------------------|--------------------------------------------------|----------------------------------
  $X                      |                                                 | $ Line 3
Section III: M/WBE Utilization Plan: How Proposer/Bidder Will Fulfill M/WBE Participation Goals. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation. Check applicable box. The Proposer or Bidder will fulfill the M/WBE Participation Goals:

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

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

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16. _______________________________________________________
17. _______________________________________________________

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

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<tr>
<td>Print Name</td>
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SCHEDULE B – PART III – REQUEST FOR WAIVER OF M/WBE PARTICIPATION REQUIREMENT

Contract Overview

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<tr>
<th>Tax ID #</th>
<th>FMS Vendor ID #</th>
<th>Business Name</th>
<th>Contact Name</th>
<th>Telephone #</th>
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Type of Procurement

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Bid/Response Due Date

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<tr>
<th>APT E-PIN # (for this procurement):</th>
<th>81616B0014</th>
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<tr>
<td>Contracting Agency:</td>
<td>DOHMH</td>
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</table>

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

| 10% | 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:

- 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.

<table>
<thead>
<tr>
<th>CONTRACT NO.</th>
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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.)

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

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: ____%
APPENDIX M
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, 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.
APPENDIX N

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.

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 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

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.;
sick time for every 30 hours worked by an employee and compensation for such sick time must be provided at the greater of the employee’s regular hourly rate or the minimum wage. Employers are not required to provide more than 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 PSLL 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 preventative 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 preventative 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 PSLL. However, an employer may not require documentation specifying the nature of a medical condition or otherwise require disclosure of the details of a medical condition as a condition of providing sick time and health information obtained solely due to an employee’s use of sick time pursuant to the PSLL must be treated by the employer as confidential.

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.
APPENDIX O

PROJECT LABOR AGREEMENT AND ATTACHMENTS

(See Following Pages)
PROJECT LABOR AGREEMENT

COVERING SPECIFIED

RENOVATION & REHABILITATION
OF CITY OWNED BUILDINGS AND STRUCTURES

2015 - 2018
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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;
(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.
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.”
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
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
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.
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:
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
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,
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
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.
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.
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 (2nd), fourth (4th), sixth (6th), and eighth (8th) 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.
For such contracts valued at above $500,000 but less than $1 million, the Local will honor referrals by name of the second (2\textsuperscript{nd}), fifth (5\textsuperscript{th}), and eighth (8\textsuperscript{th}) 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
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
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.
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.
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.
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.
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,
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
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
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
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.
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
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:
(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:
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.
(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.
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.
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 trusted 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 trusted 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
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
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 trusteed 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, §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
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
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
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.
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.
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
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 (37½) 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.
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
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 of 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
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.
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
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.
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.
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.
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.
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,
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
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.
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
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
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.
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
## LIST OF SIGNATORY UNIONS

<table>
<thead>
<tr>
<th>Union</th>
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<tbody>
<tr>
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<td>Derrickmen and Riggers, Local Union No. 197</td>
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<td>Drywall Tapers 1974, District Council 9</td>
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<td>Electrical Workers Local No. 3</td>
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## SCHEDULE “A”

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<tr>
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<td>Building, Concrete, Excavating &amp; Common Laborers Local 731</td>
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<tr>
<td>District Council No. 9, I.U.P.A.T Glaziers Local 1087</td>
<td>Window and Plate Glass Dealers Association</td>
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<tr>
<td>Drywall Tapers and Pointers Local 1974, affiliated with International Union of Painters &amp; Allied Trades and Drywall Taping Contractor's Association &amp; Association of Wall-Ceiling &amp; Carpentry Industries NY, Inc.</td>
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<tr>
<td>Enterprise Association of Steamfitters and Apprentices Local 638</td>
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<td>International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers, AFL-CIO, Local Lodge No. 5</td>
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<td>New York Electrical Contractors Association</td>
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<td>Building Contractors Association &amp; Independents</td>
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<td>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</td>
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<td>Association of Architectural Metal &amp; Glass</td>
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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

<table>
<thead>
<tr>
<th>Union</th>
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<td>The Plasterers of Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers</td>
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</table>
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 ___________________ and located at ___________________ (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:
Dated: ____________________________

(Name of Contractor or subcontractor)

(Name of CM; GC; Contractor or Higher Level Subcontractor)

(Authorized Officer & Title)

(Address)

(Phone) (Fax)

Contractor’s State License # ____________________________

Sworn to before me this _______ day of ______________ ,

____________________

Notary Public
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.
Codes of Conduct

BuildSafeNYC establishes that all BTEA member companies and DOTC 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 chin strap 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-visibility 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 restrooms, 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:

[Signatures and names of representatives]
A LOCAL LAW

To amend the New York city charter, in relation to green building standards for certain capital projects.

Be it enacted by the Council as follows:

Section 1. Statement of findings and purpose. Probably no urban activity has greater impact on human health and the environment than building construction and use. Enormous quantities of resources are used during building construction, renovation and operation, and the production of these resources has substantial environmental impacts. It is estimated that 40% of raw materials consumed globally are used for buildings. In addition, in the United States, commercial and residential buildings are responsible for approximately 65% of electricity consumption, 30% of greenhouse gas emissions, 12% of potable water use and 136 million tons of construction and demolition waste annually. Also, many indoor building materials release hazardous toxins, impairing indoor air quality and reducing occupant health and productivity.

Since most of New York City’s electricity is produced within the City and many buildings use oil or natural gas for their heating and hot water, energy consumption in building operation translates into greater local pollution, including emissions of sulfur dioxide, nitrogen oxides, particulate matter, carbon dioxide, and mercury. These pollutants contribute to respiratory disease, heart disease, smog, acid rain, and climate change. Moreover, as energy demand rises, so does our reliance on dirty, inefficient power plants, as well as the nation’s dependence on foreign oil and natural gas.

Modern architects and engineers can reduce the health and environmental impacts of buildings by designing “high-performance buildings” or “green buildings.” The United States Green Building Council, the nation’s foremost coalition of real estate and environmental organizations working to promote green buildings, has developed a green building rating system known as LEED (Leadership in Energy and Environmental Design). Buildings receive LEED certification if their designs score sufficient “points” in five general design areas including siting, water efficiency, energy and atmosphere, materials and resources and indoor environmental quality. Thousands of residential and commercial buildings, ranging from single-family homes to large corporate headquarters, have been designed and constructed throughout the United States utilizing green building principles. Significant local examples include 4 Times Square and 20 River Terrace. A recent study conducted for the State of California concluded that, on average, green buildings show a ten times return on the investment in green building design. This comprehensive analysis of 33 green buildings revealed an average green cost premium of less than 2%, with only a 0.66% premium for buildings that achieved the most basic level.
of LEED certification.

Numerous municipalities, including Atlanta, Austin, Boston, Boulder, Chicago, Dallas, Los Angeles, Portland (Oregon), San Diego, San Francisco, San José, and Seattle, have adopted LEED or have otherwise required that city-owned buildings be built according to green building criteria. Some localities have created incentive programs for privately-owned green building construction, including the use of direct subsides, density bonuses and expedited permitting. Indeed, Boston will soon require private sector buildings of over 50,000 square feet to be LEED-certifiable.

In New York City, numerous governmental bodies have also embraced green building concepts. The Battery Park City Authority has begun utilizing green building guidelines modeled on LEED for all commercial and residential building construction in Battery Park City. The Department of Design and Construction has also developed High Performance Building Guidelines and has begun applying the guidelines for libraries and other facilities. The New York City Transit Authority has adopted green building guidelines for all new transit facilities, including the Second Avenue Subway. Moreover, the Lower Manhattan Development Corporation and the Port Authority of New York and New Jersey have developed sustainable design guidelines and have designated “environmental planning” as one of five general requirements for the redevelopment of the World Trade Center site and surrounding area.

Likewise, many states, such as California, Connecticut, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, and Rhode Island, have begun utilizing LEED for state-owned buildings. The State of New York provides tax credits for buildings that meet defined green building criteria and, under Executive Order 111, state agencies are directed to reduce energy use and carbon dioxide emissions and to utilize green building principles.

The City owns approximately 1,300 buildings and leases over 12.8 million square feet of office space, and this legislation will affect approximately $12 billion in construction over the City’s ten-year capital plan. Considering the size of the City’s real estate portfolio, the Council finds that the use of green building criteria for City capital projects will substantially reduce New York City’s electricity consumption, air pollution and water use, as well as improve occupant health and worker productivity and encourage market transformation. The Council further finds that reducing overall energy demand through green building techniques will reduce our dependence on foreign oil. Finally, the Council finds that green buildings are a sound investment of public dollars. The Council’s financial analysis indicates that, without taking any other savings or social benefits into account, savings in water and energy cost will offset debt service payments on any increase in capital expenditures resulting from this legislation. Accordingly, the Council declares that it is reasonable and necessary to employ green building standards in the construction and renovation of City-owned and City-funded buildings and that these standards be utilized in an orderly and timely fashion.

§2. The New York city charter is amended by adding a new section 224.1, to read as follows:

§224.1 Green building standards. a. As used in this section the following terms shall have the following meanings:

(1) The term “capital project” shall mean a capital project as defined in section 210 of this chapter that is paid for in whole or in part from the city treasury.

(2) The term “city agency” shall mean a city, county, borough, or other office, position, administration, 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.

(3) The term “construction work” shall mean any work or operations necessary or incidental to the erection, demolition, assembling, alteration, installing, or equipping of any building.

(4) The term “green building standards” shall mean design guidelines, a rating
system or rules for constructing buildings that ensure site planning, water efficiency, energy efficiency and renewable energy, conservation of materials and resources and indoor environmental quality.

(5) The term “inflation” shall mean the annual twelve (12) month average of the consumer price index published by the United States department of labor.

(6) The term “LEED energy and atmosphere credit 1” shall mean the credit point under LEED for New Construction version 2.1 intended to achieve increased energy performance.

(7) The term "LEED green building rating system" shall mean a version of the Leadership in Energy and Environmental Design (LEED) building rating system published by the United States Green Building Council, not less stringent than the selected green building rating system, including a standard developed by or for the city consisting of practices and technologies derived from the LEED rating system that are reasonable and appropriate for building in New York city.

(8) The term “LEED water efficiency credit 3.2” shall mean the credit point under the LEED for New Construction version 2.1 intended to achieve water use reduction.

(9) The term “not less stringent” shall mean providing no less net environmental and health benefits.

(10) The term “rehabilitation work” shall mean any restoration, replacement or repair of any materials, systems and/or components.

(11) The term “selected green building rating system” shall mean the current and most appropriate building rating system published by the United States Green Building Council; provided, however, at the mayor’s discretion, the term “selected green building rating system” shall mean New Construction version 2.1, Existing Buildings version 2 or Commercial Interiors version 2, whichever is most appropriate for the project under United States Green Building Council guidelines.

(12) The term “substantial reconstruction” shall mean a capital project in which the scope of work includes rehabilitation work in at least two of the three major systems, electrical, HVAC (heating, ventilating and air conditioning) and plumbing, of a building and construction work affects at least fifty percent (50%) of the building’s floor area.

b. (1) Each capital project with an estimated construction cost of two million dollars ($2,000,000) or more involving (i) the construction of a new building, (ii) an addition to an existing building, or (iii) the substantial reconstruction of an existing building shall be designed and constructed to comply with green building standards not less stringent than the standards prescribed for buildings designed in accordance with the LEED green building rating system to achieve a LEED silver or higher rating, or, with respect to buildings classified in occupancy groups G or H-2, to achieve a LEED certified or higher rating. If the mayor elects to utilize green building standards other than the LEED green building rating system, the mayor shall publish findings demonstrating that such other green building standards are not less stringent than the LEED standards described above for achievement of a LEED silver or, if applicable, a LEED certified rating. The green building standards utilized by the city in accordance with this section shall be reviewed and updated, as necessary, by the mayor no less often than once every three years.

(2) In addition, if the estimated construction cost of a project required to comply with green building standards in accordance with paragraph one of this subdivision is 12 million dollars ($12,000,000) or more such project shall be designed and constructed to reduce energy cost as follows:

(i) Capital projects, other than buildings classified in occupancy group G, with an estimated construction cost of 12 million dollars ($12,000,000) or more but less than 30 million dollars ($30,000,000) shall be designed and constructed to reduce energy cost by a minimum of twenty percent (20%), as determined by the methodology prescribed in LEED energy and atmosphere credit 1 or the New York state energy conservation code, whichever is more stringent. In addition to such twenty percent (20%) reduction in energy cost, the design agency shall make investments in energy efficiency that reduce energy cost by an additional five percent (5%) if it finds that the payback on such
investment through savings in energy cost would not exceed seven years.

(ii) Capital projects, other than buildings classified in occupancy group G, with an estimated construction cost of 30 million dollars ($30,000,000) or more shall be designed and constructed to reduce energy cost by a minimum of twenty-five percent (25%), as determined by the methodology prescribed in LEED energy and atmosphere credit 1 or the New York state energy conservation code, whichever is more stringent. In addition to such twenty-five percent (25%) reduction in energy cost, the design agency shall make investments in energy efficiency that reduce energy cost by an additional five percent (5%) if it finds that the payback on such investment through savings in energy cost would not exceed seven years.

(iii) Capital projects involving buildings classified in occupancy group G with an estimated construction cost of 12 million dollars ($12,000,000) or more shall be designed and constructed to reduce energy cost by a minimum of twenty percent (20%), as determined by the methodology prescribed in LEED energy and atmosphere credit 1 or the New York state energy conservation code, whichever is more stringent. In addition to such twenty percent (20%) reduction in energy cost, the design agency shall make investments in energy efficiency that reduce energy cost by an additional five percent (5%) if it finds that the payback on such investment through savings in energy cost would not exceed seven years or, in the alternative, the design agency shall make investments in energy efficiency that reduce energy cost by an additional ten percent (10%) if it finds that the payback on such investment through savings in energy cost would not exceed seven years.

c. Capital projects, other than those required to comply with green building standards in accordance with subdivision b of this section, shall be subject to the following:

(1) Each capital project that includes the installation or replacement of a boiler at an estimated construction cost for such installation or replacement of two million dollars ($2,000,000) or more, or that involves the installation or replacement of lighting systems in a building at an estimated construction cost for such installation or replacement of one million dollars ($1,000,000) or more, shall be designed and constructed to reduce energy cost by a minimum of ten percent (10%), as determined by the methodology prescribed in LEED energy and atmosphere credit 1 or the New York state energy conservation code, whichever is more stringent.

(2) Each capital project, other than a project required to comply with paragraph one of this subdivision, that involves the installation or replacement of HVAC comfort controls at an estimated construction cost for such installation or replacement of two million dollars ($2,000,000) or more, shall be designed and constructed to reduce energy cost by a minimum of five percent (5%) as determined by the methodology prescribed in LEED energy and atmosphere credit 1 or the New York state energy conservation code, whichever is more stringent.

d. In addition to complying with any other applicable subdivision in this section, each capital project involving the installation or replacement of plumbing systems that includes the installation or replacement of plumbing fixtures at an estimated construction cost for such installation or replacement of plumbing systems of five hundred thousand dollars ($500,000) or more shall be designed and constructed to reduce potable water consumption in the aggregate by a minimum of thirty percent (30%), as determined by a methodology not less stringent than that prescribed in LEED water efficiency credit 3.2; provided, however, that such percentage shall be reduced to a minimum of 20% if the department of buildings rejects an application for the use of waterless urinals for the project.

e. This section shall apply only to capital projects involving buildings classified in occupancy groups B-1, B-2, C, E, F-1a, F-1b, F-3, F-4, G, H-1 and H-2.

f. The mayor may exempt from each provision of this section capital projects accounting for up to 20% of the capital dollars in each fiscal year subject to such provision if in his or her sole judgment such exemption is necessary in the public interest. At the conclusion of each fiscal year the mayor shall report to the council the
exemptions granted pursuant to this section.
g. This section shall not apply to capital projects of entities that are not city agencies unless fifty percent (50%) or more of the estimated cost of such project is to be paid for out of the city treasury. This exemption shall not apply to any capital project that receives ten million dollars ($10,000,000) or more out of the city treasury.
h. This section shall not apply to capital projects that have received capital dollars from the city treasury before January 1, 2007.
i. The mayor shall promulgate rules to carry out the provisions of this section.
j. The costs listed in subdivisions b, c, d and g of this section shall be indexed to inflation.
k. Capital projects accounting for at least fifty percent (50%) of the capital dollars in each fiscal year allocated for each city agency that are subject to paragraph one of subdivision b of this section that utilize a version of the LEED green building rating system for which the United States Green Building Council will accept applications for certification, shall apply to the United States Green Building Council for certification that such projects have achieved a silver or higher rating under the LEED green building rating system or, with respect to projects involving buildings classified in occupancy groups G or H-2, a certified or higher rating under such rating system.

§3. An annual report shall be prepared no later than September 1 of each year in accordance with the procedure and format established by the department of design and construction. Such report shall include, but shall not be limited to, a list and brief description, including square footage and total cost, of any capital project subject to section 224.1 of the charter, as added by section 2 of this local law, completed during the preceding calendar year; the estimated level of LEED certification such capital projects have achieved as determined by the design agency in accordance with the LEED rating system or, if applicable, the level achieved, as certified by the United States Green Building Council; additional costs attributable to complying with the LEED green building rating system or any other green building standard; an assessment of the health, environmental and energy-related benefits achieved in comparison with a base-case code compliant project (including projected energy savings and reductions in peak load, reductions in emissions, reductions in storm water runoff and potable water use); a summary of agency findings related to additional investment in energy efficiency pursuant to subparagraphs (i), (ii), and (iii) of paragraph two of subdivision b of section 224.1 of the charter, including any additional investment in energy efficiency considered and the estimated payback time for such investment through savings in energy cost; and the total value of capital allocations in each fiscal year, by city agency, of projects subject to, and exempted by the mayor for each of paragraph one and subparagraphs (i), (ii) and (iii) of paragraph two of subdivision b, paragraphs one and two of subdivision c and subdivision d of section 224.1 of the charter, as added by section 2 of this local law, as well as a list and brief description, by agency, of such exempted projects, including square footage and project cost. The first such report shall be completed on or prior to September 1, 2008.

§4. This local law shall take effect on January 1, 2007 and shall apply to capital projects for which the final design is approved pursuant to section 223 of the New York city charter after such effective date, except that prior to such effective date the mayor shall take all actions necessary for the timely implementation of this local law, including the promulgation of rules, and shall take all practicable steps to implement this local law. Section 3 of this local law shall expire and shall be of no further force and effect on and after January 1, 2019. Subdivision k of section 224.1 of the charter, as added by section 2 of this local law, shall expire and shall be of no further force and effect on and after January 1, 2017.

THE CITY OF NEW YORK, OFFICE OF THE CITY CLERK, s.s.:
I hereby certify that the foregoing is a true copy of a local law of the City of New
York, passed by the Council on September 15, 2005, and approved by the Mayor on October 3, 2005.

VICTOR L. ROBLES, City Clerk of the Council

CERTIFICATION PURSUANT TO MUNICIPAL HOME RULE LAW §27
Pursuant to the provisions of Municipal Home Rule Law §27, I hereby certify that the enclosed Local Law (Local Law 86 of 2005, Council Int. No. 324-A) contains the correct text and:

Received the following vote at the meeting of the New York City Council on September 15, 2005: 46 for, 0 against, 0 not voting.

Was signed by the Mayor on October 3, 2005.
Was returned to the City Clerk on October 4, 2005.

EFFREY D. FRIEDLANDER, Acting Corporation Counsel
APPENDIX Q

Performance, Payment, & Bid Bond Forms

(See Following Pages)
NOTICE TO BIDDERS

Please be advised that the City of New York has revised the form of the performance bond that is required for City construction contracts that exceed $5 million. The form of bond required for contracts that do not exceed $5 million has not changed. The City’s payment bond remains unchanged.

The bond form for contracts that do not exceed $5 million has been approved by the U.S. Small Business Administration (“SBA”) for participation in their Bond Guarantee Program. The SBA’s Bond Guarantee Program enables eligible small businesses to obtain or increase bonding by having the SBA act as a partial guarantor of the contractor to the surety. For information concerning the SBA program, including current limits on what size contracts are eligible for participation in the program, go to www.sba.gov/osg. If you are interested in participating in this program, we suggest that you contact your broker or the SBA.

In order to maximize participation by small businesses in the SBA Guarantee Program, the City also encourages prime contractors who are awarded contracts greater than $5 million to allow their subcontractors to use the SBA-approved form, particularly on contracts that are subject to Local Law 129 (the M/WBE program), if the prime contractor requires subcontractors to obtain performance bonds.
PERFORMANCE BOND
(Greater than Five Million)

KNOW ALL PEOPLE 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.

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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.

IN WITNESS WHEREOF, The Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this

_________________________ day of ____________________ 20 __________________.
(Seal)
____________________________ (L.S.)
Principal

By ____________________________________________________________________.
(Seal)

Surety

By ____________________________________________________________________.
(Seal)

Surety

By ____________________________________________________________________.
(Seal)

Surety

432
By ___________________________.

______________________________.

(Signature)

Surety

By ___________________________.

______________________________.

(Signature)

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.
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.

Affix Acknowledgments and justification of Sureties
PERFORMANCE BOND
(Does not exceed Five Million – SBA Approved)
KNOW ALL PEOPLE 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 (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.

IN WITNESS WHEREOF, The Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this

____________________________ day of ______________________________ 20 .
(Seal)

____________________________ (L.S.)
Principal

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 ___________________________; 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.

Affix Acknowledgments and justification of Sureties
PAYMENT BOND

KNOWN ALL MEN BY THESE PRESENTS. That we, ____________________________________________

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

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK,
hereinafter referred to as the "City" or to its successors and assigns in the penal sum of__________

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

WHEREAS, The Principal is about to enter, or has entered, into a Contract in writing with the City for

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or
assigns and other Subcontractors to whom Work under this Contract is sublet and his or their successor 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 of any such Subcontractor,
including all persons so 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 and 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 materialman 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 person as party plaintiff.

(c) The Principal and Surety (Sureties) agree that neither of them will hold the City liable for any judgment for costs or otherwise, obtained by either or both of them against a laborer or materialman in a suit brought by either a laborer or material man 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 any employee or laborer under the Worker'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 any part thereof, 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.
IN WITNESS WHEREOF, the Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this _______day of _________ 20_____.

(Seal)  
Principal

By ________________________________.

(Seal)

Surety

By ________________________________.

(Seal)

Surety

By ________________________________.

(Seal)

Surety

By ________________________________.

(Seal)

Surety

By ________________________________.

(Seal)

Surety

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; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

_____________________________________
Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _________________________ County of _________________________ ss:

On this ______ day of ______ 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; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

_____________________________________
Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF 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 ____________________________ that he/she is the _________________________ of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

_____________________________________
Notary Public or Commissioner of Deeds.

Affix Acknowledgments and justification of Sureties
FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS. that we, ________________________________:

______________________________:

hereinafter referred to as the "PRINCIPAL", and ________________________________:

______________________________:

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

______________________________:

($_________________________ ) Dollars, lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents. WHEREAS, the Principal is about to submit (or has submitted) to the City the accompanying proposal, hereby made a part hereof, to enter into a contract in writing for

______________________________:

______________________________:

______________________________:

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

A. within ten (10) days after notification by the City, execute in triplicate 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, and

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

In the event that the Proposal of the Principal shall be accepted and the Contract be awarded to him the Surety hereunder agrees, subject only to the payment by the Principal of the premium therefore, if requested by the City, to write the aforementioned performance and payment bonds in the 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 a 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 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 extending of the time within which the City may accept the Principal's Proposal, or by any waiver by the City of any of the requirements of the Instructions to Bidders; and the Surety hereby waives notice of any such postponements, extension, or waivers.

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

_______ day of ______________________________________________________________________ 20 ___

(Seal)                                                                                   (L.S.)

_____________________________________    Principal

By _______________________________________

_____________________________________

Surety

(Seal)

By _______________________________________

_____________________________________

Surety
ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of ________________________________________________________________

ss:

County of ____________________________________________________________

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; 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.

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of ________________________________________________________________

ss:

County __________________________________________________________________

On this ___________ day of ___________________ 20 ____________ 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/she
acknowledged to me that the executed the same as and for the act and deed of said firm.

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of ________________________________________________________________

ss:

County of ____________________________________________________________

On this ___________ day of ___________________ 20 ____________ 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/she executed the same.

Affix Acknowledgments and justification of Sureties
APPENDIX R

Technical Specifications for DOHMH

(See Following Pages)
DIVISION 0 – CONTRACTING REQUIREMENTS

00 70 00 General Conditions

DIVISION 1 – GENERAL REQUIREMENTS

01 00 10 General Requirements

DIVISION 2 – EXISTING CONDITIONS

02 82 00 Asbestos Removal
02 41 19 Demolition and Removal of Selected Portions of Buildings and Site Elements

DIVISION 3 – CONCRETE

03 30 00 Cast-in-Place Concrete
03 50 00 Cementitious Topping
03 52 16 Lightweight Insulating Concrete
03 53 00 Concrete Topping

DIVISION 4 – MASONRY

04 01 00 Maintenance of Masonry
04 01 40 Maintenance of Stone Assemblies
04 20 00 Unit Masonry
04 21 13 Brick Masonry
04 43 00 Stone Masonry
04 52 00 Masonry Cleaning

DIVISION 5 – METALS

05 01 70 Maintenance of Decorative Metal
05 50 00 Metal Fabrications
05 52 13 Pipe and Tube Railings
05 53 00 Metal Gratings

DIVISION 6 – WOOD AND PLASTICS

06 10 00 Rough Carpentry
06 20 00 Millwork

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

07 13 53 Elastomeric Sheet Waterproofing
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>07 21 00</td>
<td>Thermal Insulation</td>
</tr>
<tr>
<td>07 51 00</td>
<td>Built-up Roofing Repairs</td>
</tr>
<tr>
<td>07 57 60</td>
<td>Mechanical Room Waterproofing</td>
</tr>
<tr>
<td>07 62 00</td>
<td>Sheet Metal Flashing and Trim</td>
</tr>
<tr>
<td>07 81 00</td>
<td>Applied Fireproofing</td>
</tr>
<tr>
<td>07 81 23</td>
<td>Interior Intumescent Fireproofing</td>
</tr>
<tr>
<td>07 84 13</td>
<td>Penetration Firestopping</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
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</table>

**DIVISION 8 – OPENINGS**

<table>
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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>08 11 13</td>
<td>Hollow Metal Doors and Frames</td>
</tr>
<tr>
<td>08 12 16</td>
<td>Aluminum Frames</td>
</tr>
<tr>
<td>08 14 16</td>
<td>Flush Wood Doors</td>
</tr>
<tr>
<td>08 31 13</td>
<td>Access Doors and Frames</td>
</tr>
<tr>
<td>08 41 13</td>
<td>Aluminum-Framed Entrances and Storefronts</td>
</tr>
<tr>
<td>08 41 26</td>
<td>All-Glass Entrances and Storefronts</td>
</tr>
<tr>
<td>08 71 00</td>
<td>Door Hardware</td>
</tr>
<tr>
<td>08 71 13</td>
<td>Automatic Door Operators</td>
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<tr>
<td>08 80 00</td>
<td>Glazing</td>
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**DIVISION 9 – FINISHES**

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>09 21 16</td>
<td>Gypsum Board Shaft Wall Assemblies</td>
</tr>
<tr>
<td>09 23 00</td>
<td>Gypsum Plastering</td>
</tr>
<tr>
<td>09 26 13</td>
<td>Gypsum Veneer Plastering</td>
</tr>
<tr>
<td>09 29 00</td>
<td>Gypsum Board Assemblies</td>
</tr>
<tr>
<td>09 30 00</td>
<td>Tiling</td>
</tr>
<tr>
<td>09 51 13</td>
<td>Acoustical Panel Ceilings</td>
</tr>
<tr>
<td>09 63 40</td>
<td>Stone Flooring</td>
</tr>
<tr>
<td>09 65 19</td>
<td>Resilient Tile Flooring</td>
</tr>
<tr>
<td>09 68 16</td>
<td>Carpeting</td>
</tr>
<tr>
<td>09 75 00</td>
<td>Stone Facing</td>
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<tr>
<td>09 91 00</td>
<td>Painting</td>
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<tr>
<td>09 91 01</td>
<td>Paint Removal</td>
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</table>

**DIVISION 10 – SPECIALITIES**

<table>
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<th>Code</th>
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<tr>
<td>10 14 00</td>
<td>Signage</td>
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<td>10 21 13</td>
<td>Toilet Compartments</td>
</tr>
<tr>
<td>10 26 00</td>
<td>Wall and Door Protection</td>
</tr>
<tr>
<td>10 28 00</td>
<td>Toilet and Bath Accessories</td>
</tr>
<tr>
<td>10 44 13</td>
<td>Fire Extinguisher Cabinets</td>
</tr>
</tbody>
</table>

**DIVISION 12 – FURNISHINGS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>12 20 00</td>
<td>Window Treatments</td>
</tr>
<tr>
<td>12 21 13</td>
<td>Horizontal Louver Blinds</td>
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</table>
DIVISION 32 – EXTERIOR IMPROVEMENTS

<table>
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<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>32 12 16</td>
<td>Asphalt Paving</td>
</tr>
<tr>
<td>32 13 13</td>
<td>Concrete Paving</td>
</tr>
<tr>
<td>32 92 00</td>
<td>Turf and Grasses</td>
</tr>
<tr>
<td>32 93 00</td>
<td>Plants</td>
</tr>
</tbody>
</table>

[END OF TABLE OF CONTENTS]
ARTICLE 1 - SCOPE AND INTENT

Please refer to Section II: Specifications/Scope of Services of this IFB (starting on page 24).

(A) The term “Work” shall mean all services required to complete the Project in accordance with the Contract Documents including, without limitation, labor, materials, superintendence, management, administration, equipment and other appurtenances, incidental and obtaining of any and all regulatory agency approvals necessary and required to complete the construction work in accordance with the Contract, and shall include both Contract Work and Extra Work.

(B) Any work to be done or materials to be furnished which are not specifically detailed in or are omitted from the Specifications but which are necessary to fulfill the intent of the Contract and ensure the performance of the Work in a complete, appropriate and workmanlike fashion shall nevertheless be deemed included in the Work, and any and all costs and expenses thereof shall be deemed included in the Contractor’s bid unless the Contractor shall have asked for and obtained a decision in writing from the Commissioner before the submission of its bid as to whether such work or materials are included.

(C) Should there be any conflict in or between the Specifications or any other portion of the Contract, the Commissioner’s interpretation thereof shall be determinative and the Contractor shall be deemed to have estimated and bid upon 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 its bid as to what shall govern.

(D) Any interpretation or correction made by the Commissioner pursuant to subsections (C), (D) or (E) above, 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. Each addendum, if any, will be sent by mail or delivered to each person recorded as having received a copy of the contract documents from the Department, and will also be posted at the place where the contract documents are available for the inspection of prospective bidders. Upon such mailing or delivery and posting, such addendum shall become a part of the Contract Documents, and shall be binding on all bidders, whether or not actual notice or receipt of such addendum is shown.

(E) "APPROVED," ETC - "Approved," "acceptable," "satisfactory," and words of similar...
import shall imply that which is approved, acceptable or satisfactory to the Commissioner in her/his sole discretion.

(F) "DIRECTED," "REQUIRED," ETC - The terms "directed," "required," "permitted," "ordered," "designated," "prescribed," "determined," and words of similar import shall imply the direction, requirements, permission, order, designation, prescription and determination of the Commissioner, in her/his sole discretion.

(G) “CONSULTANT”- The following terms shall hereinafter be deemed to be included in the term “Consultant”: Consultant Engineer, Consultant Architect, Construction Manager (other than a DOHMH employee) and/or Consultant Architect/Engineer.

(H) CONFLICTS OF INTERESTS

In relation to Conflicts of Interest, Section 2604 of the Charter of the City of New York provides:

1. No employee or person whose salary is payable in whole or in part from the City treasury (Subdivision c.) shall accept any valuable gift, whether in the form of a service, loan, thing or promise, or any other form from any person, firm or corporation which to his knowledge is interested directly or indirectly, in any manner whatsoever in business dealings with the City; and

2. Any violation of any of the provisions of this section shall at the option of the Commissioner, render forfeit and void the Contract, work, business, sale or transaction affected.

Other sections of the City Charter, the Administrative Code and the Penal Law are applicable in implementing the basic conflicts of interest Section and under certain circumstances penalties may be invoked against the donor as well as the recipient of any form of valuable gift.

Sections of the City Charter, the Administrative Code and the Penal Law referred to herein above shall apply to Contractors performing this Contract with regard to circumstances involving Conflicts of Interest, and shall also apply to subcontractors authorized to perform work, labor and services pursuant to this Contract. It shall be the duty and responsibility of the prime Contractor to inform its respective subcontractors of the statutes’ applicability to said subcontractors.

[NO TEXT ON THIS PAGE]
ARTICLE 2 - PROVISIONS REFERENCED WITH INFORMATION FOR BIDDERS AND AGREEMENT

(A) Pursuant to the several Sections of the "Information for Bidders" and the Articles of the "Agreement" the Contractor shall comply with the requirements and provisions applicable to the various Contracts indicated in Schedule "A".

(B) Applications for Extension of Time, as indicated in the Agreement 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 THE "AGREEMENT".- In order to better ensure 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 following subdivisions numbered 1 to 16 inclusive, unless another 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 triplicate, for payment for materials purchased or to be purchased for which it desires 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 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 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 him. 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 its 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 monies 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 by the City hereunder be subsequently rejected or incorporated in the work in a manner or by a method not in accordance with the Contract and Specifications, the Contractor shall remove and replace such defective or improperly incorporated material with materials complying with the Contract and Specifications. 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 its 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 her/his option, may waive the requirements of paragraph "12" provided the Contractor furnishes evidence in the form of an
affidavit of the Contractor in quadruplicate, and such other proof as the Commissioner may require, that it 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 it has paid in full for all such materials shall preclude him 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 "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 the Agreement; 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 the Agreement, less any sums paid pursuant to paragraph "15" herein.

(D) EXCISE AND TRANSPORTATION TAXES - The Contractor may be exempted from the payment of Federal Excise and Transportation Taxes in accord with the following:

1. Excise Tax Exemption Certificate will be certified by the Department of Mental Health and Hygiene where requested by the Contractor, for items which fall within the scope of the Contract and may be exempt from Federal Excise Tax.

2. TRANSPORTATION TAX - The 3% Federal Tax has been repealed and is hereby deleted from the Contract. The 10% Federal Tax for travel remains in effect.

(E) LABOR - Where labor is used under the Contract, for intermediate skills and for which
no rate is hereinbefore certified, and there is in existence at the time the Contract is entered into a labor agreement between the Contractor and a duly recognized labor union, recognizing the existence of such intermediate skills with an agreement to pay a particular rate for such skills, then the Contractor shall pay not less than the rate, so agreed upon between the Contractor and such labor organization for such skills.

(F) CORRESPONDENCE - A distribution list shall be provided at the kick-off meeting that lists all the parties who will be required to receive a copy of all communications to the Department. The distribution list may be modified throughout the Project. An additional copy of all correspondence shall be sent direct to the Resident Engineer at the Job Site.
ARTICLE 3 - SHOP DRAWINGS, PROPOSALS, COORDINATED / INTEGRATED DRAWINGS, AND RECORD / AS-BUILT DRAWINGS

(A) SHOP DRAWINGS

1. DEFINITION OF SHOP DRAWINGS – The term “Shop Drawings” shall be defined as anything sent to the Consultant for preliminary approval including, but not limited to, catalog cuts, drawings, and samples including physical objects. Final approval shall be provided by the Commissioner.

2. SUBMISSION OF SHOP DRAWINGS - For instructions relative to Shop Drawings involving electrical or mechanical work or equipment of any nature that may be required, called for in any contract, see the "General Electrical Requirements" and “General Mechanical Requirements” of these General Conditions.

3. The Contractor shall promptly prepare and submit layout detail and Shop Drawings of such parts of the Work as are indicated in the Specifications or as required by the Commissioner in her/his sole discretion. 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.

4. SIZE OF DRAWINGS - The Shop Drawings, unless otherwise directed, shall preferably be on sheets of the same size as the Contract Drawings, with a 1/2-inch marginal space on each side and a 2-inch marginal space for binding on the left side.

5. SCOPE OF DRAWINGS. - Shop Drawings shall be numbered consecutively and shall accurately and distinctly represent 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 thicknesses and finishes.
e. All other information required by the Commissioner.

6. TITLES AND REFERENCE - Shop drawings shall be dated and contain:

a. Name of the Project and Contract Number.

b. The descriptive names of equipment, or materials covered by the Drawings, and the classified item number or numbers, if any, under which it is, or they are required.

c. The locations or points 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.

NOTE: In addition to the above requirements, the Shop Drawings shall bear a stamp having the following wording:

FIELD MEASUREMENTS - The Contractor shall certify that it has verified and supplemented the Contract Drawings by taking all required field measurements, that said measurements correctly reflect all field conditions and that this Shop Drawing incorporates said measurements.

7. THE SUBMISSION OF SHOP DRAWINGS shall be accompanied by a letter of transmittal, in triplicate, containing the name of the Project, the name of the Contractor, the number of Drawings, titles and any other requirements. Five (5) copies of the Shop Drawings and letter shall be sent to the Consultant with a copy sent to the Resident Engineer. Re-submission of the same drawings shall bear the original number of the drawings and the original titles.

8. PRELIMINARY SUBMISSION.-The Contractor shall submit one (1) set of Shop Drawings to the Consultant for preliminary approval. A satisfactory Shop Drawing will be stamped "Approved", be dated and one copy thereof will be returned to the Contractor either by hand or by letter. Should the Shop Drawing not be given final approval by the Commissioner, it will return the Shop Drawings with the necessary corrections and changes to be made indicated thereon.
9. **REVISIONS** - The Contractor must make such corrections and changes and again submit one (1) set of drawings, for the approval of the Consultant and the Commissioner. The Contractor shall revise and resubmit the Shop Drawing as required by the Consultant and the Commissioner until approval thereof is obtained. However, Shop Drawings which have been stamped "Approved As Noted" shall be considered an "Approved" Shop Drawing and NEED NOT be revised and resubmitted provided, however, that the Contractor shall comply with the noted changes.

No work called for by the Shop Drawings shall be done until approval of the said drawings by the Consultant and the Commissioner. In addition to the foregoing Shop Drawing transmissions, a copy of any Shop Drawing prepared by the Contractor which Shop Drawing indicated work related to, adjacent to, impinging upon, or affecting work to be done by other contractors or subcontractor(s) shall be transmitted to the contractors or subcontractor(s) so affected.

10. **FINAL SUBMISSION** - When approval of any Shop Drawing is obtained by the Contractor, it shall insert the date of the approval of the tracing and promptly furnish the Consultant with eight (8) additional prints of the approved drawings. No work called for by the Shop Drawings shall be done until the approval of the said drawings is given. After providing his preliminary approval and receiving the Commissioner’s final approval, the Consultant shall deliver two (2) copies of the Shop Drawing to the DOHMH Construction Manager (“CM”), one copy to the site office, and a sufficient number of copies to the Resident Engineer so that the Resident Engineer can thereafter distribute the Shop Drawing to the affected contractors at the job meetings and shall be so recorded in the minutes. Each and every page of the approved Shop Drawings shall be dated, stamped, and signed.

11. **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 and shall highlight area(s) of such variation(s) on the drawings. Approval of the Shop Drawings shall constitute approval of the subject matter thereof only.

12. **CATALOG CUTS** - Except as otherwise prescribed herein, the submission of catalog cuts shall conform to the procedures specified for Shop Drawings.

   a. **PRELIMINARY SUBMISSION** - The Contractor shall submit four (4) sets of catalog cuts to the Consultant for his and the Commissioner’s approval. A
satisfactory catalog cut will be stamped "Approved", be dated and one copy thereof will be returned to the Contractor by letter. Should the catalog cut not be approved by the Commissioner, she/he will return one set of such catalog cuts with the necessary corrections and changes to be made indicated thereon.

b. REVISIONS - The Contractor shall make such corrections and changes and again submit four (4) sets of the catalog cuts, in duplicate, for the approval of the Commissioner. The Contractor shall revise and resubmit the catalog cuts as required by the Consultant and/or Commissioner until approval thereof is obtained.

However, catalog cuts which have been stamped "Approved As Noted" shall be considered an "Approved" catalog cut and need not be revised and resubmitted.

c. FINAL SUBMISSION - Once approval of any catalog cut is provided, the Consultant shall deliver two (2) copies of the catalog cut to the CM, one copy to the site office, and a sufficient number of copies to the Resident Engineer so that the Resident Engineer can thereafter distribute the catalog cut to the affected contractors at the job meetings and shall be so recorded in the minutes.

RESPONSIBILITY OF 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 or any portion(s) thereof shall not be construed or interpreted as approving departures from the Contract Drawings, Supplementary Drawings or Specifications. If the Contractor wishes to deviate from the Contract Drawings, Supplementary Drawings or Specifications, the Contractor must submit a separate written request which fully explains the basis for the request and the cost implications thereof to the Consultant and the Commissioner, and both the Consultant and the Commissioner must approve such request in writing.

SHOP DRAWING SCHEDULE - (See the instructions for completing the Shop Drawings Log/Schedule at the end of these General Conditions).

PROCEDURE FOR PREPARING, FORWARDING, CHECKING AND RETURN of all Shop Drawings shall be, generally, as follows:
The Contractor shall make available to its subcontractors the necessary Contract Documents and have them determine dimensions and conditions in the field, particularly with reference to coordination with other trades or work under other contracts. It shall direct its subcontractors to prepare Shop Drawings for submission to the Consultant in accordance with the requirements of these "General Conditions". It shall also direct its subcontractors to "Circle" corrections made on all re-submissions for approval, so as to be readily seen.

The Contractor shall:

a. Review and be responsible to the Commissioner, or her/his authorized representative, for all information shown on all shop and installation drawings and also for conformity to contract documents.

b. "Circle" all corrections made on all submissions for approval, so as to be readily seen.

c. Clearly designate which trade is to perform the work when the use of "work by others", or other similar phrases, are indicated on the drawings before submission to the Consultant.

d. In order to expedite Shop Drawing procedures, the Contractor shall write a Shop Drawing status letter directly to the Consultant, each week, containing the following subject matter:

(1) A list of all Shop Drawings which have been sent to but not returned by the Architect or Engineer giving name of the subcontractor, drawing number, title and date of submission.

(2) An indication of the desired priority of the return, if necessary.

NOTE: The status letter shall be prepared and sent at a given time each week, preferably Friday afternoon, to enable the Consultant to receive the letter on Monday morning. This procedure shall be maintained throughout the active Shop Drawing period of construction.

e. The Consultant shall review the shop drawing status log at each job meeting.
(B) COMPETITIVE BID PROCEDURES and CHANGE ORDERS

Please refer to IFB Section II. B. for procedures related to the Contractor’s purchase of goods and services pursuant to this contract.


   a. DOHMH Change Order Proposal: If the Commissioner shall advise the Contractor that Extra Work is required, the Contractor shall submit its responsive cost proposal with all supporting documentation to the Commissioner within two (2) weeks or such shorter period as determined by the Commissioner in her/his sole discretion. If additional documentation is deemed necessary by the Commissioner, the Contractor shall provide any and all additional documentation including but not limited to catalog cuts and any other submittals required by the Commissioner in her/his sole discretion within two weeks of submission of the original proposal or such shorter time as determined by the Commissioner in her/his sole discretion.

   b. Contractor Change Order Proposal: If Contractor makes a request for Extra Work, the Contractor shall provide its change order proposal with all supporting documentation within two (2) weeks of the Commissioner’s request for such proposal or such shorter period as determined by the Commissioner in her/his sole discretion. If additional documentation is deemed necessary by the Commissioner, the Contractor shall provide any and all additional documentation including but not limited to catalog cuts and any other submittals required by the Commissioner in her/his sole discretion within two weeks of submission of the original proposal or such shorter time as determined by the Commissioner in her/his sole discretion.

(C) COORDINATED / INTEGRATED DRAWINGS

1. The Prime Contractor or the General Contractor, as the case may be, shall be held strictly accountable for providing the City with the Coordinated/Integrated Drawings (hereinafter the term “Coordinated Drawing(s)” shall refer to both Coordinated Drawing(s) and Integrated Drawing(s)) The Prime Contractor shall ensure cooperation by and between any and all subcontractors on the Project as may be required to prepare the Coordinated Drawings. Any references below to a “subcontractor” shall be deemed to include a “contractor” in that trade or trades and vice versa. At a minimum or as directed by the Commissioner in her/his sole discretion, the Coordinated Drawings shall contain the following:

   a. The general contractor shall layout in its drawing or drawings the reflected ceiling plan, beam soffit elevations, ceiling heights, roof openings, etc. In
addition, the general contractor shall provide to the
H.V.A.C. subcontractor reflected ceiling starting points or plans, beam soffit
elevations, ceiling heights, roof openings etc.

b. The H.V.A.C. subcontractor shall prepare a drawing or drawings showing
duct work, heating and sprinkler piping. This drawing shall include location
of grilles, registers, etc. and access door in hung ceilings. Locations shall
be fixed by elevations and dimensions from column center lines and/or walls.

2. The Resident Engineer and Consultant shall call as many meetings with the
Contractors / Subcontractor(s) as are necessary to resolve any conflicts or apparent
conflicts. The Contractors / Subcontractor(s) shall attend all such meetings, as well
as any other job meetings called by the Resident Engineer and Consultant, and any
costs and expenses that may be attributable to attending such meetings shall be
deemed included in their bids. The Resident Engineer and Consultant will call on the
services of any other party that they deem necessary to resolve such conflicts or
apparent conflicts. The Prime Contractor is responsible for the coordination of
the drawings or drawing.

(D) RECORD / AS- BUILT DRAWINGS

1. At the start of construction (kick-off meeting), DOHMH will furnish to each
Contractor a complete set of reproducible Contract document and CAD files
pertaining to the work to be performed under its Contract. It is the responsibility of
the Contractor to modify the drawings to indicate all changes and corrections, if any,
occuring in the work as actually installed. The Contractor shall furnish to
DOHMH a Compact Disc (CD) which contains Record / As-Built Drawings
(hereinafter “Record Drawing(s)” shall refer to both Record Drawing(s) and As-
Built Drawing(s)) in the most current AutoCAD format or as otherwise specified.

2. The Contractor's attention is particularly directed to the necessity of keeping accurate
records of all subsurface and concealed work, so that the Record Drawings may
contain this information in exact detail and location. Drawings should also show all
connections, valves, gates, switches, cut-outs and similar operating equipment.

Before substantial completion payment, the Contractor shall furnish to the Commissioner, one (1)
complete set of "Mylar" Record Drawings and a compact disc containing the AutoCad drawing
files for the Record Drawings. The “Mylars” and associated AutoCad files shall indicate all the work
and locations as actually installed. The Contractor shall also provide one (1) set of paper prints which will be furnished to DOHMH.

3. Record Drawings shall be of the same size as that of the Contract Drawings, with a 1/2-inch marginal space on three sides and a 2-inch marginal space on the left side.

4. Each Record Drawing shall bear the legend "RECORD DRAWING" in heavy block lettering, 1/2-inch high and contain the following data:

RECORD DRAWING

Contractor's Name..............................
Contractor's Address..............................
Made by................................. Date........
Checked by............................... Date........
Commissioner's Representative

7. RECORD DRAWING TITLE SHEET - Each Contractor shall prepare a title sheet, same size as Record Drawings and contain the following:

a. Heading:
The City of New York
Department of Mental Health and Hygiene

b. Capital Budget Project No.

c. Name of the Project and Location and Occupant Agency

d. Contractor's Name

e. Record of changes (A Caption description of work affected, and the date and No. of Change Order or other authorization).

f. List of Record Drawings.
8. All changes from the Contract Drawings contained in the Record Drawings shall be conspicuously encircled and identified by change order number correlating to changes listed on "Title Sheet." The Contractor shall show within the encircled areas the work as actually installed.

9. BULLETINS, OPERATING AND SERVICE MANUALS - Where the Contractor has submitted prints in the form of technical bulletins, operating and Service manuals, or other printed matter as a Shop Drawing, having diagrams or drawings thereon of a material or equipment installed in the work, it shall furnish three (3) sets thereof so that the Commissioner may have all the necessary information for the proper operation maintenance and repair of the material and equipment and the ordering of spare parts. All bulletins and operating and service manuals shall be compiled and indexed in the book form for the contract.

10. The Contractor shall review the Record Drawings with the Resident Engineer on a weekly basis.

11. In her/his sole discretion, the Commissioner shall have the right not to issue a Substantial Completion and/or a Final Completion certificate unless and until the Contractor has provided all required Record Drawings and other submissions and has closed out all permits that are the Contractor’s responsibility under the Contract or any Work Order.

12. Record Drawings shall not be required for Work Order performed pursuant to a requirements contract unless specified, in writing, by the Commissioner in such Work Order in her/his sole discretion. If the Commissioner does require Record Drawings for a Work Order, the Contractor shall submit a proposal in accordance herewith, the reasonable cost of which shall be determined by the Commissioner and shall be paid as part of the Work Order.

[NO FURTHER TEXT ON THIS PAGE]
ARTICLE 4 - 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 Administrative Code and Charter of the City of New York.

(B) APPROVAL OF MANUFACTURER - The names of proposed manufacturers, materialmen, 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 investigation and checking.

(C) ALL MATERIALS, fixtures, fittings, supplies and equipment furnished under the Contract shall be new and unused, except as approved by the Agency, and of standard first-grade quality and of the best workmanship and design. The City of New York encourages the use of recycled products where practical.

(D) INFORMATION TO SUPPLIERS - In asking for prices on materials under any item of the Contract, the Contractor shall provide the manufacturer or dealer with such complete information from the Specifications and Drawings as may in any case be necessary, and in every case it shall inform the manufacturer or dealer of all the general conditions and requirements herein contained.

(E) STANDARD REFERENCES - Whenever reference is made to the furnishing of materials or testing thereof to conform to the standards of any technical society, organization or body, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the date of advertisement for bids, even though reference has been made to an earlier standard.

(F) Reference to a technical society, organization or body may be made in the specifications by abbreviations in accordance with the following list:

A.I.A. for American Institute of Architects
A.C.I. for American Concrete Institute
A.G.A. for American Gas Association
A.G.M.A. for American Gear Manufacturer Association
A.I.E.E. for American Institute of Electrical Engineers
A.I.S.C. for American Institute of Steel Construction
A.M.C.A. for Air Moving & Conditioning Association
A.R.I. for Air-Conditioning and Refrigeration Institute
A.S.A. for American Standards Association
A.S.H.R.A.E. for American Society of Heating, Refrigerating, and Air-Conditioning Engineers
A.S.M.E. for American Society of Mechanical Engineers
A.S.T.M. for American Society for Testing Materials
A.W.S.C. for American Welding Society Code
A.W.W.A. for American Water Works Association
B.S.& A. for New York City Board of Standards & Appeals
C.I.P.R.A. for Cast Iron Pipe Research Association
C.T.I. for Cooling Technology Institute
FED. SPEC. for Federal Specification
I.B.R. for Institute of Boiler and Radiator Manufacturers
I.P.C.E.A. for Insulated Power Cable Engineer's Association
M.E.A. Material Equipment Acceptance
NAVY SPEC. for Navy Department Specification
N.E.C. for National Electric Code with NYC latest amendments
N.E.M.A. for National Electrical Manufacturers Association
N.F.P.A. for National Fire Protection Association
N.Y.B.C. for New York City Building Code
N.Y.C. D.O.B. for New York City Department of Buildings
P.P.S. for Power Piping Society
S.A.E. for Society of Automotive Engineers Standards
S.H.B.I. for Steel Heating Boiler Institute
S.M.A.C.N.A. for Sheet Metal & Air Conditioning Contractors National Association
U.L. Underwriters’ Laboratories

(G) 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.

(H) SAMPLES OF MATERIALS -The Contractor shall submit to the Commissioner for approval, samples of all materials specified to be used in the project.
1. For samples of materials involving electrical work of any nature, see the "General Electrical Requirements."

2. Samples shall be provided in the proper amount as specified in the Contract, of sufficient size to show the quality, type, range of color, finish and texture of the material. However, in addition thereto, after approval, three (3) additional samples showing the material, color and texture of all interior finishes, including the finishes of exposed built-in equipment, trim, glazing, fittings and fixtures, etc., shall also be furnished. The sizes of these additional samples shall be as directed and acceptable to the Commissioner but shall not be less than that specified in the Contract documents.

3. Each of the samples shall be labeled, bearing the name and quality of the material, the Contractor's name, date, Contract and project, and the related specification or drawing reference to the samples submitted.

4. A letter of transmittal, in triplicate, from the Contractor requesting approval must accompany all such samples.

5. Transportation charges to the Commissioner's office must be prepaid on all samples forwarded.

6. Samples for testing purposes shall be in accordance with the requirements of the Specifications.

7. All samples shall be provided at no additional cost to DOHMH.

(I) 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 approval is received in writing from the Consultant and the Commissioner. All materials shall be furnished equal in every respect to the approved samples.

(J) THE APPROVAL 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 Commissioner, in his/her sole discretion, it is done with the distinct understanding that the materials to be furnished will fully and completely comply with the Specifications, which such determination 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 previously submitted to the Commissioner for the Project.

(K) EQUIVALENT QUALITY OF MATERIALS - All materials and equipment which are designated in the Specifications by a number in the catalog of any manufacturer or by a manufacturer's grade or trade name, are designated for the purpose of describing the article and fixing the standard or the quality and finish. Materials and equipment which are, in the sole discretion of the Commissioner, the equivalent to that specified, will be acceptable.

(L) The submission of any material, or article, as the equal of the materials or articles set forth
in the Specifications as a standard shall be accompanied by illustrations, drawings, descriptions, catalogs, records of tests, samples and any and all other information essential for judging the equality to the materials, finish and durability of that specified as standard, as well as information indicating satisfactory use under similar operating conditions.

(M) Where the specifications provide that the manufacturer’s directions are to be used, such printed directions shall be submitted to the Commissioner.

(N) COMMISSIONER TO SELECT INSPECTORS - Except as specifically provided in the Specifications, the Commissioner reserves the right, in his/her discretion, to select and designate all persons, firms, or corporations to make or witness each and every inspection, test or analyses, with or without reports.

(O) 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 she/he will notify the Contractor that the inspection will be made at a point other than the point of manufacture, or she/he will notify the Contractor that inspection will be waived.

(P) NO SHIPPING BEFORE INSPECTION - The Contractor shall comply with the foregoing before shipping any material.

(Q) CERTIFICATE OF MANUFACTURE - When the Commissioner so requires, the Contractor shall furnish to him 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.

(R) 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.

(S) 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.

(T) REPORTS - Six (6) copies of the reports shall be submitted and authoritative certification thereof must be furnished to the Commissioner as prerequisite for the
acceptance of any material or equipment. REJECTIONS - If, 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 it 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 without cost to the City.

(U) The Contractor shall not supply any material or equipment to the Project as the equivalent of the material or equipment specifically named in the Specifications, without the prior written approval of the Commissioner. Barring the receipt of said written approval, the Contractor shall immediately proceed to furnish the designated material or equipment designated in the Specifications.

(V) COST OF TESTS BORNE BY CITY - Where the City conducts tests 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. However, if the result of any such test indicates that the Contractor failed to comply with the Specifications, the Contractor will bear the cost of such test as well as any subsequent tests to confirm compliance with the Specifications.

(W) COST OF TESTS BORNE BY CONTRACTOR - Where tests are specifically called for in the specifications to be made by the Contractor, the cost thereof shall be borne by the Contractor and shall be deemed to be included in the Contract price. The expenses of the testing personnel assigned by the City shall not be the Contractor's obligation. The Contractor shall reimburse the City for expenditures incurred in the making of tests on materials and equipment submitted by the Contractor as the equivalent of that specifically named in the specifications and rejected for non-compliance.
ARTICLE 5- DELIVERY OF MATERIALS

(A) 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 speedy and uninterrupted progress of the work so as to complete the work within the Contract time.

(C) Manufacturers containers shall be delivered with unbroken seals and shall bear proper labels.

(D) THE CONTRACTOR SHALL COORDINATE DELIVERIES in order to avoid delay in, or impeding the progress of the work of any related contractor.

(E) 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.

(F) OVERLOADING - If authority is given to store materials in any part of the building area, they shall be so stored as to cause no overloading.

(G) 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 other contractor, the Contractor shall remove and restack such materials at no additional cost to the City.

[NO FURTHER TEXT ON THIS PAGE]
ARTICLE 6 - TEMPORARY STRUCTURES / STORAGE

(A) FIELD OFFICE FOR CONTRACTOR - The Contractor shall establish a temporary field office for its own use at the site, where 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 REPRESENTATIVES - Responsible and competent representatives of the Contractor, duly authorized to receive orders and directions and to put them into effect, shall be in charge of the office.

(D) TELEPHONE ARRANGEMENTS - Arrangements shall be made by the Contractor to have its representative readily accessible by telephone.

(E) 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. Furthermore, the materials sheds must meet the following requirements:
   (1) The material shed must comply with all applicable codes, rules and regulations including but not limited to the Department of Buildings’ (“DOB”) Building Code and FDNY Code;
   (2) The material shed must be installed at no additional cost or expense to the City, and shall be removed at the completion of the Contract or Work Order, as the case may be, at no additional cost or expense to the City;
   (3) The material sheds shall be made of a fencing material that allows visibility into the shed such as a chain link fence;
   (4) The City must have access to the material shed at all times; and
   (5) The Contractor shall not erect a material shed without the prior approval of the Commissioner.

(F) SUBSTANTIAL CONSTRUCTION - All temporary structures shall be of substantial construction and neat appearance, and shall be painted a uniform gray unless otherwise directed by the Commissioner.

(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.

(H) CONTRACTOR’S SIGN - Contractor shall post and keep posted, on the outside of its field office, office or exterior fence or wall at the site of work, whichever is applicable, a legible sign giving the 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 twenty-four (24) hours a day, seven (7) days a week, three hundred and sixty-five days (365) a year.
ARTICLE 7 - SURVEYS

(A) LINE AND GRADE - The City will establish or agree to or approve 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) 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 him on the work, shall re-establish same if disturbed, and shall bear the entire expense of rectifying any work improperly installed due to a failure to maintain and/or protect or remove such established points, stakes, or marks without authorization.

(D) CITY MONUMENTS AND MARKS - No work shall be performed near City monuments or marks until the said monuments or marks have been referenced or reset or otherwise disposed of by the 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. The 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 brick or stone, as the case may be, have been laid, 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 shall be a licensed surveyor and shall be subject to the approval of the Commissioner. He shall not be a regular employee of the Contractor, nor shall he have any interest in the Contract. He shall not be employed by the Contractor in laying out any work, the being intended that the surveyor's certification shall represent an independent and disinterested verification of such layout. He shall report to the Department'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 provide to the Department of Mental Health and Hygiene (DOHMH) 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.

(J) The Contractor shall obtain the services of a licensed professional surveyor as set forth in section (G) above for surveying requirements mentioned under the Specifications or Drawings at no additional expense to the City.

ARTICLE 8 - CONTRACTOR'S SUPERINTENDENT

(A) The Contractor shall devote its time and personal attention to the work, and shall employ and retain at the building (buildings) from the commencement until the entire completion of the work, a Contractor’s Superintendent, fluent in spoken and written English, who is fully competent and capable of maintaining proper supervision and care of the work and is acceptable to the Commissioner in the Commissioner’s sole discretion. Furthermore, in her/his sole discretion, the Commissioner may require the Contractor’s Superintendent to be present at each Project during all working hours. In the absence of the Contractor, and irrespective of any superintendent or foreman employed by any subcontractor, the Contractor’s Superintendent shall ensure that the instructions of the Commissioner are carried out in an expeditious and appropriate fashion.

(B) Furthermore, it shall be the responsibility of the Contractor to ensure that each Subcontractor and/or trade provides a superintendent who shall meet the requirements set forth in (A) above.

(C) Once approved by the Commissioner, the Contractor's Superintendent on the job shall not be changed or removed without the consent of the Commissioner.

[NO FURTHER TEXT ON THIS PAGE]
ARTICLE 9 - PERMITS

(A) The Contractor shall make the necessary arrangements for, and obtain all permits required for its work including but not limited to off-hour work permits, including paying the costs and expenses thereof including but not limited to all expediting fees, except where the Contract may provide otherwise. All permits shall be closed out in accordance with the requirements of the agency issuing the permit or any other government agency having jurisdiction.

(B) All excess material excavated by the Contractor becomes the Contractor’s property and is to be properly disposed of at the Contractor’s sole cost and expense.

ARTICLE 10- TRANSPORTATION

(A) It shall be the duty of the Contractor to determine for itself 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) If transportation facilities and dockage are available and their use is permitted by the governmental agency having jurisdiction over them, the Contractor shall pay all necessary costs and expenses, and abide by all rules and regulations promulgated in connection therewith.

(C) The Contractor shall comply with any and all applicable laws, rules, and regulations that relate to the use of vehicles on highways and bridges.

(D) It is understood that the Commissioner makes no warranty as to the continued use by the Contractor of such transportation facilities and dockage.

ARTICLE 11 - CUTTING AND PATCHING

(A) The Contractor shall do all cutting, patching and restoration required by its work, unless otherwise particularly specified in the detailed specifications of its Contract.

(B) At its own cost and expense, the Contractor and each Subcontractor shall restore the work of other contractors or subcontractor damaged by its work.

(C) All restoration work shall be done to the satisfaction of the Commissioner, by
competent workmen skilled in the trade required by such restoration. If, in the judgment of the Commissioner, workmen engaged in restoration work are incompetent, they shall be replaced immediately by competent workmen.

**ARTICLE 12 - TEMPORARY HEAT**

(A) The Contractor shall be responsible for providing temporary heat as required by the specifications for such disciplines as concrete, brickwork, plastering, painting, floor tiles, etc. by applying methods in compliance with all applicable laws, rules and regulations. On a lump sum contract, the cost thereof shall be deemed included in the Contractor’s bid price. If temporary heat is required on a Work Order issued under a requirements contract, it shall be deemed Extra Work and shall be paid in accordance with Article 26 of the Contract.

(B) The Contractor shall so coordinate its operations as to insure sufficient and timely performance of the work under the Contract. The Contractor shall supply and pay for all water, required and used in the building for the operation of the heating system for the purpose of temporary heat up to the time the building is completed and ready for occupancy, and the cost thereof shall be included in its bid price. During the period in which temporary heat in the enclosed building is being furnished and maintained by the Contractor, the Contractor in order to provide proper ventilating and drying, shall open and close the windows and other openings as and when necessary for the proper execution of the work and also, as and when directed by the Resident Engineer. The Contractor shall maintain all permanent or temporary enclosures at its own expense.

(C) The Contract price shall be deemed to include the cost of all heating, fuel, maintenance and labor required for the operation of a temporary heating system for the entire building or any or all portions thereof as are affected by the Work. Any and all references to the “enclosed building” in this Article shall relate solely to calculating the timeframe in which the Contractor must provide temporary heat to a previously unenclosed portion of the building, a newly constructed portion of the building and/or any and all portions of the entire building as are affected by the Work.

(D) REQUIRED TEMPERATURE - The Contractor shall maintain such temperature as the Commissioner deems necessary, in her/his sole discretion, but in no case shall the temperature within the building at any time fall below the minimum temperature allowed by any and all applicable laws, rules, and regulations throughout the seasons when temporary heat is being supplied. Every precaution shall be taken to maintain a reasonably uniform temperature.

(E) Heating maintenance labor required for the operation of the temporary heating system is understood to be labor performed by that minimum force required for the safe day to day operation of the system.
(F) The Contractor shall make provisions in its bid price to provide and maintain Temporary Heat for as many Heating Seasons as required by the Contract Term Duration given in Schedule "A" or in any Work Order in accordance with the schedule below. If Temporary Heat is not started or provided during the specified Contract period the Contractor is required to start or continue to provide Temporary Heat for a similar period of Time that was intended to be provided under the Contract at no extra cost to the City. Temporary Heat shall be provided for the enclosed building up to the time as directed by the Commissioner.

Full Heat Season vs Contract Duration

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<thead>
<tr>
<th>Contract Duration</th>
<th>Full Heating Seasons Required up</th>
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<tbody>
<tr>
<td>to 360 ccd</td>
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<tr>
<td>360 to 720 ccd</td>
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<td>720 above</td>
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(G) Fuel required for temporary heat purposes will be supplied by the Contractor at no cost or expense to the City.

(H) The building shall be considered enclosed when it has reached the stage when all exterior masonry has been erected, when the roof has been substantially completed, all exterior openings closed up either by permanently glazed windows and doors, or be adequate and approved temporary closings, as determined by the Commissioner.

(I) RADIATORS AND PIPING - The Contractor shall promptly furnish and set all equipment and all required convector and/or radiators, piping, valves, fittings, etc., in ample time for their use for temporary heat. The Contractor shall maintain the heating system in operating condition at all times during the temporary heating periods. The radiators shall be placed as directed, suitably supported and located, including any necessary connecting and disconnecting, so as to permit of wall plastering, painting and other finish work. The installation of the heating system for temporary heat and the placing of radiators shall be so coordinated as to insure sufficient and timely performance of the work. The cost of any auxiliary temporary piping, plug or cross connections needed for the proper and efficient operation of the temporary heating system shall be included by the Contractor in its Base Bid.

(J) USE OF PERMANENT EQUIPMENT - Such portions of the permanent heating equipment as are used for furnishing temporary heat, either during the construction or prior to the taking over by the City of the complete heating system, shall be left in a perfect condition when turned over to the City for operation. Any repairs required other than for ordinary wear and tear on the equipment, shall be made at the Contractor's expense.
(K) HEAT MAINTENANCE - In the event that the temporary heat maintenance extends beyond Contract time, through no fault of the Contractor, the additional costs of maintaining such temporary heat shall be considered Extra Work and shall be paid in accordance with the provisions of Article 26 of the Contract.

(L) The Contractor shall furnish temporary heat, by providing and maintaining any permanent or temporary electric connections to all pumps and other equipment specified to be connected as part of the work of its Contract. This shall be done promptly when required and by supplying and paying for all electric current required and used in the building for the operation of the heating system for temporary heat. The cost of such connections and current shall be included in its Base Bid.

(M) PROTECTION OF WORK PRIOR TO TEMPORARY HEATING - Before the period in which temporary heat is required to be furnished, the Contractor shall be responsible for and shall take all measures to protect its work from the harmful effects of low temperatures and to insure uninterrupted progress of its work.

Prior to the temporary heating system being placed, the means or methods used by the Contractor, shall be such as (1) not to cause the deposition of dirt or smudge upon any finished work or any defacement or discoloration and (2) not be injurious or harmful to workmen or mechanics. The Contractor shall secure at least the temperature required in the sections of the Specifications for the various classes of work of its contract.

[NO FURTHER TEXT ON THIS PAGE]
ARTICLE 13 - SCAFFOLDING AND LADDERS

(A) The Contractor shall furnish and securely set scaffolding required for its work and any cost or expense thereof shall be deemed included in the bid price.

(B) ALL SCAFFOLDING shall be made of good, sound materials, of adequate dimensions for its intended use and substantially braced and tied to ensure absolute safety for those required to use it.

(C) LADDERS AND STAIRS – If required by the Work, 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 building.

(D) ACCESS – If required by the Work, 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 all parts of the building.

ARTICLE 14 - HOISTS AND HOISTWAYS

(A) The Contractor shall provide adequate numbers of material hoists for the most expeditious performance of all parts of its work and any cost or expense thereof shall be deemed included in the bid price.

(B) LOCATIONS - No hoists shall be constructed at such locations as will interfere with or affect the Work of this Contract. They may be located at the exterior sides of the structure or in the courtyard and extend upward adjacent to the line of window openings. They shall be located a sufficient distance from the exterior walls and be so protected as to prevent damage, staining or marring any permanent work.

(C) ELEVATOR SHAFT - Wherever possible, certain of the permanent elevator shafts may be used as temporary hoistways providing such use meets with the approval of the Commissioner, and providing further it entails no interference with the progress of the work of any Contractor.

(D) PROTECTION FOR INTERIOR HOISTS - All interior material hoistways shall be enclosed on each floor and shall be adequately protected with substantial guards. In no event shall the protection be less than that required by law.
ARTICLE 15 - CERTIFICATES OF APPROVAL

(A) At its own cost and expense, the Contractor shall be responsible for and shall obtain all final approvals and/or certificates of completion for the work installed under the Contract, in the form of such certificates that are required by all City Agencies having jurisdiction over the work of the Contract.

(B) All such certificates shall be forwarded to the Commissioner through the Resident Engineer before final acceptance of the work of the Contract.

ARTICLE 16 - ACCEPTANCE TESTS

(A) GOVERNMENTAL AGENCIES - All equipment and appliances furnished and installations made 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 all governmental agencies having jurisdiction.

(B) NOTICE OF TEST - 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 AND ETC. FOR TESTS - The City will furnish energy, fuel, water, and light.

(D) The Contractor shall furnish labor and all other materials and instruments necessary to conduct the acceptance tests at no additional cost to the City.

(E) CERTIFICATES - The granting of Substantial Completion or Final Acceptance by the Commissioner, in her/his sole discretion, shall be contingent upon the Contractor delivering to the Commissioner all necessary certificates evidencing compliance in every respect with the requirements of the agencies having jurisdiction.

(F) If the results of tests and controlled inspections indicate that the materials or procedures do not meet the requirements as set forth on the drawings or in the specifications or are otherwise unsatisfactory, the Contractor shall only proceed as directed by the Resident Engineer. Any and all costs resulting from retesting, replacing of materials and/or damage to the work of other trades and any delay caused to the schedule shall be borne by the Contractor, as shall any and all costs of complying with such requirements.
ARTICLE 17 - PROGRESS PHOTOGRAPHS

(A) The Contractor shall employ and pay for the services of a competent photographer who shall take photographs showing the progress of the work.

(B) There shall be a minimum of five (5) 8x10 photographs taken each month from the commencement of the Contract to the time of completion. These photographs shall show as far as possible, the work completed within and on the exterior, of the structure. The first series of photographs shall be taken prior to the actual commencement of work at the site. In addition thereto, as part of the submission of a requisition for Substantial Completion and/or Final Acceptance, the Contractor shall submit five (5) photographs taken of unobstructed views of the completed Project, as directed by the Commissioner, after all scaffolding, hoists, shanties, field offices or other temporary work has been removed and final cleaning done. For demolition work included in the Contract there shall be five (5) photographs taken before commencement of demolition operation, five (5) at mid-point of operations and five (5) at the completion of demolition operations.

(C) All required photographs shall be provided in a computer-readable digital format as determined by the Commissioner. The Commissioner at her/his sole discretion may also request tangible, physical photographs to be provided as well. Said photographs shall be 8" x 10" gloss finish, mounted with a 1" binding flap of muslin on the left side. They shall be marked on the back, with date of exposure, the title of the project and the specific location. Five (5) copies of each photograph shall be furnished free of charge to this Department, as shall all digital photographs. Photographs shall be taken as ordered by the Commissioner.

ARTICLE 18 - JOB MEETINGS

(A) Meetings shall be held as scheduled by the Resident Engineer in his office at the site, at which time the Contractor and any subcontractor(s) shall have their representatives present to discuss all details relative to the execution of the work. Attendance by the Contractor and all subcontractors at any and all Job Meetings shall be deemed included in the bid price.

(B) The Contractor shall provide ample tables and chairs to accommodate all present at the meetings, and table space for drawings.

(C) The Resident Engineer shall preside over these meetings and the Consultant shall record the minutes thereof. Prior to each meeting the Resident Engineer will consult with the Contractor(s), and will prepare an agenda of items to be discussed. In general, after informal discussion of any item on the agenda, the Consultant will summarize the
discussion in a brief written statement.

The Consultant shall furnish all necessary typing and printing of the minutes. Ample copies of the printed minutes shall be furnished to the Resident Engineer for distribution to the Contractor(s) and representatives of the Commissioner.

Job meetings shall also be called by the Contractor for the purpose of coordinating, expediting and scheduling the work of the Contract. The Contractor and their subcontractors, materialmen 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 Job 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.
ARTICLE 19 - REMOVAL OF RUBBISH AND SURPLUS MATERIALS

(A) Rubbish shall not be thrown from the windows or other parts of the building. Mason's rubbish, dirt and other dust-producing material shall be wetted down from time to time.

(B) The Contractor shall sweep up and deposit, at a location designated on each floor by the Resident Engineer, all rubbish, debris and waste materials, as it accumulates on a daily basis and when directed by the Resident Engineer. Material packaging shall be broken up, neatly bundled, tied and stacked ready for removal.

(C) The Contractor shall be responsible for the removal of all rubbish, etc., from the site of project. It shall remove from the designated locations all piles of rubbish, debris, waste material and material packaging as they accumulate and when directed by the Resident Engineer, and shall cart them away from the site of the project. It shall employ and keep engaged for this purpose an adequate force of laborers.

(D) The Commissioner reserves the right to use the agency’s own forces to remove the Contractor’s rubbish, etc. if the Commissioner determines, in her/his sole discretion, that the Contractor’s failure to promptly remove the rubbish, etc. is or was delaying the progress of the Project by, among other things, interfering with the work of Other Contractors.

1. In the event DOHMH uses its own forces to remove the Contractor’s rubbish, etc., any cost or expense including, without limitation, personnel costs incurred by DOHMH for such removal, shall be deducted from the Contractor’s next requisition. If DOHMH determines, in its sole discretion, to use its own forces for this purpose, DOHMH shall provide the Contractor with 24 hours’ notice, in order to afford the Contractor an opportunity to comply with the requirements of this section.

(E) The Contractor shall remove from the site all surplus materials when there is no further use for same.

(F) At the conclusion of the work, all erection plant, tools, temporary structures and materials belonging to the Contractor shall be promptly taken away.
ARTICLE 20 - CLEANING

(A) When directed and before the issuance of Substantial Completion or Final Acceptance, the entire work area shall be cleared of all rubbish and thoroughly cleaned by the Contractor. This requirement shall be deemed to mean that all floors shall be scrubbed, washed or mopped as may be required, and that all ceilings, all wall surfaces, etc., and all other work and finish installed by the Contractor shall be thoroughly cleaned of all dirt, dust and paint spots.

(B) The Contractor shall thoroughly clean all equipment and materials furnished and installed and shall deliver over such materials and equipment undamaged in a bright, clean, and new appearing condition at time of Substantial Completion or Final Acceptance.

ARTICLE 21 - INSPECTIONS BY OTHER CITY AGENCIES

(A) Prior to Substantial Completion of this Project, the Commissioner and/or the Contractor, as the Commissioner in her/his sole discretion shall direct, will file in the Department of Buildings, an application for a Certificate of Occupancy for the structure and/or an application for any other approval(s) necessary to complete the Work Order, Project or Contract (collectively referred to as “applications”)

(B) In connection with the above mentioned applications, and before certificates of final payments are issued, the Contractor will be required to arrange for all final inspections by the inspectional staff of the Department of Buildings or other City Agencies having jurisdiction over such applications, and secure all reports, certificates etc. by such inspection staff or other City Agencies, in order that the Certificate of Occupancy or other required approvals can be issued without delay.

ARTICLE 22 - SECURITY GUARDS AND FIRE GUARDS ON THE SITE (NEW BUILDING OR UNOCCUPIED SITE)

(A) The Contractor shall employ Security Guards at all times, except as otherwise modified by the Specifications or in a Work Order and as approved by the Commissioner, for the purpose of safeguarding and protecting the site. All costs for Security Guards and Fire Watch service shall be borne by the Contractor.

(B) All Contractors will be responsible for safeguarding and protecting their own work, materials, tools and equipment.

(C) SECURITY GUARDS (WATCHMEN)
1. The Contractor shall provide competent Security Guards on the site until final completion of the building or earlier if so notified in writing by the Commissioner. The security service shall commence with the start of work. 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 trades. 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 until final completion of the building or earlier if so notified in writing by the Commissioner.

2. Every Security Guard shall be required to hold a "Certificate of Fitness" issued by the Fire Department, for Fire Guards, and he shall, during his tour of duty, perform the duties of Fire Guard in addition to his 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 duties the entire construction site including the Field Office, temporary structures, and equipment, materials, etc.

5. Should the Contractor or any subcontractor(s) consider the security requirements outlined above inadequate, it 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 or subcontractor(s) who provides the additional protection.

6. Nothing contained in this Article shall diminish in any way the responsibility of the Contractor for its own work, materials, tools, equipment, nor for any of the other risks and obligations outlined hereinbefore in this Article.

7. Notwithstanding anything contained herein to the contrary, the Commissioner reserves the right to provide Security Guards and/or Fire Guards using its own forces and/or personnel under contract with DOHMH instead of having the Contractor provide such services. In the event the Commissioner determines that the use of its own personnel and/or personnel under contract is in the best interests of
the City, the Contractor shall be responsible for all costs and expenses occasioned thereby and such amounts, in the sole discretion of the Commissioner, shall either be billed to the Contractor, which shall pay such amounts within thirty (30) days, or deducted from payments to the Contractor.

**ARTICLE 23 - CONTRACTOR'S DAILY REPORTS**

(A) As soon as the Contractor has started work on the Project, it shall submit to the Resident Engineer written daily reports of the Work performed the previous day by any of its employees, including the employees of its subcontractors.

(B) The reports shall be prepared by the Contractor's Superintendent and shall bear his signature. Each report shall contain the following information:

- The type of materials and/or major equipment being installed by the Contractor and the total number of employees working in each category on that particular day.
- The names of the subcontractors working and the type of materials and/or major equipment being installed by each, together with the total number of employees working for each subcontractor on that particular day.
- The major construction equipment being used by the Contractor and/or subcontractor.

**ARTICLE 24 - ALTERNATE OR SUBSTITUTE EQUIPMENT**

(A) In general, the Drawings and specifications show and describe arrangements suitable for the specific items of equipment either named or described. In the event that a Contractor submits for approval, and receives such approval, of a device or piece of equipment which requires connections (vacuum, gas, steam, water, air, electric, etc.) or arrangements of these services, differing from those indicated or described in the Contract Documents, it shall be incumbent upon the Contractor submitting the alternate or substitute equipment to give immediate notice to the subcontractor(s), materialmen, and/or vendors involved so that they may make suitable alterations in the work to accommodate the substitute or alternate equipment. The Contractor making the substitution shall be responsible for any and all additional costs incurred by virtue of the substitution of equipment for the equipment named or described in the Contract Documents.
ARTICLE 25 – 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. is to be poured is apparent, the Contractor shall submit to the Department (or to the Consultant) a sketch indicating the location and size of all penetrations for sleeves, conduit, ducts, etc., which will be required to accommodate the work, in order that it may be determined if such penetrations will materially weaken the building structure. The sketch will 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 shall not predicate their layout work on those sketches until approval thereof.

ARTICLE 26 - LOCATION OF PARTITIONS

(A) Within three (3) weeks after the concrete slabs have been poured on each floor level, the Contractor shall immediately locate all of the partitions, including the door openings, on the floor slabs in a manner approved by the Resident Engineer.

ARTICLE 27 - FURNITURE AND EQUIPMENT

(A) The Contractor is responsible for moving all loose furniture and/or equipment in all areas, when such furniture and/or equipment shall interfere with the proper performance of its work.

(B) 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.

ARTICLE 28 - OVERTIME WORK (ORDERED BY COMMISSIONER)

(A) COMMISSIONER RESERVES THE RIGHT TO ORDER AND PAY OVERTIME WORK, UNDER THE FOLLOWING CONDITIONS:

1. The Commissioner can order overtime work when, in her/his sole discretion, delay
occurs and such delay is not the fault of the Contractor, or

2. When work is of such an important nature that the delays in carrying such work to completion would result in serious disadvantage to the public or necessary governmental operations.

(B) ORDER FOR OVERTIME WORK - When overtime work is ordered by the Commissioner, such "Order" will be issued in writing and signed by the Commissioner or a designated representative.

(C) CONTRACTOR'S PROCEDURE PRIOR TO COMMENCING WORK

1. Make immediate application to Industrial Commissioner of Department of Labor, State of New York, for dispensation in accordance with Subdivision 2 of Section 220 of the Labor Law.

2. Upon receipt of such dispensation, proceed expeditiously with ordered overtime work.

ARTICLE 29 - COMPLIANCE WITH OSHA AND OTHER SAFETY REGULATIONS

These Contract Documents and the Work hereby contemplated shall be governed, at all times, by the following Federal Laws:

(A) William-Steinger Occupational Safety and Health Act of 1970, Public Law 91-596;

(B) Part 1910 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations;

(C) Part 1926 - Safety and Health Regulations for Construction, Chapter XVII of Title 29, Code of Federal Regulations.

These Contract documents and the Work hereby contemplated shall also be governed at all times by any and all other applicable State and/or City laws, rules and regulations.
ARTICLE 30 - TEMPORARY SERVICES

(A) WATER - The Contractor will be responsible for payment of water charges. Billing will be in accordance with the Department of Environmental Protection schedule of charges for “Building Purposes”.

(B) ELECTRICITY for temporary light and the operation of small tools, is available in the area of this project, and will be furnished to the Contractor without cost.

(C) TOILET FACILITIES - The Contractor shall arrange with the Commissioner for the temporary use of certain toilets or washrooms within the building for the use of all employees during the execution of the work.

(D) The Contractor shall maintain all toilet facilities utilized by its employees in a clean and sanitary manner and make all necessary repairs due to misuse.

(E) NUISANCES - No Contractor shall cause any sanitary nuisances to be committed by its employees in or about the work. The Contractor shall enforce all sanitary regulations of the City and State Health Authorities.

ARTICLE 31 - TEMPORARY USE, OPERATION & MAINTENANCE OF ELEVATORS DURING CONSTRUCTION (FOR BUILDINGS UP TO AND INCLUDING 15 STORIES)

(A) The Contractor shall install and complete, as indicated herein, one (1) selected main elevator in the Building for temporary operation by the Contractor for the transporting of employees of all contractors and representatives of the Department of Mental Health and Hygiene (DOHMH) and other Governmental Agencies having jurisdiction of work at the Buildings. It shall furnish, install and maintain for such elevators, 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 required by the municipal, insurance and other authorities for elevators in temporary use.

(B) During the period of temporary operation, the Contractor shall assume full responsibility
for injury to persons or damage or destruction to property including the elevator equipment, shall employ and pay wages both regular and overtime when necessary of all operators and maintenance men, pay the costs for lubricants and parts for maintaining the temporary elevators in clean proper operating condition in pits, shaft ways and machine rooms including the cost of making any replacements required during such temporary operation.

(C) The Contractor shall keep the temporary elevator activated from a period of time fifteen (15) minutes before the established starting time in the morning, to fifteen (15) minutes after the established quitting time of work in the evening. This applies to every day in the week which is established as a regular working day for the aforementioned trades.

(D) The Contractor shall begin to provide temporary elevator service using the selected main passenger elevator no later than eight 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 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. 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, shall have been installed.

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) The Contractor, not later than twenty 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. The cost of this work shall be included in the Contractor's lump sum bid.

(F) 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 is required under the Contract.

(G) Before temporary elevator equipment has been 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 discontinuance 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 the Agreement.

(H) The Contractor shall replace with new, any of the equipment or parts of the temporary elevator installation that were 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 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.

(I) The Contractor shall pay the costs of all current used for operating the temporary elevators. They shall provide all necessary conduit and wiring connections for the proper operation of the elevator and the signaling of the temporary elevators.
(J) The temporary elevator shall not be used during its operation for hoisting of materials or removal of rubbish, but shall be limited only to the transportation of employees of all contractors and the representatives of City Departments and other Governmental Agencies having jurisdiction of work at the building. However, the Resident Engineer may grant special permission at specified times to the contractor and any subcontractor(s) to hoist materials which in the Resident Engineer's opinion will not overload or damage the elevator installation, but only after such time as all plastering has been completed from the 2nd floor up. The particular contractor using the elevator for the hoisting of its material shall be responsible for any damage to the elevator during the entire period of such use. The Contractor shall give notification in writing to the Resident Engineer of any alleged damage to the elevator installation within 24 hours after the elevator has been employed for the hoisting of materials by any contractor(s).

(K) The Contractor shall be paid for its operation and maintenance of the temporary elevator or permanent elevator used for temporary service at the daily rate indicated under the Item of its bid form. All costs in connection with Elevator installation and equipment shall be included in the Contractor's lump sum bid.

(L) The Contractor will be charged at the rate of $75 per day for each day it fails to provide the temporary elevator service described in this section beginning with the 41st working day after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed and stripped. This charge will be deducted from the Contractor's Lump Sum Contract Price.

(M) OVERTIME USE - Whenever the Contractor or any subcontractor(s) work before or after the regular work hours as indicated in paragraph (C) above, or on a Saturday, Sunday or Holiday, the Contractor shall pay for the operation and maintenance of the temporary elevator, at the daily rate indicated in the Item of the Bid form of the Contractor but increased to reflect the difference between regular wage rates and overtime wage rates. The basic hourly charge shall be considered as one ninth of the amount shown in the Item of the Bid form of the Contract. The City will not pay any contractor for such overtime use of the elevator.

**ARTICLE 32 - TEMPORARY USE, OPERATION & MAINTENANCE OF ELEVATORS DURING CONSTRUCTION (FOR BUILDINGS OVER 15 STORIES)**

(A) The Contractor shall install and complete, as indicated herein, two (2) selected main elevators in the Building for temporary operation by the Contractor for the transporting of employees of all contractors and representatives of the Department of Mental Health and Hygiene
DOHMH) and other Governmental Agencies having jurisdiction of work at the building. It shall furnish, install and maintain for such elevators, 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 required by the municipal, insurance and other authorities for elevators in temporary use. The two elevators will not be operated simultaneously.

During the period of temporary operation, the Contractor shall assume full responsibility for injury to persons or damage or destruction to property including the elevator equipment, shall employ and pay wages both regular and overtime when necessary of all operators and maintenance men, pay the costs for lubricants and parts for maintaining the temporary elevators in clean proper operating condition in pits, shaft-ways and machine rooms, including the cost of making any replacements required during such temporary operation.

The Contractor shall keep the temporary elevator activated from a period of time fifteen (15) minutes before the established starting time in the morning to fifteen (15) minutes after the established quitting time in the evening. This applies to every day in the week which is established as a regular working day for the aforementioned trades.

LOW RISE ELEVATOR - The Contractor shall begin to provide temporary elevator service using one selected main passenger elevator no later than six 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 week (5 working days) after 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. 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, shall have been installed.
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) The Contractor, not later than ten 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 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. The cost of this work shall be included in the Contractor's lump sum bid.

(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 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 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. 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, shall have been installed.

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.

(G) The Contractor, not later than twenty 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. The cost of this work shall be included in the Contractor's lump sum bid.

(H) When the high rise elevator is completed and ready for temporary operation, the low rise temporary elevator shall be shut down.

(I) When one 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 is required under the Contract.

(J) Before temporary elevator equipment has been 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 the Agreement.

(K) The Contractor shall replace with new, any of the equipment or parts of the temporary elevator installations that were 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 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) The Contractor shall pay the costs of all current used for operating the temporary elevators. The Contractor shall provide all necessary conduits and wiring connections for the proper operation of the elevators and the signaling of the temporary elevators.

(M) No temporary elevator shall be used during its operation for hoisting of materials or removal of rubbish, but shall be limited only to the transportation of employees of all Contractors and the representatives of City Departments and other governmental agencies having jurisdiction of work at the building. However the Resident Engineer may grant special permission at specific times to the Contractor and any subcontractor(s) to hoist materials which in the Resident Engineer's opinion will not overload or damage the elevator installation, but only after such time as all plastering has been completed from the 2nd floor up. The contractor shall be responsible for any damage to the elevator during the entire period of such use. The Contractor shall give notification in writing to the Resident Engineer of any alleged damage to the elevator installation within 24 hours after the elevator has been employed for the hoisting of materials of any Contractor(s).

(N) The Contractor shall be paid for its operation and maintenance of each temporary elevator or permanent elevator used for temporary service at the daily rate indicated under the Item of its bid form. All costs in connection with the elevator installation and equipment shall be included in the Contractor's lump sum.

(O) The Contractor will be charged at the rate of $75 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 the Contractor's Lump Sum Contract Price.

(P) OVERTIME USE - Whenever the Contractor or any subcontractor(s) work before or after the regular work hours as indicated in Subparagraph (C) above, or on a Saturday, Sunday or Holiday, the Contractor shall pay for the operation and maintenance of the temporary elevator, at the rate indicated in the Item of the bid form of the Contract but increased to reflect the difference between regular wage rates and overtime wage rates. The basic hourly charge shall be considered as one ninth of the amount shown in the Item of the Bid Form of the Contract. The City will not pay any Contractor for such overtime use of the elevator.
ARTICLE 33 - TEMPORARY USE, OPERATION & MAINTENANCE OF ELEVATORS DURING CONSTRUCTION IN EXISTING BUILDINGS

The Contractor may use, at the Commissioner’s sole discretion, one (1) selected elevator in the Building for temporary operation by the Contractor for the transportation of employees of all contractors and representatives of the Department of Mental Health and Hygiene (DOHMH) and other Governmental Agencies having jurisdiction over work at the Building. It shall maintain for such elevators, all necessary hoisting ropes, governor cables, traveling conductor cables, operating devices, hand reset target annunciators, signal devices, and all other permanent or temporary parts required by the municipal, insurance and other authorities for elevators in temporary use.

(A) During the period of temporary operation, the Contractor shall assume full responsibility for injury to persons or damage or destruction to property, including the elevator equipment and cab interior, shall employ and pay wages both regular and overtime when necessary of all operators and maintenance men, pay the cost for lubricants and parts for maintaining the temporary elevators in clean proper operating condition in pits, shaft-way and machine rooms including the cost of making any replacements required during such temporary operation.

(B) The Contractor shall keep the temporary elevator activated from a period of time fifteen (15) minutes before the established starting time in the morning to fifteen (15) minutes after the established quitting time in the evening. This applies to every day in the week which is established as a regular working day for the aforementioned trades.

(C) The Contractor shall replace with new, any of the equipment or parts of the elevator, for temporary operation that were 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 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.

(D) The elevator for temporary operations shall not be used during its operation for hoisting of materials or removal of rubbish, but shall be limited only to the transportation of employees of all contractors and the representatives of City Departments and other
Governmental Agencies having jurisdiction of work at the building. However, the Resident Engineer may grant special permission at specified times to the contractor and any subcontractor(s) to hoist materials which in the Resident Engineer's opinion will not overload or damage the elevator installation. The Contractor shall be responsible for any damage to the elevator during the entire period of such use. The Contractor shall give notification in writing to the Resident Engineer of any alleged damage to the elevator installation within 24 hours after the elevator has been employed for the hoisting of materials.

(E) The Contractor shall pay all costs for the operation and maintenance of the elevator for temporary operation. All costs in connection with the elevator and equipment shall be included in its lump sum bid.

(F) OVERTIME USE - Whenever the Contractor and any subcontractor(s) work before or after the regular work hours as indicated in paragraph (C) above, or on a Saturday, Sunday or Holiday, the Contractor shall pay for the operation and maintenance of the elevator, at the union daily rates but increased to reflect the difference between regular wage rates and overtime wage rates. The City will not pay any contractor for such overtime use of the elevator.

**ARTICLE 34 - GENERAL MECHANICAL REQUIREMENTS**

SCOPE-THIS ARTICLE SETS FORTH THE GENERAL MECHANICAL INFORMATION AND ROUTINES REQUIRED FOR MECHANICAL WORK UNDER THIS PROJECT. ANY MECHANICAL ITEM SPECIFIED IN ANY CONTRACT, OR DESCRIBED OR SHOWN IN ANY DETAIL ON THE DRAWINGS, WHICH IS MORE STRINGENT THAN THESE GENERAL MECHANICAL REQUIREMENTS, OR DEVIATES FROM THE ROUTINES DESCRIBED HEREIN, SHALL BE COMPLIED WITH.

WHEN THE WORK OF THIS PROJECT IS A SINGLE CONTRACT, ALL REFERENCES TO ANOTHER CONTRACT OR CONTRACTOR IN THESE GENERAL MECHANICAL REQUIREMENTS SHALL BE INTERPRETED TO BE THE RESPONSIBILITY OF THE SINGLE CONTRACTOR.

(A) The General Mechanical Requirements contained herein shall be followed by all
Contractors furnishing and installing mechanical equipment under this Contract.

(B) "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 which have hung ceilings, such piping and ducts shall be installed in the hung ceilings.

(C) THE 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. The Contractor shall follow these drawings in laying out the work and shall consult the drawings to familiarize himself with all conditions affecting it and to verify the spaces in which it will be installed. The Contractor shall cooperate with the Public Utilities doing certain necessary work for this project. The attention of the Contractor is called to the Drawings of the Work for the location, arrangement and extent of other fixtures and equipment. All work shall be installed in locations as shown on these drawings.

(D) CERTIFICATES, PERMITS - No demolition or installation work shall be performed without the Contractor first obtaining a Work Permit from the Department of Buildings. Work shall not be considered substantially complete without the Contractor having first obtained the applicable Equipment Use Permit from the Department of Buildings. On completion of the work the Contractor shall obtain certificates of approval, acceptance and of compliance with all laws from all Authorities having jurisdiction over the work and shall deliver these certificates to the Commissioner. The work shall not be deemed complete until the certificates and/or permits have been delivered.

(E) SUBMITTALS - Contractors doing mechanical work shall submit, as directed, Shop Drawings, roughing drawings, manufacturer's Shop Drawings, field drawings, cuts, bulletins, etc., of all materials, equipment, installation and startup instructions, operation and maintenance and system manuals, training plan and materials. The equipment submittal shall include, but not be limited to, part-load performance data and curves.

1. Drawings shall be submitted for approval within 60 days after the issuance of either the Notice to Proceed or a Work Order, if so ordered, and in any case at least 20 days prior to the date of the manufacture of the materials for the installation of the work involved.
(F) **ACCESSIBILITY, SERVICABILITY, SAFETY** - All work shall be installed by the Contractor so as to readily be 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 Consultant and the Commissioner. Gages, sensors, and controls in ductwork and piping shall be properly located to provide accurate response to actual fluid conditions as well as visible and accessible to operations staff. The Contractor shall comply with all fall protection provisions and other safety requirements required by OSHA and all other relevant authorities having jurisdiction over such matters.

(G) **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.

(H) **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 stopped 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.

(I) **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 manufacturer.

(J) **MACHINERY PARTS** shall conform exactly to the dimensions shown on the drawings. The equivalent parts of identical machines shall be identical so that they can be interchangeable.

(K) **All grease lubricating fittings on equipment** shall be of a uniform type and shall be readily accessible, and types proposed to be used shall be submitted for approval.

(L) **GUARDS** - All machinery shall be designed with protecting guards conforming with the requirements of the Industrial Code of the New York State Department of Labor.
LIMIT SWITCHES - Unless otherwise specified, limit switches and other mechanically actuated switches shall be enclosed in tight metal boxes, and be installed in the proper locations ready for conduit connections. Switches shall be complete with all supports, stops, cams, arms, tripping and operating members, which shall be adjustable where required for proper functioning.

EQUIPMENT DESIGN - Equipment and appurtenances shall be designed in conformity with all relevant applicable standards including, but not limited to ASME, ASHRAE, ARI, AMCA, IBR, CTI, NFPA, PDI, UL, SMACNA, and shall be of rugged construction and of sufficient strength to withstand all stresses which may occur during fabrication, testing, transportation, installation, and all conditions of operations. Adequate stays, braces and anchors shall be provided. All bearings and moving parts shall be adequately protected against wear by bushings, or other approved means, and shall be fully lubricated by readily accessible devices. Details shall be designed for appearance as well as utility. Protruding members, joints, corners, gear covers and the like shall be finished in appearance. All exposed welds shall be ground smooth and the corners of structural shapes shall be mitered.

SUPPORTING STRUCTURES - Unless otherwise specified, supporting structures for equipment to be furnished by the Contractor shall be built by him of sufficient strength to safely withstand all stresses to which they may be subjected, within permissible deflections, and shall meet the following standards:

1. Structural Steel - ASTM Standard Specifications, AISC and NYBC.

2. 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 NYBC for average concrete.

3. 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.

ENGINEER'S ASSUMED DESIGN DATA - All structural steel, concrete and reinforcement indicated or specified to support the equipment or appurtenances and the area immediately adjacent thereto have been designed from data based on assumed average anticipated clearances and loading. The final structural design in these locations will be based
on definite data received from the Contractor after the Consultant and the Commissioner approves the equipment and appurtenances to be installed. The Consultant and the Commissioner will then redesign if necessary, the supporting structure to properly support and maintain the approved equipment and appurtenances. Necessary major changes in design will be covered by Supplementary Drawings which will be furnished to the Contractor. All changes indicated or necessary to accommodate the equipment and appurtenances, shall be incorporated into the Working Drawings submitted for approval, and the cost of furnishing and installing the work necessitated by these changes shall be borne by the Contractor furnishing the equipment.

(Q) INSTALLATION OF EQUIPMENT - Equipment shall be erected in a neat and workmanlike manner on the foundations, at the locations and elevations shown on the Contract Drawings or as required. All equipment shall be correctly aligned, leveled and adjusted for satisfactory operation and shall be installed so that proper and necessary connections can be made readily between various units and with piping and equipment that may be installed under other contracts. When required by the Specifications, the Contractor shall obtain the assistance of a competent and experienced Engineer or Superintendent, in the employ of the manufacturer, to install the equipment.

(R) ELIMINATION OF NOISE - All work provided under the Contract shall operate without objectionable noise or vibration.

1. 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.

2. Should noise or vibration found objectionable by the Commissioner be transmitted by any pipe or portions of the structure from 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.

(S) GROUTING - The Contractor shall furnish all material and labor for proper bedding on Portland Cement grout, the equipment or its supporting base. Grout shall consist of one (1) part Portland Cement and one (1) part of approved sand. The top of masonry foundation shall be properly cleaned and wetted before grouting. Grout shall completely fill all spaces between the equipment, or base, and the foundation, and it shall generally average 1" in
thickness. Leveling wedges shall not be removed before the grout has reached its final set. Voids left by wedges shall be pointed with grout. Exposed surface of the grout shall have a finished appearance.

(T) 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 which does not comply with the Contract, the Contractor shall, prior to the acceptance test, make all changes, adjustments and replacements required.

(U) COMMISSIONING TESTS – The Contractor shall be responsible for performing commissioning tests, using procedures approved by the Engineer designing the system and commissioning authority, if any, documenting the results and submitting them to the Resident Engineer and any agency having jurisdiction over the matter, and demonstrating tests for acceptance. The tests shall include, but not be limited to, Static Tests, Component and Subsystem Tests and System Commissioning Tests. Functional testing shall not be performed until installation verification, and start-up TAB (Testing, Adjustment & Balancing) have been completed for a given system. The controls system and all equipment controlled by it shall not be functionally tested until all points have been calibrated and testing is completed. The Contractor shall factor the costs of these tests into its bid for projects involving installation of a complete system including, but not limited to, installation of a cooling tower system, chiller system, or air conditioning system.

1. For the purposes of this Contract, the term “commissioning tests” shall mean tests that relate to HVAC equipment, beginning with static tests (testing air/water leakage, insulation integrity, etc.), and followed by start up, component and apparatus tests, sub-system tests and system tests.

(V) 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. It 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.

[NO FURTHER TEXT ON THIS PAGE]
ARTICLE 35 – EXCAVATION AND BACKFILLING

(A) All excavation and backfilling required for the work of this contract shall be done by the Contractor.

(B) Restore floors, pavements, etc. which will be removed for excavation.

ARTICLE 36 - PROTECTION

(A) The Contractor shall provide and maintain all necessary temporary closures, guard rails, and barricades to adequately protect all individuals from possible injury. When removal of any of these items is required, the Contractor making this request shall be responsible for its replacement.
ARTICLE 37 – INTERRUPTION/INTERFERENCE WITH BUILDING SERVICES, OPERATIONS AND/OR FACILITIES

(A) The building operates twenty-four (24) hours a day, seven (7) days a week. Toilet facilities, water, electricity, heat and other building services must be operational at all times. Therefore, the Contractor shall not interfere with or interrupt building services without prior written authorization by the Commissioner in her/his sole discretion. Any permitted interference or interruption shall be made as brief as possible and shall be carried out only at the time(s) previously stated and authorized by the Commissioner. The Contractor shall provide prior written notice of such intended interference or interruption to the Resident Engineer, building personnel, and to the Commissioner, at least two (2) business days prior thereto.

(B) The building may be occupied by City employees and/or judicial/court personnel whose work cannot be interrupted or hindered. The Contractor shall avoid making unnecessary noise at all times, to the fullest extent possible, and noise that cannot be avoided shall be kept to a minimum. The Contractor shall therefore schedule its work to avoid noise interference which is likely to affect the regular operations and routines of the building and its occupants. The Commissioner shall have the right to order such work done during other than regular working hours or on weekends in his/her sole discretion.

(C) As determined by the Commissioner in her/his sole discretion, if the performance of Contract Work may interfere with the operations of the building or its occupants and/or will require the temporary shutdown of one or more building services, the Commissioner may direct that the work in question and/or the temporary shutdown of building services be done during other than regular working hours or on weekends or at such other time(s) that the Commissioner determines will result in the least possible interference with building operations.

(D) The Contractor shall arrange to work continuously, including overtime if required, in order to ensure that any interference or interruption of building services, operations or routines shall take place only during the authorized time actually required to complete such Work.

(E) If the Contractor’s Work interferes with access or egress to the building including but not limited to doors, ramps, escalators, elevators, or any other type of conveying system necessary to ensure compliance with the requirements of the Americans with Disabilities Act (“ADA”), the New York State Human Rights Law (“NYSHRL”), the New York City Human Rights Law (“NYCHRL”), and/or any other applicable law, rule or regulation, the Contractor, at its sole cost and expense, shall be responsible for ensuring compliance with such requirements until such Work is completed.
(F) Unless otherwise specifically set forth in the Specifications of a particular Contract or Work Order, when Work is required pursuant to Article 42 on evenings or weekends or it is otherwise required that overtime or premium time be paid to perform work pursuant to Article 42 or otherwise, any and all such costs or expenses associated with such overtime or premium time shall be deemed included in the Contractor’s bid price and shall be performed by the Contractor at no extra or additional cost or expense to the City.

[NO FURTHER TEXT ON THIS PAGE]
ARTICLE 38 – SPECIAL INSPECTIONS AND PROGRESS INSPECTIONS

(A) The Contractor will inform DOHMH and the Consultant, in writing, a minimum of fourteen (14) days in advance of concealing or covering with any other construction, all or any portion of the Work subject to special or progress inspection(s) in accordance with the rules and regulations of the Department of Buildings or any other regulatory body with jurisdiction over the Work then in effect, and shall not conceal or cover the Work without prior, written approval of DOHMH and the Consultant. The Contractor shall be deemed to have included the time necessary to schedule and obtain approval(s) for Work subject to special and/or progress inspections in the Job Progress Chart the Contractor is required to prepare pursuant to Article 1 hereof.

(B) Where Work subject to special and/or progress inspections(s) is covered or enclosed by other construction prior to special and/or progress inspection without the prior written approval of DOHMH and the Consultant as hereinabove set forth, such construction will be removed as necessary by the Contractor, at no additional cost to the City, to permit any and all appropriate and mandated inspection(s). Upon the completion of the special and/or progress inspection(s) and the determination that the inspected work is acceptable, all such work shall then be covered and enclosed by the new construction at no additional cost to the City and any delay in the completion of the Work occasioned thereby shall not be cited by the Contractor for the purposes of claiming delay damages, but may be considered by the City for purposes of assessing liquidated damages in accordance with the Contract.

ARTICLE 39- REQUIREMENTS CONTRACT PROVISIONS

(A) Unless specifically excepted, all provisions of these General Conditions shall apply to Requirements Contracts, and all references in these General Conditions to the Work to be performed under the Contract shall apply to the Work to be performed under each Work Order, and any reference to Specifications shall apply to the Work specified in a Work Order.

(B) In the Commissioner’s sole discretion, a determination by the Commissioner to default the Contractor on a particular Work Order may either be deemed a partial default under the Contract or a default of the entire Contract.

(C) A Contractor awarded a Requirements Contract will first be assigned the Work Orders within its geographic area of responsibility under its contract (the “primary area”). If, however, a Contractor in the primary area does not have the capacity or capability to perform additional Work Orders in a timely fashion, the Contractor may request, in writing, to be relieved of performance of such additional Work Order(s) and the Commissioner may grant or deny such request is her/his sole discretion. Alternatively, if the Commissioner reasonably determines, in writing, in her/his sole discretion, that a Contractor lacks the capacity or capability to perform additional Work Orders in a timely fashion, the Commissioner reserves the right to assign such Work Order(s) within the primary area to
any other Contractor who has been awarded a similar contract for such trade or trades, or to have the work performed by City employees.

ARTICLE 40 - APPROVAL OF REQUISITIONS

(A) No requisitions submitted by the Contractor shall be deemed a proper invoice or approved for payment unless the Contractor provides an adequate documentation with its requisition that demonstrates that the invoiced work has actually been performed, e.g. invoices, photographs, or any other form of proof that DOHMH finds satisfactory in its sole discretion.

(B) Such documentation must be provided with a requisition for the Work submitted no more than sixty (60) days after the work was performed.

(C) If the Contractor fails to provide such documentation within the requisite timeframe, the Contractor shall be solely responsible for any and all costs incurred by DOHMH to confirm that the invoiced work was actually performed, including but not limited to the cost of uncovering and then closing up concealed work. Notwithstanding the foregoing, if such documentation is not timely provided, DOHMH further reserves the right, in its sole discretion, to disapprove all or any part of a requisition where the purportedly performed Work cannot be verified to its satisfaction.

ARTICLE 41 - SHOP DRAWING & MATERIAL SAMPLES SCHEDULE

(A) To enable construction to be transacted in an orderly and expeditious manner, the Contractor at the kick off meeting shall review the "SHOP DRAWING LOG/SCHEDULE" and the "SPECIAL DRAWING LOG/SCHEDULE" and the "SPECIAL SUB-CONTRACTOR REQUIREMENTS", included in this article, with the Commissioner and the Consultant. It shall be the responsibility of all contractors to complete columns "SUB. (SUBMISSION) DATE", "REQ'D (REQUIRED) DEL (DELIVERY) DATE" and "FABRIC (FABRICATION) TIME" on this schedule within ten (10) days subsequent to the kick off meeting.

(B) The Project Manager for this project will coordinate and review the data submitted by various contractors, and amend as necessary, and approve. Upon acceptance, the Project Manager will date and sign the schedule as received, and transmit it to the Consultant, Contractor and Resident Engineer within the Department of Mental Health and Hygiene.
(C) Thereafter, this schedule will be subject to the relevant provisions of the Agreement, and will be strictly adhered to by the Contractor.
INSTRUCTIONS TO CONSULTANTS FOR COMPLETING SHOP DRAWINGS LOG/SCHEDULE

THE CONSULTANTS ARE REQUIRED TO COMPLETELY REVIEW THE SPECIFICATIONS FOR THE PROJECT THEY ARE COMMISSIONED FOR AND ARE TO LIST EACH AND EVERY SHOP DRAWING AND MATERIAL SUBMISSION REQUIRED BY THEIR PROJECT. THIS WILL INCLUDE:

(A) COMPLETING THE COLUMNS DESIGNATED AS "SPEC. REF.", "DESCRIPTION", "COORD. WITH CONTR.", "SUBMITTAL - SHOP DWG.", "SUBMITTAL - SAMPLES", "SUBMITTAL - CAT. CUTS".

(B) SPECIAL SUB-CONTRACTOR REQUIREMENTS SHALL ALSO BE COMPLETED INDICATING THE SPECIFICATION REFERENCE, DESCRIPTION OF ITEM, AND CONTRACT REFERENCE NUMBER, ALL ITEMS OR TRades WITHIN THE PROJECT THAT HAVE SPECIAL REQUIREMENTS, RESTRICTIONS, AND OR EXPERIENCE.

(C) THIS COMPLETED SCHEDULE SHALL BE PHOTOCOPIED IN REDUCED SIZE (8 ½ X 11), SUBSEQUENT TO BEING COMPLETED, AND SHALL BE INCLUDED AS PART OF THE ATTACHED ARTICLE OF THE GENERAL CONDITIONS. IT IS EXPECTED THAT THIS SCHEDULE WILL BE PREPARED SEPARATELY FOR EACH PRIME CONTRACT AND SHALL BE PAGINATED WITHIN THE GENERAL CONDITIONS.
SECTION 01 00 10 – GENERAL REQUIREMENTS

PART 1 – GENERAL

1.1 INTENT AND SCOPE

A. It is the intent of the solicitation and the Contract (the “Contract”) to require the Contractor to furnish all labor and materials, necessary and required for performing General Construction Work (interior and exterior) at various DOHMH facilities in the five boroughs of Manhattan, Bronx, Brooklyn, Queens, and Staten Island. All work is under the jurisdiction of the Department of Health and Mental Hygiene (“DOHMH”).

Although this contract will be primarily used by DOHMH, it is available for use by any City (“City”) agency with the approval of the Commissioner or his/her designee.

B. All definitions used in the Contract shall be deemed to be incorporated into these General Requirements, provided, however, that the definitions used in the General Requirements may, in some instances, be more expansive than those in the Contract, in which case the more expansive definition shall apply.

C. The scope and magnitude of the Work required in a Task Order will vary in order to meet the City’s needs as determined by DOHMH in its sole discretion.

D. A Contractor awarded a Requirements Contract will first be assigned the Task Orders within its geographic area of responsibility under its contract (the “primary area”). If the Commissioner reasonably determines, in writing, in her/his sole discretion, that a Contractor lacks the capacity or capability to perform additional Task Orders in a timely fashion, the Commissioner reserves the right to assign such Task Order(s) within the primary area to any other Contractor who has been awarded a similar contract for such trade or trades, or to have the work performed by City employees. Alternatively, if a Contractor in the primary area does not have the capacity or capability to perform additional Task Orders in a timely fashion, the Contractor may request, in writing, to be relieved of performance of such additional Task Order(s) and the Commissioner may grant or deny such request is her/his sole discretion.

E. All references in this Contract or in the General Conditions to the Commissioner shall be deemed to include his or her authorized representative.

1.2 RELATED DOCUMENTS

A. For each section of the Technical Specifications, all provisions of the Contract, the General Conditions, Drawings and all other relevant Specification sections shall apply.

1.3 ADDITIONAL DEFINITIONS

A. “Materials” shall include, but shall not be limited to, any and all physical items necessary and required to complete the Work, as determined by the Commissioner in her/his sole discretion, including, without limitation, sundries, consumables, and any and all other assets and/or resources which may provide the basis for or be incorporated into the Work.
Any and all costs incurred by the Contractor for Materials shall be deemed included in the “Unit Prices,” as such quoted term is defined below.

B. “Sundries” shall include, but shall not be limited to, any and all wire nuts, tapes, screws, bolts, and all other secondary items necessary and required to install a primary item or material, and shall be considered included as part of “Materials” at no additional cost or expense to the City.

C. “Tools” shall include, but shall not be limited to, any and all tools and equipment, including all accessories, required to perform the Work in an expeditious manner, as determined by the Commissioner in her/his sole discretion. Tools shall include, without limitation, hand and electric tools, jackhammers, core drilling machines, power tools, bakers scaffold, rolling scaffolding, fixed scaffolding, scaffolding frames, transits and laser leveling devices. Any and all costs incurred by the Contractor for Tools and equipment shall be deemed included in all Unit Prices, regardless of whether the Contractor owns or is required to rent the tools or equipment.

1.4

[END OF SECTION 01 00 10]
SECTION 02 82 00 – ASBESTOS REMOVAL

PART 1 - GENERAL

1.1 SUMMARY

A. The Contractor will perform the necessary asbestos abatement work at various buildings under the jurisdiction of the Department of Health and Mental Hygiene throughout the five boroughs of the City of New York when ordered, by Task Order, to do by the Project Manager, the General Supervisor of Building Maintenance or a DOHMH representative. The normal occupants of the work areas will be relocated by the City during the performance of the work and returned there at the conclusion of the work at no cost to the Contractor. However, the Contractor will protect all furniture and equipment in a manner that will be least disruptive to the normal use of the non-work areas in the building.

B. The Contractor will perform all work in accordance with the applicable provisions of Title 15, Chapter 1 of the Rules of the City of New York (RCNY), New York State Department of Labor Interstate Commerce Rule 56, AHERA, Environmental Protection Administration Guidelines and all other applicable standards.

C. Certain methods of asbestos abatement indicated in the specifications may be protected by patents. The Contractor will be solely responsible for and will hold the Department of Health and Mental Hygiene and the City harmless from any and all damages, losses and expenses arising out of any infringement by the Contractor of patent, without limit, resulting from the contractor’s use of any patented process, material equipment or device.

D. Asbestos includes chrysotile, amosite, crocidolite, tremolite, asbestos, anthophyllite, asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

E. Prior to starting a project, the Contractor must notify designated DOHMH personnel if the Contractor anticipates any difficulty in performing the work as directed in the Task Order and as required by these specifications. The Contractor will be required to attend on-site job meetings, at every project, with the General Supervisor of Building Maintenance, the Project Manager or a representative of DOHMH prior to start of work to examine conditions and plan sequence of operations, etc. Any discrepancies in the directives specified in the Task Order must be brought to the attention of the DOHMH representative at these meetings.

F. The Contractor will provide asbestos abatement, lawful disposal and remediation services during both regular and premium hours. (Regular hours as defined as an eight-hour day, Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m.). The
choice is solely at the discretion of designated DOHMH personnel and will be indicated in the Task Order.

G. When directed to work during regular hours, work will be performed during the hours that the facility is customarily open and functioning. Payment will be based on the unit price for regular hours. Designated DOHMH personnel may direct the Contractor to perform certain aspects of the project (i.e. waste removal) during non-regular hours to accommodate the client agency. When asked to work during non-regular hours the Contractor will be reimbursed for regular wages and premium wages when supported by a certified payroll sheet and verified by designated DOHMH personnel.

H. When directed to work during premium hours, the Contractor will schedule and plan to provide services during nights, weekends, holidays, etc. Some projects may have a mix of regular and premium work units based on specific needs of the project. The actual quantities of regular and premium units will be resolved during the on-site job meeting.

1.2 SPECIFICATIONS

The Contractor will be responsible for all of the following tasks:

A. Removal and lawful disposal of asbestos containing materials (ACM) such as:
   
   i. the removal and legal disposal of pipe insulation from a pipe that is up to 3” in diameter.
   
   ii. The Contractor will be responsible for the removal and legal disposal of pipe insulation from a pipe that is up to 3” in diameter and its replacement with new insulation.
   
   iii. Removal and legal disposal of pipe insulation from a pipe that is larger than 3” in diameter up to and including 6” diameter.

B. the removal and legal disposal of pipe insulation from a pipe that is larger than 3” in diameter up to and including 6” in diameter and its replacement with new insulation.

C. removal and legal disposal of pipe insulation from a pipe that is larger than 6” in diameter.

D. the removal and legal disposal of pipe insulation from a pipe that is larger than 6” in diameter and its replacement with new insulation.

E. the repair only of insulation on a pipe up to and including 3” in diameter.

F. the repair only of insulation on a pipe larger than 3” in diameter up to and including 8” diameter.
G. the repair only of insulation on a pipe larger than 8” in diameter.

H. the removal and legal disposal of existing boiler or tank insulation.

I. the removal and legal disposal of existing boiler or tank insulation and its replacement with new non-asbestos insulation.

J. the complete removal and disposal of one layer of vinyl asbestos floor tile and all associated/related products often used to install floor tile including the cove base, felt paper and mastic.

K. the complete removal and disposal of one additional layer of vinyl asbestos floor tile and all associated/related products often used to install floor tile including the cove base, felt paper and mastic.

L. the complete removal of vinyl asbestos tile and all associated/related products often used to install floor tile, including removal of the mastic, cove base and felt paper, and performing any necessary preparation work and replacement with new tile and all associated/related products often used to install floor tile, including the base.

M. the removal, and legal disposal of asbestos containing sheet flooring or linoleum (ACM) including the mastic, felt and cove base and the provision and installation of new sheet flooring according to the manufacturer’s instructions.

N. the provision and proper installation of vinyl cove or bull nose base molding only, as directed.

O. the safe removal and legal disposal of wooden sub-floor material that has been contaminated with asbestos (ACM).

P. for the provision and installation of new plywood underlayment on existing hardwood floors. The thickness of the plywood shall be up to and including ¼” as needed.

Q. the provision and installation of self-leveling cement with an estimated thickness of from ¼” to ½”.

R. the complete removal and legal disposal of fire-proof acoustical plaster, and wire lath and replacement with new troweled on fire-proof acoustic plaster.

S. the Contractor will be responsible for the repair and encapsulation of acoustical and troweled-on plaster fire-proofing materials.

T. the complete removal and legal disposal of all coats of wall or ceiling surface plaster that are contaminated with asbestos (ACM) including the metal lath support, and the provision and installation of new non-ACM material in its place.
U. the repair of wall or ceiling surface plaster that is containing with asbestos (ACM) by scraping and removal of loose surface plaster material down one coat only, and the provision and installation of new non-ACM material in its place.

V. the sealing acoustical plaster with three coats of approved latex paint, allowed to dry thoroughly between coats, as required in Federal Specification TT-P-29.

W. the removal, legal disposal and the provision and installation of a new transite board including fiberglass batting.

X. the removal and legal disposal of radiator insulation and the replacement with new material including the removal and reinstallation of the radiator covers and attachments.

Y. the provision, installation and removal of one remote worker decontamination unit.

Z. the provision, installation and removal of one worker decontamination unit with a waste wash room and holding area.

AA. the provision, construction and removal of isolation barriers to seal off openings as directed such as sky lights, windows, corridors, ducts, diffusers, and other penetration with a minimum of two layers of 6 mil fire retardant plastic sheeting.

BB. the provision, construction and removal of barrier partitions to seal off openings as directed that are larger than 32 square feet, or to separate the work area from the remainder of the site. The barriers shall be as required by New York City Title 15 Chapter1, (Section 1-116 paragraph I, sub-paragraphs 1, 2 and 3).

CC. the pre-cleaning and covering fixed objects at the work site using a minimum of two layers of 6 mil fire retardant plastic sheeting.

DD. the pre-cleaning and covering movable objects at the work site using a minimum of two layers of 6 mil fire retardant plastic sheeting.

EE. the provision, construction and removal of a tent with airlocks using two (2) layers of 6 mil fire retardant plastic sheeting for the floor, walls and ceiling surfaces and framed with 2” x 4” lumber.

FF. the provision and installation of an additional layer of 6 mil plastic sheeting on the tent construction.

GG. the sealing floors, walls and ceilings, with a minimum of two (2) layers of 6 mil fire retardant plastic sheeting and installation of a negative pressure ventilation system, and safe removal upon completion of the work. For pricing purposes, assume three separate work areas in the same building, using as many negative pressure units as are required. Where ducting to the outside of the building is not possible NYC (Title 15, Chapter 1), NYS, Industrial Code Rule 56, rules and regulations and methods to be used.
HH. the wet clean-up of surface areas, access equipment such as scaffolds and ladders, equipment and debris that are possibly contaminated with asbestos, and their legal disposal.

II. the wet clean-up of surface areas and debris that are \textbf{not} contaminated with asbestos, and disposal.

JJ. the legal disposal of asbestos containing material (ACM) waste material that has been collected by others.

KK. the disposal of non-asbestos containing material that has been collected by others.

LL. the removal, cleaning, decontamination, encapsulation and re-installation of the existing metal jackets.

MM. the removal of existing metal jackets on pipe risers approximately 14’ high, and the installation of new metal jackets fabricated from 16 gauge sheet steel.

NN. the provision of scaffolds to access work that is higher than 14’ – 0” up to 30’ – 0” above the floor. The scaffold will be approximately 40 square feet.

OO. the removal and replacement with new, of glued on ceiling or wall acoustical tile including removing remaining mastic from the ceiling or wall.

PP. the removal and replacement with new, of suspended ceiling or wall acoustical tile.

QQ. the patching and repairing only, of boiler, tank, boiler uptake breeching or ductwork insulation with glue and canvas.

RR. the patching and repairing only, of boiler tank uptake breeching or ductwork insulation with cement or block as appropriate.

SS. the removal and replacement with new, of boiler or uptake breeching insulation.

TT. the removal and replacement with new, of ductwork insulation.

UU. the removal and replacement with new, of the insulation on the boiler combustion chamber door.

VV. the removal and replacement with new, of the refractory brick in the boiler combustion chamber inner shell.

WW. the removal and replacement with new, of gasket material.

XX. new surfaces to be painted with appropriate paint for that surface, applied with one prime coat and two finish coats that are allowed to dry thoroughly between applications.
YY. previously painted surfaces are to be painted with appropriate paint for that surface, applied with one prime coat and two finish coats that are allowed to dry thoroughly between applications.

ZZ. the provision and installation of 5/8” gypsum board with three coats of taping and spackling.

AAA. the adjustments to an existing door, to be cut or trimmed as needed.

BBB. the installation of a new saddle to an existing door.

CCC. the labor of one (1) Asbestos Handler.

DDD. the labor of one (1) Asbestos Handler Supervisor to supervise asbestos-related work not otherwise included in the above WORK ITEMS.

1.3 REFERENCES AND STANDARDS

Applicable standards listed in these specifications include, but are not necessarily limited to, standards promulgated by the following agencies and organizations. The current issue of each document shall govern. Where conflict among requirements or within these specifications exists, the more stringent requirements shall apply. All work will be performed in strict accordance with all current and applicable rules, regulations and laws regarding asbestos work, Safety and Health precautions.

The contractor must comply with the requirements of the U.S. Environmental Protection Agency (EPA), New York State, New York City standards and regulations and laws regarding asbestos work, Safety and Health precautions as per the following:

A. 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.

B. Where materials or workmanship are required by these specifications to meet or exceed the specifically named code or standard, it is the Contractor’s responsibility to provide materials and workmanship which meet or exceed the specifically named code or standard.

C. It is also the Contractor’s responsibility, when so required by the specifications or by written request from the Project Manager or DOHMH authorized employee, to deliver to the Environmental Health and Safety Unit all required proof that the materials or workmanship, or both, meet or exceed the requirements of the specifically named code or standard. Such proof shall be in the form requested.

D. U.S. Environmental Protection Agency (EPA)

b. US EPA Regulations Governing Asbestos Abatement Projects (Worker Protection), 40 CFR 763, Subpart G.


d. US EPA Asbestos Ban and Phase out Rule, 40 CFR Part 763, Subpart I

e. US EPA, NYS Industrial Code Rule 56, NYC Titles 15, Chapter 1 (Local Law 76) {The more stringent shall apply}.

E. New York State Requirements

New York State Industrial Code, Rule 56 “Asbestos” (12 NYCRR-56) and all other applicable NYS laws, codes, variances and ordinances.

F. New York City Requirements

New York City Title 15, Chapter 1 (Local Law 76) and all other applicable NYC laws, codes, variances and ordinances.

G. Air testing

Air testing will be conducted as per NYC Title 15, Chapter 1 (Local Law 76), NYS Industrial Code Rule 56 and AHERA regulations as amended from time to time, and will not be the responsibility of the Contractor. The Contractor shall perform personnel/work area air monitoring as required to meet OSHA requirements for maintenance of Time Weighted Average (TWA) fiber counts for respiratory requirements.

H. Testing

a. Underwriters Laboratories ASTM E-119

b. Dry Density ASTM E-605

c. Abrading and Impact Penetration ASTM (Proposed)

d. Fire Test ASTM E-84

I. The Contractor shall refer to and will comply with SECTION 6 of this specification, entitled “ENVIRONMENTAL AND WORK/LABOR LAW RELATED REGULATIONS AND REQUIREMENTS”
J. OSHA 29 CFR 1910.134 (b); rules for respiratory protection equipment daily inspections.

K. US EPA, NYS Industrial Code Rule 56, NYC Title 15, Chapter 1 (Local Law 76). [the more stringent requirement will apply for the sealing (encapsulation) of acoustic plaster asbestos containing material.

L. New York City Health Code

a. "Lead Paint" - All paint furnished under this specification for use on interiors of the health centers and other public spaces shall not contain more than 0.06% [as per CPSC] metallic lead based on the total non-volatile content of the paint. All paint containing metallic lead shall conform to provisions of the New York City Health Code, Section 173.13, latest revision. The above statement shall be printed on the label of all paint cans which are to be used for interior paint on this project.

b. Red Lead Paint will not be used for interior priming of ferrous metal; substitute Federal No. TT-P-645 Zinc Chromate for red lead. This will amend paragraph 14.53 (b) of the standard.

M. New York City Building Code

Insulation, adhesive materials and finishing jackets shall have a flame spread rating of 25 or less and a smoke developed rating no higher than 50.

PART II - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

All materials shall be delivered to the work site in their original packaging or cans unopened, clearly labeled with the manufacturer’s label, name and performance characteristics. Opened packaging will be rejected, removed from the site and the material replaced with equivalent compliant materials in unopened packages. Electrical equipment shall be Underwriters Laboratory listed.

2.2 QUALITY ASSURANCE

A. In procuring all items used in this work, it is the Contractor’s responsibility to verify the detailed requirements of the specifically named codes and standard and to verify that the items procured for use in this work meet or exceed the specified requirements.

B. The Project Manager or a DOHMH authorized employee reserves the right to reject items incorporated into the work which fail to meet the specified minimum requirements.
C. Equipment and materials may be substituted for those specified in these specifications only if determined to be equivalent after review by the Environmental Health and Safety Unit

2.3 FOR WORKER PROTECTION PROCEDURES

A. Disposable clothing of “Tyvek” by DuPont, or approved equal. Each worker shall be supplied with at least two (2) complete disposable uniforms each day during the project that consists of full body coveralls, head covers gloves, foot covering and respiratory protective equipment as required by OSHA regulations. Eye protection and hard hats should be available as appropriate

B. Workers will be provided with personally issued and individually marked respirators. Respirators shall not be marked with any equipment that will alter the fit of the respirator in any way. Only waterproof identification markers shall be used. The Contractor shall provide respirators selected by an Industrial Hygienist that at a minimum meet the following requirements:

1. All respiratory protection shall be MSHA/NIOSH approved in accordance with the provision of 30 CFR Part 11 and/or 42 CFR Part 84. All respiratory protection shall be provided by the Contractor and used by workers in conjunction with the written respiratory protection program

2. Full facepiece Type C supplied-air respirators operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus shall be worn during gross removal, demolition renovation and/or other disturbance of ACM whenever airborne fiber concentrations inside work area are equal to or greater than 10.0 f/cc.

3. Full facepiece Type C supplied-air respirators operated in pressure demand mode equipped with HEPA filter disconnect protection shall be worn during gross removal, demolition, renovation and/or other disturbance of ACM with an amphibole content and/or whenever airborne fiber concentrations inside the work areas are equal to or greater than 2.0 f/cc and less than 10.0 f/cc.

4. Full facepiece powered air-purifying respirators (PAPR) equipped with HEPA filters shall be worn during the removal, encapsulation, enclosure, repair and/or other disturbance of friable ACM whenever airborne fiber concentrations inside the work area are equal to or greater than 0.1 f/cc and less than 2.0 f/cc. HEPA filters shall be changed daily or as flow testing indicates change is necessary. Any Type C supplied-air respirator operated in continuous flow may be substituted for a powered air-purifying respirator.

5. Half-mask or full face air-purifying respirators with HEPA filters shall be worn only during the preparation of the work area, performance of repairs (e.g. using glove bag techniques) and final clean up procedures provided airborne fiber concentrations inside the work area are less than 0.1 f/cc.
(6) The Contractor will ensure that the workers are qualitatively or quantitatively fit tested for any negative pressure by an Industrial Hygienist initially and every 6 months thereafter with the type of respirator he or she will be using. Qualitative fit testing may only be used for half-mask respirators.

(7) Use of single dust respirators is prohibited for the above respiratory protection.

(8) Respiratory protection shall be decontaminated on a daily basis in accordance with OSHA 29 CFR 1910.134 (b).

(9) HEPA filters for negative pressure respirators shall be changed after each shower.


C. A supply of charged replacement batteries, HEPA filters and flow test meter shall be available in the clean room for use with powered air-purifying respirators.

D. Use of single dust respirators is specifically prohibited for the above respiratory protection.

E. Equipment.

(1) Vacuum – HEPA type equal to “Nilfisk” # GA73 or “Pullman/Holt” # 75 ASA

(2) Negative air pressure equipment – shall be in compliance with ANSI Z9.2 (1979) local exhaust ventilators. The Contractor will have at least one in use and one at the site for back-up in case the other fails.

(3) Hand power tools used to drill, cut into or otherwise disturb ACM shall be equipped with HEPA filtered local exhaust ventilation.

(4) Electrical equipment shall be Underwriters Laboratory listed and approved.

2. For Temporary Facilities Construction and Protection

A. Supports – 2” x 3” wood or metal studs

B. Hardboard, wood ¼” thick, 4’ x 8”

C. Fire retardant polyethylene six mil (.006”) plastic, installed in two layers
D. Caution signs

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

E. Disposable work clothing manufactured by DuPont, “Tyvek” brand

(1) Airtight and watertight containers shall be provided to receive and retain any asbestos-containing waste materials. Plastic bags used for waste storage or disposal shall be a minimum of 6-mil in thickness. All containers shall be labeled in accordance with OSHA Regulation 29 CFR 1926.1101

F. Equipment – All electrical equipment, sprayers, drills, saws, negative pressure equipment, shall be Underwriters Laboratory approved and listed.

(1) Negative pressure equipment, in compliance with ANSI Z9.2 (1979) local exhaust ventilation


(3) HEPA type vacuum cleaners equal to “Nilfisk” #GA73 or “Pullman/Holt” #75 ASA

(4) Ladders and scaffolds of sufficient dimensions and quantity shall be available so that all work surfaces can be easily and safely reached by inspectors. Scaffold joints and ends shall be sealed with tape to prevent incursion of asbestos.

G. Fire retardant polyethylene plastic barriers – Six mil (.006) as specified

H. Caution signs in compliance with OSHA 29 CFR 1926.1101, posted at all approaches to the work including internal doorways which provide access to the workplace

I. Airtight and watertight containers shall be provided to receive and retain any asbestos-containing waste materials. Containers shall be labeled in accordance with OSHA regulations 29 CFR 1926.1101

J. Materials that are used to enclose Asbestos Containing Material shall be impact resistant and assembled to be airtight. Gypsum panels taped at the seams, tongue and groove boards and boards with alpine joints all qualify
K. Duct tape and selected adhesives shall be capable of sealing joints of adjacent sheets of polyethylene, adhering under wet and dry conditions, including during use of amended water, facilitating attachment of polyethylene sheets to finished or unfinished surfaces,

3. For cleaning

A. Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the Environmental Health and Safety Unit.

B. If vacuums be used, only HEPA type shall be permitted. Model #GA-73 by "NILFISK" and Model #75ASA by Pullman/Holt are approved for asbestos clean-up.

4. Spray-on fireproofing material

A. Approved Products

   (1) Zonolite - Monokole Fireproofing, (cementitious) by W.R. Grace & Co.,

   (2) Cafco Plaza - Shield DC/F, (cellulose) by U.S. Mineral Prod.,

   (3) Cafco Bond-Seal (sealer for cellulose products),

   (4) Or approved equal, as approved by the Project Manager or DOHMH authorized employee.

B. Mixes

   (1) Material shall be a factory mixed cementitious or cellulose material.

   (2) Mix materials with water in proportions and as recommended by manufacturer.

   (3) Use only clean and potable water for mixing.

   (4) Use of ASBESTOS-CONTAINING materials is strictly prohibited.

C. Product Characteristics

   (1) Tested in accordance with ASTM E-119 and U.L. 263.

   (2) Dry density - minimum 11 pounds cubic feet, with average of 13 pcf when tested in accordance with ASTM E-605.

   (3) Minimum bond strength of 100 pounds per square foot. ASTM C-297.
(4) Abrasion on more than 1.22 in. 3 (20 cm$^3$) when tested in accordance with ASTM Proposed Test Methods for Fire Resistive Materials.

(5) Impact loss not greater than .31 in. 3 (5 cm$^3$) when subjected to impact penetration tests in accordance with ASTM Proposed Test Methods for Sprayed Fire Resistive Material.

(6) Fire Test Method - Flame Spread - Class A. 0-25 ASTM, E-84.

(7) U.L. and Factory Mutual Acceptance and approval for Class 1A Construction.

D. Equipment

Provide fire extinguisher and post caution signs warning against smoking and open flame when working with flammable materials.

E. Standards

Finished product shall meet or exceed the following requirements:

(1) Tested in accordance with ASTM E-119 and U.L. 263.

(2) Dry density - minimum 11 pounds cubic feet, with average of 13 pcf when tested in accordance with ASTM E-605.

(3) Minimum bond strength of 100 pounds per square foot. ASTM C-297.

(4) Abrasion on more than 1.22 in. 3 (20 cm$^3$) when tested in accordance with ASTM Proposed Test Methods for Fire Resistive Materials.

(5) Impact loss not greater than .31 in. 3 (5 cm$^3$) when subjected to impact penetration tests in accordance with ASTM Proposed Test Methods for Sprayed Fire Resistive Material.

(6) Fire Test Method - Flame Spread - Class A. 0-25 ASTM, E-84.

(7) U.L. and Factory Mutual Acceptance and approval for Class 1A Construction.

5. Encapsulation

A. Approved products

(2) Protector by H.B. Fuller Company, Houston, Texas.

(3) Asbestite 2000 by Arpin Engineering Inc., Oakhurst, New Jersey.

(4) Or equal as approved by the Environmental Health and Safety Unit.

B. Product Characteristics

Encapsulating Material (Sealant) shall meet the following requirements:

(1) Factory Mutual Approval for Class 1A Construction

(2) Underwriter Laboratory Approval for Class 1A Construction

(3) Flame Spread - Class A - 0 to 25

C. Product characteristics

Encapsulating Material (Sealant) shall meet the following requirements. Contractor shall submit this written data on the product he proposes to use to the Environmental Health and Safety Unit for approval prior to starting application.

(1) Factory Mutual Approval for Class 1A Construction

(2) Underwriter Laboratory Approval for Class 1A Construction

(3) Flame Spread - Class A - 0 to 25

D. Additional materials

Respirators, protective clothing, negative pressure machines, HEPA vacuum as required and as defined elsewhere

(1) Application: Room temperature above 50\(^\circ\) F.

(2) Labels: Each container shall be labeled for color, manufacturer and percent of each ingredient in pigment. Labels shall also indicate percent by weight of volatile and non-volatile matter in vehicle and bear a statement to effect that paint complies with the specification.

6. Structural Containment materials
   A. Gypsum wallboard
(1) Comply with Fed. Spec. SS-L-30, 111, Class 1, Style 3, taper-edged, and of the grade and form specified below, in 120 cm (48") widths and in such lengths as will result in the minimum of joints.

(2) Grade R, form A, 12.7 mm (½") thick, for single layer application.

B. Jointing system

The jointing system shall include reinforcing tape and compound designed as a system to be used together and shall be only as recommended by the manufacturer of the gypsum wallboard used. Jointing compound may be used for finishing if so recommended by the manufacturer. Jointing compound shall be asbestos free.

C. Fastening devices

(1) Toggle Bolts shall be 3/16" diameter, galvanized steel

(2) Washers shall be 1-⅛" O.C., .062" thick, galvanized steel.

D. Water for compound

If the approved jointing system requires job-addition of water, use only clean and potable water for that purpose.

E. Sealant shall be single component rubber based compound conforming to Federal Specification TT-S-00230 or equal as approved by the Project Manager or a DOHMH authorized employee.

F. Acoustical tile

Material for ceiling surfaces which are less than 8'-0" above finished floor and or wall surfaces any part of which is less than 8'-0" above finished floor, shall be as specified below:

1. Tiles to be 12" x 12" x ¾" thick, beveled edged, with all ancillary materials required for glued-on installation.

2. Acoustical tile shall be non-combustible (Flame Spread 0-25), Class "A" rating and shall contain NO ASBESTOS FIBERS.

3. Sound Transmission Class (STC) range to be 45-49.

4. Noise reduction co-efficient (NRC) range to be .50-.60.

5. Light Reflectance shall be "A" rating (75%+).
6. Approved Products
   
a. Conwed, Rock Race #55375,

b. or approved equal.

G. Splines shall be full length fiber splines and shall be inserted in all four (4) kerfed edges.

H. Adhesive shall be W.W. Henry Co., fire resistant "Acoustic-Gum" latex acoustical tile adhesive #237 or equal as approved by Project Manager or DOHMH authorized employee.

I. Edge trim (angle edging) shall be 1" x 1" white; factory finished, steel angles, or of a size required to conceal exposed edges or gypsum boards of acoustic tiles, as manufactured by Acoustical Ceiling Accessories, or equal as approved by the Project Manager or a DOHMH authorized employee.

J. Other materials

All other materials not specifically described but required for a complete and proper installation of the work of this part, shall be as selected by the Contractor subject to the approval of the Project Manager or DOHMH authorized employee.

7. Sealing Acoustical Plaster materials

A. Sealer

Sealer will be INTERIOR FLAT WATER BASE LATEX PAINT and will meet the following requirements:

(1) Quantitative Requirements

<table>
<thead>
<tr>
<th></th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigment, by weight of paint</td>
<td>35%</td>
<td>39%</td>
</tr>
<tr>
<td>Titanium Dioxide (Rutile), by weight of pigment</td>
<td>60%</td>
<td>---</td>
</tr>
<tr>
<td>Inert Pigments, by weight of pigment</td>
<td>---</td>
<td>40%</td>
</tr>
<tr>
<td>Vehicle, by weight of paint</td>
<td>61%</td>
<td>65%</td>
</tr>
<tr>
<td>Non-Volatile, by weight of vehicle</td>
<td>35%</td>
<td>---</td>
</tr>
</tbody>
</table>
Volatile, by weight of vehicle -- 65%

Weight per gallon, lbs. 11.5% ---

Total Solids, by weight of paint 52% 56%

(2) Pigment: Any suitable combination of pigment extenders and tinting colors, provided resulting paint meets requirements.

(3) Vehicle: Any latex emulsion, wetting agents and water within requirements of this specification.


(5) No perceptible odor after drying.

(6) Application at room temperature above 50° F.

(7) Each container shall be labeled for color, manufacturer and percent of each ingredient in pigment. Labels shall also indicate percent by weight of volatile and non-volatile matter in vehicle and bear a statement to effect that paint complies with the specification.

B. Acoustic units

Acoustical units shall be one of the following:

(1) Acoustic II as manufactured by Pittsburgh Corning

Units shall be 11½" x 16" x 2", factory finished white.

(2) Acoustone Space Units as Manufactured by United States Gypsum, Or equal as approved by the Environmental Health and Safety Unit.

a. Units shall be 10½" x 10½" x 2¼".


(3) Or equal as approved by the Environmental Health and Safety Unit.

8. For painting

A. Paint

(1) Material
Kem Gard", latex fire retardant paint.

(2) Manufacturer

Sherwin-Williams, or other U.L. listed approved equal.

(3) Color

To match adjoining insulation or surfaces, unless otherwise directed.

B. Other materials

(1) Aluminum bands, one inch (1") wide.

(2) Canvas, 6 ounce

(3) Lagging adhesive, American Adhesive Co. #6120 or approved equal.

9. For asbestos removal in boiler room

A. Wetting agents - “Asbestos-Wet” by Aquatrols Corp. of America or approved equal.

B. Vacuum - HEPA type equal to “Nilfisk” #GA73 or “Pullman/Holt” #75 ASA.

C. Polyethylene bags - Six mil (.006") thick - with warning label.

D. (Fire retardant) plastic barriers - Six mil (.006") as specified in this section.

E. Negative-air pressure equipment - shall be in compliance with ANSI Z9.2 (1979) local exhaust ventilation.

F. Amended water – A water to which a surfactant has been added

10. For installation of insulation materials

A. Approved Pipe Insulation manufacturers

(1) Certain - Teed Corporation

(2) Johns-Manville Corporation

(3) Owens-Corning Fiberglass Corporation
B. Properties

(1) One piece, molded sectional fiberglass.

(2) Nominal four (4) pound density.

(3) Maximum thermal conductivity -0.23 @ 75°C.

(4) Suitable for use on piping up to 370°F.

(5) One inch thick for steam and hot water pipe sizes up to and including 3 inches.

(6) Two inches thick for steam and hot water pipe sizes over 3 inches.

(7) One inch thick for refrigerant, cold and chilled water piping.

(8) All joints shall be firmly butted together.

C. Adhesives

(1) Benjamin Foster Company

(2) Epolux Manufacturing Corp.

(3) Insul-Coustic-Birma Prod. Corp.

D. Boiler Insulation Materials

(1) Calcium silicate block - 1½” thick.

(2) Galvanized steel wire - 16 gauge.

(3) Galvanized 2” hexagonal wire mesh.

E. Thermal Insulation for Valves, Fittings, Etc.

(1) Insulating cement, #460 CEMENT

(2) Finishing cement, #375 CEMENT by Johns-Manville, or an equal approved by the Project Manager or DOHMH authorized employee.

Insulation cement shall be a mineral fiber cement with excellent adhesion on cold
surfaces. Can be applied in heavy layers. Finishing cement shall be a hydraulic-setting, insulation and finish-cement suitable for one-coat application. Harden in a few hours to a smooth crack free surface that can be painted with a water-base paint.

F. Combustion chamber insulation

1. North American Refractories Co. No 505 “Narco”
2. Narco Set Cement
3. Webers 48 Cement from Aurora Insulating Products
4. Aurora Heat Resistant Putty
5. Wire mesh screen No. 19 gauge ⅛” mesh with ½ “ spaced ribs
6. Standard 3/8” stove bolts

G. Paint work

"Kem Gard", latex fire retardant paint by Sherman Williams, or other U. L. listed approved equal, color to match adjoining insulation or surfaces unless otherwise directed.

H. Other materials

1. Aluminum bands 1” wide
2. Canvas 6 ounce
3. Lagging Adhesive by the American Adhesive Co. #6120 or approved equal.
4. Water

If approved cements require job-addition of water, use only clean and potable water for that purpose.

I. Paint - Latex fire retardant paint “Kem Gard” by Sherwin Williams or other UL Listed approved equal

J. Aluminum bands 1 “ wide

K. Canvas, 6 oz

L. Lagging adhesive by American Adhesive Co. #6120 or approved equal
11. For legal disposal of ACM

A. Wetting agent – “Asbestos-Wet” by Aquatrols Corp of America or approved equal

B. Polyethylene bags – at least six mil (.006) with warning labels in accordance with OSHA Regulation 29 CFR 1926.1101

C. Asbestos waste will be carefully packed into 6 mil polyethylene double bagged and labeled according to requirements. Waste materials that do not fit into the bags shall be wrapped and sealed in two layers of 6 mil polyethylene and properly labeled

D. Caution Labels
   (1) Labeling

   Labels shall be affixed to all bags and containers which are to be filled with asbestos waste material to be disposed of as part of the work of this contract.

   (2) Specifications:

   Labels shall be printed in letters of sufficient size and contract to be readily visible and legible. The label shall state:

   **DANGER**
   **CONTAINS ASBESTOS FIBERS**
   **AVOID CREATING DUST**
   **CANCER AND LUNG DISEASE HAZARD**

   a. Plastic bags used for waste storage or disposal shall be a minimum of 6 mil in thickness

   b. All containers shall be labeled in accordance with OSHA Regulations 29 CFR 1926.1101

   c. Labels shall be affixed to all bags and containers which are to be filled with asbestos waste material to be disposed of as part of the work of this contract.

   d. Storage space shall be provided in an approved, secured and controlled location of the facility for temporary storage of waste. Filled bags of waste are carried to this area to await removal and legal disposal.

PART III – EXECUTION

3.1 WORKER PROTECTION PROCEDURES
1. Respiratory protection shall be worn by all individuals inside the work area from the initiation of the asbestos project until all areas have successfully passed clearance air monitoring in accordance with these specifications.

   a. All respiratory protection shall be MSHA/NIOSH approved in accordance with the provision of 30 CFR Part 11 and/or 42 CFR Part 84. All respiratory protection shall be provided by the Contractor, and used by workers in conjunction with the written respiratory protection program.

   b. The Contractor shall provide respirators selected by an Industrial Hygienist that at a minimum meet the following requirements:

      (1) Full facepiece Type C supplied-air respirators operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus shall be worn during gross removal, demolition renovation and/or other disturbance of ACM whenever airborne fiber concentrations inside work area are equal to or greater than 10.0 f/cc.

      (2) Full facepiece Type C supplied-air respirators operated in pressure demand mode equipped with HEPA filter disconnect protection shall be worn during gross removal, demolition, renovation and/or other disturbance of ACM with an amphibole content and/or whenever airborne fiber concentrations inside the work areas are equal to or greater than 2.0 f/cc and less than 10.0 f/cc.

      (3) Full facepiece powered air-purifying respirators (PAPR) equipped with HEPA filters shall be worn during the removal, encapsulation, enclosure, repair and/or other disturbance of friable ACM whenever airborne fiber concentrations inside the work area are equal to or greater than 0.1 f/cc and less than 2.0 f/cc. A supply of charged replacement batteries, HEPA filters and flow test meter shall be available in the clean room for use with powered air-purifying respirators. HEPA filters shall be changed daily or as flow testing indicates change is necessary. Any Type C supplied-air respirator operated in continuous flow may be substituted for a powered air-purifying respirator.

      (4) Half-mask or full face air-purifying respirators with HEPA filters shall be worn only during the preparation of the work area, performance of repairs (e.g. using glovebag techniques) and final clean up procedures provided airborne fiber concentrations inside the work area are less than 0.1 f/cc.

      (5) Use of single dust respirators is prohibited for the above respiratory protection.

   c. Workers shall be provided with personally issued and individually marked respirators. Respirators shall not be marked with any equipment that will alter the fit of the respirator in any way. Only waterproof identification markers shall be used.
d. The Contractor shall ensure that the workers are qualitatively or quantitatively fit tested for any negative pressure respirator by an Industrial Hygienist initially and every 6 months thereafter with the type of respirator he/she will be using. Qualitative fit testing may only be used for half-mask respirators.

e. Whenever the respirator design permits, workers shall perform the positive and negative air pressure fit test each time a respirator is worn. Powered air-purifying respirators shall be tested for adequate flow as specified by the manufacturer.

f. No facial hairs (beards) shall be permitted to be worn when wearing respiratory protection that required a mask-to-face seal.

g. Contact lenses shall not be worn in conjunction with respiratory protection on asbestos projects.

h. If a worker wears glasses, a spectacle kit to fit their respirator shall be provided by the Contractor at the Contractor’s expense.

i. Respiratory protection maintenance and decontamination procedures shall meet the following requirements:

   1. Respiratory protection shall be inspected and decontaminated on a daily basis in accordance with OSHA 29 CFR 1910.134 (b);

   2. HEPA filters for negative pressure respirators shall be changed after each shower;

   3. Respiratory protection shall be the last piece of worker protection equipment to be removed. Workers must wear respirators in the shower when going through decontamination procedure as stated;

   4. Airline respirators with HEPA filtered disconnect shall be disconnected in the equipment room and worn into the shower. Powered air-purifying respirator facepieces shall be worn into the shower. Filtered/power pack assemblies shall be decontaminated in accordance with manufacturers recommendations;

   5. Respirators shall be stored in a dry place and in such a manner that the facepiece and exhalation valves are not distorted; and

   6. Organic solvents shall not be used for washing of respirators.

j. Authorized visitors shall be provided with suitable respirators and instruction on the proper use of respirators whenever entering the work area. Qualitative fit test shall be done to ensure proper fit of respirator.

2. Workers’ clothing
a. Each worker shall be supplied with at least two (2) complete disposable uniforms per day for the entire period of asbestos abatement work.

b. Work clothes will consist of disposable full body coveralls, head covers, gloves, foot covering and respiratory protective equipment as required by OSHA regulations. Eye protection and hard hats should be available as appropriate.

c. Coveralls should be a "Tyvek" or equivalent disposable type.

d. In addition to uniforms for workers, the Contractor shall have on hand four (4) additional uniforms each day for personnel who are authorized to inspect the work site.

e. Workers shall be provided with sufficient changes of disposable clothing each day and shall wear this clothing at all times while inside the enclosed areas, disposable clothing - manufactured by “Tyvek” by DuPont, or approved equal.

3. Workers’ precautions

These procedures are applicable to all workers, inspectors and supervisors without exception:

a. Use an adequate number of skilled workpeople who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specification requirements and the methods needed for the proper performance of the work of this specification. At least one employee who is fluent in English and the languages natively spoken by the workpeople must be in attendance at all times that the work is in progress to ensure proper communication among the workers and supervisors and a proper interpretation of the provisions of this specification.

b. Workers will change work clothes at designated areas prior to start of day's work. Lockers or acceptable substitutions will be provided by the Contractor for sheet and work clothes.

c. Workers will remove disposable clothes in the work areas prior to departure from this area. Workers will then proceed to showers. Workers will shower before lunch and at the end of each day's work or any other time they must leave the work area. The provision and availability of hot water, towels, soap and hygienic conditions are the responsibility of the Contractor.

d. Workers WILL NOT EAT, DRINK OR SMOKE once beyond the clean area at the job site. Prior to smoking, eating or drinking, workers will fully decontaminate by showering. Each worker will then dress into a new clean disposable coverall to eat, smoke or drink. This new coverall can then be used to re-enter the work area.

e. Workers will leave work footwear inside the work area until the completion of the job.
4. Decontamination Areas

a. Outside Room (clean area): In this room the worker leaves all street clothes and dresses in clean disposable coveralls. Respiratory protection equipment is also picked up in this area.

No asbestos contaminated items should enter this room. Workers enter this room either from outside the structure dressed in street clothes, or naked from the showers, after showering.

b. Shower Area: This is a separate area used for transit by cleanly dressed workers entering the job from the outside from, or by workers headed for the showers after undressing in the equipment area.

c. Equipment Area (contaminated area): Work equipment, footwear, additional contaminated work clothing and supplies are left here. This is a change and transit area for workers and also a storage area.

d. Work Area: The work area should be separated by polyethylene barriers from the equipment area. If the airborne asbestos level in the work area is expected to be high, an additional intermediate cleaning space may be added between the equipment area and the work area.

5. Worker decontamination process

a. Worker enters outside room and removes clothing, puts on clean coveralls and respirator, and passes through shower into the equipment area.

b. Any additional clothing and equipment left in the equipment area, required by the worker, is put on. (When the work area is too cold for coveralls only, the worker will usually provide himself with additional warm garments. These must be treated as contaminated clothing left in the equipment area).

c. Worker proceeds to work area and works.

d. After the work period is over, and before leaving the work areas, the workers should remove all gross contamination and debris from the disposable coveralls. In practice this is usually carried out by one worker assisting another. The worker then removes all disposable clothing except respiratory protection equipment. Disposable coveralls are placed in a bag for disposal with other material.

e. The worker proceeds to the equipment area and removes all remaining clothing except respiratory protection equipment. Extra work clothing may be stored in contaminated end of this unit.
f. The worker then proceeds into the shower area. Respiratory protection equipment should only be removed after wetting in shower to prevent inhalation of fibers. Dispose of filters after removing mask.

g. After showering, the worker moves to the clean area and dresses in either new coveralls for another entry or street clothes if leaving.

Respirators are picked up, cleaned by re-washing, and wrapped by protected workers in a separated area. The respirators are then brought to the clean area by an outside worker. The cleaners then exit through the shower units as usual

3.2 TEMPORARY FACILITIES, CONSTRUCTIONS AND PROTECTIONS

Furnish, install and maintain for the duration of construction all required scaffolds, showers, toilets, barriers, barricades, canopies, caution signs, steps, bridges, platforms and other temporary construction necessary for proper completion of the work in compliance with all safety and other regulations.

1. Installation of temporary facilities

   a. Temporary facilities will be constructed or provided as required by code to facilitate safe containment and removal of asbestos containing materials. Each type of removal and each circumstance should be considered to ensure that the most appropriate containment and decontamination facilities are installed correctly.

   b. Once installed, facilities will be monitored and maintained safely for the duration of the abatement work, and safely removed and legally disposed of at its completion.

2. Engineering Controls, Maintenance of Barriers

   a. With the exception of standard glovebag or tent procedures, negative pressure ventilation units shall be employed continuously (24 hours/day) during the conduct of abatement activities on boiler room equipment. A minimum static negative air pressure of 0.02 inch water column shall be maintained at all times in the work area during abatement activities to ensure that contaminated air in the work area does not filter into uncontaminated areas.


   c. All plastic barriers inside the work place and partitions constructed [in accordance with NYC Title 15 Chapter 1, paragraphs 1-116(l)] to isolate the work area from occupied
areas shall be regularly inspected by the supervisor to assure their integrity. Damages and defects in the barriers shall be repaired immediately upon discovery.

d. At any time during abatement activities that visible emissions are observed, or elevated asbestos fiber counts outside the work area measured, or if damages occurs to barriers, abatement shall stop. The source of the contamination shall be located, the integrity of the barriers restored. Visible residue shall be cleaned up using appropriate HEPA vacuuming and wet cleaning procedures.

3. Worker decontamination enclosure system
   a. The worker decontamination enclosure system will consist of a clean room, a shower room, and an equipment room, in series, separated from each other by airlocks and from the non-work place by a curtained door.
   b. Worker decontamination enclosure systems will be located outside the work area and attached to all locations where workers will enter or exit the work area. These systems may consist of existing rooms outside of the work area that offer direct access to the work area and general egress from the work place. When this situation does not exist, enclosure systems may be constructed or may consist of prefabricated or trailer units. Adequate heat and light shall be safely provided to these spaces.
   c. Worker decontamination enclosure system will be fully lined utilizing two layers of 6 - mil opaque plastic sheeting at a minimum, or the equivalent.

4. Prefabricated or trailer decontamination units
   a. When the decontamination enclosure system is constructed outdoors or in areas with public access, it will be fully framed and plywood sheathed or equivalent to prevent unauthorized entry. When located outdoors it shall be waterproof and windproof.
   b. Unit will at a minimum, have functionality and security equivalent to constructed decontamination enclosure facilities, and
   c. Unit will be completely decontaminated prior to removal from the work site.

5. Clean room
   a. will contain secure crew lockers or shelves, and clean sealable plastic bags for storage of street clothes;
   b. will contain shelves or appropriate facilities for storage of respirators;
   c. will contain disposable clothing, replacement filters for respirators, towels and other necessary personal protective equipment;
d. will not be used for storage of tools, equipment or materials, other than personal protective equipment, nor used as office space; and

e. will be equipped with a lockable door.

f. will be sized adequately to accommodate the work crew, and

g. will contain secure crew lockers or shelves, and clean sealable plastic bags for storage of street clothes, and

h. will contain a sufficient quantity of benches, and

i. will contain shelves or appropriate facilities for storage of respirators, and

j. will contain disposable clothing, replacement filters for respirators, towels and other necessary personal protective equipment, and

k. will not be used for storage of tools, equipment or materials, other than personal protective equipment, nor used as office space, and

l. will be equipped with a lockable, shuttered door which opens on make-up air inflow and seals on air flow cessation for interior and exterior exits. The door shall permit entrance to the clean room and secure the work place during off-shift hours.

m. The clean room may not be used for waste storage but is used for waste transfer to carts, which are stored outside the clean room in a designated holding area.

6. Shower room

a. will contain a minimum of one shower for each eight (8) workers, calculated on the basis of the staffing of the largest shift;

b. will have shower heads supplied with hot and cold water adjustable at the shower;

c. will be constructed to ensure against water leakage; and

d. will contain liquid bath soap, shampoo and clean, dry towels in sufficient quantity for each worker for each showering.

e. Shower water will be drained, collected and filtered through a system with at least 5.0 micron particle size collection capability. A system containing a series of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filtration system by large particles.

f. Filtered wastewaterr will be discharged to a sewer or other legal disposal method.
g. Used filters will be disposed of as asbestos-containing waste material.

7. Equipment room
   a. will be used for storage of equipment and tools used on the job that had been cleaned previously in the work area;
   b. may contain a limited supply of replacement filters (in sealed containers until used) for HEPA vacuums and pressure ventilation equipment, extra tools, containers of surfactant and other materials and equipment that may be required during the abatement activity;
   c. will contain labeled 6-mil plastic bags for collection of disposable clothing; and
   d. will be used to store contaminated footwear (e.g. rubber boots and other reusable footwear) and contaminated clothing for reuse for the duration of the abatement activity or until disposed.

8. Negative air pressure equipment
   a. Negative pressure supplied by negative pressure equipment shall be provided for all spaces enclosed for the asbestos abatement process and shall be installed according to ANSI Z9.2 (1979) local exhaust ventilation. The Contractor shall retain on site an extra negative pressure ventilation unit in case the active unit fails, as required by NYS regulations.
   b. The negative pressure ventilation equipment shall operate continuously, 24 hours a day, from the establishment of isolation barriers through successful clearance air monitoring. If such equipment shuts off, adjacent areas shall be monitored for asbestos fibers.
   c. A static negative air pressure of 0.02 inches (minimum) water column shall be maintained at all times in the workplace during abatement to ensure that contaminated air in the work area does not filter back to uncontaminated areas.
   d. If more than one ventilation unit is installed, units shall be turned on one at a time while checking the integrity of all barriers for secure attachment and the need for additional reinforcement.
   e. A dedicated power supply for the negative pressure ventilation units shall be utilized.
   f. On loss of negative pressure or electric power to the negative pressure ventilation units, abatement shall stop immediately and shall not resume until power is restored and negative pressure ventilation equipment is operating again. When power failure or loss of negative pressure equipment lasts or is expected to last longer than one hour:
      (1) the make-up air inlets shall be airtight;
(2) the decontamination system shall be sealed airtight after the evacuation of workers and/or authorized visitors from the work area; and

(3) all adjacent areas shall be monitored for asbestos fiber concentration upon discovery of, and subsequently throughout, the power failure.

g. Negative pressure ventilation equipment shall be installed and operated to provide at least one air change in the work area every 15 minutes, except during clearance air monitoring when at least one air change in the work area every 30 minutes shall be provided.

h. Openings made in the isolation barriers to accommodate these units shall be made airtight. The units shall remain within the work area unless located securely outside the building.


(1) At no time shall the negative pressure ventilation unit exhaust within 40 feet of a receptor or adversely affect the air intake ports, louvers, or entrances for the building or adjacent buildings.

(2) Heavy duty ducting of equivalent, or larger, shape and dimension as that of the negative pressure ventilation exhaust port shall be used to exhaust to the outside of the structure.

(3) All ducting shall be sealed and braced or supported to maintain airtight joints.

j. Where ducting to the outside is not possible, a second negative pressure ventilation unit compatible with the primary unit's capacity shall be connected in series. The area receiving the exhaust shall have sufficient, non-recycling exhaust capacity to the outside of the structure.

k. Careful installation shall be performed to ensure that the ducting does not release fibers into uncontaminated building areas. Routine smoke testing, air monitoring and daily inspections shall be performed by the Asbestos Handler Supervisor of other consultant to ensure no harmful leaks.

9. Plastic Barriers

a. All plastic barriers inside the work place and partitions constructed [in accordance with NYC Title 15 Chapter 1, paragraphs 1-116(l)] to isolate the work area from occupied areas shall be regularly inspected by the supervisor to assure their integrity. Damages and defects in the barriers shall be repaired immediately upon discovery.
b. Plastic barriers shall be erected by the Contractor to totally enclose work areas. Barriers shall be constructed of two layers of six mil (.006") fire retardant polyethylene for vertical protection of walls, doors and windows and will extend outwards from the wall a minimum of 18".

c. Two layers of six mil (.006") fire retardant polyethylene for protection of floors, fixed equipment and heating and ventilating supply and return grilles. First layer extends up the wall a minimum of 12". The second layer shall extend up to wall a minimum of 24".

d. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclosed with two layers of 6-mil plastic sheeting sealed (with tape) to protect from re-contamination.

e. Duct tape and selective adhesives shall be capable of sealing joints of adjacent sheet, facilitate attachment of polyethylene sheets to finish or unfinished surfaces, and of adhering under both dry and wet conditions, including during the use of amended water may be used to attach vertical plastic barriers to walls and to floor.

f. All edges of plastic material shall overlap the adjoining sheet a minimum of four inches. All joints (vertical and horizontal) shall be continuously sealed with tape. Cover all heating and ventilation supply exhaust grilles. Spray adhesive may be used in lieu of tape.

g. Movable furniture and equipment will be removed from the work area prior to the start of work as specified. Remove and store curtains and draperies. Furnishing will be reinstalled at the successful completion of the air test.

10. Isolation barriers

a. Isolation barriers shall be used to seal off all openings including but not limited to windows, corridors, doorways, barriers, skylights, ducts, grills, diffusers and any other penetrations into the work area. They shall be installed with 2 layers of 6-mil polyethylene plastic sheeting and sealed with tape.

b. All runs of HVAC or other system components that pass through the work place shall also be sealed with isolation barriers. Chimney effects in stacks, columns, flues, shafts, double-wallet enclosures, etc., that impact the work area shall be eliminated by sealing the accesses with solid material covered with a double layer of 6-mil plastic sealed with tape.

c. Negative pressure ventilation equipment shall operate continuously, 24 hours a day from the establishment of isolation barriers through successful clearance air monitoring. If such equipment shuts off, it will become necessary to monitor adjacent areas for asbestos fiber contamination.
d. Equipment such as burners or boilers that could create positive pressure in the work place shall be shut down. If equipment must be kept operating, a second containment barrier completely independent of the primary isolation barrier shall be constructed to maintain the proper air pressure differential across the barriers in case the primary containment barrier is accidentally breached.

11. Temporary structural partitions

The work area will be segregated from the remainder of the work site by construction of temporary structural partitions as follows:

a. Partitions will be constructed of conventional 2” x 3” (minimum) wood or metal stud framing, 16"oc maximum, to support barriers in all openings larger than 32ft², except where any one dimension is 1 foot or less, or where openings are emergency or fire exits that shall be maintained by daily examination for blockage or impediment to exit.

b. A solid construction material (e.g. plywood) of at least 3/8" thickness shall be applied to the work side of the framing. In secure interior areas where partitions are not subject to access from the public, an additional layer of 6-mil plastic sheeting may be substituted for the solid construction material.

c. The partitions will be caulked/sealed at the floor, ceiling, walls, joints and fixtures to form an airtight seal.

12. Visual barriers

a. When areas immediately beyond plastic barrier are occupied by Students and Faculty during the progress of the work, the. Contractor shall furnish and install material necessary to construct a temporary visual barrier outside of plastic barrier,

b. Temporary visual barrier shall be constructed of 2" X 3" wood stud (or metal) framing covered with ¼” thick, 4’ x 8’ hardboard. The smooth side of the hardboard to be installed facing clean area (student occupied) side.

13. Asbestos caution signs

a. Allow no signs or advertising of any kind on the job site except as specified herein.

b. The Contractor shall post signs in accordance with OSHA 29 CFR 1926.1101 Sign Specifications. Signs shall be posted at all approaches to the work place including internal doorways which provide access to the work place. These signs shall bear the following information:

DANGER
ASBESTOS
c. Work area preparation to follow format of Department of Environmental Protection Title 15, Chapter 1.

d. Caution labels shall be affixed to all bags and containers which are to be filled with asbestos waste material to be disposed of as part of the work of this contract.

e. Labels shall be printed in letters of sufficient size and contract to be readily visible and legible. The label shall state:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

f. Asbestos identifying “STOP” signs

(1) Asbestos Abatement Projects where asbestos containing material will remain at the conclusion of the work [i.e. encapsulation, containment and sealing] yellow "STOP" stickers and arrows shall be applied by the Contractor in areas where he has performed work under this contract.

(2) Obtain supply of stickers and arrows from the Environmental Health and Safety Unit.

(3) Unless otherwise directed by the Environmental Health and Safety Unit, apply stickers and arrows at 20’ intervals in corridors (staggered on each wall), auditoriums, cafeterias, libraries and other spaces which are larger than normal classroom size.

(4) In normal size classrooms or smaller rooms, apply a minimum of one sticker on short walls and two stickers on walls in excess of 20 feet.

(5) Stickers and arrows are to be applied on walls, approximately 12 inches below the ceiling surface.

(6) Arrows are to applied in the direction of the asbestos containing material which remains at the conclusion of the work herein.

(7) On asbestos abatement projects where asbestos containing material is removed and replaced, the Contractor shall remove any and all existing stop signs from walls in those areas.
g. Non-asbestos identifying signs

(1) On asbestos abatement projects where asbestos containing material will be removed and a non-asbestos containing material installed in its place, blue "ASBESTOS FREE INSULATION" stickers shall be applied by the Contractor.

(2) Obtain stickers from the Environmental Health and Safety Unit.

(3) Unless otherwise directed by the Environmental Health and Safety Unit, apply a minimum of one sticker on short walls and at 20' intervals on longer walls.

(4) Stickers are to be applied on walls, approximately 12 inches below the lowest obstruction (piping, duct work, etc.), see sample below.

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ASBESTOS FREE INSULATION
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(5) Stickers are to be applied on all non-asbestos pipe and boiler insulation. Spacing 10 feet apart on piping, and one each on front, sides, and rear of boilers.

14. Waste decontamination enclosure system

The following procedures shall be followed for removal of asbestos containing waste material and equipment during the conduct of abatement activities on large asbestos projects:

a. A waste decontamination enclosure system shall consist of two totally enclosed chambers and shall also comply with the following requirements:

(1) The washroom shall be constructed with an airlock doorway to the work area and an airlock doorway to the holding area.

(2) The holding area shall be constructed with an airlock doorway to the washroom and a lockable door to the outside. If remote from the washroom it shall comply with all applicable New York City Department of Sanitation regulations pursuant to Local Law 70 of 1985 and 21 of 1987.

b. Where there is only one means of egress from the work area:

(1) The holding area of the waste decontamination enclosure system may branch off from the equipment/decontamination room. Thus the equipment room alternates as a waste washroom. In this case the waste washroom shall be equipped with a drain, installed to collect water and deliver it to the shower drain where it is filtered, or

(2) where total asbestos-containing material is disturbed in the asbestos project is less than 1000 linear feet or 1000 square feet, the shower room may be used as a waste washroom, and
15. Holding area

A designated holding area at the work site will:

a. be secured and maintained as a holding area contiguous with a waste decontamination enclosure system as specified herein;

b. be appropriately sized to accommodate estimated waste volume anticipated to be generated;

c. conform to applicable New York City Department of Sanitation regulations; and

d. be permitted to be located in an area outside the enclosure system when circumstances necessitate this arrangement.

e. The holding area shall be constructed with an airlock doorway to the washroom and a lockable door to the outside. If remote from the washroom it shall comply with all applicable New York City Department of Sanitation regulations pursuant to Local Law 70 of 1985 and 21 of 1987.

f. The holding area of the wastes decontamination enclosure system may branch off for, the shower room of the worker decontamination enclosure system.

g. Safe and adequate heat and light shall be provided within

16. Tent installation for Tent Procedure:

a. Tent procedures shall be limited to the removal at any one time of less than 260 linear feet or 160 square feet of ACM and shall not result in disturbance of ACM during tent erection.

b. Tent procedures shall be accomplished in a constructed or commercially available plastic tent, plasticizing and sealing all surfaces not being abated within the tent periphery forming an enclosure. The tent shall be two layers of 6-mil PVC at a minimum, with seams heat-sealed, or double-folded, stapled and taped air tight and then flush with the adjacent tent wall. This is a single use barrier that shall not be reused once dismantled or collapsed.

c. Asbestos handlers involved in the tent procedure shall wear two (2) disposable suits, including gloves, hood and footwear, and appropriate respiratory equipment. All street clothes shall be removed and stored in a clean room within the work site. The double layer personal protective equipment shall be used for installation of the tent and throughout the procedure if a decontamination unit with a shower is not contiguous to the work area. If a decontamination unit (with shower and clean room) is contiguous to the work area, only one layer of disposable personal protective equipment shall be required; in this case, prior to exiting the tent the worker shall HEPA vacuum and wet clean the disposable suit.
d. The tent shall be attached to the surface to produce an airtight seal except for an appropriate section to allow for make up air into the tent.

e. A HEPA vacuum or equivalent shall be used to continuously exhaust the enclosed area as specified under NYC Title 15, Chapter 1 paragraphs 1-126, Engineering Controls, except that the negative air pressure in subdivision (c) shall be demonstrated by smoke testing. The hose shall be attached securely and airtight through the tent wall at the most remote location possible from the ACM to be disturbed. A minimum of two volume changes per hour is required.

17. Equipment provided

a. Ladders or scaffolds of sufficient dimension and quantity shall be available so that all work surfaces can be easily and safely reached by inspectors. Scaffold joints and ends shall be sealed with tape to prevent loss of asbestos fibers.

b. Hand powered tools used to drill, cut into or otherwise disturb ACM shall be equipped with HEPA filtered local exhaust ventilation.

c. Airtight and watertight containers shall be provided to receive and retain asbestos-containing waste materials. Plastic bags used for waste storage or disposal shall be a minimum of 6 mil in thickness. All containers shall be labeled in accordance with OSHA Regulation 29 CFR 1926.1101

18. Utilities

All temporary facilities shall be subject to the approval of the Project Manager or authorized DOHMH employee.

a. Water

DOHMH will furnish all water needed for construction, at no cost to the Contractor.

b. Electricity

DOHMH will furnish all electricity needed for construction, at no cost to the Contractor. All power to work areas shall be brought in from outside the area through ground-fault interrupter at the source and Contractor is responsible for the same.

3.3 BUILDING PREPARATION

The building shall be prepared according to code and these specifications for all work involving large asbestos removal projects, replacement of sprayed on fire-proofing, encapsulation, structural containment, sealing of acoustical plaster, painting and removal and replacement of boiler and pipe insulation.

1. Furniture and Equipment
a. Movable objects within the proposed work area shall be pre-cleaned prior to plasticizing (i.e., prior to commencing general abatement) using HEPA filtered vacuum equipment and/or wet cleaning methods, and removed from the work area. Methods that raise dusts such as sweeping or vacuuming with equipment not equipped with HEPA filters are prohibited. Objects that cannot be removed shall be covered completely with 6-mil plastic sheeting before the work begins using HEPA-filtered vacuum equipment and/or wet cleaning methods and such objects shall be removed from the work area. [Upholstered furniture, carpeting and drapes shall be HEPA-vacuumed before removal from the work area. If disposed of as asbestos containing waste material, cleaning is unnecessary.] If carpeting is left in place, it shall be covered with 6-mil plastic sheeting, and the [½] 3/8 inch rigid flooring prior to normal plasticizing.

b. Moveable furniture and equipment shall be removed from areas of work by the Contractor and re-installed at completion of clean-up.

c. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclosed with [two layers of] 6-mil plastic sheeting sealed [with tape] to protect from re-contamination.

d. Heating and ventilating system servicing the areas of work must be shut down prior to starting any work.

e. Notify Custodian prior to starting any work in order that he may arrange to have the heating and ventilation system shut down.

2. Work site preparation requirements

a. The building owner or designated representative shall notify occupants and other individuals who normally may have reason to enter the work area that asbestos abatement activities will be conducted and the date and extent of work to be done. Posting of this notification shall be in English and Spanish, at eye level, in a conspicuous, well-lit place, at the entrance to the work place at least 2 days prior to the start of the project.

b. The work site shall be isolated from the remainder of the building site, using whichever construction of temporary structural partitions is most appropriate for the type of work to be performed and accommodating the existing situation.

c. Entrances to the work place that will not be used for worker entry of emergency exits shall be locked to prevent unauthorized entry.

d. Emergency and fire exits from the work place shall be maintained, or alternative exits shall be established in accordance with applicable NYC Code(s) and Regulations. Exits shall be checked daily to ensure that there is exterior blockage or impediments to exiting.
e. The Contractor shall post signs in accordance with OSHA 29 CFR 1926.1101 Sign Specifications. Signs shall be posted at all approaches to the work place including internal doorways which provide access to the work place. These signs shall bear the following information:

**DANGER**
**ASBESTOS**
**CANCER AND LUNG DISEASE HAZARD**
**AUTHORIZED PERSONNEL ONLY**
**RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA**

f. Isolation barriers (i.e., sealing off of all openings, including but not limited to windows, corridors, doorways, barriers, skylights, ducts, grills, diffusers, and any other penetrations of the work place) shall be installed with 6-mil plastic sheeting sealed with tape. All seams of HVAC or other system components that pass through the work place shall also be sealed.

g. Chimney effects in stacks, columns, flues, shafts, double-wallet enclosures, etc. that impact the work are shall be eliminated by sealing the areas with solid material covered with a double layer of 6 mil plastic, sealed with tape.

h. Floor and wall surfaces shall be sealed with 6-mil plastic sheeting or equivalent. Adjacent layers of plastic shall overlap by a minimum of 6 inches.

i. Equipment (e.g., burners/boilers) that could create positive pressure in the work place shall be shut down. If equipment must be kept operating, a second containment barrier completely independent of the primary isolation shall be constructed to maintain the proper air pressure differential across the barriers in case the primary containment barriers is breached. A qualified person shall make the determination regarding the construction and location of such barriers to ensure adequate ventilation and exhaust for the combustion process.

j. If the glove bag or tent procedures are exclusively utilized for abatement, and if no upset/breach occurs in the process, compliance the requirements for barriers, tenting, sealing and plasticizing are not required. This technique will be used only on small and securable projects.

k. Isolation of the work areas by the most secure and appropriate method is necessary to prevent contamination and fiber dispersal to other areas of the building during work and clean-up operations.

3. Securing the elevators
a. Elevators that run through the work areas shall be secured using the following procedures.

(1) The elevator door in the work area shall be enclosed with conventional 2” x 4” wood or metal stud framing, covered with 3/8” plywood sheathing and sealed at all edges and seams. The barrier shall be covered and lapped for 8 inches with two layers of 6-mil plastic sheeting adhered individually with edges taped for air tightness.

(2) Elevators not remaining in service shall have the fuses removed and the power switch locked in the open position.

(3) Elevators that remain in operations shall conform to the following additional procedures to maintain the piston effect that results:
   
a) Elevator control shall be modified to bypass the work area.

   b) A final larger layer of 6-mil plastic sheeting is to be taped airtight but with slack forming a larger perimeter diaphragm. Air leakage across the barrier shall be corrected upon discovery, and the elevator shaft shall be periodically checked for airborne asbestos contamination.

   c) This system shall be smoke tested daily.

b. Elevator shafts shall not be used as waste chutes.

4. Securing the work site

The legend used in text is as follows. Text In brackets like this, [one (1) foot] shall be applied to large asbestos projects and text that is underlined like this, six (6) inches shall be applied to all abatement activities.

a. The worker decontamination enclosure system shall be installed or constructed prior to plasticizing the work area and before disturbing ACM. The waste decontamination enclosure system shall be installed or constructed prior to commencement of abatement. The area in which these systems are located shall require HVAC system isolation and plasticizing of electrical outlets and equipment that are within [one foot] 6 inches of floor level. (See legend above.)

b. Prior to erection of partitions, ACM that may be disturbed during this activity shall be:

(1) removed using a tent procedure (including engineering controls); and/or

(2) treated via wet methods.
c. Removal by the above procedures shall be limited to a maximum of one foot wide strip running the length and/or height of the partition and is allowed only to facilitate the erection of the partitions.

d. The isolation barriers (i.e., sealing off of all openings, including but not limited to windows, corridors, doorways, barriers, skylights, ducts, grills, diffusers, and any other penetrations of the work place) shall be installed with 2 layers of 6-mil plastic sheeting sealed with tape. All seams of HVAC or other system components that pass through the work place shall also be sealed.

e. The work area shall be segregated from the remainder of the work site by construction of temporary structural partitions as follows:

(1) Partitions shall be constructed of conventional 2” x 4” (minimum) wood or metal stud framing, 16” o.c. maximum, to support barriers in all openings larger than 32ft², except where any one dimension is 1 foot or less, or where openings are exits covered in subdivision (p).

(2) A solid construction material (e.g. plywood) of at least 3/8” thickness shall be applied to the work side of the framing. In secure interior areas where partitions are not subject to access from the public, an additional layer of 6-mil plastic sheeting may be substituted for the solid construction material.

(3) The partitions shall be caulked/sealed at the floor, ceiling, walls, joints and fixtures to form an airtight seal.

f. In addition to the isolation barriers, floor and wall surfaces shall be sealed with a minimum of two layers of 6-mil plastic sheeting. The plastic layers on the floor shall extend 6 inches up the walls. Walls shall be covered with plastic sheeting down to the floor level, thus overlapping the floor material by a minimum of 6 inches. There shall be a distance of at least 6 inches between seams of adjacent layers.

g. Heating, Ventilating and Air Conditioning (HVAC) system isolation methods are listed below in order of preference; the more complex and potentially problematic methods may be used when the more preferred procedures are impractical.

(1) Shut down and lock out HVAC systems and install isolation barriers to prevent contamination and fiber dispersal to other areas of the structure; or

(2) Isolate locally and provide temporary HVAC; or

(3) Positive pressurization of the HVAC system. This procedure shall be applied only under the direction and control of a professional engineer, or other knowledgeable licensed professional, after approval by the Department of Environmental Protection.
h. Abatement shall not commence until work place preparation has been completed and approved by Project Manager or a DOHMH authorized employee.

i. Prior to plasticizing, the proposed work areas shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning methods. Methods that raise dust, such as sweeping or vacuuming with equipment not equipped with HEPA filters, are prohibited.

j. After isolation barriers are in place, ceiling-mounted objects not previously sealed that will interfere with ACM abatement shall be removed and cleaned. Amended water spraying or HEPA-filtered vacuum equipment shall be used during fixture removal to reduce fiber dispersal.

k. Suspended ceiling tiles and T-grid components, in proximity to friable ACM, shall remain in place until the work area has been fully prepared as required and electrical and HVAC systems have been shut down. Contaminated suspended ceiling components shall be removed prior to abatement and treated with a penetrating encapsulant.

l. Emergency and fire exits from the work areas shall be maintained, or alternative exits shall be established in accordance with applicable NYC Code(s) and Regulations. Exits shall be checked daily against exterior blockage or impediments to exiting.

m. Entrances to the work area that will not be used for worker entry or emergency exits shall be locked to prevent unauthorized entry.

n. Floor drains shall be sealed individually with two layers of 6-mil plastic sheeting and tape, and then covered as all other floor surfaces. Pits, sumps, etc., shall be covered with adequate plywood sheeting and secured to floor slabs in a manner which prevents a tripping hazard, prior to required plasticizing.

o. Adequate toilet facilities shall be provided in the vicinity of the clean room external to the work place. Where such facilities do not exist, portable service shall be provided.

3.4 CLEANING

1. Initial cleaning

a. Before any work project is begun the work area will be cleaned.

b. Use only the cleaning materials and equipment that are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the EHS Unit.

c. If vacuums are used, only HEPS type shall be permitted. Model #GA-73 by “NILFISK” and Model #75ASA by Pullman/Holt are approved for asbestos clean-up. Filters shall be replaced frequently to ensure that fibers are not spread.
d. All workers who are engaged in this cleaning shall wear approved respirators and other personal protective clothing and equipment.

e. Debris shall be enclosed in two layers of 6 mil polyethylene plastic and disposed of safely.

f. Materials that are in the area where work will be performed or temporary facilities will be erected, shall be cleaned and, if movable, removed to a secure storage location and if fixed, sealed in place with two layers of polyethylene to prevent recontamination.

2. Work initiation

a. Prior to erection of isolation partitions, ACM that may be disturbed during this activity shall be by the procedures below. Removal by the above procedures shall be limited to a maximum of one foot wide strip running the length and height of the partition and is allowed only to facilitate the erection of the partition:

(1) removed using a tent procedure (including engineering controls) or

(2) treated using the wet method

b. Movable objects within the proposed work areas shall be pre-cleaned (i.e., prior to commencing general abatement) using HEPA-filtered vacuum equipment and/or wet cleaning methods and such objects shall be removed from the work area. [Upholstered furniture, carpeting and drapes shall be HEPA-vacuumed before removal from the work area. If disposed of as asbestos containing waste material, cleaning is unnecessary.] If carpeting is left in place, it shall be covered with 6-mil plastic sheeting, and the [½] 3/8 inch rigid flooring prior to normal plasticizing.

c. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclosed with [two layers of] 6-mil plastic sheeting sealed [with tape] to protect from re-contamination.

3. Progress cleaning

a. Conduct daily inspection and more often if necessary. Accumulations of dust shall be cleaned off all surfaces of the work area on a daily basis, using HEPA vacuum or wet cleaning methods.

b. Remove all visible accumulation of loose asbestos-containing waste material

(1) whenever sufficient asbestos-containing waste material to fill a single leak-tight container of the type commensurate with the properties of asbestos-containing waste material has been removed, or

(2) at the end of each work shift, or
(3) once each working day, whichever shall occur first. Visible material shall be maintained wet until cleaned up.

c. All visible accumulation of asbestos containing waste material may be containerized utilizing rubber dust pans and rubber squeegees or HEPA vacuums. Metal shovels may also be used EXCEPT in the vicinity of isolation or surface barriers which could be perforated by these tools.

d. Storage

(1) Maintain all stored items in an orderly arrangement allowing access and not impeding traffic, and providing the required protection of materials. Maintain the site in a neat and orderly condition at all times.

(2) Do not allow the accumulation of scrap, debris, waste and other items not required for the completion of the work.

(3) At least weekly and more often if necessary, inspect the work area and adjoining spaces and pick up all scraps, debris and waste material. Completely remove all scrap, debris and waste material from the job site to the place designated for their temporary storage.

(4) Provide adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection and protection of ecology.

(5) Weekly, and more often if necessary, inspect all arrangement of materials stored on the site, re-stack, tidy or otherwise service all arrangement to maintain a safe and clean workplace.

e. The waste decontamination enclosure system shall be wet cleaned twice using wet cleaning methods upon completion of waste removal. When the worker decontamination enclosure shower room alternates as a waster container wash room, the shower room shall be washed immediately with cloths or mops saturated with a detergent solution prior to wet cleaning.

f. The worker decontamination enclosure system shall be wet cleaned/HEPA vacuumed, as appropriate, after each shift change and meal break.

(g) Excessive water accumulation or flooding in the work area shall require work to stop until the water is collected and disposed of properly.

h. Spillage of asbestos-containing waste material in an operating elevator shaft shall require:

(1) immediate evacuation, shut down and isolation of all elevators in the affected elevator bank;
(2) containerization of all spilled visible accumulations of asbestos-containing waste material from within the elevator car and shaft;

(3) HEPA vacuuming/wet cleaning of the contaminated surfaces in the elevator car and shaft in respective cycles until clearance air levels are achieved; and

(4) One air sample to be taken at each terminus of the shaft to be analyzed by PCM on a continuing basis until clearance air levels are achieved.

i. Daily or more frequently

(1) Inspect the work areas and adjoining spaces, and pick up all scrap, debris and waste materials. Remove all such items to the place designated for their storage.

(2) Accumulations of dust shall be cleaned off all surfaces of the work area on a daily basis using HEPS vacuum or wet cleaning methods.

j. Weekly, and more often if needed, inspect all arrangements of materials stored on the site; restack, tidy or otherwise service all arrangements to meet the requirements of a clean work site.

k. Following careful double bagging of all removed asbestos material by the Contractor. The bags shall be labeled in the following manner Labels shall be printed in letters of sufficient size and contract to be readily visible and legible. The label shall state:

   DANGER
   CONTAINS ASBESTOS FIBERS
   AVOID CREATING DUST
   CANCER AND LUNG DISEASE HAZARD

l. Bags shall be wiped with clean, damp cloths and placed in secure location prior to transportation to an approved disposal site

4. Final cleaning

   Additional clean-up procedures shall be performed in the order set forth below prior to commencement of clearance air monitoring.

a. After removal of visible accumulations of asbestos-containing waste material, a HEPA vacuuming shall be performed on all surfaces. To pick up excess water and gross saturated debris, a wet-dry shop HEPA vacuum, dedicated to asbestos abatement, may be used.

b. All surfaces in the work area shall be wet cleaned (first cleaning).
c. The cleaned first layer of the surface barriers shall be removed from walls and floors. The second layer of surfaces barriers shall remain in place throughout first cleanup. Decontamination enclosure systems shall remain in place and be utilized.

d. Isolation barriers, that were placed to secure the work location, shall be carefully removed, folded inward and bagged for disposal. Barriers are not to be removed without the inspectors permission.

e. After the first cleaning, the work area shall be vacated for 12 hours to allow fibers to settle. Then, all objects and surfaces in the work area shall be HEPA-vacuumed and wet cleaned a second time. The second layer of remaining plastic surface barriers shall be removed, while the isolation barriers shall remain in position.

f. After the second cleaning, the work areas shall be vacated for 4 hours before wet cleaning and/or HEPA vacuuming all surfaces in the work area for a third cleaning.

(1) Hard surfaced flooring such as concrete, terrazzo, V.A.T. and ceramic tile, shall be wet mopped, allowed to dry, and damp mopped a second time with clean mop heads.

(2) Walls, furniture and equipment (which remained in work area during work operations), windows and other surfaces shall be thoroughly cleaned with damp cloths. A second cleaning is also required.

(3) Carpeting shall be cleaned with a HEPA type vacuum cleaner. CONVENTIONAL VACUUMS WILL NOT BE PERMITTED.

(4) All surfaces are to be left visually clean.

(5) All mop heads and cleaning cloths are to be discarded in the same manner as asbestos waste.

g. As a prerequisite to commencement of clearance air monitoring, a thorough visual inspection shall by Contractor handler supervisor and Project Manager or authorized DOHMH employee shall verify that the area to be cleaned and all surfaces to be dry.

h. All containerized waste shall be removed from the work area through the decontamination enclosures and the holding area.

i. All tools and equipment shall be removed from the work area and decontaminated in the waste decontamination enclosure system. Clothes, mops and other cleaning aids shall be disposed of as asbestos containing waste materials. Remove surplus materials, equipment, scraps, debris and waste.

j. If the air tests following final clean-up indicate a fiber count greater than 0.01 fibers per cubic cm, or 70 s/mm² the Contractor shall re-clean work areas until additional air tests indicate a fiber count of 0.01 f/cc or less than 70 s/mm².
k. Visually inspect all interior surfaces and remove all traces of soil, waste material, smudges and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. Remove all paint droppings, spots, stains and dirt from finished surfaces. Use only the specified cleaning materials and equipment.

(1) Clean all glass inside of work areas.

(2) To all surfaces requiring the routine application of buffed polish, apply the polish recommended by the manufacturer of the material being polished.

l. Schedule final cleaning as approved by the Project Manager or an authorized DOHMH employee to enable DOHMH to accept a completely clean project.

3.5 PROCEDURE FOR LARGE ASBESTOS PROJECT

1. Preparation of work area

a. Examine the site to establish the most suitable locations for temporary structures

b. Curtains and draperies will be carefully removed and stored outside the proposed work area, to be reinstalled upon completion of the work.

c. Prior to plasticizing, the proposed work areas shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning methods. Methods that raise dust, such as sweeping or vacuuming with equipment not equipped with HEPA filters, are prohibited.

d. Movable objects within the proposed work areas shall be pre-cleaned (i.e., prior to commencing general abatement) using HEPA-filtered vacuum equipment and/or wet cleaning methods and such objects shall be removed from the work area. [Upholstered furniture, carpeting and drapes shall be HEPA-vacuumed before removal from the work area. If disposed of as asbestos containing waste material, cleaning is unnecessary.] If carpeting is left in place, it shall be covered with 6-mil plastic sheeting, and the $3/8$ inch rigid flooring prior to normal plasticizing.

e. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclosed with [two layers of] 6-mil plastic sheeting sealed [with tape] to protect from re-contamination.

f. Notify the site Custodian regarding the necessity to shut down heating and ventilating services in the work area before starting any work.

g. Posting of Regulations

- The Contractor will have at all times in his possession at his office (one copy) and in view at the job site (one copy), NYC Title 15, Chapter 1 [Local Law 76], OSHA

- The Contractor, when requested, shall furnish proof that his employees have had instruction on the dangers of asbestos exposure, on respirator use, decontamination, and OSHA regulations, and are DEP and NYS DOL certified.

- All workers must have their individual Department of Environmental Protection< NYS DOL, Certifications displayed at the work site at all times of they will not be permitted to work on this project.

h. Caution Signs

(1) The Contractor shall post signs in accordance with OSHA 29 CFR 1926.1101 Sign Specifications. Signs shall be posted at all approaches to the work place including internal doorways which provide access to the work place. These signs shall bear the following information:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

(2) All containers for debris shall be labeled prior to being removed from work areas. Labels shall be as required by Part Four.

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

2. Isolation of work area from the rest of the building

a. The work area shall be segregated from the remainder of the work site by construction of temporary structural partitions as follows:

(1) Partitions shall be constructed of conventional 2” x 3” (minimum) wood or metal stud framing, 16” o.c. maximum, to support barriers in all openings larger than 32 ft², except where any one dimension is 1 foot or less, or where openings are exits that will be used for emergency or fire exits.
(2) A solid construction material (e.g. plywood) of at least 3/8" thickness shall be applied to the work side of the framing. In secure interior areas where partitions are not subject to access from the public, an additional layer of 6-mil plastic sheeting may be substituted for the solid construction material.

(3) The partitions shall be caulked/sealed at the floor, ceiling, walls, joints and fixtures to form an airtight seal.

b. Seal off all openings using an isolation barriers (i.e., sealing off of all openings, including but not limited to windows, corridors, doorways, barriers, skylights, ducts, grills, diffusers, and any other penetrations of the work place) shall be installed with 2 layers of 6-mil plastic sheeting sealed with tape. All seams of HVAC or other system components that pass through the work place shall also be sealed. Chimney effects in stacks, columns, flues, shafts, double-wallet enclosures, etc., that impact the work area shall be eliminated by sealing the accesses with solid material covered with a double layer of 6-mil plastic sealed with tape.

c. In addition to the isolation barriers, floor and wall surfaces shall be sealed with a minimum of two layers of 6-mil plastic sheeting. The plastic layers on the floor shall extend 6 inches up the walls. Walls shall be covered with plastic sheeting down to the floor level, thus overlapping the floor material by a minimum of 6 inches. There shall be a distance of at least 6 inches between seams of adjacent layers.

d. Floor drains shall be sealed individually with two layers of 6-mil plastic sheeting and tape, and then covered as all other floor surfaces. Pits, sumps, etc., shall be covered with adequate plywood sheeting and secured to floor slabs in a manner which prevents a tripping hazard, prior to required plasticizing.

e. Heating, Ventilating and Air Conditioning (HVAC) system isolation methods are listed below in order of preference; the more complex and potentially problematic methods may be used when the more preferred procedures are impractical.

(1) Shut down and lock out HVAC systems and install isolation barriers to prevent contamination and fiber dispersal to other areas of the structure; or

(2) Isolate locally and provide temporary HVAC; or

(3) Positive pressurization of the HVAC system. This procedure shall be applied only under the direction and control of a professional engineer, or other knowledgeable licensed professional, after approval by the Department of Environmental Protection.

f. After isolation barriers are in place, ceiling-mounted objects not previously sealed that will interfere with ACM abatement shall be removed and cleaned. Amended water spraying or HEPA-filtered vacuum equipment shall be used during fixture removal to reduce fiber dispersal.
g. Suspended ceiling tiles and T-grid components, in proximity to friable ACM, shall remain in place until the work area has been fully prepared as outlined in this part and electrical and HVAC systems have been shut down. Contaminated suspended ceiling components shall be removed prior to abatement and treated with a penetrating encapsulant.

h. Abatement shall not commence until work place preparation has been completed and approved by a PROJECT MANAGER OR AN AUTHORIZED DOHMH EMPLOYEE designated person.

3. Exits

a. Emergency and fire exits from the work areas shall be maintained, or alternative exits shall be established in accordance with applicable NYC Code(s) and Regulations. Exits shall be checked daily against exterior blockage or impediments to exiting.

b. Entrances to the work area that will not be used for worker entry or emergency exits shall be locked to prevent unauthorized entry.

4. If elevators are running through the work areas they shall prepared according to the following:

a. The elevator door in the work area shall be enclosed with conventional 2 x 4 stud framing, covered with 3/8" plywood sheeting and sealed at all edges and seams. The barrier shall be covered and lapped for 8 inches with two layers of 6-mil plastic sheeting adhered individually with edges taped for air tightness.

b. Elevators not remaining in service shall have the fuses removed and the power switch locked in the open position.

c. Elevators that remain in operations shall be modified to bypass the work area.

d. A final larger layer of 6-mil plastic sheeting is to be taped airtight but with slack forming a larger perimeter diaphragm. Air leakage across the barrier shall be corrected upon discovery, and the elevator shaft shall be checked for airborne asbestos contamination.

e. This system shall be smoke tested daily.

f. Elevator shafts shall not be used as waste chutes.

5. Construct the appropriate Temporary Facilities as described elsewhere in this specification. These facilities will include the following. Their placement and construction must be approved by the Director or designee before the abatement may proceed.

a. Worker decontamination enclosure system

b. Prefabricated or trailer decontamination units
c. Clean room  
d. Shower room  
e. Equipment room  
f. Negative air pressure equipment  
g. Plastic Barriers  
h. Isolation barriers  
i. Temporary structural partitions  
j. Visual barriers  
k. Asbestos caution signs  
l. Waste decontamination enclosure system  
m. Holding area  

6. Adequate toilet facilities shall be provided and maintained in the vicinity of the clean room external to the work place. Where such facilities do not exist, portable service shall be provided.  

7. Procedures for boiler room equipment abatement  
   a. ACM Disturbance, handling and Removal Procedures. The following procedures shall be followed during the conduct of abatement activities:  
   
b. Where at least 260 linear feet or 160 square feet of ACM will be distribute, the following procedures shall be followed unless an alternate plan has been submitted and approved. The calculation to establish the quantity of ACM that will be removed will include ACM on walls and ceilings within the room containing the main equipment, or where there is no such room located on the floor where the main equipment is located.  
   
c. Abatement of asbestos-containing materials shall be by the wet methods. Dry removal of asbestos-containing materials is prohibited, unless EPA approval has been obtained for an alternate procedure. The EPA-approved alternate removal plan shall be submitted to the Department for approval a minimum of 15 days before work is scheduled to begin or begins. The plan shall explain and justify why ACM must be removed dry and how asbestos fibers will be controlled to prevent their release.
d. When amended water is used, the ACM shall be sprayed with sufficient frequency and quantity for enhanced penetration. Sufficient time shall be allowed for penetration to occur prior to removal action or other disturbance taking place. Accumulation of standing or free water is prohibited. Fluffy friable materials shall be saturated. Non-hygrosopic materials, such as tremolite or amolite, shall be thoroughly wetted on all surfaces while work is being conducted.

e. When used, removal encapsulants that minimize fiber generation and enhance penetration, shall be applied per manufacturer's specifications and in accordance with Federal guidelines.

f. ACM upon detachment from the substrate is to be bagged directly or dropped onto a flexible catch basin and promptly bagged. Excess air in the bag shall be minimized and the bag shall be sealed. Non-hygrosopic materials shall not be dropped. ACM shall not be dropped from a height greater than 10 feet. Above 10 feet in height dust free enclosed inclined chutes may be used. Vertical or near vertical chutes are prohibited. Maximum inclination from horizontal shall be 60 degrees.

g. Do not allow fallen material to litter the floor. The materials shall be picked up and bagged frequently.

h. Large components removed intact that cannot be containerized shall be maintained wet, wrapped (minimizing excess air) in at least two layers of 6-mil polyethylene sheeting, and secured by sealing with tape.

i. Removed material to be placed in double 6 mil (.006”0 polyethylene bags tied securely, labeled and properly disposed of.

j. After completion of all stripping work, surfaces from which asbestos-containing materials have been removed shall be cleaned (e.g. wet brushed and/or wet-cleaned) to remove all visible residue.

k. After the work has been rendered free of visible residues, a thin coat of an encapsulating agent shall be applied to all surfaces in the work area from which the ACM was removed, to seal in nonvisible residue.

l. Clean all equipment, tools and items that were used for the abatement prior to removing them from the work area.

m. Air testing will be performed as required by regulations before area is certified to be asbestos free.

n. Disposal of materials shall be as required by law.

3.6 INSTALLATION OF SPRAYED-ON FIREPROOFING
1. Preparation of work area

   a. If spray-on fireproofing has been removed, the required temporary structures shall remain in place until the re-application has been completed.

   b. Carefully examine substrate to ensure that that all asbestos-containing material has been removed. Clean substrate of dirt, duct, grease, oil, loose material, frost or other material that may affect the bond of the spray-on fireproofing. Do not begin the spray on process until the substrate has been examined and approved in writing by the Project Manager or a DOHMH authorized employee.

   c. The Contractor will ensure that the work area can be maintained at a temperature of no colder than 40 degrees Fahrenheit and that can be maintained for 24 hours after spraying has been completed. Ensure that adequate ventilation can be maintained. Do not apply spray insulation when the temperature of the substrate is below 40 degrees and surrounding air temperature is below 40 degrees.

   d. Provide ventilation in area to receive sprayed insulation, allowing for the introducing of fresh air and exhausting air continuously during and 24 hours after application to maintain a non-toxic, unpolluted, safe working area. Provide temporary enclosures to prevent spray from contaminating air.

   e. Provide fire extinguishers and post caution signs warning against smoking and open flames when working with flammable materials.

   f. Protect adjacent surfaces and equipment from damage by over-spray, fall-out and dusting-off of sprayed insulating materials.

   g. Provide fire extinguisher and post caution signs warning against smoking and open flame when working with flammable materials.

2. Documentation

   a. Before work begins, submit proof that the qualifications of workpeople performing the application are at least as required below

      (1) The Applicator must be licensed or approved by manufacturer of material.

      (2) Furnish a letter of approval from the manufacturers with listing of previous similar applications.

      (3) Proof that the material has been tested and passes the following requirements

          a. Underwriters Laboratories  
             b. Dry Density   
             c. Abrading and Impact Penetration    
             d. Fire Test

             \begin{align*}
             & \text{ASTM E-119} \\
             & \text{ASTM E-605} \\
             & \text{ASTM (Proposed)} \\
             & \text{ASTM E-84}
             \end{align*}
(4) Submit U.L. Design System for approval prior to application. The design must be approved prior to application.

(5) Furnish manufacturers printed material specifications and application instructions for material for approval by the EHS Unit

(6) Furnish manufacturers certification that materials meet or exceed specification requirements. Include U.L. design, indicating the thickness required to achieve a flame spread rating for Class A. 0-25 ASTM, E-84.

(7) Tested in accordance with ASTME-119 and U.L.263

(8) Dry density – minimum 11 pounds per cubic foot, with average of 13 pcf when tested in accordance with ASTM E-605

(9) Minimum bond strength of 100 pounds per square foot ASTM C-297

(10) Abrasion on more than 1.22 in. 3 (20cm 3 ) when tested in accordance with ASTM Proposed Test Methods for Fire Resistive Materials

(11) Impact loss not greater than .31 in. 3 (5 cm3) when subjected to impact penetration tests in accordance with ASTM Proposed Test Methods for Sprayed Fire Resistive Material

(12) Fire test method – Flame spread – Class A. 0-25 ASTM, E-84

(13) U. L. and factory Mutual Acceptance and approval for Class 1A construction

(14) Provide test result for material that ensures impact loss is not greater than .31 inches in 3 inches when subjected to impact penetration tests in accordance with ASTM Proposed Test Methods for Sprayed Fire Resistance Material for pre-approval.

(15) Provide fire test result for material that ensures a Class A. 0-25 ASTM. E-84 flame spread for pre-approval.

(16) Provide test result for material that ensures U.L. listing and Factory Mutual Acceptance and approval for Class 1A Construction for pre-approval.

(17) Furnish manufacturers printed material specifications and application instructions for material begin submitted for approval.

(18) Furnish manufacturers certification that materials meet or exceed specification requirements. Include U.L. design, indicating the thickness
required to achieve the hourly rating of two (2) hours for structural steel and metal deck with a roof above and bottom of steel which is not less than 15 feet above the finished floor and 3 hours for all other conditions

b. After installation, furnish applicators certification that material has been applied in accordance with manufacturers printed instructions and in thickness required by the hourly ratings specified.

c. Product delivery, storage and handling

(1) Deliver materials in original, unopened packages bearing name of manufacturer and product identification, including proper U.L. labels for fire hazard and fire resistance classifications.

(2) Reject damaged packages found unsuitable for use and remove from job site.

(3) Store materials off ground, under cover, and away from damp surfaces.

(4) Keep materials dry at all times. All bags that have been exposed to water before use shall be discarded.

(5) Material is not to be used after its expiration date.

d. After completion, furnish applicators certification that material has been applied in accordance with manufacturers printed instructions and in the thickness required by the hourly ratings specified.

e. Sprayed fireproofing when applied to concrete surfaces shall be a minimum of one (1) inch thick

3. Mixing

a. Material shall be a factory mix cementitious or cellulose material

b. Mix materials with water in proportions and as recommended by the manufacturer

c. Use only clean and potable water

d. Use of Asbestos Containing Material is strictly forbidden

4. Application of spray-on fireproofing

a. Provide U.L. Design System for approval prior to application.
b. Apply sprayed-on fireproofing in strict accordance with manufacturer’s instructions. Do not apply when the temperature of the substrate is below 40 degrees F (4.4 degrees C) and surrounding temperature is below 40 degrees.

c. Sprayed fireproofing shall be applied to structural members in proper thickness and densities to provide the following fire resistive ratings:

(1) Structural Steel and Metal Deck with roof above and bottom of steel is not less than 15 feet above finished floor

(2) All other conditions

3 hours

d. Sprayed fireproofing when applied to concrete surfaces shall be a minimum of one inch (1") thick in its cured form.

e. While still wet, the cellulose type spray-on fireproofing material applied to concrete surfaces shall be tamped to achieve a "travertine like" finish.

f. Tamping is not required for cementitious materials.

g. Patch all damaged or uneven areas of fireproofing prior to final inspection.

h. Apply one coat of "tinted" sealant after tamping of cellulose type material.

i. Approved sealant such as Cafco Bond-Seal.

5. Cleanup

a. Carefully remove and properly discard all protection material.

b. Clean over-spray material from all non-fireproofed surfaces.

3.7 ENCAPSULATION

1. Preparation of work area

a. The Contractor will have at all time in his possession at his office (one copy) and in view at the job site (one copy), NYC Title 15, Chapter 1 [Local Law 76], OSHA Regulation 1926.1101, Asbestos, and Environmental Protection Agency 40 CFR, Part 61, subparts A and M: National Emission Standard for asbestos, asbestos...
stripping, work practices, and disposal of asbestos waste. There shall be a DEP certified supervisor at all times assigned at the site who will supervise and inspect the work.

b. The Contractor and all workers will at all times carry proof that they have received instruction on the dangers of asbestos exposure, on respirator use, decontamination, and be DEP Certified.

c. Examine the site to establish the most suitable locations for temporary barriers that will isolate the work site from the rest of the building to provide a safe environment within which work may proceed. The location of emergency exits or alternative exits shall be considered, and maintained or provided for the duration of this work.

d. The area where encapsulation is to be performed shall be carefully isolated from the rest of the building to prevent the contamination and fiber dispersal of unaffected areas within and outside the building. Construct the appropriate Temporary Facilities as described elsewhere in this specification. These areas must be placed for optimal efficiency and as required by applicable codes. These facilities will include the following. Their placement and construction must be approved by the Director of EHS or designee before the abatement may proceed.

(1) Worker decontamination enclosure system

(2) Prefabricated or trailer decontamination units

(3) Clean room

(4) Shower room

(5) Equipment room

(6) Negative air pressure equipment

(7) Plastic Barriers

(8) Isolation barriers

(9) Temporary structural partitions

(10) Visual barriers

(11) Asbestos caution signs

(12) Waste decontamination enclosure system
(13) Holding area

e. Adequate toilet facilities shall be provided and maintained in the vicinity of the clean room external to the work place. Where such facilities do not exist, portable service shall be provided.

f. Prior to installation of this work, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. Verify that gypsum drywall may be installed in strict accordance with all pertinent codes and regulations, the manufacturer's recommendations as approved by the Project Manager or DOHMH authorized employee. Do not install gypsum drywall until all unsatisfactory conditions have been corrected.

g. The work people will at all times wear approved respirators and protective clothing

h. Curtains and draperies will be carefully removed and stored outside the proposed work area, to be reinstalled upon completion of the work.

i. Movable objects within the proposed work areas shall be pre-cleaned (i.e., prior to commencing general abatement) using HEPA-filtered vacuum equipment and/or wet cleaning methods and such objects shall be removed from the work area. [Upholstered furniture, carpeting and drapes will be HEPA-vacuumed before removal from the work area. If disposed of as asbestos containing waste material, cleaning is unnecessary.] If carpeting is left in place, it shall be covered with 6-mil plastic sheeting, and the [½] 3/8 inch rigid flooring prior to normal plasticizing. Methods that raise dust, such as sweeping or vacuuming with equipment not equipped with HEPA filters, are prohibited.

j. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclosed with [two layers of] 6-mil plastic sheeting sealed [with tape] to protect from re-contamination.

k. Notify the site Custodian regarding the necessity to shut down heating and ventilating services in the work area before starting any work.

l. Posting of Regulations

(1) The Contractor will have at all times in his possession at his office (one copy) and in view at the job site (one copy), NYC Title 15, Chapter 1 [Local Law 76], OSHA regulation 1926.1101, Asbestos, and Environmental Protection Agency, 40 CFR, Part 61, Sub-parts A and M: National Emission standard for asbestos, asbestos stripping work practices, and disposal of asbestos waste.
(2) The Contractor, when requested, shall furnish proof that his employees have had instruction on the dangers of asbestos exposure, on respirator use, decontamination, and OSHA regulations, and are DEP and NYS DOL certified.

m. Caution Signs

(1) The Contractor shall post signs in accordance with OSHA 29 CFR 1926.1101 Sign Specifications. Signs shall be posted at all approaches to the work place including internal doorways which provide access to the work place. These signs shall bear the following information:

**DANGER**
**ASBESTOS**
**CANCER AND LUNG DISEASE HAZARD**
**AUTHORIZED PERSONNEL ONLY**
**RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA**

(2) All containers for debris shall be labeled prior to being removed from work areas. Labels shall be as required by Part Four.

**DANGER**
**CONTAINS ASBESTOS FIBERS**
**AVOID CREATING DUST**
**CANCER AND LUNG DISEASE HAZARD**

2. Documentation

a. The Contractor shall provide proof that the supervisor who will be on site at all times to supervise the work is DEP certified.

b. Before work begins, submit proof that the qualifications of workpeople performing the application have, as a minimum, included instruction on the dangers of asbestos exposure, on respirator use and on decontamination, and are DEP certified. Proof of OSHA 10 training shall be retained by the workers at all times.

c. The Contractor shall provide written proof that encapsulating materials meets or exceeds the following requirements for acceptance by the Environmental Health and Safety Unit

(1) Factory Mutual Approval for Class 1A Construction

(2) Underwriters’ Laboratory approval for Class 1A Construction
(3) Material has a flame spread rate for Class A – 0 to 25

3. Isolation of the work area from the rest of the building

   a. The work area shall be segregated from the remainder of the work site by construction of temporary structural partitions as follows:

      (1) Partitions shall be constructed of conventional 2” x 4” (minimum) wood or metal stud framing, 16” o.c. maximum, to support barriers in all openings larger than 32 ft², except where any one dimension is 1 foot or less, or where openings are exits that will be used as emergency or fire exits.

      (2) A solid construction material (e.g. plywood) of at least 3/8” thickness shall be applied to the work side of the framing. In secure interior areas where partitions are not subject to access from the public, an additional layer of 6-mil plastic sheeting may be substituted for the solid construction material.

   b. The isolation barriers (i.e., sealing off of all openings, including but not limited to windows, corridors, doorways, barriers, skylights, ducts, grills, diffusers, and any other penetrations of the work place) shall be installed with 2 layers of fire retardant 6-mil plastic sheeting sealed with tape. All seams of HVAC or other system components that pass through the work place shall also be sealed. Chimney effects in stacks, columns, flues, shafts, double-wallet enclosures, etc., that impact the work area shall be eliminated by sealing the accesses with solid material covered with a double layer of 6-mil plastic sealed with tape.

   c. In addition to the isolation barriers, floor and wall surfaces shall be sealed with a minimum of two layers of fire retardant 6-mil plastic sheeting. The plastic layers on the floor shall extend 6 inches up the walls. Walls shall be covered with plastic sheeting down to the floor level, thus overlapping the floor material by a minimum of 6 inches. There shall be a distance of at least 6 inches between seams of adjacent layers.

   d. Floor drains shall be sealed individually with two layers of fire retardant 6-mil plastic sheeting and tape, and then covered as all other floor surfaces. Pits, sumps, etc., shall be covered with adequate plywood sheeting and secured to floor slabs in a manner which prevents a tripping hazard, prior to required plasticizing.
e. Heating, Ventilating and Air Conditioning (HVAC) system isolation methods are listed below in order of preference; the more complex and potentially problematic methods may be used when the more preferred procedures are impractical.

(1) Shut down and lock out HVAC systems and install isolation barriers to prevent contamination and fiber dispersal to other areas of the structure; or

(2) Isolate locally and provide temporary HVAC; or

(3) Positive pressurization of the HVAC system. This procedure shall be applied only under the direction and control of a professional engineer, or other knowledgeable licensed professional, after approval by the Department of Environmental Protection.

f. After isolation barriers are in place, ceiling-mounted objects not previously sealed that will interfere with ACM abatement shall be removed and cleaned. Amended water spraying or HEPA-filtered vacuum equipment shall be used during fixture removal to reduce fiber dispersal.

g. Suspended ceiling tiles and T-grid components, in proximity to friable ACM, shall remain in place until the work area has been fully prepared as outlined and electrical and HVAC systems have been shut down. Contaminated suspended ceiling components shall be removed prior to abatement and treated with a penetrating encapsulant.

h. Negative pressure machines shall be installed at all locations to provide the required negative pressure air flow and shall be activated once the barriers are in place.

i. Abatement shall not commence until work place preparation has been completed and approved by a PROJECT MANAGER OR AN AUTHORIZED DOHMH EMPLOYEE designated person.

j. Exits

(1) Emergency and fire exits from the work areas shall be maintained, or alternative exits shall be established in accordance with applicable NYC Code(s) and Regulations. Exits shall be checked daily against exterior blockage or impediments to exiting.

(2) Entrances to the work area that will not be used for worker entry or emergency exits shall be locked to prevent unauthorized entry.

k. Elevators running through the work areas shall be prepared according to the following:
(1) The elevator door in the work area shall be enclosed with conventional 2 x 4 stud framing, covered with 3/8" plywood sheeting and sealed at all edges and seams. The barrier shall be covered and lapped for 8 inches with two layers of 6-mil plastic sheeting adhered individually with edges taped for air tightness.

(2) Elevators not remaining in service shall have the fuses removed and the power switch locked in the open position.

(3) Elevators that remain in operations shall be modified to bypass the work area.

(4) A final larger layer of 6-mil plastic sheeting is to be taped airtight but with slack forming a larger perimeter diaphragm. Air leakage across the barrier shall be corrected upon discovery, and the elevator shaft shall be checked for airborne asbestos contamination.

(5) This system shall be smoke tested daily.

(6) Elevator shafts shall not be used as waste chutes.

l. Adequate toilet facilities shall be provided and maintained in the vicinity of the clean room external to the work place. Where such facilities do not exist, portable service shall be provided.

4. Workers’ procedure applicable to all workers and inspectors without exception

a. **WORKER PROTECTION PROCEDURES** will apply to this work.

b. Workers will change work clothes at designated areas prior to start of day's work. Lockers or acceptable substitutions will be provided by the Contractor for street and work clothes. All workers will be issued each day with a sufficient number of complete protective clothing.

c. Workers will remove disposable clothes in the work areas prior to departure from this area. Workers will then proceed to showers. Workers will shower before lunch and at the end of each day's work or any other time they must leave the work area. Hot water, towels, soap and hygienic conditions are the responsibility of the Contractor.

d. Workers WILL NOT EAT, DRINK OR SMOKE once beyond the clean area at the job site. Prior to smoking, eating or drinking, workers will fully decontaminate by showering. Each work will then dress into a new clean disposable coverall to eat, smoke or drink. This new coverall can then be used to re-enter the work area.

e. Workers will leave work footwear inside work area until completion of the job.
f. During the execution of the work of this specification, all workmen must wear protective respirators and clothing.

5. Decontamination Areas

1. Outside Room (clean area): In this room the worker leaves all street clothes and dresses in clean disposable overalls. Respiratory protection equipment is also picked up in this area. No asbestos contaminated items should enter this room. Workers enter this room either from outside the structure dressed in street clothes, or naked from the showers, after showering.

2. Shower Area: This is a separate area used for transit by cleanly dressed workers entering the job from the outside from, or by workers headed for the showers after undressing in the equipment area.

3. Equipment Area (contaminated area): Work equipment, footwear, additional contaminated work clothing and supplies are left here. This is a change and transit area for workers and also a storage area.

4. Work Area: The work area should be separated by polyethylene barriers from the equipment area. If the airborne asbestos level in the work area is expected to be high, any additional intermediate cleaning spaces may be added between the equipment area and the work area.

6. Decontamination Sequence

a. Worker enters outside room and removes clothing, puts on clean coveralls and respirator, and passes through shower into the equipment area.

b. Any additional clothing and equipment left in the equipment area, required by the worker, is put on. (When the work area is too cold for coveralls only, the worker will usually provide himself with additional warm garments. These must be treated as contaminated clothing left in the equipment area).

c. Worker proceeds to work area.

d. After the work period is over, and before leaving the work areas, the workers should remove all gross contamination and debris from the disposable coveralls. In the practice this is usually carried out by one worker assisting another. The worker then removes all disposable clothing except respiratory protection equipment. Disposable coveralls are placed in a bag for disposal with other material.

5. The worker proceeds to equipment area and removes all remaining clothing except respiratory protection equipment. Extra work clothing may be stored in contaminated end of this unit.
6. The worker then proceeds rapidly into the shower area. Respiratory protection equipment should only be removed after wetting in shower to prevent inhalation of fibers. Dispose of filters after removing mask.

7. After showering, the worker moves to the clean area and dresses in either new coveralls for another entry or street clothes if leaving.

8. Respirators are picked up, cleaned by re-washing, and wrapped by protected workers in a separated area. The respirators are then brought to the clean area by an outside worker. The cleaners then exit through the shower units as usual.

7. Method of Encapsulation

The following procedures shall be followed for the encapsulation of ACM:

a. Damaged and/or missing areas of existing fireproofing or insulation materials shall be repaired with appropriate replacement materials. The replacement material shall adhere to existing surfaces and provide a base for application or encapsulating agents.

b. Loose or hanging asbestos-containing materials shall be removed in accordance with the requirements of NYC Title 15, Chapter 1 para 1-137

c. Only encapsulants rated as acceptable or marginally acceptable on the basis of Battelle Columbus Laboratory test procedures and rating requirements develop under the 1978 US EPA contract shall be used for encapsulation.

d. The encapsulant solvent or vehicle shall not contain a volatile hydrocarbon.

e. Latex Paint with solids content greater than 15% may be used as an encapsulant only as follows:

   (1) As a lockdown sealant for coating all non-metallic surfaces, or

   (2) for sealing of cementitious ACM.

f. Encapsulants shall be field tested prior to use by applying each to a small area to determine suitability of the material to be encapsulated. Testing is to occur only after the isolation barriers are in place. Testing shall be by the US EPA method specified in the appendix of "Guidelines for the Use of Encapsulants on Asbestos- Containing Materials" (June, 1981) or ASTM Standard Test Method E736-80. The encapsulated materials shall achieve a cohesive/adhesive strength of 100 lb/ft² perpendicular to the surface.

g. Application of bridging encapsulants over ACM shall provide the manufacturer's specified number of inches or minimum dry film thickness.
h. A different color for each coat of encapsulant (per manufacturer's specifications) shall be used.

i. Penetrating encapsulants shall be applied to penetrate existing asbestos-containing materials to the substrate. During treatment with a penetrating encapsulant, selected random core samples of the asbestos-containing materials shall be removed to check the depth of penetrating. The resulting space shall be treated as outlined above and re-encapsulated.

j. Encapsulants shall be applied using airless spray equipment.

   (1) Spraying is to occur at the lowest pressure range possible to minimize fiber release from encapsulant impact at the surface. It shall be applied with a consistent horizontal or vertical motion.

   (2) Each subsequent coat of encapsulant shall be applied at a right angle to the preceding coat application or per manufacturer's specification.

k. Encapsulated asbestos-containing materials shall be identified (e.g. using labels, signs or color coding) in order to warn building maintenance personnel in the event encapsulated materials must be disturbed.

l. The following maintenance procedures are recommended:

   (1) A periodic inspection and maintenance program, consisting of an inspection at least annually to check for damaged to all encapsulated surfaces. Recoating and repairs are to be performed according to procedures provide for in Method of Encapsulation.

   (2) Maintenance of records by the building owner, on the locations and condition of the encapsulated material and on alteration, renovation, modification, or other procedures that reinsulated in disturbance of the encapsulated material.

   (3) When conditions changes and encapsulation is no longer an appropriate method, additional abatement methods should be conducted.

m. Encapsulants shall be field tested prior to use by applying each to a small area to determine suitability of the materials to be encapsulated.

   (1) Testing is to occur only after the isolation barriers are in place.

   (2) Testing shall be by the US EPA method specified on the appendix of "Guidelines for the Use of Encapsulation on Asbestos-Containing Materials" (June, 1981) or ASTM Standard Test Method E736-80. The encapsulated materials shall achieve a cohesive/adhesive strength of 100 lb/ft² perpendicular to the surface.
a) First coat (yellow in color) is intended to penetrate the surface of the asbestos material to a minimum of 7⁄8 of an inch and act as a primer coat.

b) Second coat (blue in color) is to be applied uniformly to achieve an even application of sealant, thoroughly covering, and penetrating the asbestos material.

c) Overall penetration of the sealant shall be a minimum of 7⁄8 of an inch into the asbestos material.

d) Cores will be taken of the cured material to verify this penetration depth.

e) Adjustments will be made to contract sum should this penetration not be achieved.

n. The Contractor shall before applying any sealer, check and ensure that the application of the sealer will not cause the friable base material to fail and allow the sealed material to fall of its own weight. If the Contractor doubts the ability of the base material to support the sealant a request for direction from the Environmental Health and Safety Unit shall be made before proceeding with the encapsulation work. If failure should occur during the process of the encapsulation work, the Contractor shall STOP work and notify the Environmental Health and Safety Unit immediately.

o. The Contractor shall receive approval of the first coat from the Environmental Health and Safety Unit prior to the application of the second coat.

p. Manufacturers printed instructions for use of his product as an asbestos coating shall be strictly observed. Any deviations from those instructions shall be obtained in writing from the Environmental Health and Safety prior to starting (or continuing) the spraying operations.

q. Asbestos material which has broken away from the surface, prior to, during or after the spraying shall be immediately packed into double plastic bags and sealed. The plastic bags shall be placed into fiber or metal drums for transport. During the operation, periodic cleanup of asbestos materials is required.

r. The accumulation of fallen or dislodged material of the floor and constant traffic in the area will cause excessive airborne concentrations of the asbestos fibers. The periodic clean-up and bagging of materials will prevent higher than normal concentrations of asbestos fibers.

s. During the progress of the entire encapsulation procedure and as otherwise listed, air samples shall be taken as specified.

t. All plastic sheeting, tape, cleaning material (including mop heads), disposable clothing, and work clothes, shoes or boots that cannot be cleaned thoroughly,
disposable filters and all other disposable material used in the work area shall be packed into double plastic bags (6 mil. minimum each) sealed and placed into fiber or metal drums for transport and disposal. Care shall be taken in folding up the plastic sheeting to minimize dispersal of asbestos-containing debris.

u. Air testing shall be conducted as described in the Air and Water Sampling and Testing Specification.

3.8 STRUCTURAL CONTAINMENT

1. Preparation of work area

a. The building shall be prepared as required

b. Examine the site to establish the most suitable locations for temporary barriers that will isolate the work site from the rest of the building to provide a safe environment within which work may proceed. Temporary structures such as worker decontamination enclosures, waste decontamination enclosures, equipment rooms, washrooms, clean rooms, shower rooms, and holding areas must be placed for optimal efficiency and as required by applicable codes. The location of emergency exits or alternative exits shall be considered, and maintained or provided for the duration of this work

c. Carefully inspect the work of all other trades and verify that all such work is completed to the point where this installation may safely commence. Verify that gypsum drywall may be installed in strict accordance with all pertinent codes and regulations, the manufacturer’s recommendations as approved by the Project Manager or DOHMH authorized employee. Do not install gypsum drywall until all unsatisfactory conditions have been corrected.

d. The work people will at all times wear approved respirators and protective clothing.

e. The area where containment is to be performed shall be isolated from the rest of the

2. Posting of Regulations

a. The Contractor will have at all times in his possession at his office (one copy) and in view at the job site (one copy), NYC Title 15, Chapter 1 [Local Law 76], OSHA regulation 1926.1101, Asbestos, and Environmental Protection Agency, 40 CFR, Part 61, Sub-parts A and M: National Emission standard for asbestos, asbestos stripping work practices, and disposal of asbestos waste.

b. The Contractor, when requested, shall furnish proof that his employees have had instruction on the dangers of asbestos exposure, on respirator use, decontamination, and OSHA regulations, and are DEP and NYS DOL certified.
3. Caution Signs

a. The Contractor shall post signs in accordance with OSHA 29 CFR 1926.1101 Sign Specifications. Signs shall be posted at all approaches to the work place including internal doorways which provide access to the work place. These signs shall bear the following information:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

b. All containers for debris shall be labeled prior to being removed from work areas. Labels shall be as required by Part Four.

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

4. Isolation of the work area from the rest of the building

a. The area where containment is to be performed shall be isolated from the rest of the building to prevent the contamination and fiber dispersal of unaffected areas within and outside the building.

b. Curtains and draperies will be carefully removed and stored outside the proposed work are, to be reinstalled upon completion of the work.

c. Prior to plasticizing, the proposed work areas shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning methods. Methods that raise dust, such as sweeping or vacuuming with equipment not equipped with HEPA filters, are prohibited.

d. Movable objects within the proposed work areas shall be pre-cleaned (i.e., prior to commencing general abatement) using HEPA-filtered vacuum equipment and/or wet cleaning methods and such objects shall be removed from the work area. [Upholstered furniture, carpeting and drapes shall be HEPA-vacuumed before removal from the work area. If disposed of as asbestos containing waste material, cleaning is unnecessary.] If carpeting is left in place, it shall be covered with 6-mil plastic sheeting, and the $\frac{3}{8}$ inch rigid flooring prior to normal plasticizing.
e. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclosed with [two layers of] 6-mil plastic sheeting sealed [with tape] to protect from re-contamination.

f. Notify the site Custodian regarding the necessity to shut down heating and ventilating services in the work area before starting any work.

g. The work area shall be segregated from the remainder of the work site by construction of temporary structural partitions as follows:

(1) Partitions shall be constructed of conventional 2” x 4” (minimum) wood or metal stud framing, 16” o.c. maximum, to support barriers in all openings larger than 32 ft², except where any one dimension is 1 foot or less, or where openings are exits that will be used for emergency or fire exits.

(2) A solid construction material (e.g. plywood) of at least 3/8” thickness shall be applied to the work side of the framing. In secure interior areas where partitions are not subject to access from the public, an additional layer of 6-mil plastic sheeting may be substituted for the solid construction material.

(3) The partitions shall be caulked/sealed at the floor, ceiling, walls, joints and fixtures to form an airtight seal.

h. The isolation barriers (i.e., sealing off of all openings, including but not limited to windows, corridors, doorways, barriers, skylights, ducts, grills, diffusers, and any other penetrations of the work place) shall be installed with 2 layers of 6-mil plastic sheeting sealed with tape. All seams of HVAC or other system components that pass through the work place shall also be sealed. Chimney effects in stacks, columns, flues, shafts, double-wallet enclosures, etc., that impact the work area shall be eliminated by sealing the accesses with solid material covered with a double layer of 6-mil plastic sealed with tape.

i. In addition to the isolation barriers, floor and wall surfaces shall be sealed with a minimum of two layers of 6-mil plastic sheeting. The plastic layers on the floor shall extend 6 inches up the walls. Walls shall be covered with plastic sheeting down to the floor level, thus overlapping the floor material by a minimum of 6 inches. There shall be a distance of at least 6 inches between seams of adjacent layers.

j. Floor drains shall be sealed individually with two layers of 6-mil plastic sheeting and tape, and then covered as all other floor surfaces. Pits, sumps, etc., shall be covered with adequate plywood sheeting and secured to floor slabs in a manner which prevents a tripping hazard, prior to required plasticizing.
k. Heating, Ventilating and Air Conditioning (HVAC) system isolation methods are listed below in order of preference; the more complex and potentially problematic methods may be used when the more preferred procedures are impractical.

(1) Shut down and lock out HVAC systems and install isolation barriers to prevent contamination and fiber dispersal to other areas of the structure; or

(2) Isolate locally and provide temporary HVAC; or

(3) Positive pressurization of the HVAC system. This procedure shall be applied only under the direction and control of a professional engineer, or other knowledgeable licensed professional, after approval by the Department of Environmental Protection.

l. After isolation barriers are in place, ceiling-mounted objects not previously sealed that will interfere with ACM abatement shall be removed and cleaned. Amended water spraying or HEPA-filtered vacuum equipment shall be used during fixture removal to reduce fiber dispersal.

m. Suspended ceiling tiles and T-grid components, in proximity to friable ACM, shall remain in place until the work area has been fully prepared as outlined and electrical and HVAC systems have been shut down. Contaminated suspended ceiling components shall be removed prior to abatement and treated with a penetrating encapsulant.

n. Abatement shall not commence until work place preparation has been completed and approved by a PROJECT MANAGER OR AN AUTHORIZED DOHMH EMPLOYEE designated person.

o. Exits

(1) Emergency and fire exits from the work areas shall be maintained, or alternative exits shall be established in accordance with applicable NYC Code(s) and Regulations. Exits shall be checked daily against exterior blockage or impediments to exiting.

(2) Entrances to the work area that will not be used for worker entry or emergency exits shall be locked to prevent unauthorized entry.

p. Elevators running through the work areas shall prepared according to the following:

(1) The elevator door in the work area shall be enclosed with conventional 2 x 4 stud framing, covered with 3/8" plywood sheeting and sealed at all edges and seams. The barrier shall be covered and lapped for 8 inches with
two layers of 6-mil plastic sheeting adhered individually with edges taped for air tightness.

(2) Elevators not remaining in service shall have the fuses removed and the power switch locked in the open position.

(3) Elevators that remain in operations shall be modified to bypass the work area.

(4) A final larger layer of 6-mil plastic sheeting is to be taped airtight but with slack forming a larger perimeter diaphragm. Air leakage across the barrier shall be corrected upon discovery, and the elevator shaft shall be checked for airborne asbestos contamination.

(5) This system shall be smoke tested daily.

(6) Elevator shafts shall not be used as waste chutes.

q. Adequate toilet facilities shall be provided and maintained in the vicinity of the clean room external to the work place. Where such facilities do not exist, portable service shall be provided.

5. Performance requirements

a. Structural containment (Enclosure) of asbestos containing materials shall be conducted in accordance with US EPA, NYS Industrial Code Rule 56, NYC Title 15, Chapter 1 (local Law 76) [The more stringent requirements shall apply.

b. Provide all gypsum drywall, acoustic tile and accessories complete in place on acoustic plaster walls and ceilings specified herein and as needed to complete a proper installation in accordance with the guidelines on regulations of the responsible Federal, State and City agencies.

c. Products used in this work shall be produced by manufacturers who are regularly engaged in manufacturing of similar items and with a history of successful production acceptable to the Project Manager or DOHMH authorized employee.

d. Adequate numbers of skilled workers shall be employed who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of this work.

e. Manufacturer’s recommended installation procedures shall be provided to the Environmental Health and Safety Unit for approval and upon approval, shall become the basis for inspection and acceptance or rejection of the actual installation procedures used on this work.
f. Materials used to enclose ACM shall be impact resistant and assembled to be airtight. Gypsum panels taped at the seams, tongue and groove boards and boards with alpine joints are all acceptable.

6. Documentation

a. The Contractor shall provide proof that the supervisor who will at all times supervise the work is NYS (DOL) and NYC (DEP) certified.

b. Before work begins, Contractor shall provide proof that every worker performing the asbestos abatement work has Valid NYS (DOL) and NYC (DEP) Asbestos Handler certifications.

c. The Contractor shall provide written proof that containment materials meets or exceeds the requirements put forth in the MATERIALS section of this specification.

d. Material for ceiling surfaces which are less than 8’-0” above finished floor and or wall surfaces any part of which is less than 8’-0” above finished floor, shall be as specified below:

(1) Tiles to be 12” x 12” x ¼” thick, beveled edged, with all ancillary materials required for glued-on installation.

(2) Acoustical tile shall be non-combustible (Flame Spread 0-25), Class "A" rating and shall contain NO ASBESTOS FIBERS.

(3) Sound Transmission Class (STC) range to be 45-49.

(4) Noise reduction co-efficient (NRC) range to be .50-.60.

(5) Light Reflectance shall be "A" rating (75%+).

e. Gypsum wallboard

(1) Comply with Fed. Spec. SS-L-30, 111, Class 1, Style 3, taper-edged, and of the grade and form specified below, in 120 cm (48") widths and in such lengths as will result in the minimum of joints.

(2) Grade R, form A, 12.7 mm (½") thick, for single layer application.

7. Preparation for structural containment

a. The work people will at all times wear approved respirators and protective clothing.
b. Structural containment (Enclosure) of asbestos containing material shall be conducted in accordance with US EPA, NYS Industrial Code Rule 56, NYC Title 15, Chapter 1 (Local Law 76) [the more stringent requirement shall apply]

c. Any facilities such as electrical boxes, wiring, receptacles, fixtures, mechanical ventilation equipment, grills, registers and others will be extended or altered to accommodate the proposed placement of the new encapsulating material.

d. Prior to installation of the work, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. Verify that gypsum drywall may be installed in strict accordance with all pertinent codes and regulations, the manufacturers’ recommendations as approve by the Project Manager or a DOHMH authorized employee.

e. The Contractor and all workers will at all times carry proof that they have received instruction on the dangers of asbestos exposure, on respirator use, decontamination, and be DEP Certified.

f. Examine the site to establish the most suitable locations for temporary barriers that will isolate the work site from the rest of the building to provide a safe environment within which work may proceed. The location of emergency exits or alternative exits shall be considered, and maintained or provided for the duration of this work.

g. The area where encapsulation is to be performed shall be carefully isolated from the rest of the building to prevent the contamination and fiber dispersal of unaffected areas within and outside the building. Construct the appropriate Temporary Facilities as described elsewhere in this specification. These areas must be placed for optimal efficiency and as required by applicable codes. These facilities will include the following. Their placement and construction must be approved by the Director or designee before the abatement may proceed.

(1) Worker decontamination enclosure system
(2) Prefabricated or trailer decontamination units
(3) Clean room
(4) Shower room
(5) Equipment room
(6) Negative air pressure equipment
(7) Plastic Barriers
(8) Isolation barriers

(9) Temporary structural partitions

(10) Visual barriers

(11) Asbestos caution signs

(12) Waste decontamination enclosure system

(13) Holding area

h. Adequate toilet facilities shall be provided and maintained in the vicinity of the clean room external to the work place. Where such facilities do not exist, portable service shall be provided.

i. Prior to installation of this work, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. Verify that gypsum drywall may be installed in strict accordance with all pertinent codes and regulations, the manufacturer's recommendations as approved by the Project Manager or DOHMH authorized employee. Do not install gypsum drywall until all unsatisfactory conditions have been corrected.

j. The work people will at all times wear approved respirators and protective clothing

k. Curtains and draperies will be carefully removed and stored outside the proposed work area, to be reinstalled upon completion of the work.

l. Movable objects within the proposed work areas shall be pre-cleaned (i.e., prior to commencing general abatement) using HEPA-filtered vacuum equipment and/or wet cleaning methods and such objects shall be removed from the work area. [Upholstered furniture, carpeting and drapes shall be HEPA-vacuumed before removal from the work area. If disposed of as asbestos containing waste material, cleaning is unnecessary.] If carpeting is left in place, it shall be covered with 6-mil plastic sheeting, and the \( \frac{1}{2} \) 3/8 inch rigid flooring prior to normal plasticizing. Methods that raise dust, such as sweeping or vacuuming with equipment not equipped with HEPA filters, are prohibited.

m. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclosed with [two layers of] 6-mil plastic sheeting sealed [with tape] to protect from re-contamination.

n. Notify the site Custodian regarding the necessity to shut down heating and ventilating services in the work area before starting any work.
8. Acoustical tile properties

Material for ceiling surfaces that are less than 8'-0" above finished floor and or wall surfaces any part of which is less than 8'-0" above finished floor, shall be as specified below:

a. Tiles to be 12" x 12" x ¾" thick, beveled edged, with all ancillary materials required for glued-on installation.

b. Acoustical tile shall be non-combustible (Flame Spread 0-25), Class "A" rating and shall contain NO ASBESTOS FIBERS.

c. Sound Transmission Class (STC) range to be 45-49.

d. Noise reduction co-efficient (NRC) range to be .50-.60.

e. Light Reflectance shall be "A" rating (75%+).

f. Approved Products

(1) Conwed, Rock Race #55375,

(2) or approved equal.

9. Installation of gypsum board

a. Install the gypsum wallboard with the separate boards in moderate contact but not forced into place. Stagger the boards so that corners of any four boards will not meet a common point.

b. Remove surface mounted items normally installed by other trades, such as at locations where duct work ends at an air diffuser, access cover or grille in acoustic plaster. Remove grilles, diffusers, covers, etc., and re-install flush with new surface. Spackle all openings in the back plate of surface mounted fixtures, where existing plaster is not covered by new acoustic material.

c. Where existing lighting fixtures, air diffusers, etc., are mounted upon an existing plaster ring or boss, it is the Contractor’s option to either remove the plaster ring or boss, or bring the sheetrock up to the plaster ring and cover with the acoustic tile. If removed, a metal ring will be seen. The metal ring shall remain in place and impressed into the gypsum panel. Scrape panel in contact with ring, if necessary, to reduce panel thickness.
d. If new electrical work is not included in this specification, then the removal and re-installation of the existing electrical fixtures shall be part of this contract. By Code, this work must be performed by a licensed electrician.

(1) Carefully remove all fixtures from ceiling.

(2) Thoroughly wash down all fixture surfaces and lamps.

(3) Store all removed fixtures and lamps in an area designated by the Custodian.

(4) Provide temporary light and power, (min 100 w/bulbs with guards) maintain until permanent lighting is re-installed. Remove all temporary lighting upon completion of work.

(5) Perform all sheet metal work necessary to extend the collar of air diffusers, to ensure that new acoustic tile will be covered by edge of air diffusers when re-installed. Trim around access doors. Provide all necessary sheet metal work to extend electrical boxes within the new acoustical ceiling, to bring boxes flush with the finished ceiling.

(6) Fixtures shall be re-installed at their original locations, shim to allow ½" clearance between surface mounted fixtures and new ceiling, leaving them in proper working order.

e. Install the gypsum board to the ceilings with the long dimension of the board at right angles to the supporting members, except that gypsum board may be installed with the long dimension parallel to supporting members that are spaced 40 cm. (16") on center when attachment members are provided at end joints. All electrical fixtures, air diffusers and other built-in fixtures or items must be temporarily removed or adjusted to allow gypsum board to continue behind them. Gypsum board may be cut around access doors.

f. Attachments

(1) Attach gypsum wallboard to wire lath ceiling with toggle bolts and washers.

(2) Attach to concrete with expansion bolts or metal "Z" furring channels (min 26 ga. - hot dipped galvanized) 24" o.c. with Type S "Bugle Head" screws.

(3) Attachment to walls shall be with toggle or expansion bolts and washers.

(4) Spacing 20" o.c. perpendicular and 22" o.c. parallel with major axis of panel and no more than 4" from edge of panel.

g. Caulking
(1) Caulk entire perimeter edging of gypsum wallboard where it abuts non-gypsum surfaces, to thoroughly seal off asbestos containing material. Note: "Flat Tape" may be used in lieu of caulking.

(2) Use sealant that is a single component rubber based compound conforming to Fed. Spec. TT-S-00230 or approved equal.

(3) Clean adjoining surfaces which have become soiled with sealant.

h. Joints

(1) Inspect all areas to be joint treated, ascertaining that the gypsum wallboard fits snugly against the supporting framework.

(2) In areas where joint treatment and compound finishing will be performed, maintain a temperature of not less than 55° F. for 24 hours prior to commencing treatment, for the entire period of treatment, and until joint and finishing compounds have dried.

(3) Apply the joint treatment and finishing compound by machine or hand tool. Only one coat is required.

(4) Provide a minimum drying time of 24 hours prior to the application of acoustic tile.

(5) Apply embedding compound to gypsum wallboard joints in a thin uniform layer. Spread the compound not less than 75 mm (3") wide at joints, center the reinforcing tape in the joint, and embed the tape in the compound. Then spread a thin layer of compound over the tape.

(6) After the compound has dried, sandpaper surface to eliminate ridges and high points

i. Embedding Compound

1. Apply to gypsum wallboard joints in a thin uniform layer. Spread the compound not less than 75 mm (3") wide at joints, center the reinforcing tape in the joint, and embed the tape in the compound. Then spread a thin layer of compound over the tape.

2. After this treatment has dried, sandpaper to eliminate ridges and high points.

10. Installation of acoustic tile

a. Examine surfaces of gypsum wallboard prior to installing acoustic tile. Do not proceed until unsatisfactory conditions have been corrected.
b. Install all materials in strict accordance with the manufacturers' recommendations as approved by the Project Manager or DOHMH authorized employee, anchoring all components firmly into position for long life under hard use. Do not place "buttered" tiles together prior to installation.

c. Tiles shall be centered about center lines of rooms, corridors, and/or wall surfaces where they are to be installed.

d. Cut tiles as required at perimeter of surfaces to be contained and around access doors. Tile is to be continued behind electrical fixtures, air diffusers and other built-in items.

e. Install trim (angle edging) around entire perimeter of room or wall panel, and wherever cut edges of tile are exposed.

f. On completion, acoustic tile ceiling shall present a uniform plane surface, free of blemishes and imperfections.

11. Cleanup

In addition to the requirements put forth for cleaning in these specifications, use all necessary care during execution of this portion of the work to prevent the release of asbestos fibers, scattering of gypsum wallboard scraps and dust to prevent tracking of joint and finishing compound onto floor surfaces. At completion of each segment of installation in a room or space, promptly pick up and remove from the working area all scraps, debris, and surplus material from the work.

3.9 SEALING ACOUSTICAL PLASTER

1. Preparation of work area

a. The building shall be prepared as required.

b. WORKER PROTECTION PROCEDURES shall be followed by the workers performing this work.

c. Examine the site to establish the most suitable locations for temporary barriers that will isolate the work site from the rest of the building to provide a safe environment within which work may proceed. Temporary structures such as worker decontamination enclosures, waste decontamination enclosures, equipment rooms, washrooms, clean rooms, shower rooms, and holding areas must be placed for optimal efficiency and as required by applicable codes. The location of emergency exits or alternative exits shall be considered, and maintained or provided for the duration of this work. The area where plaster
sealing is to be performed shall be isolated from the rest of the building to prevent the contamination and fiber dispersal of unaffected areas within and outside the building.

d. Curtains and draperies will be carefully removed and stored outside the proposed work area, to be reinstalled upon completion of the work.

e. Prior to plasticizing, the proposed work areas shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning methods. Methods that raise dust, such as sweeping or vacuuming with equipment not equipped with HEPA filters, are prohibited.

f. Movable objects within the proposed work areas shall be pre-cleaned (i.e., prior to commencing general abatement) using HEPA-filtered vacuum equipment and/or wet cleaning methods and such objects shall be removed from the work area. [Upholstered furniture, carpeting and drapes shall be HEPA-vacuumed before removal from the work area. If disposed of as asbestos containing waste material, cleaning is unnecessary.] If carpeting is left in place, it shall be covered with 6-mil plastic sheeting, and the $\frac{3}{8}$ inch rigid flooring prior to normal plasticizing.

g. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclosed with [two layers of] 6-mil plastic sheeting sealed [with tape] to protect from re-contamination.

h. Notify the site Custodian regarding the necessity to shut down heating and ventilating services in the work area before starting any work.

2. Documentation

a. The Contractor shall provide proof that the supervisor who will be on site at all times to supervise the work is DEP certified.

b. Before work begins, submit proof that the qualifications of workpeople performing the application also have had, included, instruction on the dangers of asbestos exposure, on respirator use and on decontamination, and are DEP certified. Proof of OSHA 10 training shall be retained by the workers at all times.

c. The Contractor shall provide written proof that sealant materials meets or exceeds the following requirements for acceptance by the Environmental Health and Safety Unit.

d. Product Data

Product data should be listed on container labels or certified on manufacturer’s
letterhead. Sealer shall be INTERIOR FLAT WATER BASE LATEX PAINT and shall meet the following requirements:

<table>
<thead>
<tr>
<th>Quantitative Requirements</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigment, by weight of paint</td>
<td>35%</td>
<td>39%</td>
</tr>
<tr>
<td>Titanium Dioxide (Rutile), by weight of pigment</td>
<td>60%</td>
<td>---</td>
</tr>
<tr>
<td>Inert Pigments, by weight of pigment</td>
<td>---</td>
<td>40%</td>
</tr>
<tr>
<td>Vehicle, by weight of paint</td>
<td>61%</td>
<td>65%</td>
</tr>
<tr>
<td>Non-Volatile, by weight of vehicle</td>
<td>35%</td>
<td>---</td>
</tr>
<tr>
<td>Volatile, by weight of vehicle</td>
<td>---</td>
<td>65%</td>
</tr>
<tr>
<td>Weight per gallon, lbs.</td>
<td>11.5%</td>
<td>---</td>
</tr>
<tr>
<td>Total Solids, by weight of paint</td>
<td>52%</td>
<td>56%</td>
</tr>
</tbody>
</table>

(1) Pigment: Any suitable combination of pigment extenders and tinting colors, provided resulting paint meets requirements.

(2) Vehicle: Any latex emulsion, wetting agents and water within requirements of this specification.


(4) Odor: No perceptible odor after drying.

e. Submit layout of acoustical units for approval prior to installation.

3. Isolation of work area from the rest of the building

a. The work area shall be *segregated* from the remainder of the work site by construction of temporary structural partitions as follows:

   (1) Partitions shall be constructed of conventional 2” x 3” (minimum) wood or metal stud framing, 16” o.c. maximum, to support barriers in all openings
larger than 32 ft², except where any one dimension is 1 foot or less, or where openings are exits to be used for emergency or fire exits.

(2) A solid construction material (e.g. plywood) of at least 3/8” thickness shall be applied to the work side of the framing. In secure interior areas where partitions are not subject to access from the public, an additional layer of 6-mil plastic sheeting may be substituted for the solid construction material.

(3) The partitions shall be caulked/sealed at the floor, ceiling, walls, joints and fixtures to form an airtight seal.

b. The isolation barriers (i.e., sealing off of all openings, including but not limited to windows, corridors, doorways, barriers, skylights, ducts, grills, diffusers, and any other penetrations of the work place) shall be installed with 2 layers of 6-mil plastic sheeting sealed with tape. All seams of HVAC or other system components that pass through the work place shall also be sealed. Chimney effects in stacks, columns, flues, shafts, double-wallet enclosures, etc., that impact the work area shall be eliminated by sealing the accesses with solid material covered with a double layer of 6-mil plastic sealed with tape.

c. In addition to the isolation barriers, floor and wall surfaces shall be sealed with a minimum of two layers of 6-mil plastic sheeting. The plastic layers on the floor shall extend 6 inches up the walls. Walls shall be covered with plastic sheeting down to the floor level, thus overlapping the floor material by a minimum of 6 inches. There shall be a distance of at least 6 inches between seams of adjacent layers.

d. Floor drains shall be sealed individually with two layers of 6-mil plastic sheeting and tape, and then covered as all other floor surfaces. Pits, sumps, etc., shall be covered with adequate plywood sheeting and secured to floor slabs in a manner which prevents a tripping hazard, prior to required plasticizing.

e. Heating, Ventilating and Air Conditioning (HVAC) system isolation methods are listed below in order of preference; the more complex and potentially problematic methods may be used when the more preferred procedures are impractical.

a. Shut down and lock out HVAC systems and install isolation barriers to prevent contamination and fiber dispersal to other areas of the structure; or

b. Isolate locally and provide temporary HVAC; or

c. Positive pressurization of the HVAC system. This procedure shall be applied only under the direction and control of a professional engineer, or other knowledgeable licensed professional, after approval by the Department of Environmental Protection.
f. After isolation barriers are in place, ceiling-mounted objects not previously sealed that will interfere with ACM abatement shall be removed and cleaned. Amended water spraying or HEPA-filtered vacuum equipment shall be used during fixture removal to reduce fiber dispersal.

g. Suspended ceiling tiles and T-grid components, in proximity to friable ACM, shall remain in place until the work area has been fully prepared as outlined in this specification and electrical and HVAC systems have been shut down. Contaminated suspended ceiling components shall be removed prior to abatement and treated with a penetrating encapsulant.

h. Abatement shall not commence until work place preparation has been completed and approved by a PROJECT MANAGER OR AN AUTHORIZED DOHMH EMPLOYEE designated person.

4. Exits

a. Emergency and fire exits from the work areas shall be maintained, or alternative exits shall be established in accordance with applicable NYC Code(s) and Regulations. Exits shall be checked daily against exterior blockage or impediments to exiting.

b. Entrances to the work area that will not be used for worker entry or emergency exits shall be locked to prevent unauthorized entry.

5. Elevators running through the work areas shall be prepared according to the following:

1. The elevator door in the work area shall be enclosed with conventional 2 x 4 stud framing, covered with 3/8" plywood sheeting and sealed at all edges and seams. The barrier shall be covered and lapped for 8 inches with two layers of 6-mil plastic sheeting adhered individually with edges taped for air tightness.

2. Elevators not remaining in service shall have the fuses removed and the power switch locked in the open position.

3. Elevators that remain in operations shall be modified to bypass the work area.

4. A final larger layer of 6-mil plastic sheeting is to be taped airtight but with slack forming a larger perimeter diaphragm. Air leakage across the barrier shall be corrected upon discovery, and the elevator shaft shall be checked for airborne asbestos contamination.

5. This system shall be smoke tested daily.

6. Elevator shafts shall not be used as waste chutes.
6. Adequate toilet facilities shall be provided and maintained in the vicinity of the clean room external to the work place. Where such facilities do not exist, portable service shall be provided.

7. Installation of Temporary Structures

   a. The Contractor and all workers will at all times carry proof that they have received instruction on the dangers of asbestos exposure, on respirator use, decontamination, and be DEP Certified.

   b. Examine the site to establish the most suitable locations for temporary barriers that will isolate the work site from the rest of the building to provide a safe environment within which work may proceed. The location of emergency exits or alternative exits shall be considered, and maintained or provided for the duration of this work.

   c. The area where encapsulation is to be performed shall be carefully isolated from the rest of the building to prevent the contamination and fiber dispersal of unaffected areas within and outside the building. Construct the appropriate Temporary Facilities as described elsewhere in this specification. These areas must be placed for optimal efficiency and as required by applicable codes. These facilities will include the following. Their placement and construction must be approved by the Director or designee before the abatement may proceed.

      (1) Worker decontamination enclosure system

      (2) Prefabricated or trailer decontamination units

      (3) Clean room

      (4) Shower room

      (5) Equipment room

      (6) Negative air pressure equipment

      (7) Plastic Barriers

      (8) Isolation barriers

      (9) Temporary structural partitions

      (10) Visual barriers

      (11) Asbestos caution signs
(12) Waste decontamination enclosure system

(13) Holding area

d. Adequate toilet facilities shall be provided and maintained in the vicinity of the clean room external to the work place. Where such facilities do not exist, portable service shall be provided.

e. Prior to installation of this work, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. Verify that gypsum drywall may be installed in strict accordance with all pertinent codes and regulations, the manufacturer's recommendations as approved by the Project Manager or DOHMH authorized employee. Do not install gypsum drywall until all unsatisfactory conditions have been corrected.

f. The work people will at all times wear approved respirators and protective clothing

g. Curtains and draperies will be carefully removed and stored outside the proposed work area, to be reinstalled upon completion of the work.

h. Movable objects within the proposed work areas shall be pre-cleaned (i.e., prior to commencing general abatement) using HEPA-filtered vacuum equipment and/or wet cleaning methods and such objects shall be removed from the work area. [Upholstered furniture, carpeting and drapes shall be HEPA-vacuumed before removal from the work area. If disposed of as asbestos containing waste material, cleaning is unnecessary.] If carpeting is left in place, it shall be covered with 6-mil plastic sheeting, and the [½] 3/8 inch rigid flooring prior to normal plasticizing. Methods that raise dust, such as sweeping or vacuuming with equipment not equipped with HEPA filters, are prohibited.

i. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclosed with [two layers of] 6-mil plastic sheeting sealed [with tape] to protect from re-contamination.

j. Notify the site Custodian regarding the necessity to shut down heating and ventilating services in the work area before starting any work.

k. The Contractor and all workers will at all times carry proof that they have received instruction on the dangers of asbestos exposure, on respirator use, decontamination, and be DEP Certified.

l. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA-filtered vacuum equipment and/or wet cleaning
methods as appropriate, and enclosed with [two layers of] 6-mil plastic sheeting sealed [with tape] to protect from re-contamination.

m. Notify the site Custodian regarding the necessity to shut down heating and ventilating services in the work area before starting any work.

8. Application of paint sealer

a. Apply a minimum of there (3) coats of latex paint, one prime and a minimum of two finish coats over all acoustic plaster surface as directed. Each coat shall be allowed to dry for a minimum of seven (7) day to provide a lasting and secure seal to the underlying material. Apply as many finish coats as are necessary to produce a uniform finish free of all blemishes, voids and holidays.

b. The color of the primary coat to be off-white (BOE #5) and the finish coats pure white (BoE #7). The Project Manager shall be notified at the beginning of each application of a coat of paint and an inspection may be performed at the convenience of DOHMH.

c. The paint shall be applied either by roller or “airless” spray equipment.

d. The Contractor shall receive written approval from the Project Manager or an authorized DOHMH employee before application of finish coats. The Contractor will request an inspection from the Project Manager or an authorized DOHMH employee when the next to last coat has been applied and dried, and if the application is correct a written approval to provide the last coat will be provided. This written approval must be submitted with the Contractor’s application for payment.

9. Installation of acoustical units

The bottom edge of the installed acoustical units shall not be less than 10’ – 0” above the finished floor unless specifically instructed otherwise.

a. Acoustic II

(1) Units shall be 11½” x 16” x 2”, factory finished white.

(2) Acoustical units shall be secured to wall or ceiling surfaces with mechanical slide fasteners in addition to cement daubs.

(3) Slides shall be fastened to wall or ceiling surfaces with a minimum of one toggle bolt or expansion bolt. Screws will not be permitted.

(4) Apply four (4) daubs of acoustic cement and press unit into place.
(5) Slide end clips into each end of track and into end of each unit.

(6) Minimum spacing between edges of units shall be ten (10) inches in either direction.

b. Acoustone Space Units

(1) Acoustical units shall be secured to wall or ceiling surfaces with spin or clips.

(2) Spin on clips shall be fastened to wall or ceiling surfaces with two toggle bolts or expansion bolts. Screws will not be permitted.

(3) Spin on clips should be centered not closer than 20½" in either direction, or 7" from any obstruction to allow free rotation of the unit during installation.

(4) Attach space unit, positioning the hole in the unit's back on machine screw attached to the clip, and turning clockwise until secure.

(5) Minimum spacing between edges of units shall be ten (10) inches in either direction.

10. Cleanup

In addition to the requirements put forth in section CLEANING, use all care during execution of this portion of work to prevent splattering of other surfaces. Upon completion of work, clean all debris which have been created by this work.

3.10 PAINTING

1. Precautions

a. Use an adequate number of skilled workpeople who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for the proper performance of the work.

b. At least one employee who speaks fluent English must be in attendance at all times when work is in progress, preferably this should be the job foreperson.

c. All paint furnished using this specification for use on interiors of school buildings shall not contain more than 0.06% [according to CPSC] metallic lead based on the total non-volatile content of the paint. All paint containing
metallic lead shall conform to provisions of the New York City Health Code, Section 173.13, latest version. The above statement shall be printed on the label of all paint cans which are to be used for interior paint on this project.

d. Red Lead Paint shall not be used for interior priming of ferrous metal. Substitute Federal No. TT-P-645 Zinc Chromate for red lead. This will amend Paragraph 14.53 (b) of the standard.

e. Workpeople performing this work need not wear protective respirators and clothing as is required during the performance of the other abatement work, if the final cleanup required at the completion of the abatement work has been completed before the workpeople enter the work area to be painted.

2. Painting may be required at the conclusion of other work performed on this specification. Surfaces that have been installed to accomplish Structural Containment and the Sealing of Acoustical Plaster will, in addition, be painted to match the existing surfaces

3. Preparation of surfaces

a. Prepare base surfaces as necessary to insure proper coating adhesion and a first class finish with the materials specified. This preparation shall be the sole responsibility of the Contractor and shall include cleaning, washing, sanding, chipping scraping, wire brushing, removing existing finish, puttying, sealing, priming and any other process the Contractor considers to be necessary unless prohibited herein. Completely remove kalsomine, eflorescence, moisture, oil, grease, rust, scale, dust, dirt, loose and extraneous matter. Use appropriate cleaning solutions where necessary. Neutralize alkalinity. Before painting new galvanized surfaces treat with chemical wash manufactured for the purpose. Securely bonded casein paint need not be removed provided such surfaces are otherwise properly prepared for the new coatings. Remove tape, stickers and resulting marks. Remove tacks, projecting nails, varnish woodwork specified to be refinished. Remove all traces of paint and varnish removers. NOTE: Compete removal of existing finish is not required except where existing natural finish work is specified to be refinished and elsewhere as required to provide a first class finish.

b. Sanding – All rough, looses, blist4ereed and peeling surfaces shall be scraped or sanded to a smooth surface, Sand existing gloss finishes and new gloss and natural finish undercoats as necessary to produce a satisfactory bonding, surface for succeeding coats, Sand all putty stopping spackle and similar repairs smooth and flush. Remove surplus.

c. Touching up – Spot prime defects in existing painted work and new work primed by others as necessary to produce an even plane in the new finish. All worn, scaled, blistered, cracked and discolored places in existing stained and varnished work specified to be re varnished shall be scraped, sanded, filled and touched up with stain as required to equalize the color. Also touch up and equalize the color of new woodwork specified to be stained and varnished where necessary for a first class appearance. Touch up all pitch streaks and knots in woodwork with shellac.
d. Plaster repairs - Remove defective plaster to the masonry or other base surface and to sound adjoining plaster. Remove loose and other objectionable materials from base surfaces at location of repairs...Rake old plaster from keys of lath and from scoring and joints of masonry. Cut groves not less than 3/8” wide at cracks that extend completely through white coat. Under-cut edges and grooves and the sound plaster adjoining other repairs. Repair and install furring, lath, masonry as necessary to provide a proper base. Remove and replace existing work as necessary to install and properly secure the new plaster base. Wet absorbent base surfaces and abutting edges of existing plaster with clean water as necessary to obtain proper suction when plaster is applied. Sand, scrape and cut rough and alligated areas until smooth and uniform.

e. Priming – Apply as many prime coats and touch up as necessary to insure that cracks, burns, suction spots, putty filling, plaster repairs, stains and other defects do not show through the finish and as required to protect ferrous metal from corrosion

f. Quality – Apply materials so that a durable first class finish results. Edges of paint adjoining other and lines where different colors adjoin shall be clear and true without overlapping. All base surfaces and preceding coats shall be thoroughly dry when coatings are applied. Paint shall be evenly spread and well brushed out. Apply stain uniformly and wipe off if required. Wipe paste filler across the grain, then with the grain until a clear surface is obtained. Flow shellac and varnish on evenly. Stained and varnished work shall present clear transparent surfaces. Do not apply painters finish on damp frosted, covered surfaces or in temperatures below 40 degrees F. or in dusty atmospheres. Replace all finish damaged as a result of application under unsuitable conditions of weather, temperature or atmosphere. Ease up all window sashes at completion of work.

4. Execution

a. Painting and finishing shall include but not be limited to the following items: walls, ceilings, doors, trim, pipes, coverings, ferrous metal, plaster, uncovered gypsum board, wood, metal, concrete, etc. See paragraph 14.8 of the standard specifications for items not requiring painting. Previously stained and varnished work shall be refinished as per paragraph 14.59.

b. Lettering shall be as per paragraph 14.64 of the standard. Paint exit signs and numbers with luminous paint approved by the Board of Standards and Appeals. Existing lettering shall be as per paragraph 14.65.

c. Work performed with rollers must be done with sufficient care, or supplemented with brush work, as necessary to produce the same first class painters finish which is obtained by brush work only.

d. All asbestos abatement work specified for a given work area is to be completed before painting and finishing is performed in that room or work area.
e. No painting and finishing is to be performed in work areas directly under roofs or adjoining exterior walls until such roofs and walls have been made watertight. If the necessary roofing and waterproofing is not included in the contract, the Contractor shall notify the Environmental Health and Safety Unit of adverse conditions which will affect paint job and await instructions to proceed.

5. Cleaning

The Contractor is required to maintain at least one clean-up person behind each painting crew such that painting and clean-up will be a continuous uninterrupted operation. The practice of one general clean-up after completion of all painting operations will be strictly prohibited.

3.11 ASBESTOS REMOVAL IN BOILER ROOM

The building shall be prepared according to code and these specifications for all work involving large asbestos removal projects.

This work must be scheduled with the site Custodian Engineer to ensure ongoing use of sufficient boilers to maintain the building heating system. A maximum of two boilers may be worked on at any one time

1. Furniture and Equipment

a. Movable objects within the proposed work area shall be pre-cleaned prior to plasticizing (i.e., prior to commencing general abatement) using HEPA filtered vacuum equipment and/or wet cleaning methods, and removed from the work area. Methods that raise dusts such as sweeping or vacuuming with equipment not equipped with HEPA filters are prohibited. Objects that cannot be removed shall be covered completely with 6-mil plastic sheeting before the work begins using HEPA-filtered vacuum equipment and/or wet cleaning methods and such objects shall be removed from the work area.

b. Moveable furniture and equipment shall be removed from areas of work by the Contractor and re-installed at completion of clean-up.

c. Fixed objects which will remain within the proposed work areas shall be pre-cleaned using HEPA-filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclosed with [two layers of] 6-mil plastic sheeting sealed [with tape] to protect from re-contamination.

d. Equipment such as burners and boilers that could create positive pressure in the work place shall be shut down. If equipment must be kept operating, a second containment barrier completely independent of the primary isolation barriers shall be constructed to maintain the proper air pressure differential across the barriers for protection in case the primary containment barrier is breached.
Caution should be observed in the design and placement of these barriers to ensure an adequate intake and exhaust from any operational boilers.

e. Heating and ventilating system servicing the areas of work must be shut down prior to starting any work.

f. Notify the site Custodian Engineer prior to starting any work to arrange for the heating and ventilation system shut down.

2. General work place preparation requirements

a. The building owner or designated representative shall notify occupants and other individuals who normally may have reason to enter the work area that asbestos abatement activities will be conducted and the date and extent of work to be done. Posting of this notification shall be in English and Spanish, at eye level, in a conspicuous, well-lit place, at the entrance to the work place at least 2 days prior to the start of the project.

b. The work site shall be isolated from the remainder of the building site, using whichever construction of temporary structural partitions is most appropriate for the type of work to be performed and accommodating the existing situation.

c. Entrances to the work place that will not be used for worker entry of emergency exits shall be locked to prevent unauthorized entry.

d. Emergency and fire exits from the work place shall be maintained, or alternative exits shall be established in accordance with applicable NYC Code(s) and Regulations. Exits shall be checked daily against exterior blockage or impediments to exiting.

e. Isolation barriers (i.e., sealing off of all openings, including but not limited to windows, corridors, doorways, barriers, skylights, ducts, grills, diffusers, and any other penetrations of the work place) shall be installed with 6-mil plastic sheeting sealed with tape. All seams of HVAC or other system components that pass through the work place shall also be sealed.

f. In addition to the isolation barriers, floor and wall surfaces shall be sealed with a minimum of two layers of 6-mil plastic sheeting. The plastic layers on the floor shall extend 6 inches up the walls. Walls shall be covered with plastic sheeting down to the floor level, thus overlapping the floor material by a minimum of 6 inches. There shall be a distance of at least 6 inches between seams of adjacent layers.

g. Chimney effects in stacks, columns, flues, shafts, double-wallet enclosures, etc. that impact the work are shall be eliminated by sealing the areas with solid material covered with a double layer of 6 mil plastic, sealed with tape.
h. Heating, Ventilating and Air Conditioning (HVAC) system isolation methods are listed below in order of preference; the more complex and potentially problematic methods may be used when the more preferred procedures are impractical.

(1) Shut down and lock out HVAC systems and install isolation barriers to prevent contamination and fiber dispersal to other areas of the structure; or

(2) Isolate locally and provide temporary HVAC; or

(3) Positive pressurization of the HVAC system. This procedure shall be applied only under the direction and control of a professional engineer, or other knowledgeable licensed professional, after approval by the Department of Environmental Protection.

i. Equipment (e.g., burners/boilers) that could create positive pressure in the workplace shall be shut down. If equipment must be kept operating, a second containment barrier completely independent of the primary isolation shall be constructed to maintain the proper air pressure differential across the barriers in case the primary containment barriers is breached. A qualified person shall make the determination regarding the construction and location of such barriers to ensure adequate ventilation and exhaust for the combustion process.

j. If the glove bag or tent procedures are exclusively utilized for abatement, and if no upset/breach occurs in the process, compliance the requirements for barriers, tenting, sealing and plasticizing are not required. This technique will be used only on small and securable projects.

k. Isolation of the work areas by the most secure and appropriate method is necessary to prevent contamination and fiber dispersal to other areas of the building during work and clean-up operations.

l. Posting of Regulations

(1) The Contractor will have in possession at all times at the office (one copy) and in view at the job site (one copy), NYC Title 15, Chapter 1 [Local Law 76], OSHA regulation 1926.1101, Asbestos, and Environmental Protection Agency, 40 CFR, Part 61, Sub-parts A and M: National Emission standard for asbestos, asbestos stripping work practices, and disposal of asbestos waste.

(2) The Contractor, when requested, shall furnish proof that all worker employees have had instruction on the dangers of asbestos exposure, on respirator use, decontamination, and OSHA regulations, and are DEP and NYS DOL certified.

m. Caution Signs
(1) The Contractor shall post signs in accordance with OSHA 29 CFR 1926.1101 Sign Specifications. Signs shall be posted at all approaches to the work place including internal doorways which provide access to the work place. These signs shall bear the following information:

**DANGER**
**ASBESTOS**
**CANCER AND LUNG DISEASE HAZARD**
**AUTHORIZED PERSONNEL ONLY**
**RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA**

(2) All containers for debris shall be labeled prior to being removed from work areas. Labels shall be as required by Part Four.

**DANGER**
**CONTAINS ASBESTOS FIBERS**
**AVOID CREATING DUST**
**CANCER AND LUNG DISEASE HAZARD**

3. Installation of temporary facilities

a. Worker decontamination enclosure systems shall be located outside the work area and attached to all locations where workers will enter or exit the work area is preferred. These systems may consist of existing rooms outside of the work area that offer direct access to the work area and general egress from the work place.

When this situation does not exist, enclosure systems may be constructed or may consist of prefabricated or trailer units Adequate heat and light shall be safely provided.

b. The worker decontamination enclosure system shall consist of a clean room, a shower room, and an equipment room, in series, separated from each other and from the work area by airlock and from the non-work place by a curtained door.

c. Worker decontamination enclosure system shall be fully lined utilizing two layers of 6-mil opaque plastic sheeting at a minimum, or the equivalent.

d. When the decontamination enclosure system is constructed outdoors or in areas with public access it shall be fully framed and plywood sheathed or equivalent to prevent unauthorized entry. When located outdoors, it shall be waterproof and windproof.
e. Prefabricated or trailer decontamination units:

(1) shall at a minimum, have functionality and security equivalent to constructed decontamination enclosure facilities, and

(2) shall be completely decontaminated prior to removal from the work site.

f. The clean room

(1) shall be sized adequately to accommodate the work crew, and

(2) shall contain secure crew lockers or shelves, and clean sealable plastic bags for storage of street clothes, and

(3) shall contain a sufficient quantity of benches, and

(4) shall contain shelves or appropriate facilities for storage of respirators, and

(5) shall contain disposable clothing, replacement filters for respirators, towels and other necessary personal protective equipment, and

(6) shall not be used for storage of tools, equipment or materials, other than personal protective equipment, nor used as office space, and

(7) shall be equipped with a lockable, shuttered door which opens on make-up air inflow and seals on air flow cessation for interior and exterior exits. The door shall permit entrance to the clean room and secure the work place during off-shift hours.

g. The shower room

(1) shall contain a minimum of one shower per 6 workers calculated on the basis of the largest shift, and

(2) shall have shower heads supplied with hot and cold water adjustable at the tap, and

(3) shall be constructed to ensure against water leakage, and

(4) shall contain liquid bath soap, shampoo and clean, dry towels in sufficient quantity for each worker for each showering.

h. Shower water shall be drained, collected and filtered through a system with at least 5.0 micron particle size collection capability. A system containing a series
of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filtration system by large particles.

1. Filters wastewater shall be discharged either to a sewer or drummed and then properly disposed.

2. Used filters shall be disposed of as asbestos-containing waste material.

i. The equipment room

1. shall be used for storage of equipment and tools used on the job that been cleaned previously in the work area, and

2. may contain a limited supply of replacement filters (in sealed containers until used) for HEPA vacuums and pressure ventilation equipment, extra tolls, containers of surfactant and other materials and equipment that may be required during the abatement activity, and

3. shall contain labeled 6-mil plastic bags for collection of disposable clothing, and

4. shall be used to storage contaminated footwear (e.g. rubber boots another reusable footwear) and contaminated clothing for reuse for the duration of the abatement activity or until disposed.

j. Waste decontamination enclosure system.

1. A waste decontamination enclosure system shall consist of two totally enclosed chambers and shall also comply with the flowing requirements:

2. The washroom shall be constructed with an airlock doorway to the work area and an airlock doorway to the holding area.

3. The holding area shall be constructed with an airlock doorway to the washroom and a lockable door to the outside; if remote from the washroom, it shall comply with all applicable New York City Department of Sanitation regulations pursuant to Local Law 70 of 1985 and 21 of 1987. The designated holding area at the work site shall:

a) be secured and maintained as a holding area contiguous with a waste decontamination enclosure system as specified herein, and

b) be appropriately sized for waste generation, and

c) conform to applicable New York City Department of Sanitation regulations, and
d) be permitted to be located in an area outside the enclosure system when circumstances necessitate this arrangement.

(4) Where there is only one means of egress from the work area, the holding area of the waste decontamination enclosure system may branch off from the equipment/decontamination room. Thus the equipment room alternates as a waste washroom. In this case the waste washroom shall be equipped with a drain, installed to collect water and deliver it to the shower drain where it is filtered, or

(5) where total asbestos-containing material disturbed in the asbestos project is less than 1000 square feet, the shower room may be used as a waste washroom, and

a) the clean room, may not be used for waste storage but is used for waste transfer to carts, which are stored outside the clean room in a designated holding area.

b) The holding area of the waste decontamination enclosure system may branch off from the shower room of the worker decontamination enclosure system.

(6) Safe and adequate heat and light shall be provided.

4. Alternate temporary facilities

Where less than 260 linear feet or 160 square feet of ACM will be disturbed, the following procedures may be followed:

a. The decontamination enclosure system shall be constructed, fully lined with a minimum of 2 layers of 6-mil plastic sheeting.

b. All workers and authorized visitors shall enter the work area through the worker/waste decontamination enclosure system. All individuals who enter the work area shall sign the entry log located in the clean area upon initial daily entrance and final daily exit.

c. All asbestos-containing waste material shall be bagged while wet and then sealed. The bag shall be moved to the waste storage area, wet cleaned and double bagged before being presented for storage and transport. The waste shall be handled in compliance with all rules and regulations promulgated by the New York City Department of Sanitation in accordance with Local Laws 70 of 1985 and 21 of 1987.

d. Before leaving the work area, each individual shall remove the gross contamination from the outside of the respirators and protective clothing by wet cleaning and/or HEPA vacuuming.
e. Disposable clothing shall be removed and deposited for disposal into ACM-labeled containers. Any reusable contaminated clothing, footwear, or headgear shall be stored in the equipment room when not in use.

f. Showers shall be provided to the workers at the work site. If the showers are not contiguous to the equipment room, the workers shall suit up in 2 disposable suits, one to wear while working and the second to be worn to the shower.

g. Slight modifications of these procedures may be permitted by the Department, after review, for boiler room equipment projects employing exclusively glovebag and/or tent procedures.

5. Procedures for boiler room equipment abatement

ACM Disturbance, handling and Removal Procedures. The following procedures shall be followed during the conduct of abatement activities:

a. Where at least 260 linear feet or 160 square feet of ACM will be distribute, the following procedures shall be followed unless an alternate plan has been submitted and approved. The calculation to establish the quantity of ACM that will be removed will include ACM on walls and ceilings within the room containing the main equipment, or where there is no such room located on the floor where the main equipment is located.

b. Abatement of asbestos-containing materials shall be by the wet methods. Dry removal of asbestos-containing materials is prohibited, unless EPA approval has been obtained for an alternate procedure. The EPA-approved alternate removal plan shall be submitted to the Department for approval a minimum of 15 days before work is scheduled to begin or begins. The plan shall explain and justify why ACM must be removed dry and how asbestos fibers will be controlled to prevent their release.

c. When amended water is used, the ACM shall be sprayed with sufficient frequency and quantity for enhanced penetration. Sufficient time shall be allowed for penetration to occur prior to removal action or other disturbance taking place. Accumulation of standing or free water is prohibited. Fluffy friable materials shall be saturated. Non-hygroscopic materials, such as tremolite or amolite, shall be thoroughly wetted on all surfaces while work is being conducted.

d. When used, removal encapsulants that minimize fiber generation and enhance penetration, shall be applied per manufacturer's specifications and in accordance with Federal guidelines.

e. ACM upon detachment from the substrate is to be bagged directly or dropped onto a flexible catch basin and promptly bagged. Excess air in the bag shall be
minimized and the bag shall be sealed. Non-hygroscopic materials shall not be dropped. ACM shall not be dropped from a height greater than 10 feet. Above 10 feet in height dust free enclosed inclined chutes may be used. Vertical or near vertical chutes are prohibited. Maximum inclination from horizontal shall be 60 degrees.

f. Do not allow fallen material to litter the floor. The materials shall be picked up and bagged frequently.

g. Large components removed intact that cannot be containerized shall be maintained wet, wrapped (minimizing excess air) in at least two layers of 6-mil polyethylene sheeting, and secured by sealing with tape.

h. After completion of all stripping work, surfaces from which asbestos-containing materials have been removed shall be cleaned (e.g. wet brushed and/or wet-cleaned) to remove all visible residue.

i. Asbestos removal around pipes

(1) When pipes are insulated with asbestos-containing materials, removal of the entire pipe may be easier, more protective, and more cost-effective than stripping the insulation from the pipe. When such a procedure is employed, the following requirements shall be met:

(2) Before such a pipe is cut, the asbestos-containing insulation must be wrapped with more than one layer of 6-mil plastic and securely sealed with duct tape or equivalent. This plastic covering shall prevent asbestos fibers from becoming airborne as a result of the vibration created by the saws used to cut the pipe.

(3) The pipe shall be cut at locations that are not insulated to avoid disturbing the ACM. If a pipe is completely insulated with ACM, small sections shall be stripped using the glove bag procedure described elsewhere in this specification before the pipe is cut off the stripped sections.

(4) A power saw shall not be used for this procedure.

j. Removed material shall be placed in double 6 mil (.006") polyethylene bags tied securely, and disposed of legally.

k. After the work area has been rendered free of visible residues, a thin coat of an encapsulating agent shall be applied to all surfaces in the work area from which ACM was removed, to seal in nonvisible residue.

l. Air testing shall be conducted as described in Air Testing Specification.
m. Vacuum any remaining material from sub surfaces, i.e.: wire lath and concrete. Vacuum shall be a HEPA type by NILFISK or Pullman/Holt.

n. All polyethylene, tape, clothing and cleaning materials shall be bagged and disposed of by placement in double bag of 6 mil polyethylene and sealed with tape.

o. Clean all equipment, tools, etc., prior to removing them from work area.

6. Decontamination sequence

a. Worker enters outside room and removes clothing, puts on clean coveralls and respirator, and passes through shower into the equipment area.

b. Any additional clothing and equipment left in the equipment area, required by the worker, is put on. (When the work area is too cold for coveralls only, the worker will usually provide himself with additional warm garments. These must be treated as contaminated clothing left in the equipment area).

c. Worker proceeds to work area and performs work.

d. After the work period is over, and before leaving the work areas, the workers should remove all gross contamination and debris from the disposable coveralls. In the practice this is usually carried out by one worker assisting another. The worker then removes all disposable clothing except respiratory protection equipment. Disposable coveralls are placed in a bag for disposal with other material.

e. The worker proceeds to equipment area and removes all remaining clothing except respiratory protection equipment. Extra work clothing may be stored in contaminated end of this unit.

f. The worker then proceeds rapidly into the shower area. Respiratory protection equipment should only be removed after wetting in shower to prevent inhalation of fibers. Dispose of filters after removing mask.

g. After showering, the worker moves to the clean area and dresses in either new coveralls for another entry or street clothes if leaving.

h. Respirators are picked up, cleaned by re-washing, and wrapped by protected workers in a separated area. The respirators are then brought to the clean area by an outside worker. The cleaners then exit through the shower units as usual.

7. Glove bag procedures

Stationary glove bag procedures may be used on pipe lagging. These glove bags shall not be shifted, moved, re-installed or re-used once used for ACM removal.
8. Tent Procedures shall be conducted according to the following requirements

Tent procedures shall be limited to the removal at any one time of less than 260 linear feet or 160 square feet of ACM and shall not result in disturbance of ACM during tent erection.

9. Upon completion of abatement, and prior to tent collapse, the enclosed substrates shall:

   a. be wet cleaned using rags, mops or sponges; and

   b. be permitted sufficient time to dry, prior to HEPA vacuuming all substrates; and

   c. be lightly encapsulated to lockdown residual asbestos.

3.12 PATCHING OF BOILER ROOM INSULATION

Patch all damaged and cracked areas of existing boiler breechings with a non-asbestos insulating and finishing cement to match the existing adjoining surfaces. Where smoke breeching and or boiler connections are specified to be repaired, repairs shall be made in the following manner:

1. Secure V-ribbed wire lath to all surfaces, the ribs providing a 1-inch air space between breeching and metal lath.

2. Outside lath, install 1½" thick asbestos free calcium silicate blocks, securely held in place with 16-ga. galvanized wire.

3. Over this fasten 2 inch hexagonal mesh galvanized wire netting and ½ inch insulating and finishing cement, troweled to a smooth hard finish.

4. Install galvanized steel corner beads at all outside corners where same is missing or removed.

5. Do not insulate expansion joints, smoke indicators, end of damper housing on which bearings are mounted, test openings and clean out doors.

6. Insulation adjoining these items specified in paragraph E, shall be neatly beveled around such equipment.

3.13 INSTALLATION OF INSULATION
1. Apply boiler thermal insulation in strict accordance with manufacturer’s printed instructions and as specified herein.
   a. Provide samples of insulation, manufacturer’s literature defining properties and manufacturer’s installation directions for approval
   b. Insulate each boiler on all surfaces, including the front and rear smoke boxes, excluding manholes, hand holes and the area of the boiler front that is marked with the maker’s name, pressure standards, Identification marks, symbols and so on the are necessary for the ongoing operation of the boiler.
   c. The insulation shall consist of 1 ½” thick asbestos free calcium silicate block, with vertical joints staggered.
   d. Blocks shall be held in place with 16 gauge galvanized steel wire, secured to holes in the frame around hand holes, manholes, doors, base and so on. If frames are not in place, furnish and install these as required by the Bureau of Maintenance Standard specification for Heating and Ventilation work.
   e. Apply two (2) inch galvanized hexagonal wire mesh and a ½” thick coating of insulation and finishing cement troweled to a smooth hard finish.
   f. Furnish and install galvanized steel corner beads at all outside corners.
   g. Access plates at the back and bottom rear of the smoke box shall not be insulated.

2. Smoke breeching insulation

Where smoke breeching and or boiler connections are specified to be repaired, repairs shall be made as follows:
   a. Secure V-ribbed wire lath to all surfaces, the ribs providing a 1-inch air space between breeching and metal lath.
   b. Outside lath, install 1½” thick asbestos free calcium silicate blocks, securely held in place with 16-ga. galvanized wire.
   c. Over this fasten 2 inch hexagonal mesh galvanized wire netting and ½ inch insulating and finishing cement, troweled to a smooth hard finish.
   d. Install galvanized steel corner beads at all outside corners where beads are missing or have been removed.
e. Do not insulate expansion joints, smoke indicators, end of damper housing on which bearings are mounted, test openings and clean out doors.

f. Insulation adjoining these items specified in paragraph E, shall be neatly beveled around such equipment.

g. Patch all damaged and cracked areas of existing boiler breechings with a non-asbestos insulating and finishing cement to match existing adjoining surfaces.

3. Application of combustion chamber insulation

a. Combustion Chamber - For fire-box boilers, the underside of rear baffle plates, the inside of shell sheets forming rear combustion chambers, and the cast-iron liner of flue doors of all boilers shall be protected with a 2-inch thick layer of North American Refractories Co. No. 505 "Narco", mixed with "Narco Set Cement" or of Aurora Insulating Products Co. "Webers 48 Cement": finished with "Aurora Heat Resistant Putty" applied as directed by the manufacturers with No. 19 gauge \( \frac{3}{4} \)-inch mesh wire screen with \( \frac{1}{2} \)-inch spacing ribs and with standard 3/8 inch stove bolts set staggered on about 6-inch centers, extended through mesh and through cast-iron liner, through rear baffle plate and through metal of surface thus to be protected, or other approved equal materials. Wire mesh shall be secured with suitable tie-wires to angles provided on shell in rear combustion chamber.

b. The cast iron liners of fire-doors of oil fired boilers shall also be protected with plastic refractory, wire mesh screen, bolts, etc., as specified above in paragraph A. Before applying refractory to fire doors, the cone at observation port shall be provided with a layer of paper around same, as directed, to provide space for expansion when paper burns out.

c. Expansion joints shall be provided in the plastic refractory linings of boiler doors by means of full length horizontal and vertical saw cuts through such linings. Fire door linings shall have one horizontal and one vertical cut, each running through the center line of the observation port cone. Flue door linings shall have three horizontal and two vertical cuts, equally spaced.

4. Pipe Insulation

Following the removal of damaged pipe insulation at locations required:

a. Install new pipe insulation at areas where asbestos insulation was removed as part of the work of this contract, and at areas where missing insulation is listed.

b. Cover all newly installed pipe insulation in finished spaces (student occupied areas) with canvas. Canvas shall be adhered with two flood coats.
of lagging adhesive. The canvas shall overlap all seams a minimum of two inches. The use of wheat paste or similar adhesives is prohibited. Canvas shall not be secured to fittings, etc., until insulating cement on fittings is thoroughly dry.

c. Securely band all other pipe insulation, installed as part of the work of this contract, with 1-inch wide aluminum bands. Bands shall be installed on each end and at intervals of not more than 18 inches on centers.

d. Apply non-asbestos stickers to all newly installed, non-asbestos insulation according to the following:

(1) One (1) each on front and rear of boilers.

(2) Two (2) each on sides of boilers.

(3) Every twenty feet (20') on complete runs of new pipe insulation.

(4) On new sections of pipe insulation less than twenty feet (20') long. Ends of run to marked with blue cloth tape.

5. Valves, Fittings and Flanges

   a. Apply insulation cement over valve bodies, fittings and flanges, to a thickness equal to the adjoining insulation and finish with one coat of finishing cement.

   b. On small pipes and fittings only the finishing cement shall be applied.

   c. Finish to a smooth hard finish.

   d. Patch damaged fittings in areas of work.

6. Applying paint to finished surfaces

   a. All new pipe insulation installed as part of the work of this contract, shall be painted with two coats of material listed herein (except in the boiler room).

   b. New boiler insulation and all fixtures and fittings on boilers to be painted with one finished coat of aluminum paint.

7. Applying non-asbestos stickers

   a. Apply non-asbestos stickers to all newly installed, non-asbestos insulation.

   b. Stickers to be applied as follows:
(1) One (1) each on front and rear of boilers.

(2) Two (2) each on sides of boilers.

(3) Every twenty feet (20') on complete runs of new pipe insulation.

(4) On new sections of pipe insulation less than twenty feet (20') long. Ends of run to marked with blue cloth tape.

3.14 GLOVE BAG PROCEDURE

1. Glovebag procedure - The following procedures shall be followed during the conduct of abatement activities:

a. Stationary glovebag procedures on pipe lagging shall be done using commercially available glovebags of a minimum of 6-mil clear plastic, appropriately sized for the project. These glovebags shall not be shifted, moved, re-installed or re-used once used for ACM removal.

b. The glovebag procedure shall be performed in accordance with the following:

(1) All necessary tools and materials shall be brought into the work area before the glovebag procedure begins.

(2) Air monitoring shall be conducted in accordance with asbestos monitoring specifications.

(3) Glovebag procedures shall be conducted by workers specifically trained in glovebag procedures and equipped with appropriate personal protective equipment.

(4) The pipe insulation diameter worked shall not exceed one half the bag working length above the attached gloves.

(5) The ACM within the secured glovebag shall be wetted with amended water prior to stripping.

(6) The bag shall be attached over duct tape which has been placed securely around the insulation, forming a smooth seal. A gasket material may be inserted between the tape and bag to facilities bag movement. The bag shall be securely attached to the insulation in a manner to prevent air transfer.
(7) The integrity of the glovebag seal shall be smoke tested. The location being worked on is damaged, or if the pipe insulation terminates or is jointed or contains an elbow adjacent to the work section, the adjacent insulation shall be wrapped in 6-mil polyethylene sheeting and sealed airtight with duct tape.

(8) If the pipe insulation adjacent to the section which will be worked on is damaged, or if the pipe insulation terminates or is jointed or contains an elbow adjacent to the work section, the adjacent insulation shall be wrapped in 6-mil polyethylene sheeting and sealed airtight with duct tape.

(9) After the insulation has been removed, the pipe shall be sprayed with amended water and brush-scrubbed to remove all visible ACM. The pipe, the interior of the bag, the insulation and the tools shall be misted and time allowed for the mist to settle out before breaking the seal to shift or remove the glovebag.

(10) Any pipe insulation ends created by this procedure shall be:

sealed with encapsulant prior to bag removal, or
thoroughly wetted before bag removal and sealed with wettable cloth and caps and spray glue or any combination of these materials immediately following bag removal or shifting.

(11) The tool pouch shall be separated from the bag prior to disposal by twisting it and the wall to which it is attached several times, and taping the twist to hold it in place, thus sealing the bag and the pouch which are severed at the midpoint of the twist. Alternatively, the tools can be pulled through with one or both glove inserts, thus turning the gloves inside out. The glove(s) is/are then twist sealed forming a new pouch, taped and severed mid-seal forming two separate bags.

(12) A HEPA vacuum shall be used for evacuation of the glovebag in preparation for removal of the bag from the pipe or duct, for clean-up in the event of a spill, and for post project clean-up.

(13) With the glovebag collapsed and the ACM in the bottom of the bag, the bag shall be twisted several times and taped to seal that section during bag removal.

(14) A 6-mil plastic bag shall be slipped around the glovebag while it is still attached to the pipe. The bag shall be detached from the pipe by removing the tape or cutting the top with a blunt scissors.

(15) The asbestos-containing waste, the clean-up materials, and protective clothing shall be wetted sufficiently, double-bagged minimizing air
content, sealed separately, and disposed of in conformance with these regulations.

3.15 TENT PROCEDURE

Tent Procedures shall be conducted as follows:

1. Tent procedures shall be limited to the removal at any one time of less than 260 linear feet or 160 square feet of ACM and shall not result in disturbance of ACM during tent erection.

2. Tent procedures shall be accomplished in a constructed or commercially available plastic tent, plasticizing and sealing all surfaces not being abated within the tent periphery forming an enclosure. The tent shall be two layers of 6-mil PVC at a minimum, with seams heat-sealed, or double-folded, stapled and taped air tight and then flush with the adjacent tent wall. This is a single use barrier that shall not be reused once dismantled or collapsed.

3. Asbestos handlers involved in the tent procedure shall wear two (2) disposable suits, including gloves, hood and footwear, and appropriate respiratory equipment. All street clothes shall be removed and stored in a clean room within the work site. The double layer personal protective equipment shall be used for installation of the tent and throughout the procedure if a decontamination unit with a shower is not contiguous to the work area. If a decontamination unit (with shower and clean room) is contiguous to the work area, only one layer of disposable personal protective equipment shall be required; in this case, prior to exiting the tent the worker shall HEPA vacuum and wet clean the disposable suit.

4. The tent shall be attached to the surface to produce an airtight seal except for an appropriate section to allow for make up air into the tent.

5. Openings made in the isolation barrier to accommodate these units shall be made airtight. The units shall remain within the work area unless located securely outside the building.


7. Negative pressure ventilation equipment shall be exhausted to the outside to the buildings away from occupied areas.
a. At no time shall the negative pressure ventilation unit exhaust within 40 feet of a receptor or adversely affect the air intake ports, louvers or entrances for the building or adjacent structures.

b. Heavy duty ducting of equivalent or larger, shape and dimensions as that of the negative pressure ventilation exhaust port shall be used to exhaust to the outside of the structure.

c. All ducting shall be sealed and braced or supported to maintain airtight joints.

8. Where ducting to the outside is impossible a second negative pressure ventilation unit compatible with the primary unit’s capacity shall be connected in series. The area receiving the exhaust shall have sufficient, non-recycled exhaust capacity to the outside of the structure.

9. Careful installation shall be done to ensure that the ducting does not release fibers into uncontaminated building areas.

10. Routine smoke testing, air monitoring and daily inspections shall be performed by the Asbestos Handler Supervisor, and consultant employee, to ensure that the ducting does not release fibers into uncontaminated building areas.

11. A HEPA vacuum or equivalent shall be used to continuously exhaust the enclosed area as specified under NYC Title 15, Chapter 1 paragraphs 1-126, Engineering Controls, except that the negative air pressure in subdivision (c) shall be demonstrated by smoke testing. The hose shall be attached securely and airtight through the tent wall at the most remote location possible from the ACM to be disturbed. A minimum of two volume changes per hour is required.

12. Removal of ACM shall be by wet methods.

13. ACM removed shall be placed in a leak tight container without dropping it.

14. Upon completion of abatement, and prior to tent collapse, the enclosed substrates shall:

   a) be wet cleaned using rags, mops or sponges; and

   b) be permitted sufficient time to dry, prior to HEPA vacuuming all substrates; and

   c) be lightly encapsulated to lockdown residual asbestos.

15. Upon barrier disturbance, loss of engineering controls, or termination of tent usage, the tent and the enclosed substrates shall be treated according procedure below.
Upon completion of abatement, and prior to tent collapse, the enclosed substrates shall:

1. be wet cleaned using rags, mops or sponges; and

2. be permitted sufficient time to dry, prior to HEPA vacuuming all substrates; and

3. be lightly encapsulated to lockdown residual asbestos.

16. The bagged waste shall be wet cleaned or HEPA vacuumed and then transferred outside the tent, double bagged, and appropriately handled prior to disposal.

17. The outer disposable suit (if two suits are worn) shall be removed and remain in the tent upon exiting. Following tent disposal and work site cleanup the workers shall immediately proceed to a shower at the work site. The inner disposable suit and respirator shall be removed in the shower after appropriate wetting. The disposable clothing shall be disposed of as asbestos-containing waste material. The workers shall then fully and vigorously shower with supplied liquid bath soap, shampoo, and clean, dry towels.

18. The HEPA vacuum shall be used to filter a minimum of 6 volume changes through the tent after completion of abatement but prior to collapse of the tent/barrier.

19. The tent shall be collapsed inward, enclosing the contaminated clothing. This contaminated material shall be disposed of in another plastic bag. The HEPA vacuum shall be decontaminated and sealed.

3.16 CORE DRILLING AND CONDUIT INSTALLATION

If core drilling is required, it will be paid for by DOHMH reimbursement to the Contractor for the time spent by labor and the cost of materials and equipment used, Time and Materials. The use of any other techniques or systems to accomplish this will be paid for at their Bid Unit Price.

1. Precautions

a. Building materials that will be affected by this work shall be considered to be ACM (asbestos containing material) unless the building has been designated as being asbestos free in the AHERA report.

b. Complete penetrations through ceilings and floors, shall be done using the procedures hereinafter identified as Method One.
c. Drilling into any surface to install fastening devices, carriers, supports, floor outlets, cabinets and other related equipment and devices and complete penetrations of vertical surfaces, shall be done in accordance with the procedures hereinafter as Method Two.

d. A detailed layout of decontamination facility, tent structure and individual locations, description of all equipment to be used, shall be submitted to the Environmental Health and Safety approval.

e. Any individual area that requires the removal of greater than 25 linear feet or 10 square feet shall be subject to all regulatory requirements per New York State and New York City.

f. Work procedures identified above are OSHA compliant as referenced in Section 1926.1101-Asbestos, of 29 CFR 1926 as of September 1995. It is the responsibility of the Contractor to comply with all applicable requirements and notify DOHMH of any work that falls outside of the procedures described within Method One and Method Two, below.

g. Certified individuals and Contractors must comply with all regulatory requirements.

h. Phasing and/or scheduled areas of work shall consist of those areas segregated by defined methods, i.e. signs, plastic, and other regulatory compliant means and methods. Non certified (asbestos) personnel shall not enter said areas unless areas have passed clearance criteria described herein. Multiple work areas (i.e., floors) can be individually worked and separately cleaned as per the procedures described in Method One and/or Method Two.

2. Methods for installation of electrical conduits, risers and computer power source equipment

a. **Method One:** Drilling completely through ceilings and floors-tent work.

   (1) All work shall be conducted by licensed asbestos handlers or restricted handlers. A competent person/asbestos supervisor shall be present and oversee the work.

   (2) All work shall be conducted when school is not in session.

   (3) Locations where work is to be conducted are regulated areas which are to be restricted and posted in accordance with applicable regulations.

   (4) Respirators and disposable clothes (Tyvek suits) are to be worn for the duration of the work.

   (5) A temporary decontamination unit shall be located on the premises in proximity to the work area.
(6) Tents shall be installed on the floor below and the floor where the penetration is to be made. Each tent shall be individually attached to its own HEPA exhaust unit. Tents shall have a change room. Individuals working in the tent shall wear two disposable suits removing one upon exiting the tent. The worker shall proceed directly to the shower and decontaminate.

(7) Drilling to effect the installation of electrical conduit risers shall be conducted inside the tent enclosure. Air samples will be taken as prescribed by the United States Environmental Protection Agency regarding clearance of “mini enclosures” pertaining to AHERA. New York City Dept. of Environmental Protection “durings” air samples will also be employed as described below. At the conclusion of the drilling, loose debris shall be HEPA vacuumed and wet cleaned. Encapsulant shall be applied prior to air clearance of the tent. All openings and perimeters of openings shall be secured from delaminating caused by subsequent work by other trades prior to air clearance testing. All equipment used for the drilling shall be wet wiped and HEPA vacuumed in the tent prior to removal.

(8) Phase Contrast Microscopy (PCM) will be employed during abatement and to clear each tent. “Durings” - two (2) PCM outside the tent will be taken at the completion of the drilling. For clearance a minimum of three (3) PCM samples will be taken inside and three (3) PCM samples will be taken outside each tent. Each of the samples analyzed from inside the tent must below the limit of detection of 0.01 f/cc. Analysis of PCM samples will be via NOISH 7400 protocol. If PCM samples fail, TEM analysis via NIOSH 7402 protocol will be utilized. All air tests, except OSHA personals, will be provided by others.

(9) In the event of a breach in the tent containment, Transmission Electron Microscopy will be used to establish DOHMH’s re-occupancy criteria.

(10) Upon notification of a successful clearance, the tent shall be broken down and disposed of as ACM contaminated waste.

(11) Work utilizing this method cannot be carried on simultaneously whit work utilizing method two described below in the same work area.

b. **Method Two:** Drilling completely through walls or floors. Drilling into any surface to the affect the installation of conduit, hangers, cabinets, fastening devices, carriers, supports, floor outlets, and/or other related equipment and device.

    7. 
    (1) All work shall be conducted by licensed asbestos handlers or restricted handlers. A competent person/asbestos supervisor shall be present and oversee the work.

    (2) All work shall be conducted when school is not in session.

    (3) The work area for each phase of the project will be delineated by the Project Manager or an authorized DOHMH employee or its designated representative. In general, this will be limited to one of the following:
a) An entire floor

b) A group of rooms one floor and the adjoining corridor.

c) A single room.

This shall be considered as a regulated area which is required to have restricted access and have signs posted in accordance with applicable rules and regulations.

(4) All powered tools used to make the penetrations shall be equipped with a GS 81 vacuum system, as manufactured by NILFISK, or its equivalent. The system shall be connected to a portable, HEPA vacuum.

(5) Respirators and disposable clothes (Tyvek suits) are to be worn for the duration of the work.

(6) A temporary decontamination unit shall be located on the premises.

(7) Plastic drop cloth shall be used under all ceiling and wall penetrations. Where feasible, these cloths shall extend at least five feet in any direction from the penetration or up to one foot up the wall. Plastic shall be fire retardant and at least six mils thick.

(8) Portable hand held mist spray shall be utilized with amended water to wet both localized areas impacted and general cleaning.

(9) After completion of each penetration and the wet cleaning the areas on each side of the opening, the inside of the hole shall be encapsulated using a penetrating encapsulant. After each use, tools shall be wet wiped. The cleaning medium shall be disposed of as ACM contaminated waste.

(10) Phase Contrast Microscopy (PCM) “durings” will be employed to verify cleanliness and project completion. A minimum of five (5) PCM samples will be taken inside each defined work area. Each of the samples analyzed from inside the work area must be below the limit of detection of 0.01 f/cc. Analysis of PCM samples will be via NIOSH 7400 protocol. If PCM samples fail, TEM analysis via NIOSH 7402 protocol will be utilized. All air tests, except OSHA personals, will be provided by others.

(11) If the integrity of the local HEPA exhaust is breached, the OSHA PEL exceeded, or area samples are above 0.01 f/cc, all work shall stop and rules addressing such instances shall be complied with as per rules of the City of New York, Title 15, New York City Dept. of Environmental Protection.
(12) Upon completion of the work scheduled and verification, by DOHMH’s project monitor, that all air samples are acceptable, the Contractor shall continue to the next area.

(13) At the conclusion of each scheduled operation, the workers shall proceed to the decontamination unit and shower out. Tools shall be wet wiped and HEPA vacuumed at the end of the scheduled work and left in a non-permeable container until their next use.

(14) Work utilizing this method cannot be carried on simultaneously with work utilizing Method One described in the same work area.

3.17 LEGAL DISPOSAL OF ACM

1. Conduct daily inspection, and more often if necessary, to verify that requirements of cleanliness are being met, to ensure that proper waste disposal procedures are being followed on a daily basis.

2. Codes and Standards

   In addition to the standards described in this specification, comply with all pertinent requirements of governmental agencies having jurisdiction.

3. Notification of DEP, EPA and New York City Building Department. The Contractor is required to notify all Federal, State and City regulating offices prior to starting, for final regulations concerning proper disposal of asbestos waste material. A copy of this transmittal shall be forwarded to the Environmental Health and Safety Unit before/with final payment request.

4. Off-site disposal of asbestos waste material

   a. All ACM shall be double bagged in 6 mil polyethylene plastic bags at the site and as close to the removal location as possible. These bags shall be preprinted as required by OSHA and Federal DOT requirements to show that they contain ACM. Asbestos waste shall be kept in an approved, secured and controlled location of the facility. Storage area shall be lined with two layers of fire retardant plastic. Filled bags of waste are carried to this area and placed in sealable metal or fiber 55 gallon drums, labeled as per applicable regulations. When the drums are full, they shall be sealed, labeled and transported to a landfill site approved for asbestos by EPA and all other federal, state and local requirements. Procedures for hauling and disposal shall comply with 40 CFR, Part 61, 49 CFR, Parts 171 and 172, and other applicable state, regional, and local government regulations.
b. The waste containers shall be transported to the landfill site in a covered, lockable vehicle. All transported containers shall be accompanied by a proper chain of custody (manifest) form that details the origin of the material, date and quantities of transport, types of containers and their destinations. If transported by a third party hauler, information on the form is signed at each transfer point and, after final transport to the landfill site, the original manifest form and waste receipt shall be submitted to Environmental Health and Safety Unit.

3.18 AIR TEST

After the completion of the Ordered abatement work, the temporary structures shall remain in place while the work is being cleaned as required elsewhere in this specification. The air shall be tested before any temporary structures are removed.

Air testing will be conducted as per NYC Title 15, Chapter 1 (Local Law 76), NYS Industrial Code Rule 56 and AHERA regulations as amended from time to time, and will not be the responsibility of the Contractor. The Contractor shall perform personnel/work area air monitoring as required to meet OSHA requirements for maintenance of Time Weighted Average (TWA) fiber counts for respiratory requirements.

Air testing shall be conducted as described in the Air Testing Specification

If the air tests following final clean-up indicate a fiber count greater than 0.01 fibers per cubic cm, or 70 s/mm² the Contractor shall re-clean work areas until additional air tests indicate a fiber count of 0.01 f/cc or less than 70 s/mm².

The Contractor shall comply with all Environmental, Work and Labor Law related regulations and requirements.

3.19 FINAL ACCEPTANCE BEFORE RE-OCCUPANCY OF BUILDING

Before any building or part of any building can be occupied by any personnel without respiratory protection, the level of airborne fibers must be as follows:

Visual inspection and fiber clearance count of less than 0.01 fiber/cc of air using NIOSH Method 7400 and less than 70 s/mm² when using Transmission Electron Microscopy.

3.20 EXECUTION
A. WORK NOTIFICATION AND PROCEDURE

The Contractor shall notify the Project Manager, site custodian or a DOHMH authorized employee in writing, 72 hours in advance of the scheduled date for the start of the Work. For some work affecting DOHMH’s Facilities, DOHMH may require more advanced notice.

B. PERFORMANCE

1. Work shall be performed as directed by the Project Manager or an authorized DOHMH employee in a manner which will cause the least disruption to the public and DOHMH employees.

2. The Contractor shall exercise all safety precautions while performing the work. Any damage to the property as a result of the Contractor’s work shall be replaced or repaired by the Contractor at no cost to DOHMH.

3. Materials specified shall be delivered to the site in sealed, properly labeled containers. Containers shall indicate manufacturer’s name, trade name of the product and lot number. Materials shall not be stored on the site. Damaged materials shall be rejected, removed from the site and replaced with new material.

C. SUBMITTALS

1. Product Data

   Provide manufacturers' information and installation instructions for prior approval and compliance with each type of work to be performed. As required, the Contractor will wait for approval before initiating work.

2. Samples

   Samples to be submitted on demand. Samples shall become the property of the DOHMH Facilities.

3. The Contractor shall deliver to the site Custodian, Project Manager or authorized DOHMH employee any warranteer certificates, warranteer or guarantee documents, special tools, spare parts or operating manuals that may be supplied by the manufacturer as part of the new materials. A receipt for these materials that has been signed by the site Custodian, Project Manager or authorized DOHMH employee will be required as part of the application for payment package.

4. During the course of the work the Contractor may be required to produce any or all of the following documents
a) Work Schedule

b) Various manufacturer’s information, including MSDS

c) Type and brand of material for worker protection

d) Method of application and materials used

e) Test results (both personal air monitoring data and air pressure differential between work areas and external air).

f) Schedule for changing filters in negative air pressure system and water filtration system

g) Copies of all daily manpower and work logs indicating areas and types of work performed

h) Copies of OSHA form 101 or equivalent accident/injury/incident reports

i) Name and contract person of the carting (asbestos waste transporter) company to be used for transportation and disposal of ACM waste to EPA approved ACM waste disposal site, copy of the insurance certificate, for asbestos hazard material transportation liability insurance.

D. FILING OF WORK, PERMITS AND CODE COMPLIANCE

1. All work performed by the Contractor shall be in accordance with all applicable codes and regulations of all City, State and Federal agencies. The Contractor shall be knowledgeable about and comply with all such rules and regulations.

2. Contractors are advised to be aware of the provisions and civil penalties required by Local Law 48 of 2006 for Work Without a Permit Violation. For Work Without a Permit, the civil penalty has been increased to fourteen times the amount of the permit.

3. The Contractor should follow the link below for an explanation of the procedures for obtaining permits when working on tax exempt properties.

   http://www.opt-osfns.org/dsf/forms/EA_MA.pdf

E. PREVAILING RATE PAYROLL REPORT

1. Skilled workers who are directly employed and supervised by the Contractor shall perform all the Work of this contract. These workers shall be paid the prevailing
rates of wages under Section 220 or Section 230 for the corresponding class of labor, applicable for the type of work, in the locality where the work is being performed.

2. The Comptroller requires the reporting of the names, class of labor, and wages paid for every employee, for each week of employment using the Comptroller’s Labor Law Compliance Management System. The Comptrollers Payroll Report form is available on the City’s web site.

F. CLEANING

After completion of the work, remove all material scraps, debris, and rubbish from the area. Leave the site broom clean.

G. QUALITY ASSURANCE

1. All materials furnished and installed under these Specifications shall be MEA approved for its intended purpose if the equipment is subject to these approvals, and compliant with all codes applicable to asbestos clearance.

2. All wiring shall be installed as per RS 17-3 of the NYC Building Code and in raceways as Board of Education Standard.

3. This contract does not require work to be performed by a licensed electrician. Where any replacements, repairs, or alterations of this contract will affect the electrical service in the building, that work may require a licensed electrician to perform, and if DOHMH orders this Contractor to do that work, subcontracting will be allowed. The Contractor shall file with the Bureau of Electrical Control any necessary application before starting work. Proof of filing by an authorized electrician shall be submitted with the application for payment. This Contractor shall supervise and be responsible for the whole work including any sub Contractor’s work. Contractors shall be required to submit the DOB “Sign-Off” or DOB BIS print-out showing work/application is completed and has passed inspection.

H. GUARANTEE

All new materials furnished and work performed on each Task Order shall be guaranteed for a period of at least one year from the date of completion, as established by DOHMH’s dated approval of the final payment. DOHMH recognizes that, when repairs are made to a part of a system, only the parts that have been repaired and not the system shall be subject to the guarantee. The Contractor shall deliver to the site Custodian, Project Manager or an authorized DOHMH employee any warrantee certificates, warrantee or guarantee documents, special tools, spare parts or operating manuals that may be supplied by the manufacturer as part of the new materials. If the manufacturer of a part of a system, or installed materials provides a longer guarantee or warrantee DOHMH will accept that longer guarantee as the guarantee period.
I. PERMITS

The Contractor will give all required notices, pay all legal and required fees, and penalties incurred. The Contractor will promptly pay all incidental charges, and meet all the incidental expenses necessary for the most efficient and satisfactory progress of the work. The Contractor will obtain all necessary permits required to perform the work at own expense.

[END OF SECTION 02 82 00]
SECTION 02 41 19 – DEMOLITION AND REMOVAL OF SELECTED PORTIONS OF BUILDINGS AND SITE ELEMENTS

GENERAL

1.1 SUMMARY

A. Section Includes:

Demolition and removal of selected portions of building or structure.
Demolition and removal of selected site elements.
Salvage of existing items to be reused or recycled.

B. Related Requirements:

Division 32 Sections on “Turf and Grasses” and “Plants” for temporary protection of existing trees and plants that is affected by selective demolition.

C. The Contractor shall perform all demolition, removal, patching and repair work as directed by the Resident Engineer (“RE”), Project Manager (“PM”) or DOHMH representative and specified herein, including, but not limited to all work, even if not specifically mentioned herein or in the Drawings, but necessary and required to complete any and all alterations and renovations as directed.

1.2 DEFINITIONS

A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the City’s property.

B. Remove and Salvage: Items indicated to be removed and salvaged remain the City’s property. Remove, clean and pack or crate items to protect against damage. Identify contents of containers and deliver to the RE/PM’s designated storage area, and reinstall all items as directed by DOHMH, in its sole discretion, at no additional cost to DOHMH.

C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in the same locations or in locations indicated.

D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When authorized in the sole discretion of the RE/PM, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

1.3 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled or otherwise indicated to remain the City’s property, demolished materials shall become the Contractor’s property and shall be removed from the site (as soon as possible or at the
end of each work day) with further disposition at the Contractor’s option and at the Contractor’s sole cost and expense.

1.4 SUBMITTALS

A. Proposed dust-control measures.

B. Proposed noise-control measures.

C. Schedule of selective demolition activities indicating the following:

1. Detailed sequence of selective demolition and removal work with starting and ending dates for each activity.
2. Interruption of utility services.
3. Coordination for shutoff: capping, and continuation of utility services.
4. Use of elevator and stairs.
5. Detailed sequence of selective demolition and removal work to ensure uninterrupted progress of City’s on-site operations.
6. Coordination of City’s continuing occupancy of portions of existing building and of City’s partial occupancy of completed Work, phasing of the work.
7. Locations of temporary partitions and means of egress.
8. Proposed use and type of scaffold (interior only). Should the Work of this contract require design of the scaffold by a Professional Engineer, the Contractor will engage a Professional Engineer at no additional cost to the City of New York.

D. Inventory of items to be removed and salvaged.

E. Inventory of items to be removed by City.

F. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by selective demolition operations.

G. Record drawings at Project closeout according to the General Conditions.

1. Identify and accurately locate capped utilities and other subsurface structural, electrical, or mechanical conditions.

H. Landfill records indicating receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

I. Detailed description of scaffold to be used to effect work at various locations.

1.5 QUALITY ASSURANCE

A. Demolition Firm Qualifications: All work shall be performed by skilled workers. The Contractor or Sub-contractor performing the work of this section must have recently completed) selective demolition work similar in scope, material, and extent to that
indicated by this section and whose work has resulted in construction with a record of successful in-service performance.

B. Regulatory Requirements: Comply with governing City, State and EPA regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Construction Kick-Off Meeting: Conduct meeting at Project site as per requirements of General Conditions Article 20, “Job Meetings,” wherein specific issues relevant to demolition are reviewed.

1.6 PROJECT CONDITIONS

A. The City may occupy portions of the building immediately adjacent to the selective demolition area. Conduct selective demolition so that City’s operations will not be disrupted. Provide not less than 72 hours written notice to the RE/PM of activities that will affect City’s operations.

B. The storage or sale of removed items or materials on-site will not be permitted.

C. The conduct of demolition operations shall be in such a manner as to permit maintenance of full operation of all portions of the building not scheduled for construction activities. Areas disturbed by work hereunder shall be restored to original condition.

D. The Contractor shall maintain unobstructed access to all public corridors, exit ways, stairwells and elevator lobbies on every floor. Interior scaffold may not obstruct access/egress in any way.

E. The Contractor is hereby notified that the construction may be phased to allow a portion of the building staff to occupy a portion of the space during all phases of construction.

1.7 SCHEDULING

A. Arrange selective demolition schedule so as not to interfere with the City’s on-site operations. Coordinate with the RE/PM and representatives of the affected offices/agencies.

1.8 GUARANTEE

A. Existing Special Guarantee: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition by methods and with materials that will not void existing guarantees.
PART 2 – PRODUCTS

2.1 REPAIR MATERIALS
A. Use repair materials identical to existing materials.
   1. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
   2. Use materials whose installed performance equal or surpasses that of existing materials.
   3. In each case, submit samples/specifications for approval by the RE/PM prior to use.

PART 3 – EXECUTION

3.1 EXAMINATION
A. Verify that utilities have been disconnected and capped.
B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
D. When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the RE/PM.
E. Survey the condition of the building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition. This assessment may require the services of an engineer with the appropriate disciplinary background. The Contractor shall notify DOHMH immediately of any such assessment.
F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES
A. Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
   1. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by RE/PM and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities as acceptable to RE/PM and to governing authorities.
      a. Provide not less than 72 hours written notice to RE/PM if shutdown of service is required during changeover.
B. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services serving areas to be selectively demolished.

1. RE/PM will arrange to shut off indicated utilities when requested by Contractor.
2. Do not start selective demolition work until utility disconnecting and sealing have been completed and verified in writing.
3. Where utility services are required to be removed, relocated, or abandoned, provide bypass connections to maintain continuity of service to other parts of the building before proceeding with selective demolition.
4. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit after bypassing.

3.3 PREPARATION

A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with selective demolition operations.

B. Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from RE/PM and authorities having jurisdiction. Provide alternate routes around closed or obstructed, traffic ways if required by governing regulations.

C. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around selective demolition area.

1. Erect temporary protection, such as, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
2. Protect walls, ceilings, floors, and other existing finish work that are to remain and are exposed during selective demolition operations.
3. Cover and protect furniture, furnishings, and equipment that have not been removed.

D. Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.

1. Construct dustproof partitions of not less than nominal 4-inch (100-mm) studs, 5/8-inch (16-mm) gypsum wallboard with joints taped on occupied side, and 2-inch (13-mm) fire retardant plywood on the demolition side. Construct partition to underside of structure above or to hung ceiling and to provide a sealed enclosure for the dustproof partition,
2. Insulate partition to provide noise protection to occupied areas.
3. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
4. Protect air-handling equipment.
5. Weather-strip openings.

E. Provide and maintain interior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of items and areas to be selectively demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

F. The Contractor shall protect and be responsible for the existing building, facilities, improvements and for all surfaces and materials that are retained within the area of his operations under this Contract.

G. The Contractor shall make such probes as are necessary to ascertain any required protective measures before proceeding with demolition and removal. Give particular attention to bracing requirements so as to prevent any damage to existing conditions.

H. Provide, erect and maintain barriers, warning signs and other items as required for proper protection of workmen engaged in demolition operations and occupants of the building.

1. In areas where demolition work is to be performed or affected, the contractor shall cover the floor with building paper and protective planks, and keep it covered until the demolition work is completed.

3.4 POLLUTION CONTROLS

A. Use water mist, temporary enclosures and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.

1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

1. Remove debris from elevated portions of building by carts using routes approved by the RE/PM. Chutes and hoists are not permitted.

C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

D. Provide temporary protection for surfaces within areas of work. Cover floors and portions of walls subject to traffic or impact. Use proper floor and wall protection. Do not attach protection in a manner that will damage or deface surfaces. Be responsible for damage due to lack of protection.
3.5 SELECTIVE DEMOLITION AND EXECUTION

A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete Work within limitations of governing regulations and as follows:

1. Demolition and removals shall be carried out in a workmanlike manner as shown by the Task Order, in an orderly and careful manner without unnecessary noise, dust, and other disturbs to the City’s personnel, occupants of the existing building, neighbors, and public. All mechanical, electrical, and related equipment, and utilities, shall be completely removed, unless otherwise shown or authorized to be left in place or abandoned. Demolish partitions and walls in small sections.

2. Demolition in occupied areas of the existing building shall be done in such manner as will not endanger persons, interfere with normal activities, or damage existing finishes scheduled to remain.

3. 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. To minimize disturbance of adjacent surfaces, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain. Cutting beyond the required limits (over cutting) or careless removals shall be repaired and restored by this Contractor to the satisfaction of the RE/PM.

4. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

5. Do not use cutting torches, cutting operations shall be executed with hand held grinding or sawing tools. Work area is to be cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify, condition and contents of hidden space before starting cutting operations.

6. Position selective demolition equipment throughout the structure and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

7. Dispose of demolished items and materials promptly. On-site storage or sale of removed items is prohibited.

8. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.

B. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain, using power-driven masonry saw or hand tools: do not use power-driven impact tools.

C. Break up and remove concrete slabs on grade, unless otherwise shown to remain.

D. Remove non-asbestos resilient floor coverings and adhesive according to recommendations of the Resilient Floor Covering Institute’s (RFCI) “Recommended Work Practices for the Removal of Resilient Floor Coverings” and Addendum.

E. Remove residual adhesive and prepare substrate for new floor coverings by one of the methods recommended by RFCI.

F. Demolish and remove door frames by neatly cutting the opening plumb and square within 6 inches of the existing opening (unless noted otherwise).
G. The Contractor shall provide cut-out work in partitions, masonry walls, doors, ceilings and any other surfaces as called for on the plan or drawing provided during construction work and/or per instructions of electrical; mechanical installations and other utility services and such.

H. The Contractor shall provide interior scaffold as needed.

1. Scaffold will meet OSHA-approved safety standards for each type of scaffold.
2. DOHMH and the RE/PM reserve the right to examine scaffold for appropriateness and inspect prior to and during utilization.
3. Scaffolding in excess of 50 feet in height must be designed by a professional engineer, and erected, used and maintained in accordance with the engineered design.
4. Types of scaffold will include: Standard Metal Tubular Frame Scaffold (“Rolling Scaffold”), Walk-Through (Masonry) Frame Scaffold, Fold-Up Scaffolds.
5. Scaffold must be erected on surfaces which can adequately support all loads applied by the scaffold.
6. Base plates and screw jacks must be used on all non-mobile scaffolding of a size and capacity as specified by the manufacturer. Combination base plates with screwjacks must not be over-extended.
7. Plumbness: When first tier of scaffold is erected, check for plumbness and continue doing so as the scaffold is built to ensure maximum structural capability of the system.
8. Bracing: Braces can not be bent or damaged in any way and be secured at each end and selflocking devices should move freely and fall into space. Bracing in the vertical plane is required on both sides of every frame. Bracing in the horizontal plane should be provided at the joint of every third tier of frames. Horizontal bracing should coincide with the point at which scaffold is tied to the building or structure being worked on.
9. If wheels or castors are used, they must be securely attached to the scaffold and equipped with breaks. Ensure the ground is level and free of obstructions.
10. All parts and fittings must be in place and secure before platform components are placed on a scaffold tier. When proceeding with the next tier, workers should lift platform sections or planks from the previous tier leaving either one platform section or two planks.
11. Dismantling: Dismantling of a scaffold proceeds in reverse order to its erection. Each tier should be completely dismantled and the material lowered to the ground before dismantling of the next tier begins. If platform sections or planks have been left at each level during erection, it is recommended to however additional platform materials from above to the working deck being dismantled. Do not pull or tug on stuck components during dismantling. Workers should wear a safety harness and lanyard tied off to a secure anchor before attempting to loosen stuck or jammed parts. Do not hammer or pry apart the scaffold components. This may cause damage to the components and/or affect the structural integrity of the scaffold members.
12. Fall Protection: Provide lifeline secured to a suitable anchor on building and attach a fall arrestor (rope grab) to a full body harness while erecting the scaffolding. Properly secure portable ladders, stand-off vertical ladders, scaffold stairway systems and climbing frames.
13. Ladder Rails: The ladder must be properly erected with rails projecting at least 3.3 feet (1 meter) above the platform level. Where scaffold frames are not equipped with ladder rungs, ladders must be installed as the erection of each tier proceeds. Rest stations should be decked in on scaffold towers at intervals no greater than every 16.5 feet (5 meters). Debris, extension cords and tools should be cleared away from areas around the top and bottom of ladders. Both hands must be free to hold guardrails or ladder rails. Do not carry tools or materials by hand when climbing ladders. Wear a tool belt and pouch and move materials up or down by rope. Three-point contact should be used when climbing ladders, using two hands and one foot or two feet and one hand to maintain contact with the ladder at all time. Always face ladder when climbing and always keep the body’s center of gravity between the ladder rails.

14. Typical Loads and Requirements: Do not overload scaffold platforms. Work platforms shall only be located on the top and bottom of end frames, not across intermediate braces. A standard minimum platform capacity is a uniformly distributed load of 50 lb/sq. ft. for typical construction work. For masonry construction where large pallets of concrete block, etc. to be carried, minimum capacity must be at least a uniformly distributed load of 150 lbs/sq. ft. Scaffolds with spans of 7 feet (2.1 meters) should be at least double-planked. Aluminum/plywood platforms should also have a layer of scaffold planks on top.

15. Looseness, Cracking and Distortion: Platform hooks and fastening hardware must be checked regularly for looseness, cracking and distortion.

16. Planking: Scaffold planks must be examined prior to use on a scaffold and at regular intervals to ensure that the planks remain in safe condition.

   a. The wood plank must be No. 1 construction grade lumber (S-P-F) or better, nominal size 2” x 10” (50 mm x 250 mm). They must be properly seasoned and free from bow, crook, cup or twisted warp.

   b. Splits: Planks with splits wider than 3/8” (10 mm) or lengthwise splits closer than 3” (75 mm) to the edge of the plank must be removed from service. When a lengthwise split in a plank exceeds 1/2 the length of the plank, then that plank should also be removed from service. Plywood cleats should not be used along the length of the plank to deep planks from splitting. Scaffold planks with cleats should be inspected immediately and removed from service if there is any indication of wood rot.

   c. Woodgrain: The grain is not to exceed a slope of 1 in 12 along the length of the plank.

   d. Knots: Knots must be sound, tight and spaced well apart. Maximum knot size for a 2” x 10” (50 mm x 250 mm) plank is 2” (50 mm). Knots on the edge of a plank must not be greater than 3/8” (10 mm) width, or spike across the entire width.

17. Guardrails: Guardrails must be constructed to resist a force of at least 200 lbs. (900 Newtons) applied anywhere on the guardrail. If guardrails are composed of sawn lumber, the vertical members, top rail and mid-rail are to be made of 2” x 4” (50 mm x 100 mm) lumber and the toeboard should be 1” x 6” (25 mm x 150 mm). The lumber used should be Number 1 construction grade SPF or better. The vertical wooden posts may be attached to the frame legs using U-clips or at least four “wraps” of No. 9 gauge wire with ends adequately twisted and secured. Vertical cross-bracing is not considered to be a guardrail and must not be used in
such a manner. Tube-and-clamp guardrails may be constructed from standard aluminum scaffold tubing using parallel clamps to attach the vertical posts to each frame leg. Top rails and mid-rails should also be attached to the vertical posts.

18. Midrails and Toeboards: A midrail should be provided where necessary, especially if workers are kneeling or bending over with frequency to do the work. The midrail should have the same design capacity as the top rail. Toeboards should be provided where there is a possibility of materials falling from the working level to a site below. The toeboard must be a minimum 5” (125 mm) in height.

19. Three-to-One Rule: the ratio of unsupported height to least lateral dimension on a scaffold should not exceed 3 to 1 unless the scaffold is:

a. Tied-back to the structure at proper horizontal and vertical intervals.  
b. Equipped with outrigger stabilizers to maintain the ratio of 3 to 1.  
c. Equipped with a properly designed anchored guy wire system.  
The 3-to-1 rule applies only to the extent that outriggers are extended symmetrically about the scaffold tower.

20. Outrigger Stabilizers: Maintain the 3-to-1 ratio. Scaffolds may have outrigger stabilizers which may be attached to the scaffold base. With devices of this type, ensure that the outrigger is adjusted so that the foot will not be moved by vibration or dynamic loads on the platforms. Where stabilizers are used with castors, the castors must rest firmly on a solid surface with the stabilizer secure din the extended position before workers use the platform. Outriggers must be properly deployed and “snuggled up” so that sufficient contact is made with the surface to prevent settlement or movement due to side thrusts.

21. Tie-Back Requirements: Scaffolds which exceed the 3-to-1 rule must be tied into the building or structure at intervals not exceeding 3 times the least lateral dimension of the scaffold. This usually means tie-ins are applied at every third frame vertically and every second frame horizontally for tubular frame scaffolds. Tie-ins for tube-and-clamp scaffolds should be applied at every second node vertically and ‘every third standard horizontally. These tie-ins must be capable of sustaining lateral loads in both tension (pull) and compression (push). Anchor ties, reveal ties, box ties, through ties may be used. The system must be capable of supporting significant horizontal live and dead loads. Should open scaffold heights exceed 50 feet (15 meters) or hoarded scaffold exceed 25 feet (7.5 meters), the system must be designed by a Professional Engineer. Wire is not to be used in a tie-back system for securing scaffolding to a building or other structure, where the height of the scaffolding is greater than 50 feet (15 meters).

22. Rolling Scaffolds: Rolling scaffolds, other than those which are lifted off the ground on outriggers, must have brakes on all wheels. All brakes must be applied when the scaffold reaches the desired position. Rolling scaffolds must always be used on a surface which is smooth, free of depressions and reasonably level.

23. Castors: Castors must be positively secured to the frame and properly sized according to the manufacturer’s specification. Castors or wheels should be suitable for the surface on which the scaffold is to be used.

24. Scaffold Safety:

a. For rolling scaffolds over one frame in height must not be moved while a worker is on the platform. If for some reason workers must remain on the
platform when the scaffold is being moved, they should be tied off to an
independent structure with a fall arrest system.

b. The floor area where the scaffold is to be moved should be free of bumps
or depressions and cleared of all debris.
c. Rolling scaffolds must be securely pinned together and should always be
fitted with horizontal bracing as recommended by the manufacturer. Scaffolds which are not securely pinned together can separate if they drop
into a hole or depression or run into an obstacle at ground level. Horizontal bracing is necessary on a standard frame scaffold to keep it
from folding up because the connections between frames braces are
especially pinned joints.
d. Structural components that are bent, damaged or severely rusted should
not be used.
e. Platforms with damaged hooks should not be used.
f. Planks showing damage should be discarded and removed from the site so
that they cannot be used for platform material.
g. De-lamination in laminated veneer lumber planks is not acceptable.
h. Components in scaffold system must work harmoniously.
i. Scaffolding that has been in place for long periods of time must be
inspected and certified as sound by the Contractor’s engineer.

3.6 PATCHING AND REPAIRS

A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by
selective demolition operations.

B. Where repairs to existing surfaces are required, patch to produce surfaces suitable for
new materials.

1. Completely fill holes and depressions in existing masonry walls to remain with an
approved masonry patching material applied according to manufacturer’s printed
recommendations.

2. Submit for approval by the RE/PM all materials utilized for patching and repairs.

C. Restore exposed finishes of patched areas and extend finish restoration into adjoining
construction to remain in a manner that eliminates evidence of patching and refinishing.

D. Patch and repair floor and wall surfaces in the new space where demolished walls or
partitions extend one finished area into another. Provide a flush and even surface of
uniform color and appearance.

E. The Contractor shall promptly repair damage caused to adjacent surfaces by demolition
operations at no additional cost to the City.

F. When carpet has padding glued to the floor and/or underlayment as well, floor shall be
cleared of material, scraped and sanded, flush patched smooth ready for installation of
new floor finish.
G. Any disturbances or damage to the existing building and improvements existing surfaces to be retained or any impairment of facilities resulting directly or indirectly from the Contractor’s operations, shall be promptly restored, repaired or replaced to the satisfaction Commissioner at no additional cost to the City.

H. Areas affected by demolition work such as walls, ceiling and/or floor, etc. shall be retained, patched and refinished to an excellent condition to match existing surfaces.

I. The Contractor will be responsible for all patching and repair work affected by the demolition to the satisfaction of AM, all patching and repair will be deemed included in the unit price. All over-cutting and careless removals shall be remedied, repaired and restored to the satisfaction of AM at the Contractor’s expense and at no additional cost to the City.

3.7 DISPOSAL/REMOVAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site. Do not burn demolished materials. Transport demolished materials off City’s property and legally dispose of them. Accumulation of old materials and/or debris will not be permitted. All old material shall be removed promptly. The premises and job site shall be left safe, neat and orderly without excess piles of debris or rubbish, at the end of each working day.

B. General: Providing dumpsters and/or containers of appropriate size for the amount of debris to be removed and securing location for dumping of debris shall be Contractor’s responsibility and at no extra cost to the City. The Contractor shall be responsible to obtain all applicable permits from agencies having jurisdiction and shall pay all related fees. The carting company will be responsible for all fines imposed directly or indirectly as associated with these containers. All related costs for the securing of containers, removal of debris from the job site, legally carting and/or hauling to disposal site and disposal of same is deemed included, at no extra cost to DOHMH.

3.8 1/2, 1, 10, 20 and 30 CUBIC YARD CONTAINERS

A. At the sole discretion of AM and at the direction of the RE/PM, the Agency can and may require the Contractor to furnish all permits, labor and containers necessary, required and/or as directed to cart away any and all debris at a given location citywide not specifically related to the work described herein.

B. Upon verbal notification by the RE/PM or AM representative, delivery and pick-up shall be made within twenty-four (24) hours. The Contractor shall furnish roll-off containers of various sizes to various locations citywide. All deliveries and pick-ups shall be made with the utmost care so as not to damage any City or non-City property. The Contractor shall be responsible for any and all repairs associated with damage caused by deliveries and/or pick-ups.
C. The Contractor shall be responsible to obtain all applicable permits from agencies having jurisdiction and shall pay all related fees. The carting company will be responsible for all fines imposed directly or indirectly associated with these containers.

D. The Cubic Yard Container provision of the contract is independent and exclusive of the responsibilities of the Contractor as outlined in Paragraph 3.7 Disposal/Removal of Demolished Materials.

3.9 REMOVALS AND SALVAGE

A. Summary: It is the intent of a removal and salvage that all work to be removed and stored will be reinstalled. It is the Contractor’s responsibility to verify that each item listed in this Section which is to be removed and stored appears on the shop drawings. If not otherwise drawn or specified, the item shall be reinstalled to match its original condition in every aspect.

B. Salvage Materials: Removal & salvage shall also include all work to be clearly marked, record of origin, careful removal in a manner to permit reuse, storage and safeguard of all architectural elements and items designated to be reused.

C. Quality Assurance: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are familiar with: the specified requirements of this Section; restoration of historic buildings; protection of valuable objects; and the methods needed for proper performance of the work of this Section. In acceptance or rejection of work, no allowance will be made for lack of skill on part of workmen.

D. Documentation: Completely document existing conditions on shop drawings showing all items to be removed and stored for reinstallation. Label and number all items with water resistant materials in places that will not be visible in the finished work, and indicate numbers on shop drawings in a legible manner. The labels and numbers must remain legible for the duration of the Contract. Submit drawings to the RE/PM for approval in accordance with the requirements of the General Conditions. No removal is to be started until the RE/PM has given written approval of the documentation.

1. Document the condition of all work to remain before proceeding with the work of this Section by submitting 8” x 10” photographs to the RE/PM. The RE/PM shall make the final determination of existing work to be documented. Removal work will not be permitted, nor will payment be made for it, until such photographs are submitted.

E. Description of Work: Submit a description of removal and storage operations to the RE/PM for approval prior to beginning work. Do not begin work until RE/PM has given written approval. Provide a detailed sequence of removal and storage work to ensure uninterrupted progress of the work.

1. Description of work shall include details of methods, equipment, materials, temporary enclosure, storage locations, provisions for protection and security, and any other pertinent information about such operations as will enable the RE/PM to
coordinate the designation in the field of elements to remain or to be removed and stored.

F. Job Conditions: Properly protect all material to remain before beginning and during progress of the work. Handle all removed material that is to be saved and reinstalled with great care. Conduct removal and salvage operations and removal of debris to ensure minimal interference with the operation of and access to the building (and with roads, streets, walks and other adjacent occupied or used facilities). Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction. Ensure safe passage of persons around area of removal and storage work. Conduct operations to prevent injury to adjacent buildings, structures, other facilities and persons. Erect temporary covered passageways as required by the RE/PM.

1. Promptly repair any and all damage caused to adjacent materials or facilities by removal and storage operations to the complete satisfaction of the RE/PM at no cost to the City.

2. Maintain existing utilities, keep in service and protect against damage during work

G. Protection: During the construction period, the Contractor shall provide adequate protection for existing work to remain. Perform all work including removal of debris in a careful manner so as not to damage any of the remaining building fabric. All existing work to remain shall be kept clean and undamaged.

1. All work shall comply with all safety requirements of the State and City of New York; Standard No. 241 Safeguarding Building Construction and Demolition Operations, latest edition, of the National Fire Protection Association; and OSHA regulations.

2. Prohibit all entry to work area during demolition.

H. Sequence of Work: The Contractor shall be responsible for establishing the sequence of the work and assuring its prompt and faithful execution: Remove all labels (documentation) before reinstallation.

J. Completely repair, restore and/or replace in kind, to the complete satisfaction of AM, any and all damage or harm caused by the work and/or operations of the Contractor of this Section, at no additional cost to the City. All such work shall be documented by written description accompanied by a sketch to be approved by the RE/PM prior to the initiation of any work.

3.10 CLEANING

A. Sweep the building broom clean on completion of selective demolition operation.

B. Change filters on air-handling equipment on completion of selective demolition operations.

3.11 MEASUREMENT
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<tbody>
<tr>
<td>02 41 19-1</td>
<td>Demolition and removal of CMU, masonry or stone partitions including doors and frames.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-2</td>
<td>Demolition and removal of gypsum drywall partition on metal or wood framing including doors and frames.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-2a</td>
<td>Demolition and removal of Soffit at ceiling area.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-2b</td>
<td>Demolition and removal of Fascia at ceiling area.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-3</td>
<td>Demolition and removal of metal frame and glass partition.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-4</td>
<td>Demolition and removal of wood construction partition or panel.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-5</td>
<td>Demolition and removal of brick.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-6</td>
<td>Demolition and removal of single door, frame and hardware.</td>
<td>Per Opening</td>
</tr>
<tr>
<td>02 41 19-7</td>
<td>Demolition and removal of double doors, frame and hardware.</td>
<td>Per Opening</td>
</tr>
<tr>
<td>02 41 19-8</td>
<td>Demolition and removal of revolving doors, framing and hardware.</td>
<td>Per Opening</td>
</tr>
<tr>
<td>02 41 19-9</td>
<td>Removal and salvage of single door leaf and hardware. (Double for double leaf doors).</td>
<td>Each</td>
</tr>
<tr>
<td>02 41 19-10</td>
<td>Removal and salvage of decorative interior/exterior metalwork.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-11</td>
<td>Demolition and removal of saddle threshold.</td>
<td>Each</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Unit</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>02 41 19-12</td>
<td>Demolition and removal of hung lay-in ceilings, acoustic tile or drywall on suspended system.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-13</td>
<td>Demolition and removal of hung plaster ceilings.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-14</td>
<td>Demolition and removal of acoustic ceiling tiles, glued.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-14a</td>
<td>Demolition and removal of ceiling slab and/or terra cotta.</td>
<td>Per sq. ft. Per sq. ft.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Unit</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>02 41 19-15</td>
<td>Demolition and removal of resilient flooring and base.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-16</td>
<td>Demolition and removal of quarry/ceramic floor tile, masonry, stone or terrazzo flooring and base.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-17</td>
<td>Demolition and removal of carpet, padding and base.</td>
<td>Per sq. yd.</td>
</tr>
<tr>
<td>02 41 19-18</td>
<td>Demolition and removal of floor underlayment.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-19</td>
<td>Demolition and removal of counters, cabinets (base and wall) and shelves.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>02 41 19-20</td>
<td>Demolition and removal of fixed wood platforms, landings and ramps including framing (as measured in plan).</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-21</td>
<td>Demolition and removal of fixed metal platforms, landings and ramps including framing (as measured in plan).</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-22</td>
<td>Demolition and removal of concrete (includes masonry, and stone veneers) steps, platforms, landings walls and ramps.</td>
<td>Per cu. yd.</td>
</tr>
<tr>
<td>02 41 19-23</td>
<td>Demolition and removal of concrete (includes masonry, and stone) foundation walls and footings.</td>
<td>Per cu. yd.</td>
</tr>
<tr>
<td>02 41 19-26</td>
<td>Demolition and removal of wood molding, trim and baseboard.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Unit</td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>02 41 19-28</td>
<td>Demolition and removal of wood wainscot.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-29</td>
<td>Demolition and removal of stone wainscot.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-30</td>
<td>Demolition and removal of security gate, door/frame, grilles/bar stock, partitions, screens, and hardware.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-31</td>
<td>Demolition and removal of fixed security</td>
<td>Per Cell</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Unit</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>02 41 19-32</td>
<td>Demolition and removal of radiator enclosure including supports &amp; fasteners.</td>
<td>Each</td>
</tr>
<tr>
<td>02 41 19-33</td>
<td>Demolition and removal of telephone enclosure.</td>
<td>Each</td>
</tr>
<tr>
<td>02 41 19-34</td>
<td>Demolition and removal of toilet compartment partitions, panels, doors and hardware.</td>
<td>Per Stall</td>
</tr>
<tr>
<td>02 41 19-35</td>
<td>Cutting and removal of drywall surface.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-36</td>
<td>Cutting and removal of masonry and stone surface.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-37</td>
<td>Cutting and removal of plaster on gypsum and wire lath surface.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-38</td>
<td>Cutting and removal of metal surface, partition, panel or enclosure.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-39</td>
<td>Cutting and removal of floor openings.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>02 41 19-40</td>
<td>Core drill concrete floor/wall up to and including 2” radius and up to 8” Thick.</td>
<td>Each</td>
</tr>
<tr>
<td>02 41 19-40a</td>
<td>Core drill concrete floor/wall for additional 2” incremental radius and thick for above item</td>
<td>Each</td>
</tr>
<tr>
<td>02 41 19-41</td>
<td>Core drill concrete floor/wall up to and including 4” radius and up to 8” Thick.</td>
<td>Each</td>
</tr>
<tr>
<td>02 41 19-41a</td>
<td>Core drill concrete floor/wall for additional 2” incremental radius and thick for above item.</td>
<td>Each</td>
</tr>
<tr>
<td>02 41 19-42</td>
<td>Furnish delivery, pick-up and carting of ½ (one-half) cubic yard container</td>
<td>Each</td>
</tr>
<tr>
<td>02 41 19-43</td>
<td>Furnish delivery, pick-up and carting of 1 (one)cubic yard container</td>
<td>Each</td>
</tr>
<tr>
<td>02 41 19-44</td>
<td>Furnish delivery, pick-up and carting of 10 cubic yard roll-off container</td>
<td>Each</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>02 41 19-45</td>
<td>Furnish delivery, pick-up and carting of 20 cubic-yard roll-off container</td>
<td>Each</td>
</tr>
<tr>
<td>02 41 19-46</td>
<td>Furnish delivery, pick-up and carting of 30 cubic yard roll-off container</td>
<td>Each</td>
</tr>
</tbody>
</table>
[END OF SECTION 02 41 19]

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SECTION 03 30 00 – CAST-IN-PLACE CONCRETE

GENERAL

1.1 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

1. Footings.
2. Foundation walls.
3. Slabs-on-grade.
4. Suspended slabs.
5. Concrete toppings.
7. Building walls.

B. Related Sections:

1. Division 03 Section "Concrete Topping" for emery- and iron-aggregate concrete floor toppings.
2. Division 31 Section "Earth Moving" for drainage fill under slabs-on-grade.
3. Division 32 Section "Concrete Paving" for concrete pavement and walks.

1.2 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.3 SUBMITTALS

A. Product Data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds waterstops, joint systems, curing compounds, dry-shake finish materials, and others if requested by RE/PM.

B. Samples of materials as requested by RE/PM, including names, sources and descriptions as follows:

1. Color Finishes.
2. Normal weight aggregates.
3. Fiber reinforcement

C. Laboratory test reports for concrete materials and mix design test. Material certificates in lieu of material laboratory test reports when permitted by resident engineer. Material
certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with or exceeds specified requirements. Provide certification from admixture manufactures that chloride content complies with specification requirements.

D. Joint layout diagrams.

1.4 QUALITY ASSURANCE

A. Codes and Standards: Comply with provisions of the following codes, specifications and standards, except where more stringent requirements are shown or specified:

1. American Concrete Institute (ACI) 301, “Specifications for Structural Concrete for Buildings.”
2. ACI 318, “Building Code Requirements for Reinforced Concrete.”

PART 2 – PRODUCTS

2.1 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

1. Plywood, metal or other approved panel materials.
2. Exterior-graded plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
   a. Use overlaid plywood complying with U.S. Product standard PS-1 “A-C or B-B High density Overlaid Concrete Form,” Class 1.
   b. Use plywood complying with U.S. Product standard PS-1 “B-B (Concrete Form) Plywood,” Class 1, or better mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.

B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

C. Forms for Smooth or Textured Finish Concrete: Units of face design, size, arrangement and configuration to match Architect’s control sample. Provide solid backing and form supports to ensure stability of textured form liners.

D. Forms for Cylindrical Columns and Supports: Metal, glass-fiber-reinforced plastic, or paper or fiber tubes that will produce smooth surfaces without joint indications. Provide units with sufficient wall thickness to resist wet concrete loads without deformation.
E. Forms-Release Agent: Commercially formulated form-release agent with a maximum of 350 g/L volatile organic compounds (VOCs) that will not bound with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.


F. Form Ties: Factory- fabricated, adjustable-length, removable or snap-off metal form ties designed to prevent form deflection and to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Furnish units that will leave no corrodible metal closer than 1-1/2 inches to the plane of the exposed concrete surface (only wire holes will be patched for Architectural exposed concrete.)
2. Furnish ties that, when removed, will leave holes not larger than 4 inches in diameter in concrete surface.
3. Furnish ties with integral water-barrier plates to walls indicated to receive damp proofing or waterproofing.

2.2 STEEL REINFORCEMENTS

A. Reinforcing Bars: ASTM A 615 Grade 60, deformed.

B. Galvanized Reinforcing Bars: ASTM A 767, hot-dip galvanized after fabrication and bending, of reinforcement type and zinc coating as follows:

1. Zinc Coating: Class II

C. Epoxy- Coated Reinforcing Bars: ASTM A 775.

D. Steel Wire: ASTM A 82, plain, cold-drawn steel.


G. Epoxy-Coated Welded Wire Fabric: ASTM A 884, Class A.

H. Supports for Reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place. Use wire bar- type supports complying with CRSI specifications.

1. For slabs-an-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
2. For exposed-to-view concrete surfaces where legs of supports are in contact with the forms, provide supports with legs that are protected by plastic (CRSI, Class 1) or stainless steel (CRSI, Class 2).

2.3 CONCRETE MATERIALS

A. Portland Cement: ASTM C 150, Type I.
1. Use one brand of cement throughout Project unless otherwise acceptable to RE/PM.

B. Fly Ash: ASTM C 618, Class F.

C. Normal-Weight Aggregates: ASTM C 33 and as specified. Provide aggregates from a single source for exposed concrete.

1. For exposed exterior surfaces, do not use fine or coarse aggregates that contain substances that cause spalling.
2. Local aggregates not complying with ASTM C 33 that has been shown to produce concrete of adequate strength and durability by special tests or actual service may be used when acceptable to the RE/PM.


E. Water: Potable.

F. Fiber Reinforcement: Polypropylene fibers engineered and designed for secondary reinforcement of concrete slabs, complying with ASTM C 1116, Type III, not less than 3/4 inch long.

1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited, the following:
   a. Gilco Fibers, Cormix Construction Chemicals
   b. Durafiber, Durafiber Corp.
   c. Fiberstrand 100, Euclid Chemical Co.
   d. Or an approved equal.

G. Admixtures, General: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble, chloride ions by mass of cementitious material and to be compatible with other admixtures and cementitious materials. Do not use admixtures containing calcium chloride.

H. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.

1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited, the following:
   a. Air-Tite, Cormix Construction Chemicals.
   b. Air-Mix or Perma-Air, Euclid Chemical Co.
   c. Darex AEA or DARAVAIR, W.R. Grace & Co.
   d. Or an approved equal.

I. Water-Reducing Admixture: ASTM C 494, Type A.
1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited, the following:
   a. Chemtard, ChemMAsters Corp.
   b. PSI N, Cormix Construction Chemicals.
   c. Eucon WR-75, Euclid Chemical Co.
   d. Or an approved equal.

J. High-Range, water-Reducing Admixture: ASTM C 494, Type F.
   1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited, the following:
      a. Super P, Anti-Hydro Co., Inc.
      b. Cormix 200, Cormix Construction Chemicals.
      c. Eucon 37, Euclid Chemical Co.
      d. Or an approved equal.

K. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
   1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited, the following:
      a. Q-Set, Conspec Marketing & Manufacturing Co.
      b. Lubricon NCA, Cormix Construction Chemicals.
      c. Accelguard 80, Euclid Chemical Co.
      d. Or an approved equal.

L. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
   1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited, the following:
      a. PSI-R Plus, Cormix Construction Chemicals.
      b. Eucon Retarder 75, Euclid Chemical Co.
      c. Daratard-17, W.R. Grace & Co.
      d. Or an approved equal.

2.4 RELATED MATERIALS

A. Reglets: Where sheet flashing or bituminous membranes are terminated in reglets, provide reglets of not less than 0.0217 inch (0.46 mm) thick galvanized sheet steel. Fill reglet or cover face opening to prevent intrusion of concrete or debris.

B. Dovetail Anchor Slots: Hot-dip galvanized steel sheet, not less than 0.0336 inch (0.85 mm) thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

C. Waterstops: Provide flat, dumbbell-type or centerbulb-type waterstops at construction joints and other joints as indicated. Size to suit joints.
D. Flexible Rubber Waterstops: Corps of Engineers CRD-C 513.

1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited, the following:
   a. The Burke Co.
   b. Progress Unlimited.
   c. Greenstreak
   d. Williams Products, Inc.
   e. Or an approved equal.

E. Polyvinyl Chloride Waterstops: Corps of Engineers CRD-C 572.

1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited, the following:
   a. BoMetals, Inc.
   b. Greenstreak.
   c. Paul Murphy Plastics Company.
   d. Vinylex Corp.
   e. Or an approved equal.

   a. The Burke Co.
   b. Progress Unlimited.
   c. W. R. Meadows, Inc.
   d. Or an approved equal.

F. Sand Cushion: Clean, manufactured or natural sand.

G. Vapor Retarder: Provide vapor retarder that is resistant to deterioration when tested according to ASTM E 154, as follows:

1. Polyethylene sheet not less than 8 mils (0.2 mm) thick.
2. Water-resistant barrier consisting of heavy kraft papers laminated together with glass-fiber reinforcement and overcoated with black polyethylene on each side.
3. Product: Subject to compliance with requirements, provide “Moistop” by Fortifiber Corporation, or an approved equal.

H. Non-slip Aggregate Finish: Provide factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery with emery aggregate containing not less than 50 percent aluminum oxide and not less than 25 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.

I. Colored Wear-Resistant Finish: Packaged dry combination of materials consisting of portland cement, graded quartz aggregate, coloring pigments, and plasticizing admixture. Use coloring pigments that are finely ground nonfading mineral oxides interground with cement. Color as selected by R/E/P< from manufacturer’s standards, unless otherwise indicated.

1. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited, the following:
b. Floorcron, Cormix Construction Chemicals.
c. Quartz Tuff, Dayton-Superior.
d. Or an approved equal.

J. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq.yd., complying with AASHTO M 182, Class 2.

K. Moister-Retaining Cover: Complying with ASTM C 171, one of the following:
   1. Waterproof Paper.
   2. Polyethylene film.
   3. Polyethylene-coated burlap.

L. Water-Based Acrylic Membrane Curing Compound: ASTM C 309, Type I, Class B.
   1. Provide material that has a maximum volatile organic compound (VOC) rating of 350g/L.
   2. Available Products: Subject to compliance with requirements: products that may be incorporated in the Work include, but are not limited to, the follows:
      b. Sealco- VOC, Cormix Construction Chemicals.
      c. Safe Cure and Seal, Dayton-Superior Corp.
      d. Or an approved equal.

M. Evaporation Control: Monomolecular film-forming compound applied to exposed concrete slab surfaces for temporary protection from rapid moisture loss.
   1. Available Products: Subject to compliance with requirements: products that may be incorporated in the Work include, but are not limited to, the following:
      b. Eucobar, Euclid Chemical Co.
      c. E-Con, L&M Construction Chemicals, Inc.
      d. Or an approved equal.

N. Joint Filler: Elastometric.
   1. Metco Hi-Mod Epoxy, Metalcrete Industries.
   2. Sikadur 32 Hi-Mod, Sika Corp.
   3. Stonset LV5, Stonhard, Inc.
   4. R-600 series, Symons Corp.
   5. Or an approved equal.

2.5 PROPORTIONING AND DESIGNING MIXES

A. Prepare design mixes for each type and strength of concrete determined by either laboratory trial mix or field test data bases, as follows:
1. Proportion normal-weight concrete according to ACI 211.1 and ACI 301.
2. For the trial batch method, use an independent testing agency acceptable to the Resident Engineer for preparing and reporting proposed mix designs.
3. Do not use the same testing agency for field quality control testing.
4. Limit use of fly ash to not exceed 25 percent of cement content by weight.

B. Submit written reports to RE/PM of each proposed mix for each class of concrete at least 15 days prior to start of Work. Do not begin concrete production until proposed mix designs have been reviewed by AM.

C. Design mixes to provide normal weight concrete with the following properties as indicated on drawings and schedules:

1. Compressive Strength (28 Days): 4000 psi (27.6 MPa); water-cement ratio, 0.44 maximum (non-air-entrained), 0.35 maximum (air-entrained)
2. Compressive Strength (28 Days): 3500 psi (24.1 MPa); water-cement ratio, 0.51 maximum (non-air-entrained), 0.40 maximum (air-entrained)
3. Compressive Strength (28 Days): 3000 psi (20.7 MPa); water-cement ratio, 0.46 maximum (non-air-entrained), 0.46 maximum (air-entrained)
4. Compressive Strength (28 Days): 2500 psi (17.2 MPa); water-cement ratio, 0.67 maximum (non-air-entrained), 0.54 maximum (air-entrained)

D. Water-Cement Ratio: Provide concrete for following conditions with maximum water-cement (W/C) ratios as follows:

1. Subjected to freezing and thawing: W/C 0.45
2. Subjected to deicers/watertight: W/C 0.40
3. Subjected to brackish water, salt spray or deicers: W/C 0.40

E. Slump Limits: proportion and design mixes to result in concrete slump at point of placement as follows:

1. Ramps, slabs, and sloping surfaces: Not more than 3 inches.
2. Reinforced foundation systems: Not less than 1 inch and not more than 3 inches.
3. Concrete containing high-range water-reducing admixture (superplasticizer): Not more than 8 inches after adding admixture to site-verified 2-3 inches slump concrete.
4. Other concrete: Not more than 4 inches.

F. Lightweight Structural Concrete: Lightweight aggregate and concrete shall conform to ASTM C 330. Proportion mix to produce concrete with a minimum compressive strength of 3000 psi (20.7) at 28 days and a calculated equilibrium unit weight of 110 per plus or minus 3 pcf as determined by ASTM C 567. Concrete slump at the point of placement shall be the minimum necessary for efficient mixing, placing and finishing. Maximum slump shall be 6 inches for pumped concrete and 5 inches elsewhere. Airs entrain concrete exposed to weather according to ACI 301 requirements.

G. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other
circumstances warrant, as accepted by the RE/PM. Laboratory test data for revised mix
design and strength results must be submitted to and accepted by the RE/PM before using
in Work.

G. Fiber Reinforcement: Add at manufacturer’s recommended rate but not less than 1.5
lb/cu.yd.

H. Admixtures: Use admixtures according to manufacturer’s written instructions.

1. Use wafer-reducing admixture or high-range water-reducing admixture
(superplasticizer) in concrete, as required, for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperature,
low humidity, or other adverse placement conditions
3. Use water-reducing admixture in pumped concrete, concrete for heavy-use
industrial slabs and parking structure slabs, concrete required to be watertight, and
concrete with a water-cementitious materials ratio below 0.50.
4. Use corrosion-inhibiting admixture in concrete mixes where indicated.

2.6 ADMIXTURES

A. Use water-reducing admixture or high-range water-reducing admixture (superplasticizer)
in concrete, as required, or placement and workability.

B. Use accelerating admixture in concrete slabs placed at ambient temperatures below 50
deg F (10 deg C).

C. Use high-range water-reducing admixture in pumped concrete, concrete for heavy-use
industrial slabs, Architectural concrete, parking, structure slabs, concrete required to be
watertight, and concrete with water-cement ratios below 0.50.

D. Use air-entraining admixture in exterior exposed concrete unless otherwise indicated.
Add air-entraining admixture at manufacturer’s prescribed rate to result in concrete at
point of placement having total air content with a tolerance of plus or minus 1-1/2 percent
within the following limits:

1. Concrete structures and slabs exposed to freezing and thawing, deicer chemicals,
or hydraulic pressure:
   a. 4.5 percent (moderate exposure); 4.5 percent (severe exposure) for 1/2
      inch maximum aggregate.
   b. 4.5 percent (moderate exposure); 6.0 percent (severe exposure) for 1 inch
      maximum aggregate.
   c. 5.0 percent (moderate exposure); 6.0 percent (severe exposure) for 3/4
      inch maximum aggregate.
   d. 5.5 percent (moderate exposure); 7.0 percent (severe exposure) for 1/2
      inch maximum aggregate.

2. Other concrete not exposed to freezing, thawing, or hydraulic pressure, or to
receive a surface hardener: 2 to 4 percent air.
E. Use admixtures for water reduction and set accelerating or retarding in strict compliance with manufacturer’s directions.

2.7 ADMIXTURES

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94 and as specified, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Mix concrete materials in appropriate drum-type batch machine mixer.

1. For mixer capacity of 1 cu. yd. (0.76 cu. m) or smaller, continue mixing at least one and one-half minutes, but not more than five minutes after ingredients are in mixer, before any part of batch is released.
2. For mixer capacity larger than 1 cu. yd. (0.76 cu. m), increase mixing time by 15 seconds for each additional 1 cu. yd. (0.76 cu. m).
3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Records approximate location deposit in structure.

PART 3 – EXECUTION

3.1 GENERAL

A. Coordinate the installation of job materials, vapor retarder/ barrier, and other related materials with placement of forms and reinforcing steel.

3.2 GENERAL FORMWORK

A. General: Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until concrete structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 347 R as abrupt or gradual, as follows:

1. Class A, ⅛ inch (3mm)-tolerances for concrete surfaces exposed to view.
2. Class C, ⅛ inch (13mm)-tolerances for other concrete surfaces.

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces.
Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical. Kerf wood inserts for forming keyways, reglets, recesses, and the like, for easy removal.

1. Do not use rust-stained steel form-facing material.

F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

G. Construct forms to sizes, shapes, lines and dimensions shown and to obtain alignment, location, grades, level, and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in the Work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent cement paste from leaking.

H. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

I. Chamfer exterior corners and edges of permanently exposed concrete as indicated, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints, unless noted otherwise.

J. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work.

K. Provisions for other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine sizes and locations of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms. The Contractor is responsible for the coordination of this work and review of the drawings and specifications of other trades as related to the Work of this section.

L. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and, other debris just before placing concrete.

M. Retighten forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

N. Coat contact surfaces of forms with form-release agent, according to manufacturer’s written instructions, before placing reinforcement.

3.3 INSTALLING 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.

1. Install anchor bolts, accurately located, to elevations required.
2. Install reglets to receive top edge of foundation sheet waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.

3. Install dovetail anchors slots in concrete structures as indicated on drawings.

B. Forms for Slabs: Set edge forms, bulkheads and intermediate screed strips for slabs to achieve required elevations and contours in finished surfaces. Provide and secure units to support screed strips using strike-off templates or compacting-type screeds.

C. General: Coat contact surfaces of forms with an approved, non-residual, low-VOC, form-coating compound before placing reinforcement.

D. Do not allow access form-coating material to accumulate in forms or come into contact with in place concrete surfaces against which fresh concrete will be placed. Apply according to manufacturer’s instructions.

1. Coat steel forms with a non-staining, rust-preventative material. Rust-stained steel formwork is not acceptable.

3.4 VAPOR RETARDERS

A. General: Place vapor retarder/barrier sheeting in position with longest dimension parallel with direction of pour.

B. Lap joints 6 inches and seal with manufacturer’s recommended mastic or pressure-sensitive tape.

C. Cover vapor retarder/barrier with sand cushion and compact to depth indicated.

3.5 PLACING STEEL REINFORCEMENT

A. General: Comply with CRSI’s “Manual of Standard Practice” for methods of placing reinforcement and supports, details and as specified.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign material.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers, as approved by Resident Engineer.

D. Place reinforcement to maintain minimum coverages as indicated for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
E. Install welded wire fabric 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 prevent continuous laps in either direction. Lace overlaps with wire.

3.6 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated, in accordance with approved joint layout shop drawings, or as approved by Architect.

1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.

2. Provide keyways at least 1-1/2 inches deep in construction joints in walls and slabs and between walls and footings. Bulkheads designed and accepted for this purpose may be used for slabs.

3. Use a bonding agent at locations where fresh concrete is placed against hardened, partially hardened, or existing concrete surfaces.

C. Contraction (Control) Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:

1. Form contraction joints by inserting premolded plastic, hardboard, or fiberboard strip into fresh concrete until top surface of strip is flush with slab surface. Tool slab edges round on each side of insert. After concrete has cured, remove inserts and clean groove of loose debris.

2. Sawed Joints: Form contraction joints (in unexposed floor slabs) with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks or as soon as possible after slab finishing as may be safely done without dislodging aggregate.

3. If joint pattern is not shown, provide joints not exceeding 15ft. in either direction and located to conform to bay spacing wherever possible (at column centerlines, half bays, third bays).

4. Submit joint layout shop drawing for approval prior to proceeding with the work.

D. Isolation joints in Slabs-on-Grade: Construct isolation joints in slabs-on-grade at points of contact between slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams and other locations, as indicated. Joint fillers and sealants are specified in Division 7 Section “Joint Sealants.”

E. Waterstops: Provide waterstops in construction joints as indicated. Install waterstops to form continuous diaphragm in each joint. Support and protect exposed waterstops during
progress of Work. Field-fabricate joints in waterstops according to manufacturer’s printed instructions.

3.7 JOINTS

A. Inspection: Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed. Notify other trades to permit installation of their work.


C. Deposit concrete continuously or in 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 tie placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation at its final location.

D. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers no deeper than 24 inches and in a manner to avoid inclined construction joints. Place each layer while preceding layer is still plastic, to avoid cold joints.

1. Consolidate placed concrete with mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidating concrete recommended by ACI 309R.

2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the vibrator. Place vibrators to rapidly penetrate placed layer and at least 6 inches 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 mix constituents to segregate.

E. Placing Concrete Slabs: 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.


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, free of humps or hollows, before excess moisture or bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

D. 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 air temperature has fallen to or is expected to fall below 40 deg F (4.4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.

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 mix designs.

G. Hot-weather Placement: Place concrete according to recommendations in ACI 305R and as follows, when hot-weather conditions exist:

1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F (32 deg C) 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. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.

3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

4. Use water-reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions, as acceptable to the RE/PM.

3.8 FINISHING FORMED SURFACES

A. Rough-Formed Finish: Provide a rough-formed finish on formed concrete surfaces not exposed to view in the finished Work or concealed by other construction. This is the concrete surface having texture imparted by form-facing material used, with tie holes and defective areas repaired and patched, and fins and other projections exceeding 1/4 inch in height rubbed down or chipped off.

B. Smooth-Formed Finish: Provide Smooth-formed finish on fanned concrete surfaces exposed to view or to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as Waterproofing, damp proofing, veneer plaster, painting, or another similar system. This is an as-cast concrete surface obtained with selected form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch defective areas with fins and other projections completely removed and smoothed.

C. Smooth-Rubbed Finish: Provide smooth-rubbed finish on scheduled concrete surfaces that have received smooth-formed finish treatment not later than 1 day after form removal. Moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.

D. Grout-Cleaned Finish: Provide grout-cleaned finish on scheduled concrete surfaces that have received smooth-formed finish treatment. Combine on part Portland cement to one and one-half parts fine sand by volume, and a 50:50 mixture of acrylic or styrene butadiene-based bonding admixture and water to form the consistency of thick paint
Blend standard Portland cement and white Portland cement in amounts determined by trial patches so that final color of dry grout will match adjacent surfaces. Thoroughly wet concrete surfaces apply grout to coat surfaces and fill small holes. Remove excess grout by scraping and rubbing with clean burlap. Keep damp by fog spray for at least 36 hours after rubbing.

E. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.9 MONOLITHIC SLAB FINISHES

A. General: Comply with recommendations in ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Scratch Finish: Apply scratch finish to monolithic slab surfaces to receive concrete floor topping or mortar setting beds for tile, Portland cement terrazzo, and other bonded applied cementitious finish flooring material, and where indicated.

1. After placing slabs, finish surface to tolerances of F (F) 15 (floor flatness) and F (L) 13 (floor levelness) measured according to ASTM E 1155. Slope surfaces uniformly to drains where required. After leveling, roughen surface before final set with stiff brushes, brooms or rakes.

C. Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as specified; slab surfaces to be covered with membrane or elastic waterproofing, membrane or elastic roofing, or sand-bed terrazzo; and where indicated.

1. After screeding, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating, using float blades or float shoes only, when surface water has disappeared, or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats or by hand-floating if area is small or inaccessible to power units. Finish surfaces to tolerances of F (F) 18 (floor flatness) and F (L) 15 (floor levelness) measured according to ASTM E 1155. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.

D. Trowel Finish: Apply a trowel finish to monolithic slab surfaces exposed to view and slab surfaces to be covered with resilient flooring carpet, ceramic or quarry tile, paint or another thin film-finish coating system.

1. After floating, begin first trowel-finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and finish surfaces to tolerances of F (F) 20 (floor flatness) and F (L) 17 (floor levelness) measured according to ASTM E 1155. Grind smooth any surface defects that would telegraph through applied floor covering system.
E. Trowel and Fine-Broom Finish: Where ceramic or quarry tile is to be installed with thin-set mortar, apply a trowel finish as specified, then immediately follow by slightly scarifying the surface with a fine broom.

F. Non-Slip Broom Finish: Apply a non-slip 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 the RE/PM before application.

G. Non-Slip Aggregate Finish: Apply non-slip aggregate finish to concrete stair treads, platforms, ramps and sloped walks, and where indicated.

1. After completing float finishing and before starting trowel finish, uniformly spread at a rate of 25 lb/100 sq. ft. of dampened non-slip aggregate over surface in one or two applications. Tamp aggregate flush with surface using steel trowel, but do not force below surface. After broating and tamping, apply trowel finish as specified.

2. After curing, lightly work surface with steel wire brush or an abrasive stone, and water to expose non-slip aggregate.

H. Colored Wear-Resistant Finish: Apply a colored wear-resistant finish to monolithic slab surface indicated.

1. Uniformly apply dry-shake materials for the colored wear-resistant finish at a rate of 100 lb/100 sq. ft. to determine actual application rate, color and finish, as acceptable to the Resident Engineer.

2. Immediately following the first floating operation, uniformly distribute approximately two-thirds of dry-shake materials over surface by hand or with mechanical spreader, and embed by power floating. Follow power floating with a second dry-shake application, uniformly distributing remainder of material with overlapping applications to ensure uniform color, and embed by power floating.

3. After final floating, apply a trowel finish. Cure concrete with curing compound recommended by dry-shake material manufacturer and apply immediately after final finishing.

3.10 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 Work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with comers, intersections, and terminations slightly rounded.

C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at
correct elevations, complying with diagrams or templates of manufacturer furnishing machines and equipment.

D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in inserts and accessories as shown on Drawings. Screed, tamp, and trowel-finish concrete surfaces.

3.11 CONCRETE PROTECTION 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 with recommendations in ACI 305R for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer’s written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Unformed Surfaces: Begin curing immediately after placing and finishing concrete. Final cure concrete surfaces to receive finish flooring with a moisture-retaining cover, unless otherwise directed. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces, 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-inch lap over adjacent absorptive covers.

2. Moisture- Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed, in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
   a. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer recommends for use with floor coverings.

3. Curing Compound: On exposed interior slabs and on exterior slabs, walks, and curbs, apply uniformly in continuous operation by power spray or roller according to manufacturer’s written instructions. Apply curing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours and after surface water sheen has disappeared). Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and
repair damage during curing period. Use membrane curing compounds that will not affect surfaces to be covered with finish materials applied directly to concrete.

D. Formed Surfaces: Cure formed concrete surfaces, including underside beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing by one or a combination of the following methods specified above, as applicable.

3.12 REMOVING FORMS

A. General: Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form-removal operations, and provided curing and protection operations are maintained.

B. Formwork supporting weight of concrete, such as beam soffits, joist slabs, and other structural elements, may not be removed in less than 14 days or until concrete has attained at least 75 percent of design minimum compressive strength at 28 days. Determine potential compressive strength of in-place concrete by testing field-cured specimens representative of concrete location or members.

C. Form-facing material may be removed 4 days after placement only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

3.13 REUSING FORMS

A. Clean and repair surfaces of forms to be reused in the work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-coating compound as specified for new formwork.

B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not used patched forms for exposed concrete surfaces except as acceptable to the Resident Engineer.

3.14 CONCRETCE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by the Resident Engineer. Remove and replace concrete that cannot be repaired and patched to the RE/PM’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 (1.2-mm) sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of the RE/PM. Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and
other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/4 inch in any dimension in solid concrete but not less than 1 inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.

3. Repair defects on concealed formed surfaces that affect concrete’s durability and structural performance as determined by the RE/PM. If defects cannot be repaired, remove and replace the concrete.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, 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 inch 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 14 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 receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer’s written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.

5. 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 inch 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.

6. Repair defective areas, except random cracks and single holes 1 inch 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 3/4 inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mix as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

7. Repair random cracks and single holes 1 inch 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 hours.

E. Perform structural repairs of concrete, subject to the RE/PM’s approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to resident Engineer’s approval.

3.15 QUALITY CONTROL TESTING DURING CONSTRUCTION

A. Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Sampling and testing for quality control may include those specified in this Article.

B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172, except modified for slump to comply with ASTM C 94, shall be performed according to the following requirements:

1. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day’s pour of each concrete mix. Perform additional tests when concrete consistency appears to change.

2. Air Content: ASTM C 231, pressure method, for normal-weight concrete; ASTM C 173, 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 mix.

3. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each set of compressive-strength specimens.

4. Compression Test Specimens: ASTM C 31; one set of four standard cylinder specimens for each compressive-strength test, unless otherwise directed. Mold and store cylinders for laboratory-cured test specimens except when field-cured test specimens are required.

5. Compressive-Strength Tests: ASTM C 39; one set for each day’s pour exceeding 5 cu. yd. Plus additional sets for each 50 cu. yd. More than the first 25 cu. yd. of each concrete class placed in anyone day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.

C. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.

D. When frequency of testing will provide fewer than five strength tests for a given class of concrete, conduct testing from at least five randomly selected batches or from each batch if fewer than five are used.

E. When a total quantity of a given class of concrete is less than 50 cu. yd., the RE/PM may waive strength testing if adequate evidence of satisfactory strength is provided.
F. Strength of each concrete mix 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).

G. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours 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 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

H. Nondestructive Testing: Impact hammer, sonoskope, or other nondestructive device may be permitted but will not be used as sole basis for approval or rejection of concrete.

I. Additional Tests: Testing and inspecting agency shall make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by the RE/PM. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed.

3.16 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 30 00-1</td>
<td>Reinforced concrete curbs, up to and including 8” wide x 24” deep as spec.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>03 30 00-2</td>
<td>Equipment pads and bases.</td>
<td>Per cu. ft.</td>
</tr>
<tr>
<td>03 30 00-3</td>
<td>Retaining and/or foundation walls.</td>
<td>Per cu. yd.</td>
</tr>
<tr>
<td>03 30 00-4</td>
<td>Footings.</td>
<td>Per cu. ft.</td>
</tr>
<tr>
<td>03 30 00-5</td>
<td>Stairs.</td>
<td>Per cu. yd.</td>
</tr>
<tr>
<td>03 30 00-6</td>
<td>Interior Slabs.</td>
<td>Per cu. yd.</td>
</tr>
<tr>
<td>03 30 00-7</td>
<td>Provide concrete pump for installing (spreading) concrete as needed.</td>
<td>Days</td>
</tr>
<tr>
<td>03 30 00-8</td>
<td>Concrete surface repair</td>
<td>Per cu. ft.</td>
</tr>
</tbody>
</table>

B. All cast-in-place concrete shall include formwork, reinforcing, metal facing on curbs, mix design, moisture barriers

[END OF SECTION 03 30 00]
SECTION 04 01 00 – MAINTENANCE OF MASONRY

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide restoration mortars in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:
   1. Provide custom mortars for pointing existing exterior and interior brick and stone masonry.
   2. Provide custom mortars for setting existing new and salvaged exterior brick and stone masonry.

1.2 RELATED WORK

A. Division 4 Section 04 21 13 – “Brick Masonry”
B. Division 4 Section 04 43 00 – “Stone Masonry”
C. Division 4 Section 04 01 40 – “Maintenance of Stone Assemblies”
D. Division 4 Section 04 52 00 – “Masonry Cleaning”
E. Division 4 Section 04 20 00 – “Unit Masonry”

1.3 SUBMITTALS

A. The Contractor shall submit three cured band samples of each type of mortar set in 1/2” by 6” plastic or aluminum channels for the RE/PM’s approval. The RE/PM shall approve for color and texture. In general, the Contractor shall match existing mortar unless otherwise stated.

B. The Contractor shall submit a 5 pound sample of each type of sand used.

1.4 PRODUCT HANDLING

A. Cement and lime materials, and aggregates shall be stored in such a manner as to prevent deterioration or intrusion of foreign material.

B. Deliver materials in palletized containers, clearly labeled with manufacturer’s name, address and product identification.

C. Store materials in original containers, protected from direct ground contact and inclement weather.
1.5 ENVIRONMENTAL REQUIREMENTS

A. Cold weather construction shall adhere to the following requirements for work, performed in ambient temperatures indicated as well as all published guidelines in “Cold Weather Masonry Construction and Protection Requirements,” Brick Institute of America, latest edition. If mortar is to be mixed at air temperatures below freezing, the following procedures shall be followed:

1. 40 degrees F to 32 degrees F:
   a. Heat mixing water or sand to produce mortar between 40 degrees F and 120 degrees F and maintain above 40 degrees F until placed at that temperature.

2. 32 degrees F to 20 degrees F:
   a. Heat mixing water or sand to produce mortar between 40 degrees F and 120 degrees F. Heat grout materials so grout is maintained and placed at a temperature between 40 and 120 degrees F. Maintain mortar and grout above freezing until used in masonry.

3. 20 degrees F and below:
   a. Heat mixing water or sand to produce mortar between 40 degrees F and 120 degrees F. Heat grout materials so grout is maintained and placed at a temperature between 40 and 120 degrees F. Maintain mortar and grout above freezing until used in masonry.

PART 2 – PRODUCTS

2.1 MATERIALS

A. White Portland Cement: Type I, ASTM C 150.

B. Portland Cement Type I, ASTM C 150, non-staining. Do not use masonry cement.

C. Hydrated Lime: ASTM C 207, Type S.

D. Sand: Clean sharp sand free of loam, silt, soluble salts and organic matter, ASTM C 144. Aggregate/sand shall be selected to match original mortars, where applicable or as directed.

   1. Sand for pointing mortars shall use aggregate graded with 100% passing the No. 16 sieve, as recommended for joints less than 1/4.”

E. Water: Potable.

F. Oxide Pigments: Oxide pigments shall be stable, non-fading and alkali resistant.

G. Admixture for “thick set” and “thin set” mortars for setting stone dutchmen shall be Laticrete 3701 or 4237 Grout and Mortar Admixture: as manufactured by Laticrete
International Inc., or an approved equal, used in accordance with manufacturer’s written instructions.

H. Acrylic admixture for structural mortars and grouts shall be Acryl 60, as manufactured by Thoro Systems Products, Inc., Miami, FL. or an approved equal.

I. No additives or admixtures, other than those specified (or approved as equal) shall be used. No chlorides, or aggressive corrosive chemicals shall be used.

2.2 MORTAR MIXES

A. The mortars specified herein after shall comply with ASTM C 270, “Standard Specification for Mortar for Unit Masonry.” Type “N” Mortar strength, in general, shall be consistent with a low standard deviation, and a 28 day cube compression strength of a minimum of 750 psi and a maximum of 1700 psi. Mortar mixes may change and require adjustment before and during construction in accordance with Pre-Construction Conformance Testing, Field Testing and evaluation thereof by the RE/PM.

1. Type “N” Mortar for pointing, rebuilding and patching finish brick masonry:
   1 part by volume Portland cement (Type I)
   1 part by volume hydrated lime (Type S)
   6 parts sand (selected to match sand in original mortar)
   Oxide pigments as needed to match original mortar color

2. Type “N” Mortar for pointing and rebuilding stone masonry:
   1 part by volume white Portland cement (Type I)
   1 part by volume hydrated lime (Type S)
   6 parts “00” sand (selected to match sand in original mortar)
   Oxide pigments as needed to match original mortar color

3. Type “N” Mortar for grouting/anchoring masonry accessories, lintels; anchors, pins, frames in stone and brick masonry:
   1 part by volume white Portland cement (Type I)
   1 part by volume hydrated lime (Type S)
   6 parts “00” sand (selected to match sand in original mortar)
   Oxide pigments as needed to match original mortar color.

B. The mortars specified herein after shall comply with ASTM C 270, “Standard Specification for Mortar for Unit Masonry.” Mortar mixes may change and may require adjustment before and during construction in accordance with Pre-Construction Conformance Testing, Field Testing and evaluation thereof by the RE/PM.

1. Mortar for slurry for pretreating masonry to be repaired:
   1 part by volume white Portland cement (Type I)
   2 parts by volume hydrated lime (Type S)
   6 parts fine sand
   1 part Acryl 60 to 5 parts water

2. “Thick Set” Mortar for setting Stone Dutchmen: “Thick Set” mortars for special conditions when the mortar bed is greater than 3/8” thick shall employ Laticrete 3701.
   1 part by volume white Portland cement (Type I)
   3 parts fine “00” sand (selected to match color of existing clean stone)
Temper to a workable consistency with Laticrete 3701 polymer admixture mixed in accordance with manufacturer’s recommendations for a high strength, “thick set” mortar.

3. “Thin Set” Mortar for Setting Stone Dutchmen: Use when the mortar bed is less than 3/8” thick to produce an initially tacky mortar exhibiting high strength properties when set.

   1 part by volume white Portland cement (Type I)
   3 parts fine “00” sand (selected to match color of existing clean stone)

Temper to a workable consistency with Laticrete polymer admixture mixed in accordance with manufacturer’s recommendations for a high strength, “thin set” mortar.

C. Mortars for stone masonry patching including sandstone, brownstone, and brick, shall be custom-color matched patching materials specifically prepared by the manufacturer to match each cleaned existing stone, including color, texture and composition, and shall be “Jahn M70 Restoration Mortar” as manufactured by Cathedral Stone Company, or an approved equal.

2.3 MIXING OF MORTAR

A. Mortar ingredients shall be measured carefully so that proportions are controlled and maintained throughout all work periods.

B. Mortar shall be mixed in an approved type power operated batch mixer. Mixing time shall be such as to produce a homogeneous plastic mortar, but mixing shall not be less than five minutes, approximately two minutes of which shall be for mixing of dry materials and not less than three minutes for continuing the mixing after water has been added. A minimum amount of water shall be used to produce a workable consistency for the mortar’s intended purpose.

C. Mortar for pointing shall be as dry a consistency as will produce a mortar sufficiently plastic to be worked into the joints.

D. Mortar for grouting shall be of a consistency as will readily be flowed in cracks and voids.

E. Mortar for slurry shall be of a consistency as will be brushable.

F. Where mortar or grout is required in small batches of less than a cubic yard and the Resident Engineer specifically approves in writing, mortar may be mixed by hand in clean wooden or metal boxes prepared for that purpose but not on slabs, sidewalks, etc., provided the methods of mixing and transferring the mortar are approved by the RE/PM.

G. After mixing, mortars for pointing or setting shall sit for 20 minutes prior to use to allow for initial shrinkage. Mortar shall be placed in final position within two hours of mixing. Re-tempering of partially hardened material is not permitted.
H. Mortar for grout shall be placed in final position within two hours of mixing. Re-tempering of partially hardened material is not permitted.

I. Custom patching materials shall be stored and mixed in strict accordance with the manufacturer’s written instructions.

PART 3 – EXECUTION

3.1 INSTALLATION

A. To be performed as part of the work of the following sections:

1. Section 04 01 40 – “Maintenance of Stone Assemblies”
2. Section 04 20 00 – “Unit Masonry”
3. Section 04 21 13 – “Brick Masonry”
4. Section 04 43 00 – “Stone Masonry”
5. Section 04 52 00 – “Masonry Cleaning”

[END OF SECTION 04 01 00]
SECTION 04 01 40 – MAINTENANCE OF STONE ASSEMBLIES

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes maintenance of stone assemblies consisting of stone restoration and cleaning as follows:

1. Unused anchor removal.
2. Repairing stone masonry, including but not limited to, replacing whole and partial units.
3. Painting steel uncovered during the work.
4. Repointing joints.
5. Preliminary cleaning, including removing plant growth.
6. Cleaning exposed stone surfaces.

Related Sections:
1. Division 4 Section “Maintenance of Masonry”
2. Division 4 Section “Unit Masonry”
3. Division 4 Section “Brick Masonry”
4. Division 4 Section “Stone Masonry”
5. Division 4 Section “Masonry Cleaning”

1.2 QUALITY ASSURANCE

A. All work shall be performed by skilled workers. The Contractor or sub-contractor performing the work of this section must have recently completed masonry pointing projects similar in scope, materials, and extent to those indicated by this section, and whose work has resulted in construction with a record of successful in-service performance (i.e. masonry pointing on buildings that are considered to be landmark, landmark quality or buildings of equivalent historical or architectural significance).

B. Source of Materials: Obtain materials for masonry restoration from a single source for each type of material required to ensure a match in quality, color and texture.

C. Field Supervised Construction: The Contractor shall notify the RE/PM before beginning masonry restoration and obtain the RE/PM’s approval of the installation of restored masonry before proceeding with the remainder of the work.

D. The Contractor shall replace all broken, lost and damaged masonry resulting from repair, removal, transportation, cleaning or storing at no expense to the City.

E. In acceptance or rejection of this work, no account shall be taken for incompetence or lack of skill on the part of the workmen.
F. The Contractor shall maintain a steady work crew consisting of skilled craftsmen, who are experienced with the materials and methods specified and familiar with the design requirements, and a full-time foreman. The Contractor shall confirm that all workmen under its direction fully understand the requirements of the job.

1. Stonework shall be executed by skilled mechanics, thoroughly trained and familiar with the methods required. Skilled stonefitters shall be employed at the site to do necessary field cutting.

1.3 SUBMITTALS

A. Program of Work: Submit a written program for each restoration phase of this Contract, include protection of surrounding materials on the building and site, and adjoining properties, during operations.

1. Include detailed description of materials, methods, and equipment to be used for each phase of the work of the Contract.
2. Include written descriptions, drawings, and diagrams, outlining proposed methods and procedures for protection of personnel, the public, and the existing construction during the Work of this Section.
3. If alternate methods and materials to those specified are proposed for any phase of the restoration work, provide written description. Provide evidence of successful use on comparable projects and demonstrate its effectiveness for use on this project.

B. Product Literature: The Contractor shall submit three (3) copies of the manufacturer’s technical data for each product including their recommendations for application and use. Include test report and certificates that verify the product’s compliance with the specification’s requirements.

C. Shop Drawings:

1. Submit complete shop drawings of all cut stone work to the RE/PM for his approval. These drawings, when viewed, together, shall show all details of bedding, bonding, jointing; anchoring and other essential aspects of the work; in addition, the finish, dimensions and setting number of each piece of stone shall be shown.
2. The Contractor shall be responsible, for all field measurements and the preparation of setting drawings fully defining the conditions for the installation of all stone masonry and dutchman repairs. The Contractor shall review, approve and countersign the setting drawings prior to their submission to the RE/PM.
3. The cut stone fabricator shall prepare all shop drawings, fully defining the conditions for fabricating, finishing and fastening all cut stone and dutchman.
D. Samples:

1. Submit sufficient sets of three (3) 12” x 12” samples of cut stone for dutchman to show the full range of color, texture, and finish proposed for the work. Upon approval by the RE/PM, one (1) full set shall be returned to the Contractor for his use as a reference standard during the conduct of the work. This set shall be kept on the job site for easy reference throughout the course of construction.

2. Submit samples of all attachments, anchors, inserts, and fastening.

3. Submit copies of all manufacturers’ printed materials and instructions, and material safety data sheets (MSDS).

1.4 MOCK-UPS

A. Mockup Panels:

1. Submit mockup panels for the RE/PM’s approval. Resubmit panels until the RE/PM is fully satisfied. Mockup panels shall be prepared by the Contractor using the same workmen, methods and materials that will be employed for the remainder of the work. At the discretion of the RE/PM, mockups shall be prepared in the presence of the RE/PM.

2. Prepare the following mockup panels, in locations selected by the RE/PM.

   a. Dutchman stone repair. Panel shall be no less than 2 square feet, and shall, at the discretion of the Resident Engineer contain one or more dutchman.

   b. Stone patch using custom patching mortar, minimum twelve square inches.

3. Contractor shall protect approved mockup panels for the duration of the work. Approved mockups shall constitute a standard for approving subsequent work.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Work shall not be permitted in freezing weather, or when temperature of the air or wall is expected to freeze within 48 hours of work. The Contractor shall take all necessary precautions to protect the building and materials from freezing during treatment. No work shall begin when any part of the Wall, or materials in use are frozen, or subject to freezing temperatures.

B. Protect completed masonry and adjacent masonry to be pointed in the following manner. Temperature ranges indicated apply to mean daily air temperatures except for grouted masonry. For grouted masonry temperature ranges the following apply to anticipated minimum night temperatures:

1. 40° F to 32° F:
   a. Protect masonry from rain or snow for at least 24 hours by covering with weather- resistive membrane.
2. 32°F to 20°F:
   a. Completely cover masonry with weather-resistive insulating blankets or similar protection for at least 24 hours, 48 hours for grouted masonry.

3. 20°F and below:
   a. Except as otherwise indicated, maintain masonry temperature above 32°F for 24 hours using enclosures and supplementary heat electric heating blankets, infrared lamps or other methods proven to be satisfactory. For grouted masonry maintain heated enclosure to 40°F for 48 hours.


D. Materials shall be used only at the manufacturer’s recommended temperature tolerances for masonry materials.

E. The work shall be protected during hot weather from premature or rapid curing by the use of dampened fabric coverings.

1.6 DEFINITIONS

A. As used here the term “dutchman” refers to any new or salvaged stone fitted into the existing façade stone.

B. “Stone-to-Stone” repairs refer to conditions where the original stone piece still exists and can be pinned directly back into its original location or to its mated portion.

C. As used here “plug” refers to a circular dutchman drilled out of existing stone.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Provide new stone for dutchman to match existing stone in color and texture. All exposed surfaces shall have finish to match existing. Ends and planes shall be square, dressed uniformly, and free of projections, mars, chips or depressions.

1. Limestone shall be Indiana Limestone, Select Grade, ASTM C-568. Fabrication shall comply with recommendations of the Indiana Limestone Institute of America.

2. Marble shall comply with the requirements of ASTM C-503. Fabrication shall comply with recommendations of the Marble Institute of America, Inc. (MIA) as published in “Dimension Stone Design Manual III.”

3. Granite shall comply with requirements of ASTM C-615, Architectural Grade, and National Building Granite Quarries Association, Inc. for color and finish qualities.
B. Anchors and Fastenings for Stone Masonry:

1. Anchors and fastenings shall be stainless steel Type 302 or 304.
2. Expansion bolts, cinch bolts and plugs shall not be acceptable.


D. Mortar:

1. Latex-modified mortar materials for “thin set” and “thick set” setting of stone dutchman shall conform to the Materials and Mixtures specified in Section 04100.

E. Patching Material:

1. Mortar for patching limestone shall be custom-matched patching materials specifically prepared by the manufacturer to match the existing cleaned masonry color, texture and composition, and shall be “Jahn restoration mortar M70” as manufactured by Cathedral Stone, 2505 Reed Street, N.E., Washington, D.C. 20015, (202) 832-1135, or approved equal.
2. Patching material for Marble: 2-component Akemi Knife Grade Polyester adhesive, manufactured by Akemi Plastics, Inc., Eaton Rapids, MI., or approved equal.

F. Adhesive for attaching anchors: high modulus, high strength, moisture insensitive, epoxy adhesive. Adhesive shall be two-component 100% solids, epoxy resin system with a viscosity similar to petroleum jelly, such as Sikadur Hi-Mod Gel, as manufactured by Sika Corporation. Lyndhurst, NJ, (201) 933-8800 or approved equal.

G. Adhesive for stone to stone repairs and crack injection: high modulus, high strength, moisture insensitive, low viscosity epoxy adhesive complying with ASTM C881-90, Types I, II, III, IV, & V, Grade I. Provide Sikadur 35 Hi-Mod LV, as manufactured by Sika Corporation, Lyndhurst, NJ, (201) 933-8800, or approved equal.

K. Threaded rod for masonry patching: 3/8” minimum diameter threaded teflon rod.

L. Anchors for face pinning: Minimum 3/8” diameter threaded stainless steel adhesive anchors with screen tubes. Provide Hilti HIT HYISO anchors as manufactured by Hilti Corp, or approved equal:

PART 3 – EXECUTION

3.1 GENERAL:

A. The Contractor shall be fully responsible for the proper execution and performance of the work described herein. It shall be the Contractor’s responsibility to inspect all surface conditions and correct any conditions, which may affect his work adversely. Stonework
shall be executed by skilled mechanics, thoroughly trained and familiar with the methods required. Skilled stonefitters shall be employed at the site to do necessary field cutting.

B. All treatments, including the installation of dutchman, new incisions into the stone, etc. shall have a minimum visual impact in the interest of preserving as much existing stone as possible.

C. As related to the work of this Contract, areas to be patched with natural stone dutchman include severely spalled “locations, and stone that would visually detract or otherwise be unacceptable if left unrepai red.

3.2 SETTING STONE DUTCHMAN

A. Use Laticrete 3701 to produce high strength “thick set” mortar. Stone must be temporarily held in place with nylon wedges or other means until the mortar has sufficiently set.

B. “Thin set” mortars for special conditions shall employ Laticrete 4237. Use “thin set” mortar when the mortar bed is less than 3/8” thick to produce an initially tacky mortar exhibiting high strength properties when set.

C. Provide a minimum of two (2) metal attachments for setting each stone dutchman:

1. All wire, pins, anchors, and bars shall be stainless steel, Type 302 and 304.
   a. 1/8” diameter round stock, stainless steel wire with turned up ends for small veneers.
   b. 1/4” or 3/8” diameter round stock; stainless steel rod for direct pinning and drop dowels.
   c. 1” wide, 1/8” thick, stainless steel, flat strap anchors for larger panels.

2. The quantity of individual attachments shall not be less than two attachments for each dutchman, and one additional attachment for every two square feet.

3. All attachments shall be fastened by mechanical locking, in addition to appropriate adhesives and mortars.

D. Adhesives for attaching anchors and for direct pinning:

1. Where permitted, anchors may be held in place with high modulus, high strength, moisture insensitive, epoxy adhesive, as specified.

E. General Method for Dutchman Repair of Stone:

1. All replacement stone for the restoration of all defects indicated on the contract drawings, shall be new stone. These repairs involving “new” material (referred to as “dutchman”) shall vary in overall size, but shall not be less than 3” thick under any circumstance. New stone shall be carefully cut and selected to be sound and in good condition, free of defects, cracks, breaks, or other observable defects.
2. Dutchman shall be fastened with stainless steel wire, pins, and anchors, as necessary, designed to facilitate mechanical locking and to prevent possible slippage of the stone. The metal fasteners shall be positioned without weakening the stone in any way.

3. Cement mortar containing “Laticrete” latex emulsion additives shall be used for all setting purposes. All insertions shall be fully dressed on all sides, and carefully fitted to the patch opening, with an allowance of not more than 1/8” buttered joint between front edges. Undercutting shall not weaken the stone in any way. The joints between new and old work shall be finished to match the color and texture of the stone.

4. The surface of the new stone shall be dressed to resemble the appearance, tooling and texture of the adjoining stone by an approved method. All surface dressing of new work shall be done before the stone is set.

5. Protect the adjacent materials during the process of stone restoration. Wipe and rinse any mortar accidentally splashed onto adjacent surfaces immediately. Clean uncured epoxy adhesive immediately with acetone.
   
a. Any damage to stone or materials to remain resulting from epoxy and mortar spills shall be restored to the full satisfaction of the Resident Engineer at no additional cost to the City.

6. The face of all new stone patches shall be cleaned following the completion of all setting work. Clean mortar splashes, smears, etc. with scrapers, or by vigorously brushing with stiff natural bristle brushes and potable water. If necessary, clean white sand may be added to the water. Cleaning shall start at the top of the structure and proceed downward.

3.3. STONE-TO-STONE REPAIRS

A. The re-attachment of broken or loose stone sections using a concealed repair is preferable to the fabrication of new stone pieces.

B. To execute a concealed repair the following procedure shall be used. Holes shall be drilled into the fractured inner surface of each of the 2 pieces of stone to be reunited. The pieces shall be then fastened with stainless steel dowels embedded in epoxy adhesive, which shall be applied to both faces of the break. Only in situations involving the detachment of a very shallow fragment shall simple adhesive repair be acceptable.

C. Particular care must be taken to ensure that all edges of the stone are perfectly aligned when marking out dowel holes.

3.4. STONE PATCHING

A. REMOVAL OF MATERIAL:
1. Examine limestone blocks for deteriorated areas. During this examination, consult the RE/PM whose opinion about removal of deteriorated stone will be final and accepted as such.
2. Remove deteriorated Stone to the minimum depth necessary to reach sound material or substrate, or 1/2 inch, whichever is greater. Exercise care that sound masonry is not damaged or disturbed. Chipping of edges will not be permitted.
3. Cut edges of areas where stone has been removed straight and parallel or perpendicular to the joints in the facade.
4. Where the surface of the damaged stone is greater than 3/8” behind the plane of the adjacent block, slightly undercut the edges of the area to be patched to provide a slight dovetail. The rear surface of any flat area to be repaired shall be drilled with 1/2” diameter holes 1/2” deep spaced 2” to 3” apart in staggered rows to allow for mechanical bond of the patch. Vary the angles of these holes. Brush clean the areas to be patched.

B. ADDITIONAL MECHANICAL BOND FOR DEEP PATCHES

1. If the surface of the sound stone is more than 2” below the plane of the facade drill additional holes 1” deep by 1/8” larger in diameter than the rods, 5” on center horizontally and vertically (one for every 25 square inches of surface to be patched).
2. Anchor threaded teflon rods in holes with epoxy gel. Rods should extend to a point 1” behind the surface of the finish patch.

C. PREPARATION:

1. Clean surfaces to be patched and filled so that they are free from all dust, dirt, oils, grease, and other substances or coatings that might in any way affect the adhesion of the filling and patching material
2. Protect surrounding surfaces by all means necessary to keep them free from patching materials. Brush masonry to be patched with stiff natural bristle brushes and compressed air to make certain that all loose materials have been removed.

D. APPLICATION:

1. Preparation: Clean and prepare all areas to be patched as specified above.
2. Wetting: Wash surface of the prepared stone with clean, clear water and non-ferrous soft bristle brushes to remove all traces of oil, grease, scaling, dirt, dust, and friable material. The surface must be rewet prior the application of each coal.
3. Application of Patching Mortar: Repair involves a built-up system consisting of a thin slurry coat, several scratch coats (the number to be determined by the depth of the area to be patched), and a finish coat. Proceed as follows:
   a. Apply thin Slurry Coat With a brush and rub vigorously into the surface.
   b. Press first Scratch Coat into the slurry coat while the slurry coat is still moist. Score or punch this new surface before initial drying to provide a key for subsequent scratch coats or finish coat. No coat shall exceed 3/8,” in thickness. Approximately two to four hours should be allowed for initial cure of scratch coat before the succeeding scratch or finish coat is applied.
c. The surface must be rewet prior to the application of each coat.

d. Apply the Finish Coat once the patch has received sufficient scratch coats to leave less than 3/8” to line of desired finish surface. Carefully match the original profile and texture.

e. Curing: During application of each coat, control premature drying and subsequent cracking by misting the application with water. Care shall be taken to keep the mist very gentle so that it does not wash any of the binder from the mixture.

f. Patch Depth: The depth of the patch shall be a minimum of 3/8” at its thinnest point. No feather edges or skim coats of patching material shall be permitted. If any patch is determined to be less than 3/8”, it shall be cut out, and a new patch applied in accordance with these specifications at no additional cost to the City.

4. Finishing: After the patch is partially cured to leather hardness, it may be dry troweled or damp sponged to give it a finish approximating as closely as possible that of the original stone. Alternately, after the patch is completely cured, it may be honed with dry and wet abrasive stones to achieve the desired finish. Samples of the different finishes shall be prepared for the RE/PM’s approval before any patching is begun. The patching shall not begin until the RE/PM has given his written approval of the finishes and the methods used to achieve them.

5. Unacceptable Conditions: Separation at the edges of the patch and hairline cracking will not be acceptable. Unacceptable patches will be removed and refilled as directed at the contractor’s expense.

6. Remove any excess patching material or dirt from all masonry surfaces and leave all surfaces uniformly clean with no streaks or stains.

E. CORRECTIVE MEASURES:

1. Should any cracks occur on the surface of the patch, cut out the patch and reapply following the requirements of these specifications to the satisfaction of the RE/PM, at no extra cost to the City.

2. Should the RE/PM determine that any of the work does not equal or exceed the minimum standard established by the approved test area; the Contractor shall cut out the patch and reapply following the requirements of these specifications to the satisfaction of the RE/PM.

3.5 CLEANING

A. The face of all cut stonework shall be thoroughly cleaned after completion of the setting and other work liable to damage or soil the stone. The stonework shall be gone over and any mortar splashes, or smears, and any other encrusted matter carefully removed from the surface by scrapers or carborundum bricks and any indurated discoloration from soot or other causes where such soiling occurs shall be removed, leaving the stone in condition for a thorough cleaning.

B. The cleaning shall be done with non-ionic detergent and clean water applied vigorously with fiber brushes. After cleaning, the stone shall be drenched with clear water.
C. The cleaning operation shall start at the top of the structure and proceed downward.

D. This cleaning shall be in addition to the Masonry Cleaning specified in Section 04 52 00.

### 3.6 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
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<tbody>
<tr>
<td>04 01 40-1</td>
<td>Cut out and repoint mortar joints in marble / granite / blue / lime stonework.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 01 40-2</td>
<td>Setting stone dutchman.</td>
<td>Per sq. ft.</td>
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[END OF SECTION 04 01 40]
SECTION 04 20 00 – UNIT MASONRY

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide unit masonry work in accordance with the Contract Documents. This Section includes the following:

1. Concrete unit masonry.
2. Glazed concrete masonry unit.
3. Reinforced unit masonry.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 7 Section “Joint Sealants” for sealing joint in mockup.
2. Division 7 Section “Penetration Firestopping”.

C. Products installed but not furnished under this Section include the following:

1. Division 5 Section “Metal Fabrications” for steel lintels in unit masonry.
2. Division 6 Section “Rough Carpentry” for wood milers and blocking built into unit masonry.
3. Division 8 Section “Hollow Metal Doors and Frames” for hollow steel frames in unit masonry openings.

1.2 SUBMITTALS

A. Product data for each different masonry unit, accessory, and other manufactured product specified.

B. Shop drawings for reinforcing detailing fabrication, bending, and placement of unit masonry reinforcing bars. Comply with ACI 315 “Details and Detailing of Concrete Reinforcement” showing bar schedules, stirrup spacing, diagrams of bent bars, and arrangement of masonry reinforcement.

C. Material certificates for the following, signed by manufacturer and Contractor, certifying that each material complies with requirements.

1. Each different cement product required for mortar and grout, including name of manufacturer, brand, type, and weight slips at time of delivery.
2. Each material and grade indicated for reinforcing bars.
3. Each type and size of joint reinforcement.
4. Each type and size of anchors, ties, and metal accessories.
1.3 QUALITY ASSURANCE

A. Fire-Resistance Ratings: Where indicated, provide materials and construction identical to those of assemblies with fire resistance ratings determined per ASTM E 119 by a testing and inspecting agency, by equivalent concrete masonry thickness, or by another means, as acceptable to authorities having jurisdiction.

B. Single-Source Responsibility for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one source and by a single manufacturer for each different product required.

C. Single-Source Responsibility for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source or producer for each aggregate.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms, under cover, and in a dry location to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and over causes. If units become wet, do not install until they are in an air-dried condition.

B. Store 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 masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.5 PROJECT CONDITIONS

A. Protection of Masonry: During erection, cover tops of walls, projections, and sills with waterproof sheeting at end of each day’s work. Cover partially completed masonry when construction is not in progress.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
1. Joint Reinforcement, Ties, and Anchors:
   a. Dur-O-Wal, Inc.
   b. Masonry Reinforcing Corp. of America.
   d. Or an approved equal.

2. Glazed Concrete Masonry Units:
   a. Bums & Russell Co. (The)
   b. Trenwyth Industries, Inc.
   c. Or an approved equal.

2.2 CONCRETE MASONRY UNITS

A. General: Provide shapes indicated and as follows for each form of concrete masonry unit as required.
   1. Provide special shapes for lintels, comers, jambs, sash, control joints, headers, bonding, and other special conditions.
   2. Provide square-edged units for outside comers, except where indicated as bullnose.

B. Concrete Masonry Units: ASTM C 90 and as follows:
   1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength indicated below:
      a. 1900 psi.
      b. Not less than the unit compressive strengths required to produce concrete unit masonry construction of compressive strength indicated.
   2. Weight Classification: Normal weight unless lightweight units are required to match existing adjoining units.
   3. Aggregates: Do not use aggregates made from pumice, scoria, or tuff.
   4. Provide Type I, moisture-controlled units.
   5. Size: Manufactured to the actual dimensions listed below (within tolerances specified in the applicable referenced ASTM specification) for the corresponding nominal sizes indicated on Drawings:
      a. 4 inch nominal: 3-5/8 inch actual.
      b. 6 inch nominal: 5-5/8 inch actual.
      c. 8 inch nominal: 7-5/8 inch actual.
      d. 10 inch nominal: 9-5/8 inch actual.
      e. 12 inch nominal: 11-5/8 inch actual.
      f. 16 inch nominal: 15-5/8 inch actual.
6. Exposed Faces: Manufacturer’s standard color and texture, unless otherwise required. Where existing masonry work is patched, provide masonry units with faces that match existing adjoining units. Included are glazed and ground faced units. Match shall be subject to the approval of the RE/PM.

C. Pre-faced Concrete Masonry Units: Lightweight or normal weight concrete units indicated below with manufacturer’s standard smooth resinous tile facing, complying with ASTM C 744:

1. For concrete masonry units to which prefaced surfaces are applied, comply with the following:
   a. Concrete Masonry Units: ASTM C 90, Type I, hollow and solid, moisture controlled units.
   b. Unit Compressive Strength: Provide units with minimum average net-area compressive strength indicated below:

   1.) 1900 psi, unless otherwise indicated.

   2. Size: Manufactured to dimensions matching the existing adjoining units.
   3. Color and Pattern: Match existing adjoining units as approved by the Resident Engineer.
   4. Provide finished exposed ends and other exposed faces with special shapes and curves where required to match existing units or new units.

2.3 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C 150, Type I or II.

B. Masonry Cement: ASTM C 91.

C. Hydrated Lime: ASTM C 207, Type S.

D. Portland Cement-Lime Mix: Packaged blend of Portland cement complying with ASTM C 150, Type I or Type III, and hydrated lime complying with ASTM C 207.

E. Aggregate for Mortar: ASTM C 144; except for joints less than 1/4 inch, use aggregate graded with 100 percent passing the No. 16 sieve.

F. Aggregate for Grout: ASTM C 404.

G. Ready-Mixed Mortar: Cementitious materials, water, and aggregate complying with requirements specified in this Article; combined with set-controlling admixtures to produce a ready-mixed mortar complying with ASTM C 1142.

H. Water: Potable.
2.4 REINFORCING STEEL

A. Steel Reinforcing Bars: Material and grade as follows:
   1. Billet steel complying with ASTM A 615.
      a. Grade 60.


2.5 JOINT REINFORCEMENT

A. General: Provide joint reinforcement formed from the following:
   1. Galvanized carbon-steel wire, coating class as follows:
      a. ASTM A 641, Class 1, for interior walls.

B. Description: Welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10 feet, with prefabricated corner and tee units, and complying with requirements indicated below:
   1. Wire Diameter for Side Rods: 0.1483 inch.
   2. Wire Diameter for Cross Rods: 0.1483 inch.

C. For single-wythe masonry, provide type as follows with single pair of side rods:
   1. Ladder design with perpendicular cross rods spaced not more than 16 inches o.c.

2.6 TEES AND ANCHORS, GENERAL

A. General: Provide ties and anchors specified in subsequent articles that comply with requirements for metal and size of this Article, unless otherwise indicated.

B. Wire: As follows:
   2. Wire Diameter: 0.1875 inch.

C. Steel Sheet: As follows:
   1. Galvanized Steel Sheet: ASTM A 526, G 60 (commercial quality), steel sheet zinc coated by hot-dip process on continuous lines prior to fabrication, for sheet-metal ties and anchors in interior walls.
D. Steel Plates and Bars: ASTM A 36, shop painted with 2 coats of coal-tar epoxy-polyamide paint complying with SSPC-Paint 16 to comply with SSPC-PA 1 for painting arid SSPC-SP 6 for surface preparation.

2.7 ADJUSTABLE ANCHORS FOR CONNECTING TO STRUCTURAL FRAME

A. General: Provide 2-piece assemblies as described below, allowing vertical or horizontal differential movement between wall and frame parallel to plane of wall but resisting tension and compression forces perpendicular to it.

1. For anchorage to concrete, provide manufacturers standard anchors with dovetail anchor section formed from sheet metal and triangular-shaped wire tie section sized to extend within 1 inch of masonry face and as follows:

   a. Wire Diameter: 0.1875 inch.

2. For anchorage to steel framing, provide manufacturer’s standard anchors with crimped 1/4-inch-diameter wire anchor section for welding to steel and triangular-shaped wire tie section sized to extend within 1 inch of masonry face and as follows:

   a. Wire Diameter: 0.1875 inch.

2.8 RIGID ANCHORS

A. General: Fabricate from steel bars as follows:

1. 1-1/2 inches wide by 1/4 inch thick by 24 inches long, with ends turned up 2 inches or with cross pins.

2.9 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Pre-molded filler strips complying with ASTM D 1056, Type 2, Class A, Grade 1; compressible up to 35 percent; of width and thickness indicated; formulated from the following material:

1. Neoprene.
2. Urethane.
3. Polyvinyl chloride.

B. Preformed Control-Joint Gaskets: Material as indicated below; designed to fit standard sash block and to maintain lateral Stability in masonry wall; size and configuration as indicated.

C. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).
2.10 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents; accelerators, retarders, water repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.

B. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification, for types of mortar indicated below:

1. Limit cementitious materials in mortar to Portland cement and lime.
2. For above-grade, load-bearing and non load-bearing walls and parapet walls; for interior load-bearing walls; for interior non load-bearing partitions, and for other applications where another type is not indicated, use type indicated below:
   a. Type: N.

C. Grout for Unit Masonry: Comply with ASTM C 476. Use grout of consistency indicated or, if not otherwise indicated, of consistency (fine or coarse) at time of placement that will completely fill spaces intended to receive grout.

1. Use fine grout in grout spaces less than 2 inches in horizontal dimension, unless otherwise indicated.
2. Use coarse grout in grout spaces 2 inches or more in least horizontal dimension, unless otherwise indicated.

2.11 FIRESTOPPING

A. Provide Firestopping for all new wall fire rated unit partitions.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of unit masonry. Do not proceed with installation until unsatisfactory conditions have been corrected.

1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of unit masonry.

B. Examine existing glazed concrete masonry walls that require patching and/or toothing. Record any conditions that need correction prior to commencement of work.

3.2 INSTALLATION, GENERAL
A. Build chases and recesses to accommodate items specified in this and other Sections of the Specifications.

B. Leave openings for equipment to be installed before completion of masonry. After installing equipment, complete masonry to match construction immediately adjacent to the opening.

C. Cut masonry units with motor-driven saws to provide clean, sharp, un-chipped edges. Cut units as required to provide continuous pattern and to fit adjoining construction. Use full-size units without cutting, where possible. Allow units cut with water-cooled saws to dry before placing, unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

D. Mix units for exposed unit masonry from several pallets or cubes as they are placed to produce uniform blend of colors and textures.

E. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.

3.3 CONSTRUCTION TOLERANCES

A. Variation from Plumb: For vertical lines and surfaces of columns, walls, and arrises, do not exceed 1/4 inch in 10 feet, nor 3/8 inch in 20 feet, nor 1/2 inch in 40: feet or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet, nor 1/2 inch in 40 feet or more. For vertical alignment of head joints, do not exceed plus or minus 1/4 inch in 10 feet, nor 1/2 inch maximum.

B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet, nor 1/2 inch in 40 feet or more. For top surface of bearing walls, do not exceed 1/8 inch in 10 feet, nor 1/16 inch within width of a single unit.

C. Variation of Linear Building Line: For position shown in plan and related portion of columns, walls, and partitions, do not exceed 1/2 inch in. 20 feet, nor 3/4 inch in 40 feet or more.

D. Variation in Mortar-Joint Thickness: Do not vary from bed-joint thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. Do not vary bed-joint thickness from bed-joint thickness of adjacent course by more than 1/8 inch. Do not vary from head-joint thickness indicated by more than plus or minus 1/8 inch. Do not vary head-joint thickness from adjacent head-joint thickness by more than 1/8 inch. Do not vary from collar-joint thickness indicated by more than minus 1/4 inch or plus 3/8 inch.

3.4 LAYING MASONRY WALLS

A. Layout walls in advance for accurate spacing of surface bond patterns with uniform joint widths and for accurate locating of openings, movement-type joints, returns, and offsets.
Avoid the use of less-than-half-size units at corners, jambs, and where possible at other locations.

B. Lay walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other construction.

C. Lay masonry with all units in a wythe in running bond or bonded by lapping not less than 2 inches. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

D. Stopping and Resuming Work.: In each course, rack back 1/2-unit length for one-half running bond or 1/3-unit length for one-third running bond; do not tooth. Clean exposed surfaces of set masonry, wet clay masonry units lightly if required, and remove loose masonry units and mortar prior to laying fresh masonry.

E. Built-in Work: As construction progresses, build-in items specified under this and other Sections of the Specifications. Fill in solidly with masonry around built-in items.

F. Fill space between hollow metal frames and masonry solidly with mortar, unless otherwise indicated.

G. Fill cores in hollow concrete masonry units with grout 24 inches under bearing plates, beams, lintels, posts, and similar items, unless otherwise indicated.

H. Build nonload-bearing interior partitions full height of story to underside of solid floor or roof structure above and as follows:
   1. Install compressible filler in joint between top of partition and underside of structure above.
   2. Wedge nonload-bearing partitions against structure above with small pieces of tile, slate, or metal. Fill joint with mortar after dead-load deflection of structure above approaches final position.

3.5 MORTAR BEDDING AND JOINTING

A. Lay hollow concrete masonry units as follows:
   1. With full mortar coverage on horizontal and vertical face shells.
   2. Bed webs in mortar in starting course on footings and in all courses of piers, columns and pilasters, and where adjacent to cells or cavities to lie filled with grout.
   3. For starting course on footings where cells are not grouted, spread out full mortar bed, including areas under cells.
   4. Maintain joint widths indicated, except for minor variations required to maintain bond alignment. If not indicated, lay walls with 3/8-inch joints.

B. Lay solid brick-size masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not furrow bed joints or slush head joints.
C. Tool exposed joints slightly concave when thumb-print hard, using a jointer larger than joint thickness, unless otherwise indicated.

D. Cut joints flush for masonry walls that are to receive plaster or other direct-applied finishes (other than paint), unless otherwise indicated.

3.6 HORIZONTAL-JOINT REINFORCEMENT

A. General: Provide continuous horizontal-joint reinforcement as indicated. Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcing a minimum of 6 inches.

1. Space reinforcement not more than 16 inches o.c.
2. Provide reinforcement in mortar joint 1 block course above and below wall openings and extending 12 inches beyond opening.

a. Reinforcement above is in addition to continuous reinforcement.

B. Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.

C. Provide continuity at corners and wall intersections by using prefabricated “L” and “T” sections. Cut and bend reinforcement units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.7 ANCHORING MASONRY TO STRUCTURAL MEMBERS

A. Anchor masonry to structural members where masonry abuts or faces structural members to comply with the following:

1. Provide an open space not less than 1 inch in width between masonry and structural member, unless otherwise indicated. Keep open space free of mortar or other rigid materials.
2. Anchor masonry to structural members with flexible anchors embedded in masonry joints and attached to structure.
3. Space anchors as indicated, but not more than 24 inches o.c. vertically and 36 inches o. c. horizontally.

3.8 CONTROL JOINTS

A. General: Install control and expansion joints in unit masonry where indicated. Build-in related items as the masonry progresses. Do not form a continuous span through movement joints unless provisions are made to prevent in-plane restraint of wall or partition movement.

B. Form control joints in concrete masonry as follows:
1. Fit bond-breaker strips into hollow contour in ends of block units on one side of control joint. Fill the resultant core with grout and rake joints in exposed faces.
2. Install preformed control-joint gaskets designed to fit standard sash block.
3. Install interlocking units designed for control joints. Install bond-breaker strips at joint. Keep head joints free and clear of mortar or rake joint.
4. Install temporary foam plastic filler in head joints and remove when unit masonry is complete.

3.9 LINTELS

A. Install steel lintels where indicated.

B. Provide masonry lintels where required and where openings of more than 12 inches for brick size units and 24 inches for block size units are shown without structural steel or other supporting lintels.
   1. Provide precast lintels made from concrete matching concrete masonry units in color, texture, and compressive strength and with reinforcement bars indicated or required to support loads indicated. Cure precast lintels by same method as CMU.
   2. Provide prefabricated or built-in-place masonry lintels. Use specially formed bond beam units with reinforcement bars placed as indicated and filled with coarse grout. Cure precast lintel before handling and installing. Temporarily support built-in-place lintel until cured.
   3. Provide either of above at Contractor’s option or provide precast or formed-in-place concrete lintels complying with requirements of Division 3 Section “Cast-in-Place Concrete.”

C. Provide minimum bearing of 8 inches at each jamb, unless otherwise indicated.

3.10 INSTALLATION OF REINFORCED UNIT MASONRY

A. Temporary Formwork and Shores: Construct formwork and shores to support reinforced masonry elements during construction.
   1. Construct formwork to conform to shape, line, and dimensions shown. Make sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
   2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other temporary loads that may be placed on them during construction.

B. Grouting: Do not place grout until entire height of masonry to be grouted has attained sufficient strength to resist grout pressure.
   1. Do not exceed the following pour heights for fine grout:
a. For minimum widths of grout spaces of 3/4 inch or for minimum grout space of hollow unit cells of 1-1/2 by 2 inches, pour height of 12 inches.
b. For minimum widths of grout spaces of 2 inches or for minimum grout space of hollow unit cells of 2 by 3 inches, pour height of 60 inches.
c. For minimum widths of grout spaces of 2-1/2 inches or for minimum grout space of hollow unit cells of 2-1/2 by 3 inches, pour height of 12 feet.
d. For minimum widths of grout spaces of 3 inches or for minimum grout space of hollow unit cells of 3 by 3 inches, pour height of 24 feet.

2. Do not exceed the following pour heights for coarse grout:

a. For minimum widths of grout spaces of 1-1/2 inches or for minimum grout space of hollow unit cells of 1-1/2 by 3 inches, pour height of 12 inches.
b. For minimum widths of grout spaces of 2 inches or for minimum grout space of hollow unit cells of 2-1/2 by 3 inches, pour height of 60 inches.
c. For minimum widths of grout spaces of 2-1/2 inches or for minimum grout space of hollow unit cells of 2-1/2 by 3 inches, pour height of 12 feet.
d. For minimum widths of grout spaces of 3 inches or for minimum grout space of hollow unit cells of 3 by 4 inches, pour height of 24 feet.

3. Provide clean-out holes at least 3 inches in least dimension for grout pours over 60 inches in height.

a. Provide clean-out holes at each vertical reinforcing bar.
b. At solid grouted masonry, provide clean-out holes at not more than 32 inches o. c.

3.11 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or if units do not match adjoining units. Install new units to match adjoining units; install in fresh mortar or grout, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point-up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for application of sealants.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears prior to tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Protect adjacent surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
3. Wet wall surfaces with water prior to application of cleaners; remove cleaners promptly by rinsing thoroughly with clear Water.
4. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2 applicable to type of stain present on exposed surfaces.

E. Protection: Provide final protection and maintain conditions that ensure unit masonry is without damage and deterioration at time of Substantial Completion.

3.12 MASONRY WASTE DISPOSAL

A. Undamaged, excess masonry materials are Contractor’s property and shall be removed from the Project site for his use.

3.13 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>04 20 00-1</td>
<td>Concrete masonry unit partition, un-rated, up to 4” thick.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 20 00-2</td>
<td>Concrete masonry unit partition, un-rated, for each 2” of additional thickness.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 20 00-3</td>
<td>Concrete masonry unit partition, rated, up to 4” thick.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 20 00-4</td>
<td>Concrete masonry unit partition, rated, for each 2” of additional thickness.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 20 00-5</td>
<td>Patching of existing concrete masonry unit partition/wall.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 20 00-6</td>
<td>Glazed (prefaced) concrete masonry unit partition.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

B. All unit masonry installation costs (whether full or partial partitions, or repairs) shall include all required reinforcing, anchorage, attachments, grouts, fire stopping and all other items required to complete the referenced installation.

[END OF SECTION 04 20 00]
SECTION 04 21 13 – BRICK MASONRY

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide brick masonry work in accordance with the Contract Documents. This Section includes the following:

1. Brick unit masonry.
2. Brick paving.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 4 “Maintenance of Masonry” – 04 01 00
2. Division 4 “Maintenance of Stone Assemblies” – 04 01 40
3. Division 4 “Unit Masonry” – 04 20 00
4. Division 4 “Stone Masonry” – 04 43 00
5. Division 4 “Masonry Cleaning” – 04 52 00
6. Division 7 “Penetration Firestopping” – 07 84 13

1.2 PERFORMANCE REQUIREMENTS

A. Provide unit masonry that develops the following installed compressive strengths (fm) at 28 days.

1. For Brick Unit Masonry: As follows, based on gross area:

   a. fm = 1500 psi (10.3 MPa).

1.3 SUBMITTALS

A. Product data for each different masonry unit, accessory, and other manufactured product specified.

B. Samples for verification of the following:

1. Full-size units for each different exposed masonry unit required showing the full range of exposed colors, textures, and dimension to be expected in the completed construction.

   a. Include size-variation data for brick, verifying that actual range of sizes for brick falls within ASTM C 216 dimension tolerances.

2. Accessories embedded in the masonry.
1.4 QUALITY ASSURANCE

A. Single-Source Responsibility for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one source and by a single manufacturer for each different product required.

B. Single-Source Responsibility for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source or producer for each aggregate.

C. Mockup: Prior to installing unit masonry, construct 2 foot by 2 foot sample wall panels to verify selections made under sample submittals and to demonstrate aesthetic effects of materials and execution. Build mockups to comply with the following requirements, using materials indicated for final unit of Work.

1. Notify Resident Engineer one week in advance of the dates and times when mockups will be constructed.
2. Protect accepted mockups from the elements with weather-resistant membrane.
3. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
   a. Acceptance of mockups is for color, texture and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; aesthetic qualities of workmanship; and other material and construction qualities specifically approved by the RE/PM in writing.
   b. Acceptance of mockups does not constitute approval of deviations from the Contract Documents contained in mockups, unless such deviations are specifically approved by the RE/PM in writing.
   c. When directed, demolish and remove mockups from Project site.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms, under cover, and in a dry location to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and other causes. If units become wet, do not install until they are in an air-dried condition.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Platform materials shall not cause damage to brick masonry by absorbing moisture, dust or staining. Only undamaged and uncontaminated brick masonry units matching the Architect’s sample and accepted by the RE/PM shall be installed in the Work.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.6 PROJECT CONDITIONS
A. Protection of Masonry: During erection, cover tops of walls, projections, and sills with waterproof sheeting at end of each day’s work. Cover partially completed masonry when construction is not in progress.

1. Extend cover a minimum of 24 inches (600mm) down both sides and hold cover securely in place.

B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

1. Protect base of walls from rain-splashed mud and mortar splatter by coverings spread on ground and over wall surface.

C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit masonry damaged by frost or freezing conditions. Comply with the following requirements:

1. Cold Weather Construction: When the ambient temperature is within the limits indicated, use the following procedures:

   a. 40 to 32 deg F (4 to 0 deg C): Heat mixing water or sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C)

   b. 32 to 25 deg F (0 to -4 deg C): Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C). Heat grout materials to produce grout temperatures between 40 and 120 deg F (4 and 49 deg C). Maintain mortar and grout above freezing until used in masonry.

   c. 25 to 20 deg F (-4 to -7 deg C): Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C). Heat grout materials to produce grout temperatures between 40 and 120 deg F (4 and 49 deg C). Maintain mortar and grout above freezing until used in masonry. Heat masonry units to 40 deg F (4 deg C) if grouting. Use heat on both sides of walls under construction.

   d. 20 deg F (-7 deg C) and Below: Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C). Heat grout materials to produce grout temperatures between 40 and 120 deg F (4 and 49 deg C). Maintain mortar and grout above freezing until used in masonry. Heat masonry units to 40 deg F (4 deg C). Provide enclosures and use heat on both sides of walls under construction to maintain temperatures above 32 deg F (0 deg C) within the enclosures.

2. Cold-Weather Protection: When the mean daily temperature is within the limits indicated, provide the following protection:

   a. 40 to 25 deg F (4 to -4 deg C): Cover masonry with a weather-resistant membrane for 48 hours after construction.
b. 25 to 20 deg F (-4 to -7 deg C): Cover masonry with insulating blankets or provide enclosure and heat for 48 hours after construction to prevent freezing. Install wind breaks when wind velocity exceeds 15 mi./h (25 km/h).

c. 20 deg F (-7 deg C) and Below: Provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for 48 hours after construction.

3. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried out, but not less than 7 days after completion of cleaning.

D. Hot-Weather Requirements: Protect unit masonry work when temperature and humidity conditions produce excessive evaporation of water from mortar and grout. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100 deg F (38 deg C) and above.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:

1. Brick:
   a. Glen-Gery Corporation.
   b. Belden Brick Company.
   c. Or approved equal.

2. Portland Cement, Mortar Cement, Masonry Cement, and Lime:
   a. Essroc Materials, Inc.
   b. Glen-Gery Corporation.
   c. Lafarge Corporation.
   d. Lehigh Portland Cement Co.
   e. Riverton Corporation (The).
   f. Or approved equal.

3. Mortar Pigments:
   a. Davis Colors.
   b. Lafarge Corporation.
   c. Solomon Grind-Chern Services, Inc.
   d. Or approved equal.

4. Joint Reinforcement, Ties, and Anchors:
a. Dur-O-Wal, Inc.
b. Masonry Reinforcing Corp. of America,
d. Or approved equal.

2.2 BRICK

A. General: Provide shapes indicated and as follows for each form of brick required.
   1. Provide units without cores or frogs and with exposed surfaces finished for ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces.

B. Provide special shapes for applications requiring brick of size, form, color, and texture on exposed surfaces that cannot be produced by sawing.
   1. Provide special shapes for applications where stretcher units cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes, and lintels.
   2. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

C. Face Brick: ASTM C 216 and as follows:
   1. Grade and Unit Compressive Strength: Provide units with grade and minimum average net-area compressive strength indicated below:
      a. Grade: SW.
      b. Not less than the unit compressive strengths required to produce clay masonry construction of compressive strength indicated.
   2. Initial Rate of Absorption: Between 5 and 20 g/30 sq. in. (g/194 sq. cm) per minute when tested per ASTM C 67.
   3. Surface Coloring: Brick with surface coloring other than flashed or sand-finished brick, shall withstand 50 cycles of freezing and thawing per ASTM C 67 with no observable difference in the applied finish when viewed from 10 feet (3 m).
   4. Type: FBX.
   5. Size: Bricks manufactured to the following actual dimensions within tolerances specified in ASTM C 216:
      a. Standard: 3-1/2 to 3-5/8 inches (89 to 92 mm) thick by 2-1/4 inches (57 mm) high by 8 inches (203 mm) long.
   6. Application: Use where brick is exposed, unless otherwise indicated.
   7. Color and Texture: Match Resident Engineer’s samples.

2.3 MORTAR AND GROUT MATERIALS
A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

B. Masonry Cement: ASTM C 91.
   1. For pigmented mortars use premixed colored masonry cements of formulation required to produce color indicated, or if not indicated, as selected from manufacturer’s standard formulations. Pigments shall not exceed 5 percent of masonry cement by weight for mineral oxides nor 1 percent for carbon black.
   2. For colored-aggregate mortars, use masonry cement of natural color or white as required to produce mortar color indicated.

C. Hydrated Lime: ASTM C 207, Type S.

D. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C 150, Type I or Type III and hydrated lime complying with ASTM C 207.
   1. For pigmented mortars, use colored portland cement-lime mix of formulation required to produce color indicated, or if not indicated, as selected from manufacturer’s standard formulations. Pigments shall not exceed 10 percent of portland cement by weight for mineral oxides nor 2 percent for carbon black.

E. Aggregate for Mortar: ASTM C 144; except for joints less than 1/4 inch (6.5 mm), use aggregate graded with 100 percent passing the No. 16 (1.18 mm) sieve.
   1. White-Mortar Aggregates: Natural white sand or ground white stone.
   2. Colored-Mortar Aggregates: Natural-colored sand or ground marble, granite, or other sound stone, as required to match Resident Engineer’s sample.

F. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortar.

G. Cold-Weather Admixture: Non-chloride, non-corrosive, accelerating admixture complying with ASTM C 494, Type C, and recommended by the manufacturer for use in masonry mortar of composition indicated.

H. Water: Potable.

L. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following (approved equals will also be accepted):
   1. Colored Masonry Cement:
      a. Brixment-in-Color; Essroc Materials, Inc.
      b. Centurion Colorbond; Lafarge Corporation.
      c. Lehigh Custom Color Masonry Cement; Lehigh Portland Cement Co.
      d. Flamingo Color Masonry Cement; Riverton Corporation (The).
2. Colored Portland Cement-Lime Mix:
   a. Color Mortar Blend; Glen-Gery Corporation.
   b. Centurion Colorbond PL; Lafarge Corporation.
   c. Lehigh Custom Color Portland/Lime; Lehigh Portland Cement Co.
   d. Riverton Portland Cement Lime Custom Color; Riverton Corporation (The).

3. Mortar Pigments:
   a. True Tone Mortar Colors; Davis Colors.
   b. Centurion Pigments; Lafarge Corporation.
   c. SGS Mortar Colors; Solomon Grind-Chern Services, Inc.

4. Cold-Weather Admixture:
   a. Accelguard 80; Euclid Chemical Co.
   b. Morset; Grace: W.R. Grace & Co.

5. Water-Repellent Admixture:
   a. Dry-Block Mortar Admixture; Grace: W.R. Grace & Co.

J. Latex additive (water emulsion) described below, serving as replacement for pan or all of gaging water, of type specifically recommended by latex additive manufacturer for use with job-mixed portland cement and aggregate and not containing a retarder.

1. Latex Additive: Acrylic resin.

2.4 TIES AND ANCHORS, GENERAL

A. General: Provide corrugated ties and anchors specified in subsequent articles that comply with requirements for metal and size of this Article, unless otherwise indicated.

1. Stainless-Steel Sheet: ASTM A 167, Type 304 or 316.
2. 0.0625 inch (1.6 mm) minimum thickness.

2.5 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Pre-molded filler strips complying with ASTM D 1056, Type 2, Class A, Grade 1; compressible up to 35 percent; of width and thickness as required; formulated from the following material:

1. Neoprene.
2. Urethane.
3. Polyvinyl chloride.

2.6 MASONRY CLEANERS
A. Job-Mixed Detergent Solution: Solution of 1/2-cup (0.14-L) dry measure tetrasodium polyphosphate and 1/2-cup (0.14-L) dry measure laundry detergent dissolved in 1 gal. (4 L) of water.

B. Proprietary Acidic Cleaner: Manufacturer’s standard-strength, general-purpose cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry surfaces of type indicated below without discoloring or damaging masonry surfaces; expressly approved for intended use by manufacturer of masonry units being cleaned.

1. For masonry not subject to metallic oxidation stains, use formulation consisting of a concentrated blend of surface-acting acids, chelating, and wetting agents.
2. For dark-colored masonry not subject to metallic oxidation stains, use formulation consisting of a liquid blend of surface-acting acids and special inhibitors.
3. For masonry subject to metallic oxidation stains, use formulation consisting of a liquid blend of organic and inorganic acids and special inhibitors.
4. Available Products: Subject to compliance with requirements, products that may be used to clean unit masonry surfaces include, but are not limited to, the following:

   a. 202 New Masonry Detergent; Diedrich Technologies, Inc.
   b. 200 Lime Solv; Diedrich Technologies, Inc.
   c. 202V Vana-Stop; Diedrich Technologies, Inc.
   d. Sure Klean No. 600 Detergent; ProSoCo, Inc.
   e. Sure Klean No. 101 Lime Solvent; ProSoCo., Inc.
   f. Sure Klean Vana Trol; ProSoCo, Inc.
   g. Or approved equal.

2.7 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

   1. Do not use calcium chloride in mortar or grout.
   2. Add cold-weather admixture (if used) at the same rate for all mortar, regardless of weather conditions, in order to ensure that mortar color is consistent.

B. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification, for types of mortar indicated below:

   1. Limit cementitious materials in mortar to portland cement and lime. Type: S.

C. Pigmented Mortar: Select and proportion pigments with other ingredients to produce color required.

   1. Limit pigments to the following percentages of cement content by weight:

      a. For mineral oxide pigments and portland cement-lime mortar, not more than 10 percent.
b. For carbon-black pigment and portland cement-lime mortar, not more than 2 percent.
c. For mineral oxide pigments and masonry cement mortar, not more than 5 percent.
d. For carbon-black pigment and masonry cement mortar, not more than 1 percent.

D. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates combined with selected cementitious materials.

I. Mix to match existing adjoining mortar.

E. Latex-Modified Portland Cement Setting-Bed Mortar: Proportion and mix Portland cement, aggregate, and latex additive for setting bed to comply with directions of latex additive manufacturer and as necessary to produce stiff mixture with a moist surface when bed is ready to receive pavers.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of unit masonry. Do not proceed with installation until unsatisfactory conditions have been corrected.

1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of unit masonry.

B. Examine rough-in and built-in construction to verify actual locations of piping connections prior to installation.

3.2 INSTALLATION, GENERAL

A. Thickness: Build walls and other masonry construction to the full thickness shown.

B. Cut masonry units with motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining construction. Use full-size units without cutting, where possible. Allow units cut with water-cooled saws to dry before placing, unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

C. Mix units for exposed unit masonry from several pallets or cubes as they are placed to produce uniform blend of colors and textures.

D. Wetting of Brick: Wet brick prior to laying if the initial rate of absorption exceeds 30 g/30 sq. in (g/194 sq. cm) per minute when tested per ASTM C 67. Allow units to absorb the water so they are damp but not wet at the time of laying.
3.3 CONSTRUCTION TOLERANCES

A. Variation from Plumb: For vertical lines and surfaces of columns, walls, and arrises, do not exceed 1/4 inch in 10 feet (6 mm in 3 m), nor 3/8 inch in 20 feet (10 mm in 6 m), nor 1/2 inch in 40 feet (12 mm in 12 m) or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 2 m), nor 1/2 inch in 40 feet (12 mm in 12 m) or more. For vertical alignment of head joints, do not exceed plus or minus 1/4 inch in 10 feet (6 mm in 3 m), nor 1/2 inch (12 mm) maximum.

B. Variation from Level: For bed joints and lines of exposed horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 6 m), nor 1/2 inch in 40 feet (12 mm in 12 m) or more. For top surface of bearing walls, do not exceed 1/8 inch (3 mm) in 10 feet (3 m), nor 1/16 inch (1.5 mm) within width of a single unit.

C. Variation in Cross-Sectional Dimensions: For columns and thickness of walls, from dimensions shown, do not exceed minus: 1/4 inch (6 mm) nor plus 1/2 inch (12 mm).

D. Variation in Mortar-Joint Thickness: Do not vary from bed-joint thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm). Do not vary bed-joint thickness from bed-joint thickness of adjacent course by more than 1/8 inch (3 mm). Do not vary from head-joint thickness indicated by more than plus or minus 1/8 inch (3 mm). Do not vary head-joint thickness from adjacent head-joint thickness by more than 1/8 inch (3 mm). Do not vary from collar-joint thickness indicated by more than minus 1/4 inch (6 mm) or plus 3/8 inch (10 mm).

3.4 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint widths and for accurate locating of openings, movement-type joints, returns, and offsets. Avoid the use of less-than-half-size units at comers, jambs, and where possible at other locations.

B. Lay walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other construction.

C. Bond Pattern for Exposed Masonry: Lay exposed masonry in the following bond pattern; do not use units with less than nominal 4-inch (100-mm) horizontal face dimensions at corner or jambs.

1. Flemish bond unless otherwise indicated.

D. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 2 inches (50 mm). Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.

E. Stopping and Resuming Work: In each course, rack back 1/2-unit length for one-half running bond or 1/3-unit length for one-third running bond; do not tooth. Clean expose if
surfaces of set masonry, wet clay masonry units lightly if required, and remove loose masonry units and mortar prior to laying fresh masonry.

F. Built-in Work: As construction progresses, build-in items specified under this and other Sections of the Specifications. Fill in solidly with masonry around built-in items.

G. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod mortar or grout into core.

3.5 MORTAR BEDDING AND JOINTING

A. Lay solid brick-size masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not furrow bed Joints or slush head joints.

B. Set stone units in full bed of mortar with vertical joints slushed full. Fill dowel, anchor, and similar holes solid. Wet stone-joint surface thoroughly before setting; for stone surfaces that are soiled, clean bedding and exposed surfaces with fiber brush and soap powder and rinse thoroughly with clear water.

C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated.

D. Provide Firestopping where required, as determined by DOHMH in its sole discretion, in all fire rated brick masonry partitions.

3.6 BRICK PAVER INSTALLATION

A. Saturate concrete subbase with clean water several hours before placing setting bed. Remove surface water about one hour before placing setting bed.

B. Apply cement-paste slush coat over surface of concrete subbase about 15 minutes prior to placing setting bed. Limit area of slush coat to avoid its drying out prior to placing setting bed. Do not exceed 1/16-inch (1.6-mm) thickness for cement slush coat.

C. Apply mortar setting bed over cement-paste slush coat immediately after latter has been applied. Spread and screed setting bed to uniform thickness at subgrade elevations required for accurate setting of pavers to finished grades indicated.

D. Mix and place only that amount of mortar setting bed that can be covered with pavers prior to initial set. Cut back, bevel edge, remove, and discard setting-bed material that has reached initial set prior to placing pavers.

1. Place reinforcing wire fabric over membrane protection course, lapped at joints by at least one full mesh and supported so that the mesh becomes embedded in the middle of setting bed. Do not bun edges against vertical surfaces.

E. Wet brick pavers prior to laying if the initial rate of absorption exceeds 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested per ASTM C 67. Allow units to absorb the water so that they are damp but not wet at the time of laying.
F. Place pavers before initial set of cement occurs. Immediately prior to placing pavers on green or wet setting bed, apply uniform 1/16-inch- (1.5-mm-) thick slurry bond coat to bed or to back of each paver with a flat trowel.

G. Tamp and beat pavers with a wooded block or rubber mallet to obtain full contact with setting bed and to bring finished surfaces within indicated tolerances: Set each paver in a single operation prior to initial set of mortar; do not return to areas already set and disturb pavers for purposes of realigning finished surfaces or adjusting joints.

H. Spaced joint Widths: Provide nominal joint width of 3/8 inch (10 mm), with variations not exceeding plus or minus 1/16 inch (1.5 mm).

I. Spaced Point Widths: Provide nominal joint width indicated with variations not exceeding plus or minus 1/8 inch (3 mm).

J. Grout joints as soon as possible after initial set of setting bed. Force grout into joints, taking care not to smear grout on adjoining pavers and other surfaces. After initial set of grout, finish joints by tooling to produce a slightly concave polished joint, free from drying cracks.

K. Cure grout by, maintaining in a damp condition for 7 days, except as otherwise recommended by latex additive manufacturer.

3.7 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or if units do not match adjoining units. Install new units to match adjoining units; install in, fresh mortar or grout, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point-up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for application of sealants.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears prior to tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain RE/PM’s approval of sample cleaning before proceeding with cleaning of masonry.
3. Protect adjacent stone and non-masonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
4. Wet wall surfaces with water prior to application of cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
5. Clean brick by bucket and brush hand-cleaning method described in BIA Technical Note No. 20 Revised, using the following masonry cleaner:
   b. Proprietary acidic cleaner, applied in compliance with directions of acidic cleaner manufacturer.
6. Clean limestone units to comply with recommendations in the “Indiana Limestone Handbook” of the Indiana Limestone Institute of America.

E. Protection: Provide final protection and maintain conditions that ensure unit masonry is without damage and deterioration at time of Substantial Completion.

3.8 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>04 21 13-1</td>
<td>Furnish and install brick unit masonry partition.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 21 13-2</td>
<td>Furnish and install brick paving.</td>
<td>Per sq. ft.</td>
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</tbody>
</table>

B. Prices paid for brick partitions and paying shall include all required reinforcing, anchorage, attachments, accessories, grouts, firestopping mixtures, setting, cleaning, protection and any other items required to complete the installation.

[END OF SECTION 04 21 13]
SECTION 04 43 00 – STONE MASONRY

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide stone masonry work in accordance with the Contract Documents. This Section includes the following:

1. Stone panels stone trim (such as decorative stone trim, cornice work, water table, base trim, etc.) and paving.

B. Related Sections include but not limited to the following:

1. Division 5 Section “Metal Fabrications”
2. Division 8 Section “Hollow Metal Doors and Frames”
3. Division 4 Section “Masonry Cleaning”

1.2 SUBMITTALS

A. Product data for each different stone masonry unit accessory and other manufactured product specified.

B. Samples for verification of the following:

1. Full-size units for each different exposed stone masonry unit required showing the full range of exposed colors, textures, and dimensions to be expected in the completed construction.
2. Accessories embedded in the masonry.
3. Stone samples not less than 12 inches in length showing the full range of colors and textures expected in the finished construction.

C. Shop drawings for stone trim in the form of cutting and setting drawings showing sizes, profiles, and locations of each stone trim until required.

D. Calculations: Submit calculations for stone panel anchorage systems that are signed and sealed by a New York State licensed Professional Engineer and certified that anchorage system is in compliance with New York City Building Code.

E. Design stone anchors and anchoring systems according to ASTM C 1242 or New York City Building Code whichever is more stringent.

1.3 QUALITY ASSURANCE

A. Single-Source Responsibility for Stone Units: Obtain exposed stone units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one source and by a single manufacturer for each different product required.
B. Single-Source Responsibility for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source or producer for each aggregate.

C. Mockup: Prior to installing stone, construct 2 foot by 2 foot sample wall panels to verify selections made under sample submittals and to demonstrate aesthetic effects of materials and execution. Build mockups to comply with the following requirements, using materials indicated for final unit of Work.

1. Notify RE/PM one week in advance of the dates and times when mockups will be constructed.
2. Protect accepted mockups from the elements with weather-resistant membrane.
3. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
   a. Acceptance of mockups is for color, texture, and blending of masonry units: relationship of mortar and sealant colors to masonry unit colors: tooling of joints; aesthetic qualities of workmanship; and other material and construction qualities specifically approved by RE/PM in writing.
   b. Acceptance of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved by RE/PM in writing.
   c. When directed demolish and remove mock-ups from Project site.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store stone and related materials on elevated platforms, under cover, and in a dry location to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and other causes. If units become wet do not install until they are in an air-dried condition.

B. Store 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 masonry accessories, including metal items to prevent corrosion and accumulation of dirt and oil.

1.5 PROJECT CONDITIONS

A. Protection: During erection, cover tops of walls, projections, and sills with waterproof sheeting at end of each day’s work. Cover partially completed masonry when construction is not in progress:

1. Extend cover a minimum of 24 inches (600 mm) down both sides and hold cover securely in place.
B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of stonework to be left exposed. Immediately remove grout, mortar, and soil that come in contact with such stonework.

1. Protect base of walls from rain-splashed mud and mortar splatter by coverings spread on ground and over wall surface.

C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit masonry damaged by frost or freezing conditions. Comply with the following requirements:

1. Cold-Weather Construction: When the ambient temperature is within the limits indicated use the following procedures:

   a. 40 to 32 deg F (4 to 0 deg C): Heat mixing water or sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C).
   b. 32 to 25 deg F (0 to -4 deg C): Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C). Heat grout materials to produce grout temperatures between 40 and 120 deg F (4 and 49 deg C). Maintain mortar and grout above freezing until used in masonry.
   c. 25 to 20 deg F (-4 to -7 deg C): Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C): Heat grout materials to produce grout temperatures between 40 and 120 deg F (4 and 49 deg C). Maintain mortar and grout above freezing until used in masonry. Heat masonry units to 40 deg F (4 deg C) if grouting. Use heat on both sides of walls under construction.
   d. 20 deg F (-7 deg C) and Below: Heat mixing water and sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C). Heat grout materials to produce grout temperatures between 40 and 120 deg F (4 and 49 deg C). Maintain mortar and grout above freezing until used in masonry. Heat masonry units to 40 deg F (4 deg C). Provide enclosures and use heat on both sides of walls under construction to maintain temperatures above 32 deg F (0 deg C) within the enclosure.

2. Cold-Weather Protection: When the mean daily temperature is within the limits indicated provide the following protection:

   a. 40 to 25 deg F (4 to -4 deg C): Cover masonry with a weather-resistant membrane for 48 hours after construction.
   b. 25 to 20 deg F (-4 to -7 deg C): Cover masonry with insulating blankets or provide enclosure and heat for 48 hours after construction to prevent freezing. Install window breaks when wind velocity exceeds 15 mi./h (25 km/h).
   c. 20 deg F (-7 deg C') and Below: Provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for 48 hours after construction.
3. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried out, but not less than 7 days after completion of cleaning.

D. Hot-Weather Requirements: Protect stonework when temperature and humidity conditions produce excessive evaporation of water from mortar and grout. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100 deg F (38 deg C) and above.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:

1. Portland Cement, Mortar Cement, Masonry Cement, and Lime:
   a. Essroc Materials, Inc.
   b. Glen-Gery Corporation.
   c. Lafarge Corporation.
   d. Lehigh Portland Cement Co.
   e. Riverton Corporation (The).
   f. Or approved equal.

2. Mortar Pigments:
   a. Davis Colors.
   b. Lafarge Corporation.
   c. Solomon Grind-Chern Services, Inc.
   d. Or approved equal.

3. Joint Reinforcement, Ties, and Anchors:
   a. Dur-O-WaC Inc.
   b. Masonry Reinforcing Corp. of America.
   d. Or approved equal.

2.2 STONE

A. Limestone: Indiana oolitic limestone as quarried in Lawrence, Monroe, and Owen counties, Indiana: complying with AS1M C 568, Category II (medium density): and matching standards of the Indiana Limestone Institute of America (ILI) for the following:

1. Grade and Color: Select, buff and matching adjacent building.
2. Finish: Sawn.
B. Bluestone: ASTM C 616, and equal to North River Bluestone as manufactured by Heldaberg Bluestone and Marble or approved equal.

1. Finish: Natural cleft face with diamond rubbed finish unless otherwise indicated.
2. Color: Light grey-blue.

C. Cut stone accurately to shape and dimensions indicated, with exposed faces dressed true, beds, and joints at right angles to face: comply with ILI and NBGQA fabricating tolerances.

2.3 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C 150. Type I or II except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

B. Masonry Cement: ASTM C 91.

1. For pigmented mortars use premixed, colored masonry cements of formulation required to produce color indicated, or if not indicated, as selected from manufacturer’s standard formulations. Pigments shall not exceed 5 percent of masonry cement by weight for mineral oxides nor 1 percent for carbon black.
2. For colored-aggregate mortars, use masonry cement of natural color or white as required to produce mortar color indicated.

C. Hydrated Lime: ASTM C 207, Type S.

D. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C 150 Type I or Type III, and hydrated lime complying with ASTM C 207.

1. For pigmented mortars, use colored portland cement-lime mix of formulation required to produce color indicated, or if not indicated, as selected from manufacturer’s standard formulations. Pigments shall not exceed 10 percent of portland cement by weight for mineral oxides nor 2 percent for carbon black.

E. Aggregate for Mortar: ASTM C 144: except for joints less than 1/4 inch (6.5 mm), use aggregate graded with 100 percent passing the No. 16 (1.18 mm) sieve.

1. White-Mortar Aggregates: Natural white sand or ground white stone.
2. Colored-Mortar Aggregates: Natural-colored sand or ground marble, granite, or other sound stone, as required to match RE/PM’s sample.

F. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.

G. Cold-Weather Admixture: Non-chloride, non-corrosive, accelerating admixture complying with ASTM C 494, Type C and recommended by the manufacturer for use in masonry mortar of composition indicated.

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H. Water: Potable.

I. Available Products: Subject to compliance with requirements products that may be incorporated in the Work include but are not limited to the following:

1. Colored Masonry Cement:
   a. Brixment-in-Color; Essroc Materials, Inc.
   b. Centurion Colorbond; Lafarge Corporation.
   c. Lehigh Custom Color Masonry Cement; Lehigh Portland Cement Co.
   d. Flamingo Color Masonry Cement; Riverton Corporation (The).
   e. Or approved equal.

2. Colored Portland Cement-Lime Mix:
   a. Color Mortar Blend; Glen-Gery Corporation.
   b. Centurion Colorbond PL; Lafarge Corporation.
   c. Lehigh Custom Color Portland/Lime; Lehigh Portland Cement Co.
   d. Riverton Portland Cement Lime Custom Color; Riverton Corporation (The).
   e. Or approved equal.

3. Mortar Pigments:
   a. True Tone Mortar Colors; Davis Colors.
   b. Centurion Pigments; Lafarge Corporation.
   c. SGS Mortar Colors; Solomon Grind-Chern Services, Inc.
   d. Or approved equal.

4. Cold-Weather Admixture:
   a. Accelguard 80; Euclid Chemical Co.
   b. Morsel; Grace; W.R. Grace & Co.
   c. Or approved equal.

5. Water-Repellent Admixture:
   a. Dry-Block Mortar Admixture; Grace; W.R. Grace & Co.
   b. Or approved equal.

J. Latex additive (water emulsion) described below serving as replacement for part or all of gaging water, of type specifically recommended by latex additive manufacturer for use with job-mixed portland cement and aggregate and not containing a retarder.

1. Latex Additive: Acrylic resin.

2.4. TIES AND ANCHORS, GENERAL

A. Fabricate anchors, including cramps, dowels; and shelf angles, from stainless steel, ASTM A 666, Type 304, temper as required to support loads imposed without exceeding
allowable design stresses. Fasteners for Stainless-Steel Anchors: Annealed stainless-steel bolts, nuts, and washers; ASTM F 593 for bolts and ASTM F 594 for nuts, Alloy Group IAI.

2.5 MISCELLANEOUS ANCHORS

A. Dowels and Anchors: Provide dowels and attachments of type and size required to support stonework and fabricated from the following metals for conditions and anchors indicated below:

1. Stainless Steel, AISI Type 304, for anchors in direct contact with stone.

2.6 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Type 2, Class A, Grade 1; compressible up to 35 percent; of width and thickness as required; formulated from the following material:

1. Neoprene.
2. Urethane.
3. Polyvinyl chloride.

2.7 MASONRY CLEANERS

A. Job-Mixed Detergent Solution: Solution of 1/2-cup (0.14-L) dry measure tetrasodium polyphosphate and 1/2-cup (0.14-L) dry measure laundry detergent dissolved in 1 gal. (4 L) of water.

B. Proprietary Acidic Cleaner: Manufacturer’s standard-strength, general-purpose cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry surfaces of type indicated below without discoloring or damaging masonry surfaces; expressly approved for intended use by manufacturer of masonry units being cleaned.

1. For masonry not subject to metallic oxidation stains, use formulation consisting of a concentrated blend of surface-acting acids, chelating, and wetting, agents.
2. For dark-colored masonry not subject to metallic oxidation stains, use formulation consisting of a liquid blend of surface-acting acids and special inhibitors.
3. For masonry subject to metallic oxidation stains, use formulation consisting of a liquid blend of organic and inorganic acids and special inhibitors.
4. Available Products: Subject to compliance with requirements, products that may be used to clean unit masonry surfaces include, but are not limited to, the following:

   a. 202 New Masonry Detergent; Diedrich Technologies, Inc.
   b. 200 Lime Solv; Diedrich Technologies, Inc.
   c. 202V Vana-Stop; Diedrich Technologies, Inc.
   d. Sure Klean No. 600 Detergent; ProSoCo, Inc.
   e. Sure Klean No. 101 Lime Solvent; ProSoCo., Inc.
   f. Sure Klean Vana Trol; ProSoCo, Inc.
g. Or approved equal.

2.8 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Add cold-weather admixture (if used) at the same rate for all mortar, regardless of weather conditions, in order to ensure that mortar color is consistent.

B. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification, for types of mortar indicated below:

1. Limit cementitious materials in mortar to portland cement and lime. Type: S.

C. Pigmented Mortar: Select and proportion pigments with other ingredients to produce color required.

1. Limit pigments to the following percentages of cement content by weight:
   a. For mineral oxide pigments and portland cement-lime mortar, not more than 10 percent.
   b. For carbon-black pigment and portland cement-lime mortar, not more than 2 percent.
   c. For mineral oxide pigments and masonry cement mortar, not more than 5 percent.
   d. For carbon-black pigment and masonry cement mortar not more than 1 percent.

D. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates combined with selected cementitious materials.

1. Mix to match existing adjoining mortar.

E. Latex-Modified Portland Cement Setting-Bed Mortar: Proportion and mix Portland cement, aggregate, and latex additive for setting bed to comply with directions of latex additive manufacturer and as necessary to produce stiff mixture with a moist surface when bed is ready to receive pavers.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of unit masonry. Do not proceed with installation until unsatisfactory conditions have been corrected.
1. For the record prepare written report, endorsed by Installer, listing conditions detrimental to performance of unit masonry.

B. Examine rough-in and built-in construction to verify actual locations of piping connections prior to installation.

3.2 CONSTRUCTION TOLERANCES

A. Variation from Plumb: For vertical lines and surfaces of columns, walls, and arrises, do not exceed 1/4 inch in 10 feet (6 mm in 3 m), nor 3/8 inch in 20 feet (10 mm in 6 m), nor 1/2 inch in 40 feet (12 mm in 12 m) or more. For external comers, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 6 m), nor 1/2 inch in 40 feet (12 mm in 12 m) or more. For vertical alignment of head joints, do not exceed plus or minus 1/4 inch in 10 feet (6 mm in 3 m), nor 1/2 inch (12 mm) maximum.

B. Variation from Level: For bed joints and lines of exposed horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 6 m), nor 1/2 inch in 40 feet (12 mm in 12 m) or more. For top surface of bearing walls, do not exceed 1/8 inch (3 mm) in 10 feet (3 m), nor 1/16 inch (1.5 mm) within width of a single unit.

C. Variation in Cross-Sectional Dimensions: For columns and thickness of walls, from dimensions shown, do not exceed minus 1/4 inch (6 mm) nor plus 1/2 inch (12 mm).

D. Variation in Mortar-Joint Thickness: Do not vary from bed-joint thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm). Do not vary bed-joint thickness from bed-joint thickness of adjacent course by more than 1/8 inch (3 mm). Do not vary from head-joint thickness indicated by more than plus or minus 1/8 inch (3 mm). Do not vary head-joint thickness from adjacent head-joint thickness by more than 1/8 inch (3 mm). Do not vary from collar-joint thickness indicated by more than minus 1/4 inch (6 mm) or plus 3/8 inch (10 mm).

3.3 MORTAR BEDDING AND JOINTING

A. Set stone units in full bed of mortar with vertical joints slushed full. Fill dowel, anchor, and similar holes solid. Wet stone-joint surface thoroughly before setting; for stone surfaces that are soiled, clean bedding and exposed surfaces with fiber brush and soap powder and rinse thoroughly with clear water.

B. Tool exposed joints slightly concave when thumbprint hard using a jointer larger than joint thickness, unless otherwise indicated.

3.4 SETTING STONE

A. Execute stonework by skilled mechanics, and employ skilled stone fillers at the site to do necessary field cutting as stones are set.

1. Where field culling is required use power saws to cut stones; for exposed edges, produce edges which are cut straight and true.
B. Contiguous Work: Provide chases, reveals, reglets, openings and other spaces as indicated for accommodating contiguous work. Close-up openings in stonework after other work is in place with stonework which matches that already set. Build in stainless steel flashing and weep holes.

C. Set stones to comply with requirements indicated on drawings and final shop drawings. Install anchors, supports, fasteners and other attachments indicated or necessary to secure stonework in place. Shim and adjust anchors, supports and accessories to set stones accurately in locations indicated with uniform joints of widths indicated and with edges and faces aligned according to established relationships and indicated tolerances.

D. Construction Tolerances: Set stones to comply with the following tolerances:

1. Variation from Plumb: For lines and surfaces and arrises, do not exceed 1/4” in 10”.
2. Variation from Level: For grades indicated for horizontal grooves and other conspicuous lines, do not exceed 1/2” in any bay or 20’ maximum, nor 3/4” in 40’ or more.
3. Variation of Linear Building Line: For position shown in plan, do not exceed 1/2” in any bay or 20’ maximum, nor 3/4” in 40’ or more.
4. Variation in Cross-Sectional Dimensions: From dimensions indicated, do not exceed minus 1/4”, nor plus 1/2”.

E. Provide expansion joints, control joints and pressure relieving joints of widths and at locations indicated.

1. Sealing expansion and other joints is specified in Division-7 Section “Joint Sealers.”
2. Do not fill with mortar.

F. Wet stones which are dry at time of setting by drenching or sponging them with water.

G. Set stones in full bed of mortar with vertical joints slushed full, unless otherwise indicated.

1. Place setting buttons of adequate size, in sufficient quantity, and of same thickness as indicated joint width, to prevent mortar from squeezing out and to maintain uniform joint widths. Hold buttons at least one joint width back from face of stones.
2. Do not set heavy stones or projecting courses until mortar in courses below has hardened sufficiently to resist being squeezed out of joint.
3. Fill anchor holes with mortar.

H. Rake out mortar from joints to depths equal to 2-1/2 times their widths but not less than 1/2” nor less than that required to expose sound mortar for joints pointed with mortar, or to provide sufficient depth for sealant and sealant backing for joints pointed with sealants.

I. Prepare stone joint surfaces for pointing with mortar by removing dust and mortar particles. Where setting mortar was removed to depths greater than surrounding areas, apply first layer of pointing mortar in layers not greater than 3/8” until a uniform depth is
formed; compact each layer thoroughly and allow to become thumbprint hard before applying next layer.

J. Point stone joints by placing pointing mortar in 3 layers with each of first and second layers filling approximately two-fifths of joint depth and third layer remaining one-fifth. Fully compact each layer and allow to become thumbprint hard before applying next layer.

K. Tool joints with a round joiner having a diameter 1/8” larger than width of joint, when pointing mortar is thumbprint hard.

3.5 STONE PAVER INSTALLATION

A. Saturate concrete subbase with clean water several hours before placing setting bed. Remove surface water about one hour before placing setting bed.

B. Apply cement-paste slush coat over surface of concrete subbase about 15 minutes prior to placing setting bed. Limit area of slush coat to avoid its drying out prior to placing setting bed. Do not exceed 1/16-inch (1.6-mm) thickness for cement slush coat.

C. Apply mortar setting bed over cement-paste slush coat immediately after latter has been applied. Spread and screed setting bed to uniform thickness at sub grade elevations required for accurate setting of pavers to finished grades indicated.

D. Mix and place only that amount of mortar setting bed that can be covered with pavers prior to initial set. Cut back, bevel edge, remove, and discard setting-bed material that has reached initial set prior to placing pavers.

E. Wet pavers prior to laying if the initial rate of absorption exceeds 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested per ASTM C 67. Allow units to absorb the water so that they are damp but not wet at the time of laying.

F. Place pavers before initial set of cement occurs. Immediately prior to placing pavers on green or wet setting bed, apply uniform 1/16-inch- (1.5-mm-) thick slurry bond coat to bed or to back of each paver with a flat trowel.

G. Tamp and beat pavers with a wooden block or rubber mallet to obtain full contact with setting bed and to bring finished surfaces within indicated tolerances. Set each paver in a single operation prior to initial set of mortar; do not return-to areas already set and disturb pavers for purposes of realigning finished surfaces or adjusting joints.

H. Spaced Joint Widths: Provide nominal joint width of 3/8 inch (10 mm), unless otherwise indicated, with variations not exceeding plus or minus 1/16 inch (1.5 mm).

I. Grout joints as soon as possible after initial set of setting bed. Force grout into joints, taking care not to smear grout on adjoining pavers and other surfaces. After initial set of grout, finish joints by tooling to produce a slightly concave polished joint, free from drying cracks.
J. Cure grout by maintaining in a damp condition for 7 days except as otherwise recommended by latex additive manufacturer.

3.6 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or if units do not match adjoining units. Install new units to match adjoining units; install in fresh mortar or grout, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point-up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for application of sealants.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears prior to tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Resident Engineer’s approval of sample cleaning before proceeding with cleaning of masonry.
3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent. Polyethylene film, or waterproof masking tape.
4. Wet wall surfaces with water prior to application or cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
5. Clean limestone units to comply with recommendations in the “Indiana Limestone Handbook” of the Indiana Limestone Institute of America.

E. Protection: Provide final protection and maintain conditions that ensure unit masonry is without damage and deterioration at time of Substantial Completion.

3.7 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>04 43 00-1</td>
<td>Furnish and install limestone panels – up to and including 2” thick.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 43 00-2</td>
<td>Furnish and install bluestone paving – up to and including 2” thick.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>
B. Prices paid shall include all ties, anchors, mortar, setting, grout, jointing and any other items required for a complete installation including edge treatment of panels, paving, trim and curbs.

[END OF SECTION 04 43 00]
SECTION 04 52 00 – MASONRY CLEANING

PART 1 – GENERAL

1.1 SUMMARY

A. Work included: Provide all labor and materials for interior and exterior masonry cleaning in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. General cleaning of brick masonry using chemical cleaners and pressurized water rinse.
2. General cleaning of interior stone masonry using chemical cleaners and pressurized water rinse.
3. General cleaning of granite or sandstone masonry using chemical cleaners and pressurized water rinse.
4. Clean biological growth from exterior masonry using chemical cleaners, biocides, and low pressure water rinses.
5. Remove efflorescence and gypsum crusts from masonry using poultices and water misting.
6. Protect pedestrian and vehicular traffic, adjacent materials and buildings, and building occupants and contents during cleaning.
7. Collect and properly dispose of all solid and liquid wastes in accordance with current governmental regulations.
8. Comply with OSHA, EPA and NYC DEP regulations.
9. Clean all masonry and stone surfaces as directed by the RE/PM or the AM representative. Surfaces shall include but not limited to walls, floors, ceilings, trim, baseboards, etc.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 4 “Maintenance of Masonry” – 04 01 00
2. Division 4 “Maintenance of Stone Assemblies” – 04 01 40
3. Division 4 “Unit Masonry” – 04 20 00
4. Division 4 “Brick Masonry” – 04 21 13
5. Division 4 “Stone Masonry” – 04 43 00

1.2 QUALITY ASSURANCE

A. All work shall be performed by skilled workers. The Contractor or sub-contractor performing the work of this section must have recently completed masonry cleaning projects similar in scope, material, and extent to those indicated by this section, and whose work has resulted in construction with a record of successful in-service performance (i.e. masonry cleaning on buildings that are considered to be landmark, landmark quality or buildings of equivalent historical or architectural significance).
B. The Contractor shall maintain a steady work crew made up of qualified workers and a full time foreman who reads and speaks fluent English. The Contractor shall confirm that all workers understand the job’s requirements.

C. Cleaning Standard: The Contractor shall prepare sample panels for approval by the RE/PM which shall form a standard for general masonry restoration and cleaning.

1. No test panels shall be made until the methods and locations are approved by the RE/PM.

D. Masonry cleaning shall be completed using approved methods which result in no damage to the historic masonry of the building, nor result in an excessively clean appearance.

E. Materials and methods shall conform to the “The Secretary of the Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.”

1.3 TESTING AND MOCK-UPS

A. Test Panels: Test panels for each cleaner, procedure and substrate specified herein will be prepared on wall surfaces ranging from one (1) square foot to twenty-five (25) square feet in area, at locations to be selected by the RE/PM.

1. RE/PM will be present during the creation of all test panels. Do not proceed with the work unless the RE/PM is present. Notify the RE/PM not less than forty-eight (48) hours in advance. Provide scaffolding as necessary for RE/PM’s close-up inspection of the test panels.

2. Provide protection during the testing phase.

3. All procedures, dwell times, concentrations, dilutions, and materials are subject to modification by the RE/PM during the testing process. The RE/PM will choose products to be used for cleaning the entire building based on the results of the test panels. Modifications of sequence, chemical dilution, substitute reagents, and equivalent procedures shall be executed at no additional cost to the City.

4. After the test panels are complete, wait seven (7) or more calendar days to allow for thorough drying prior to final evaluation.

5. Repeat demonstrations and testing procedures until the RE/PM’s requirements are satisfied.

B. No test panels shall be made until the methods and locations are approved by the RE/PM.

C. Field-Construction Mock-Ups: After the completion of the testing phase, and before general masonry cleaning begins, prepare mock-up panels on the building, as indicated, where directed by the RE/PM. Obtain the RE/PM’s written acceptance of visual qualities before proceeding with the work. Retain the approved panels, undisturbed and suitably marked, throughout construction, as a standard for judging completed work.

1. Mock-ups must be approved before the general work begins. The Contractor shall repeat samples until approved by the RE/PM. Upon approval, the test panels will remain the standard throughout the job and shall remain intact at the job site as a point of reference until the work of this section has been approved and accepted.
2. Provide protection during the mock-up phase.
3. All mock-ups will be a minimum of 5'-0" x 5'-0" except where specifically approved by the RE/PM.
4. Mock-ups shall be performed by the same foreman and workmen completing the general work.
5. All procedures, dwell times, concentrations, dilutions, and materials are subject to modification during the mock-up process. The RE/PM will modify the procedures as required for subsequent work. Modifications of sequence, chemical dilution, substitute reagents, and equivalent procedures shall be executed at no additional cost to the City.

1.4 SUBMITTALS

A. General: Submit the following in accordance with the provisions of the General Conditions.

B. Qualification Data: Submit qualification data for firms and persons specified in “Quality Assurance” Article to demonstrate their capabilities and experience. Bidders shall visit the site and make themselves familiar with job conditions.

C. Product Literature: The Contractor shall submit copies of the manufacturer’s technical data for each product including their recommendations for application and use. Include test reports and certificates that verify the product’s compliance with the specification’s requirements.

1. On Site Copy of Product Literature: one complete set of product literature shall be placed in a 3-ring, loose-leaf binder and shall be present on the job site at all times for the reference of the RE/PM.

D. Test Panels: Test panels for each cleaner, procedure and substrate specified herein will be done on wall surfaces ranging from one (1) square foot up to and including areas of twenty-five (25) square feet, at the discretion of the RE/PM and at locations to be selected by said RE/PM.

1. RE/PM will be present during the creation of all test panels. Do not proceed with the work unless the RE/PM is present. Notify the RE/PM not less than forty-eight (48) hours in advance. Provide scaffolding as necessary for RE/PM’s close-up inspection of the test panels.
2. Provide protection during the testing phase.
3. All procedures, dwell times, concentrations, dilutions, and materials are subject to modification by the RE/PM during the testing process. The RE/PM will choose products to be used for cleaning the entire building based on the results of the test panels. Modifications of sequence, chemical dilution, substitute reagents, and equivalent procedures shall be executed at no additional cost to the City.
4. After the test panels are complete, wait seven (7) or more calendar days to allow for thorough drying prior to final evaluation.
5. Repeat demonstrations and testing procedures until the RE/PM’s requirements are satisfied.
E. Methods of Protection: Before cleaning operations begin, the Contractor shall submit to the RE/PM a written description of the proposed materials and methods of protection. Protection is required for, but not limited to, the following: All metal, painted surfaces, wood, window glass, awnings and canopies, building occupants, pedestrian and vehicular traffic, plants and lawns, and nearby property and materials.

F. Waste Disposal Program: Before cleaning operations begin, the Contractor shall submit a written description of the proposed collection and disposal methods for each type of solid and liquid by-product generated during masonry cleaning.

G. Field-Construction Mock-Ups: When directed by the Architect or AM, after the completion of the testing phase, and before general masonry cleaning begins, prepare mock-up panels on the building, as indicated, where directed by the RE/PM. Obtain the RE/PM’s written acceptance of visual qualities before proceeding with the work. Retain the approved panels, undisturbed and suitably marked, throughout construction, as a standard for judging completed work.

1. Mock-ups must be approved before the general work begins. The Contractor shall repeat samples until approved by the RE/PM. Upon approval, the test panels will remain the standard throughout the job.

2. Provide protection during the mock-up phase.

3. All mock-ups will be a minimum of 5’-0” x 5’-0” except where specifically approved by the RE/PM.

4. Mock-ups shall be performed by the same foreman and workmen completing the general work.

5. All procedures, dwell times, concentrations, dilutions, and materials are subject to modification during the mock-up process. The RE/PM will modify the procedures as required for subsequent work. Modifications of sequence, chemical dilution, substitute reagents, and equivalent procedures shall be executed at no additional cost to the City.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the site in the manufacturer’s original, unopened containers and packaging, bearing product labels as to type, name, and manufacturer.

1.6 PROJECT CONDITIONS

A. Visitors to, and users of, the building, general pedestrian traffic and vehicular traffic shall be protected from all cleaning materials and their by-products, including liquids, solids, rinse water, overspray, and wind-carried spray. Cleaning materials may be harmful to people, materials, and animals.

B. Protection of Materials:

1. Protect, using extreme care, surrounding materials, buildings, plants, lawns, and landscape materials. Products used for cleaning stone may be harmful to metal, glass, and plants. Any damage to materials caused by the cleaning process is
unacceptable and shall be repaired to the satisfaction of the RE/PM at no cost to the City.

2. Provide protection from water damage to the building, its structure, and its contents.

C. Windows: The Contractor shall completely protect windows to remain, including sealant beads between frame and masonry opening and metal grilles, for the duration of the work. Any damage to windows shall be repaired by the Contractor to the complete satisfaction of the RE/PM at no additional cost to the City.

1.7 ENVIRONMENTAL CONDITIONS

A. Clean masonry surfaces only when the air temperatures are forecast to remain above 40 deg. F (4 deg. C) for seven (7) or more days.

B. No work shall begin when any part of the wall or materials are frozen or subject to freezing.

1.8 COLLECTION AND DISPOSAL OF WASTE PRODUCTS

A. General: Collect, test, and dispose of solid and liquid wastes in accordance with all applicable local, state, and federal regulations. Observe “Rules and Regulations Relating to the Use of the Public Sewers, Including Sewer Surcharges” as published by the New York City Department of Environmental Protection, Industrial Waste Control Section.

1. Protection and waste collection systems shall be in place before general cleaning begins.

2. Test all drains and other water removal systems to assure that drains and systems are functioning properly before cleaning operations begin. Notify the RE/PM immediately if any drains or system are stopped or blocked. The contractor shall repair drains if so directed by the RE/PM. Do not begin the work of this Section until the drains are in good working order.

3. Provide a method to prevent solids such as masonry residue tram entering the drains and drain lines. The Contractor shall be responsible for cleaning out any rain or drain line that becomes blocked or filled with sand or other solids because of work performed under this Contract.

PART 2 – PRODUCTS

2.1 CLEANING MATERIALS

A. General: Chemical materials shall be safe for use and not in violation of City, State, or Federal regulations.

B. Water for Cleaning: Potable.

C. Cleaner for interior marble shall be “Liquid Marble Cleaner,” manufactured by ProSoCo, Inc., Kansas City, KS, or approved equal.
D. Products for brick, granite, and sandstone masonry cleaning are as the following (or approved equal):

1. “HydroClean HT-626 Brick, Granite, Sandstone and Terra Cotta Cleaner” manufactured by Hydrochemical Techniques, Inc., Hartford, CT (203) 527-6350.
2. “Sure Clean Restoration Cleaner” manufactured by ProSoCo, Inc. Kansas City, KS.
3. “Heavy Duty Restoration Cleaner” manufactured by ProSoCo; Inc. Kansas City, KS.

E. Detergent cleaner shall be KRC Jon 417, available from Chemique, Inc., Moorestown, NJ, or approved equal.

F. Poultice shall be “MasonRE Pad Mark Remover and Poultice” by Cathedral Stone Products, Inc., Hanover, Maryland or “Marble Poultice, Marble Poultice Additive,” and “TI 087 Special Poultice Additive,” manufactured by ProSoCo, Inc., Kansas City, KS, or approved equal.

G. Biological Growth Remover: “Biological Stain Remover”, by ProSoCo, Inc., or approved equal.

H. Biocide: Concentrated solution of Hydrogen Peroxide in water.

2.2 CLEANING EQUIPMENT

A. Pressure pumps: All pumps shall be equipped with working pressure gauges. Any pump found to be without working pressure gauges shall be removed from the site and work will cease until pump has been replaced with pump having working pressure gauge.

B. Brushes: Fiber bristle only.

2.3 MIXING CHEMICAL CLEANING SOLUTIONS

A. General: Chemical cleaning materials are to be diluted according to the results obtained through the test mock-ups. The manufacturer’s recommended dilutions may be modified to reflect the results of field mock-ups.

B. Testing panels shall be created using a minimum of two (2) dilutions for each product where dilution is recommended by the manufacturer or requested by the RE/PM.

PART 3 –EX ECTION

3.1 PREPARATION

A. General: Comply with chemical manufacturer’s recommendations for protecting building surfaces against damage from exposure to their products.
B. Protect pedestrians, motor vehicles, surrounding surfaces of buildings whose masonry surfaces are being cleaned, building site, and surrounding buildings from injury resulting from masonry cleaning work.

1. Prevent chemical cleaning solutions from contacting pedestrians, motor vehicles, landscaping, buildings and other surfaces.
2. Do not clean masonry when winds are of sufficient force to spread cleaning solutions to unprotected surfaces.
3. Erect temporary protection over, pedestrian walkways and over areas where people and vehicles enter and exit the building.

C. Protect glass, unpainted metals, and polished stone from acidic chemical cleaners by covering them with strippable masking or polyethylene film and waterproof masking tape. Apply masking agent according to the manufacturer’s recommendations. Do not apply liquid masking agent to painted or porous surfaces.

D. Protect unpainted metal from alkali cleaners by covering them with polyethylene film and waterproof masking tape.

E. Dispose of cleaning run-off by legal means which prevent erosion, undermining, damage to plant material, and water penetration into the building. Dispose of toxic and hazardous wastes as specified in Part 1 of this Section, in accordance with current governmental regulations (OSHA, EPA and NYC DEP).

F. All joints and cracks in masonry must be water tight before starting any work with water. Provide temporary seal for all joints and cracks to prevent water infiltration as directed by the RE/PM. All caulking and sealing required shall be completed before this cleaning operation begins. Grout and repair masonry or stone where needed and/or as directed.

G. Carefully remove and safely store all surface mounted furnishings, and signs as directed by AM. Cleaning shall be done behind all surface mounted items as directed. Upon completion of cleaning, re-secure, re-install and/or re-place all items in their original location and position.

H. Provide all labor and materials for scaffolding, ladders or other equipment necessary to perform the cleaning work and be responsible for the securing, safety and sufficiency thereof. The furnishing of all scaffolding, ladders and other equipment necessary to perform the cleaning work shall be deemed included in the Unit Price.

I. The Contractor shall take all necessary precautions to protect all the adjoining surfaces, and will be held responsible for any such damage and repair at his own expense.

3.2 CLEANING MASONRY, GENERAL

A. Do not begin cleaning until the RE/PM approves the cleaning technique.

B. Begin each cleaning process in the RE/PM’s presence.

C. Clean in an orderly manner:
1. Do not allow products to dry out on masonry surfaces.
2. Protect surfaces located below from acidic cleaners and related rinse waters.

D. Use only those cleaning methods approved by the RE/PM. The use of wire brushes or steel wool will not be permitted anywhere on the building.

E. Cleaning of masonry other than limestone will generally be accomplished with One-Part chemical cleaners. Extremely heavily soiled masonry may require Two-Part chemical cleaning systems.

F. Cleaning of sandstone may require Two-Part chemical cleaners consisting of a prewash/afterwash system. Heavily soiled limestone may require more aggressive components.

G. Apply each cleaner uniformly to all surfaces, including comers, moldings, interstices. Produce an overall even effect without streaking or damaging the masonry surfaces.

H. Rinse chemical residue and soil by working upwards from the bottom to the top of each treated area. Test rinsed surfaces with litmus papers to ensure that all chemicals have been removed from the surface of the masonry.

3.3 WATER APPLICATION METHODS

A. Rinsing: Spray water on masonry surfaces as indicated for location, purpose, water temperature, pressure, volume, and equipment. Unless otherwise indicated, bold spray nozzle not less than 12” from the masonry surface and spray from side to side in overlapping bands to produce uniform coverage and an even effect.

1. Low Pressure Spray: Not more than 300 psi; 3 to 6 gallons per minute, with a 15-20 degree fan tip.

B. Filter all water for rinsing through a 5-micron particulate filter placed in line of water. Replace filter daily or as required, whichever is more frequent.

3.4 CHEMICAL CLEANING

A. General: Apply chemical cleaners to masonry surface according to the manufacturer’s recommendations using brush or spray, application methods, at the Contractor’s option, unless otherwise indicated. Do not allow the chemicals to remain on the surfaces for periods longer than determined by the field mock-ups or recommended by the manufacturer. Only the chemical cleaners approved for use at the conclusion of the mock-up phase shall be used for general cleaning.

B. Spray Application: Apply chemicals at pressures not exceeding 50 psi, unless recommended by the manufacturer.

C. One-part Chemical Cleaning of Masonry: Clean masonry surfaces with one-part systems using chemical cleaners of dilution indicated, and applied as follows:
1. Prewet masonry surface using a low pressure cold water spray.
2. Apply cleaner to masonry with a brush or roller. Let the cleaner remain on the surface for period recommended by cleaner manufacturer or as determined by the field testing.
3. Pressure rinse masonry with cold water spray to remove chemicals and soil.
4. Repeat the cleaning process until the area meets the standards set by approved mock-up panel. Do not apply more than twice or as determined by the approved field mock-up panel.
5. Scrub heavily stained areas with a natural fiber brush and specified cleaner diluted as determined by the RE/PM.
6. Test rinsed surfaces with litmus papers to ensure that all chemicals have been removed from the surface.

D. Two-part Chemical Cleaning of Masonry: Clean masonry surfaces with two-part systems using chemical cleaners of dilution indicated, and applied as follows:

1. Prewet masonry surface using a low pressure cold water spray.
2. Apply alkaline cleaner or prewash to masonry with a brush or roller. Let the cleaner remain on the surface for period recommended by cleaner manufacturer or as determined by testing.
3. Pressure rinse masonry with cold water spray to remove chemicals and soil.
4. Apply acidic cleaner as afterwash to damp masonry using low pressure spray, deep nap roller, or soft fiber brush. Let cleaner remain on the surface for a period recommended by the cleaner manufacturer or as determined by testing.
5. Pressure rinse masonry with cold water spray to remove chemicals and soil.
6. Repeat the cleaning process until the area meets the standards set by approved mock-up panel. Do not apply more than twice or as determined by the RE/PM.
7. Scrub heavily stained areas with a natural fiber brush and specified cleaner in a dilution of one part water to one part chemical cleaner concentrate or as determined by the RE/PM.
8. Test rinsed surfaces with litmus papers to ensure that all chemicals have been removed from the surface.

E. The Contractor shall repeat the chemical cleaning process in heavily soiled locations.

3.5 BIOLOGICAL GROWTH REMOVAL

A. General: Perform biological growth removal immediately following final rinsing of masonry surfaces.

B. Remove all plant, fungus, algae, and lichen growth by brushing with dry natural bristle brushes and scraping with plastic or wooden implements. Do not use metal tools in this process.

C. Apply biological growth remover diluted to manufacturers printed instructions, applied as follows:
1. Brush or low pressure spray apply. Coordinate application so that sodium hypochlorite is applied when surface is still wet from final rinsing for general cleaning of masonry surfaces.
2. Allow to remain on the surface for five (5) minutes.
3. Rinse surface thoroughly.

D. Apply the biocide. Allow to dwell for one hour. Repeat the application.

1. Thoroughly rinse the masonry surfaces where the biocide has been applied with medium pressure water (400 psi) for a minimum of five minutes.

3.6 EFFLORESCENCE REMOVAL METHOD

A. Remove efflorescence from masonry by brushing with dry, soft, natural bristle brushes. Do not wet wall before brushing.

B. Remove remainder of efflorescence by poultice cleaning.

3.7 POULTICE CLEANING

A. General: Perform poulticing in areas determined by the RE/PM in conjunction with the cleaning contractor. The intention is to remove efflorescence from masonry surfaces.

B. Cleaning with poultice:

1. Remove surface efflorescence using a dry natural fiber bristled brush.
2. Slowly mix clay with water to form a paste or cream.
3. Apply by airless spray or stainless steel, wood or plastic trowel to form a 1/4” thick coating.
5. Let stand for 12-24 hours or time determined by the RE/PM.
6. Remove film and poultice. Rinse with low pressure water.
7. Repeat process as determined by the RE/PM.

3.8 INTERIOR MASONRY CLEANING METHODS

A. General Protection Methods:

1. Provide gutters and troughs to intercept and redirect water at walls if deemed necessary by the RE/PM.
2. Provide protection to adjacent finishes and materials, building occupants and contents as required.
3. The Contractor shall be responsible for the installation, removal and disposition of all necessary masking, temporary caulking, gutters, troughs, containers, etc., for completion of the cleaning operation.
4. All necessary measures shall be taken to protect all parts of the building not being cleaned (e.g. window frames, metal grilles paint and plaster finishes. etc.) from the cleaning process.
B. General Cleaning Method:

1. Cleaning shall include the removal of surface dirt. Stains and discolorations of every intensity and nature encountered.
2. Dilute cleaning products with water as recommended by testing and in accordance with the manufacturer’s printed instructions.
3. Water used for cleaning shall be clean, potable and free of soluble and insoluble iron.
4. The use of wire brushes or steel wool will not be permitted.
5. Inspection of the building shall be carried on full time during cleaning operations.
6. Scrubbing methods will be employed, using natural fiber bristle brushes for cleaning deeply embedded dirt from areas which prove hard to clean by other means.
7. Should the contractor wish to modify any cleaning method specified, he shall submit his proposal in writing for consideration and review. The RE/PM will have the right to ask for test samples before final approval. Any such modifications or changes shall be at no additional cost to the City.
8. Finished work shall show no signs of stains, scratches, streaks or runs of discoloration from use of cleaners. Leave all exposed surfaces neat and clean. The appearance of the stone after cleaning and after adequate drying time shall be uniformly clean.
9. In locations where stubborn stains and soil deposits exist, re-application of cleaners will be required until stone color is uniform.
10. Selective stain removal may be necessary in some locations following cleaning. This shall be done with approved chemical cleaner or poultice with the approval of the RE/PM.
11. Work shall not be considered complete until the RE/PM has so notified the Contractor in writing.

C. General Rinsing Methods

1. Sources of water shall be obtained prior to installation of any equipment, and shall be provided at no additional cost to the City. The water shall be filtered with a 5 micron particulate filter placed in line with the water supply.
2. Rinsing shall be performed with sponges. Light water misting may be employed if water collection methods are in place and have been previously approved by the RE/PM.
3. Water used for cleaning shall be filtered through a five (5) micron particulate filter placed in line with the water supply. The filter shall be replaced as needed during the work.
4. Temporary water supply systems erected for the purpose of delivering water during the cleaning process shall be constructed of polyvinylchloride (PVC) tubing. All hoses, finishes, pumps and other equipment shall be made with non-ferrous alloy parts.

D. Execution: Cleaning polished marble:

1. Soil shall be removed from marble in the following manner:
a. Apply detergent solution in water to marble. Dwell time shall be in accordance with approved test procedures and manufacturers written instructions.
b. Scrub surface using soft bristle, natural, fiber brushes during dwell time. Pay particular attention to crevices in carved and decorated surfaces.
c. Rinse all traces of chemical and residue with water. Repeat procedure if necessary.
d. Rinse waste water shall not be allowed to remain on floor or adjacent surfaces and shall be removed by means of approved vacuum system to prevent ponding or accumulation of rinse waste water.

3.9 CLEANUP

A. Properly remove any and all debris (resulting from the work) from the building and leave the premises broomed and mopped clean at the end of each work shift.

B. Clean all glass surfaces soiled as a result of the work.

3.10 MARBLE POLISHING

A. Upon the completion of cleaning marble surfaces, per the direction of the RE/PM or AM representative, slowly polish the marble to a high sheen with power machine equipment.

B. Per manufacturer’s direction, use “Stone Glo” with # 800 line screen or an approved equal.

3.11 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>04 52 00-1</td>
<td>General cleaning of brick masonry using chemical cleaners and pressurized water rinse.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 52 00-2</td>
<td>General cleaning of interior stone masonry using chemical cleaners and pressurized water rinse.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 52 00-3</td>
<td>General cleaning of exterior granite or sandstone masonry using chemical cleaners and pressurized water rinse.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 52 00-4</td>
<td>Clean biological growth from exterior masonry using chemical cleaners, biocides, and low pressure water rinses.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 52 00-5</td>
<td>Remove efflorescences and gypsum crusts using poultices and water misting.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Unit</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------</td>
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<tr>
<td>04 52 00-6</td>
<td>Heavy mud cleaning for brick, stone or concrete surface</td>
<td>Per sq. ft.</td>
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<tr>
<td>Code</td>
<td>Description</td>
<td>Unit</td>
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<td>----------</td>
<td>--------------------------------------------------</td>
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</tr>
<tr>
<td>04 52 00-7</td>
<td>Clean and polish Terrazzo Floor.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>04 52 00-8</td>
<td>Clean and polish Marble wainscot / floor / wall.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 04 52 00]
PART 1 – GENERAL

1.1 SUMMARY

A. Work included: Provide ferrous metal restoration in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Repair/replace pivot pins on iron gates. Repair gates and operating hardware on gates and return to working order.
2. Repair broken cast iron gate frames.
3. Remove all paint and corrosion from iron gates, frames and grilles, prime and repaint.
4. Furnish and install, new ironwork gate, frame, grilles, hardware and paint finish, complete.
5. Remove and re-set anchors or gate supports.

B. Related Work of Other Sections: The following related work is to be performed by other trades under the designated sections:

1. Stone Masonry – Section 044300
2. Maintenance of Stone Assemblies – Section 040140
3. Painting – Section 099100
4. Paint Removal – Section 099101

1.2 QUALITY ASSURANCE

A. The Contractor or subcontractor performing the Work of this Section, must during the last five (5) years prior to bid opening, as a prime contractor or subcontractor have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work in this Contract (i.e. ferrous metal restoration work on buildings that are considered to be landmark, landmark quality or buildings of equivalent historical or architectural significance).

B. The Contractor shall maintain a steady work crew consisting of qualified craftsmen who are experienced with the materials and methods specified and familiar with the design requirements.

C. Trade Supervision: The Contractor shall confirm that all workmen under his direction fully understand the requirements of the job. All mechanics shall be directly supervised by a foreman, or other designated person, with the same or more experience set forth in Section 1.2A of this Section. The foreman shall be present at the job site daily for the duration of the Work of this Section. The same foreman for each trade shall remain on the job, unless performance is deemed unacceptable. At least one person who is able to communicate in English shall be on site at all times.

D. Field Supervised Construction: Contractor shall notify the RE/PM before beginning
metal restoration and obtain the RE/PM’s approval for the installation of restored metal, before proceeding with the work.

E. The Contractor shall replace all broken, lost and damaged metalwork resulting from repair, removal, transportation, cleaning or storing at no expense to the Owner.

F. In acceptance or rejection of this work, no account shall be taken for incompetence or lack of skill on the part of the workmen.

G. Materials and work shall conform to the latest edition of reference specifications listed below, specified herein and to all applicable code and requirements of local authorities having jurisdiction, whichever is more stringent.

3. SSPC SP-6, “Surface Preparation Specification No. 6, Commercial Blast Cleaning,” or SSPC SP-11 “Surface Preparation Specification No. 11, Power Tool Cleaning to Bare Metal.”
6. Relevant ASTM Standards for all materials.

H. Source of Materials: Obtain materials for metal restoration from a single source for each type of material required to ensure a match in quality, color, texture, and pattern.

I. Take field measurements prior to preparation of shop drawings and fabrication, where possible, to ensure proper fitting of the work. However, do not delay job progress; allow for adjustments and fitting where taking of field measurements before fabrication might delay the work.

J. Erect work square, plumb, straight, and true. Fit work accurately and anchor securely in place. All flat metal surfaces shall be installed perfectly level or pitched as specified in one plane.

K. Confirm specified dry mil thickness of applied primer with standard equipment recognized by the industry for determining the thickness of paint coatings.

1.3 SUBMITTALS

A. Qualification Data: Submit qualification data for firms and people specified in “Quality Assurance” Article that demonstrate their capabilities and experience as required in that article. List project names, addresses, names and telephone numbers of Architect and Owner, plus other specified information.

B. Documentation: Submit documentation as described in “Documentation” article, below. Number tags shall be noted on plan drawings. Ironwork may not be removed until
approval of the documentation.

C. Program of Work: Submit a written program for each restoration phase of this Contract, include protection of surrounding materials on the building and site, and adjoining properties, during operations.

1. Include detailed description of materials, methods, and equipment to be used for each phase of the restoration work of the Contract.
2. Include written descriptions, drawings, and diagrams, outlining proposed methods and procedures for protection of personnel, the public, and the existing construction during the Work of this Section.
3. If alternate methods and materials to those specified are proposed for any phase of the iron restoration work, provide written description. Provide evidence of successful use on comparable projects and demonstrate its effectiveness for use on this project.

D. Product Data and Literature: Submit manufacturer’s, fabricator’s and finisher’s technical data for each product, specifications, installation instructions for products used in metalwork, include recommendations for application and use of all finishing materials and methods. Include test reports and certificates substantiating the products compliance with the specified requirements.

E. Samples: Submit, for verification purposes, prior to mock-up erection, samples of the following:

1. Samples of all attachments, anchors, inserts, fastenings, adhesives, preparations and products included in this section.
2. Paint Samples: Primer, intermediate primer, and finish coat applied to iron samples measuring 4” x 4”.
3. Submit (2) sets of representative samples, 6” or longer, of each metal and finish required. Prepare samples of metal of same alloy and thickness to be used for the work. Where normal color and texture variations are to be expected, include (2) or more sets of each sample showing the limits of such variations.

F. Shop Drawings:

1. Submit for fabrications and installation of all types of ornamental metalwork, showing locations, layouts, materials, thicknesses, finishes, dimensions, construction, relation to adjoining construction, erection details, profiles, jointing and all other details to fully illustrate the work of this Section. Provide setting diagrams and templates for anchorages, sleeves and bolts installed by others.
2. Submit large scale drawings showing new anchorage system for gate.

G. Field Constructed Mockups: Before beginning iron restoration, prepare the following samples and obtain the RE/PM’s acceptance of visual qualities before proceeding with the work. Mockups shall remain as a record at the site until the Work is completed and approved by the RE/PM.

1. Execute complete sequence of restoration of one gate leaf, selected by the RE/PM; include paint removal, repainting, and new anchors.
H. Samples submitted which are approved by the RE/PM shall remain as a record at the site until the work is completed and approved by the RE/PM.

1.4 DELIVERY, STORAGE, AND HANDLING

A. General: Deliver, store, handle, and protect all materials from damage, moisture, dirt, and introduction of foreign matter. Store all iron materials on raised platforms and under ventilated, waterproof cover. Store packaged materials in manufacturer’s unopened containers, marked with manufacturer’s name and product brand name. Immediately reseal containers after partial use. Remove and replace damaged materials.

1.5 PROTECTION

A. Take all necessary precautions to protect all persons, property and materials (whether subject to the work of this Section or not) from any harm or damage associated with the work of this Section.

B. Take all necessary precautions to prevent fire and spread of fire.

C. Take all necessary precautions to protect workers and the public from any hazards involved in the work of this Section.

PART 2 – PRODUCTS

2.1 MATERIALS

A. General: Provide materials which have been selected for their surface flatness, smoothness and freedom from surface blemishes where exposed to view in the finished unit. Exposed to view surfaces which exhibit pitting, seam marks, roller marks, stains, discolorations or other imperfections on the finished units will not be acceptable.

B. Wrought Iron: Metal used in replacing wrought iron shall be steel complying with ASTM A36, latest edition.

C. Casting: All cast grilles or other new castings shall be cast malleable iron conforming to ASTM A47 Grade 32510.

D. Patching Material: Crack filler and patching material shall be Belzona “Supermetal” from Belzona Molecular, Inc., 100 Charles Lindbergh Blvd., Uniondale, NY 11553, (516) 594-4994, or approved equal.

E. Welding Electrodes and Filler Metal: Type and alloy of filler metal and electrodes as recommended by producer of the metal to be welded, and as required for color match, strength and compatibility in the fabricated items. For welding existing cast iron, use Nickel 99 electrodes and rod.

F. Anchors for Ironwork onto masonry: Adhesive anchors consisting of stainless steel threaded rods set in moisture insensitive modified epoxy adhesive. Provide Hilti HIT
HY-150 anchors manufactured by the Hilti Corp, or approved equal.

G. Fasteners and Anchoring Devices:

1. Fasteners: Bolts, nuts, washers, screws, rivets and other connection devices to be stainless steel according to ASTM F 593. For components of mating fasteners (bolts, nuts and washers) use stainless steel according to ASTM F 594.


K. Colors: Paint colors shall be selected by the Resident Engineer. Prime coats and undercoats shall each have a slight variation in color to distinguish them from the preceding coat. All finish paints shall be “ready-mixed” matching the approved color displays. Colors shall be pure, non-fading pigments, mildew-proof, sun-proof, finely ground in approved medium.

2.2 ACCEPTABLE MANUFACTURERS

A. Subject to the requirements of this section, provide products of one of the following manufacturers:


2.3 FABRICATION

A. Take field measurements prior to preparation of shop drawings and fabrication. Do not delay job progress; allow for trimming and fitting wherever taking field measurements before fabrication might delay work.

1. Provide for additional rail extensions and adjust lengths to accommodate new designs.

2. Additions and subtractions from the width (horizontal) of existing panels shall be
made symmetrically to both ends of the panel. For new work, deviations from the width of the panels shall be spaced symmetrically.

B. Components shall be designed and fabricated to allow for expansion and contraction for a minimum ambient temperature range of 120 °F., without causing buckling, excessive opening of joints or overstressing of welds and fasteners or anchors.

C. All removable members shall be carefully machined and fitted and shall be secured by screws or bolts of proper size and approved spacing.

D. Drill or cleanly punch holes; do not burn.

2.4 CASTINGS

A. Where possible, use original castings. If not possible, adhere to the outline, as noted.

B. Molds shall be made from the approved models, complete with core boxes, loose pieces, and all required operation equipment. The cores shall be carefully set and secured, so that cross-sections of all parts shall be of uniform thickness.

C. Castings shall be made in properly vented molds faced with the best, finest grained material to give optimum smoothness to the cast surface, and shall be thoroughly cleaned before painting.

D. Castings: Provide castings to match existing original elements in material, dimension, configuration, and profile. Provide castings that are sound and free of warp, cracks, blow holes, or other defects that impair strength or appearance. Grind, wire brush, sandblast, and buff castings to remove seams, gatemarks, casting flash, and other casting marks. Machine with holes for fasteners and other elements to match existing units. Finish castings to match finish of existing elements.

E. Properly finish such portions of all castings necessary to assure that such shall fit in a neat and satisfactory manner.

F. Clean all castings prior to painting in accordance with the requirements of the Steel Structures Painting Council (SSPC) SP-6, Commercial Blast Cleaning.

2.5 SHOP FINISHING

A. Shop coat all ferrous metal surfaces using specified primer paint and two coats of the specified paint according to the Steel Structures Painting Manual Vol. 2, SSPC PA-1, “Paint Application Specification No. 1, Shop, Field and Maintenance Painting.”

1. Protect all copper alloy ornaments in place on railings during restoration of railings.

B. Paint shall be delivered in the original containers of the approved manufacturer.

C. Painting shall be done in dry weather or under cover, and steel or iron surfaces shall be free from moisture or frost. No materials shall be delivered until the shop coat has dried.
D. Remove loose rust, mill scale and existing paint by air abrasive cleaning as specified in Steel Structures Painting Manual Vol. 2, SSPC SP-6, “Commercial Blast Cleaning.”

E. Each primer coat applied shall produce a dry film thickness of 2.0 to 2.5 mils. Finish coats shall produce a minimum dry film thickness of 2.0 to 3.5 mils.

F. Surfaces concealed from view in the finished construction work and which will not be accessible shall receive an additional shop coat of paint. Touch-up marred and abraded surfaces with the specified paint after erection in the field.

G. Repaint areas of shop coat damaged during handling or installation with paint similar to that applied in the shop.

H. Corrosion Protection: Coat concealed surfaces which will be in contact with concrete, masonry, or dissimilar metals and in exterior work with a heavy coat of bituminous paint. Do not extend coating onto exposed surfaces. Do not coat anchors set in lead.

2.6 SEQUENCING AND SCHEDULING

A. Removal of existing iron fabrications shall proceed before the beginning of masonry restoration and cleaning and dismantling.

PART 3 – EXECUTION

3.1 COORDINATION

A. The Contractor shall provide a schedule for the removals, storage, reinstallation and methods of protection prior to beginning any work.

B. Coordinate removal and reinstallation of iron gates with new wood doors and stone restoration.

C. Coordinate repair and painting of ferrous metal grilles and gates with masonry and railing work at entrance.

3.2 DOCUMENTATION

A. Remove the iron items to be restored. Identify each piece before removal with a metal tag identifying exact location. Numbers shall be keyed to drawings.

B. Before beginning the work of this Section, photographically document conditions of all materials to be removed and salvaged. Prints shall be minimum 5” x 7”, labeled, and keyed to drawings showing the locations of the items. Prints shall be placed in clear sleeves and kept in a carefully labeled binder. Binder shall be accessible at all times.

3.3 PROCEDURES: IRON GATES - Shop Restoration

A. Remove gates to a shop for restoration, where possible. Identify each gate leaf with a
metal tag prior to removal from the building.

B. Remove all paint and corrosion from the ironwork by abrasive blast methods. All work to be performed in accordance with the requirements of Section 09910. All exposed surfaces of iron to be cleaned to SSPC SP-6.

C. Weld all opened joints.

D. Fill all holes in gates with specified patching compound.

E. Fabricate and attach new hardware for mounting the gates to masonry, where necessary. Attach by welding. Repair and/or replace all hardware to return gates to full operability.

F. Remove all dust, millscale, and additional corrosion and rinse completed unit with a suitable solvent to remove all dirt and oils.

G. Prime paint with specified primer. Paint with finish paint. All work shall be performed in accordance with the requirements of Section 09900.

3.4 PROCEDURES: WELDING

A. Comply with AWS Code for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of the exposed side. Clean exposed welded joints of all welding flux, and dress on all exposed and contact surfaces.

3.5 PROCEDURES: IRONWORK NOT TO BE REMOVED FROM SITE

A. Remove all paint from ironwork in accordance with the procedures of Section 09910.

B. Remove all soil, and corrosion products using hand tools and hand-held power tools to bright metal (SSPC-SP11).

1. Thoroughly protect adjacent masonry.

C. Weld all opened joints. Weld cracked pieces of cast iron. Grind welds smooth.

D. Fill all holes in gates with specified patching compound.

E. Repair and/or replace all hardware to return gates to full operability.

F. Remove all dust, millscale, and additional corrosion and rinse completed unit with a suitable solvent to remove all dirt and oils.

G. Prime paint with specified primer. Paint with finish paint. All work shall be performed in accordance with the requirements of Section 09900.

3. 6 PROCEDURES: PAINTING

A. Refer to Section 09900.
B. All removed items shall be reinstalled as soon as possible after final paint application. Paint must be dry before reinstallation. Touch up surfaces after installation as required.

C. Protect all surfaces and materials not to be painted. Any paint on such surfaces or materials shall be removed to the complete satisfaction of the Architect, at no additional cost to the City.

3.7 INSTALLATION OF GATES

A. Provide anchorage devices and fasteners for securing gates to masonry.

B. Perform all cutting and drilling of masonry required for the installation of the gates. Set the work accurately in location, alignment and elevation, plumb, level and true, measured from established lines and levels.

C. Do not alter gates except for installation of new anchoring devices and hardware.

D. Restore protective coverings which have been damaged during shipment or installation of the work. Remove protective coverings only when there is no possibility of damage from other work yet to be performed at the same location.

3.8 MOLDMAKING PROCEDURE

A. Attach embossed numbered tag to each element to be reproduced and cross-reference its location on documentation drawings.

B. Allow Resident Engineer to inspect and document the condition of the element.

C. Prepare element for transfer to shop for restoration work.

D. Remove element to shop for restoration work.

E. Remove all paint from element.

F. Make mold from cleaned element.

3.9 NEW CASTINGS

A. Preparation:

1. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication to ensure proper fitting of work. Do not delay job progress; allow for adjustments and fitting where taking field measurements before fabrication might delay work.

2. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of items having integral anchors which are to be embedded in masonry construction. Coordinate delivery of such items to the project site.
3.10 INSTALLATION OF NEW IRONWORK FABRICATIONS

A. All ironwork shall be installed in strict accordance with plans and specifications in a workmanlike manner.

B. Install iron fabrications plumb, level and secure.

C. Install iron fabrications after the completion of masonry cleaning and restoration.

D. Do not cut or abrade finishes which cannot be completely restored in the field. Return items with such finishes to the shop for required alteration, followed by complete refinishing, or provide new units at Contractor’s option.

E. Restore protective coverings which have been damaged during shipment or installation of the work. Remove protective coverings only when there is no possibility of damage from other work yet to be performed at the same location.

F. Field Welding:

1. Comply with AWS Code for the procedures of manual shielded metal-arc welding, the appearance and quality of welds made, and the methods used in correcting welding work.
2. Any field welding required shall be concealed and not visible in the finished work.

3.11 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
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<th>Unit of Measure</th>
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<tbody>
<tr>
<td>05 01 70-1</td>
<td>Remove, repair and reinstall iron gates and frame (includes re-finish) to complete working order.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>05 01 70-2</td>
<td>Remove all paint and corrosion from ironwork and repaint as specified.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>05 01 70-3</td>
<td>Furnish and install ironwork (gate, frame, grilles, fence, railing, hardware, etc.) with paint finish as specified.</td>
<td>Per sq. ft.</td>
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</tbody>
</table>
B. Per Item # 05 01 70-1, the repair of ironwork gate and frame shall include, but not be limited to, the replacement of pivot pins, hinges and operating hardware, re-finishing and all necessary miscellaneous masonry work required for removal and reinstallation as well as including all other work as specified in the drawings, to bring the gate and frame to complete working order, is deemed included in the pricing.

C. Per Item # 05 01 70-3, the demolition and removal of existing ironwork shall be a part of the work, deemed included in the pricing.

[END OF SECTION 05 01 70]
SECTION 05 50 00 – METAL FABRICATIONS

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide metal fabrications in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Rough hardware.
2. Loose steel lintels.
3. Miscellaneous framing and supports for the following:
   a. Suspended toilet partitions.
   b. Applications where framing and supports are not specified in other sections.
4. Steel stair nosings.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 4 Section “Unit Masonry” for steel lintels within masonry walls.
2. Division 10 Section “Toilet Compartments” for structural support system for ceiling hung compartments.

1.2 SUBMITTALS

A. Shop drawings detailing fabrication and erection of each metal fabrication indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation under other Sections.

B. Welder certificates signed by Contractor certifying that welders comply with requirements specified under the “Quality Assurance” Article.

C. Submit calculations of all metal fabrication items engineered by the Contractor. Calculations shall be signed and sealed by a New York State licensed professional engineer or architect.

1.3 QUALITY ASSURANCE


1. Certify that each welder is licensed by the New York City Department of Buildings.
B. Contractor shall engineer all required ladders and supports to comply with requirements of New York City Building Code.

1.4 PROJECT CONDITIONS

A. Field Measurements: Check actual locations of walls and other construction to which metal fabrications must fit by accurate field measurements before fabrication. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

PART 2 – PRODUCTS

2.1 FERROUS METALS

A. Metal Surfaces, General: For metal fabrications exposed to view in the completed Work, provide materials selected for their surface flatness, smoothness, and freedom from surface blemishes. Do not use materials with exposed pinning, seam marks, roller marks, rolled trade names, or roughness.

B. Steel Plates, Angles, Shapes, and Bars: ASTM A 36.

C. Steel Tubing: Product type (manufacturing method) and as follows:

1. Cold-Formed Steel Tubing: ASTM A 500.
2. Hot-Formed Steel Tubing: ASTM A 501.

D. Steel Pipe: ASTM A 53, standard weight (schedule 40), unless otherwise indicated, or another weight required by structural loads.

1. Black finish, unless otherwise indicated.


F. Cast-in-Place Anchors in Concrete: Anchors of type indicated below, fabricated from corrosion-resistant materials capable of sustaining without failure, the load imposed within a safety factor of 4, as determined by testing per ASTM E 488, conducted by a qualified independent testing agency.

1. Threaded or wedge type; galvanized ferrous castings, either ASTM A 47 malleable iron or ASTM A 27 cast steel. Provide bolts, washers, and shims as required, hot-dip galvanized per ASTM A 153.

G. Welding Rods and Bare Electrodes: Select according to AWS specifications for the metal alloy to be welded.

2.2 PAINT

A. Shop Primer for Ferrous Metal: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with performance requirements of FS TT-P-664, selected for
good resistance to normal atmospheric corrosion, compatibility with finish paint systems indicated, and capability to provide a sound foundation for field-applied topcoats despite prolonged exposure.

B. Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12, except containing no asbestos fibers.

2.3 FASTENERS

A. General: Provide plated fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating, where built into exterior walls. Select fasteners for the type, grade, and class required.

B. Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A, with hex nuts, ASTM A 563, and where indicated, flat washers.

C. Machine Screws: ANSI B18.6.3.

D. Lag Belts: ANSI B18.2.1.

E. Wood Screws: Flat head, carbon steel, ANSI B 18.6.1.


H. 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 and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM $488$ conducted by a qualified independent testing agency.

2. Material: Group 1 alloy 304 or 316 stainless-steel bolts and nuts complying with ASTM F 593 and ASTM F 594.

I. Toggle Bolts: FS FF-B-588, tumble-wing type, class and style as required.

2.4 GROUT

A. Non-shrink, Nonmetallic Grout: Factory-packaged, non-staining, non-corrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

B. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:

1. Non-shrink, Nonmetallic Grouts:
2.5 FABRICATION, GENERAL

A. Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.

B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.

C. Shear and punch metals cleanly and accurately. Remove burrs.

D. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

E. Remove sharp or rough areas on exposed traffic surfaces.

F. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing, and contour of welded surface matches those adjacent.

G. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.

H. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

I. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
J. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

2.6 ROUGH HARDWARE

A. Furnish bent, or otherwise custom-fabricated, bolts, plates, anchors, hangers, dowels, and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete or other structures. Straight bolts and other stock rough hardware items are specified in Division 6 Sections.

B. Fabricate items to sizes, shapes, and dimensions required. Furnish malleable-iron washers for heads and nuts that bear on wood structural connections, and furnish steel washers elsewhere.

2.7 LOOSE STEEL LINTELS

A. Fabricate loose structural steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated.

B. Weld adjoining members together to form a single unit where indicated.

C. Size loose lintels for equal bearing of 1 inch per foot of clear span but not less than 8 inches bearing at each side of openings, unless otherwise indicated.

D. Loose Lintel Schedule (angle sizes, inches)

<table>
<thead>
<tr>
<th>Opening Width (Max.)</th>
<th>4 in. Wall</th>
<th>6 in. Wall</th>
<th>8 in. Wall*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 ft.</td>
<td>3-1/2 x 3-1/2 x 1/4</td>
<td>5 x 5 x 5/16</td>
<td>3-1/2 x 3-1/2 x 1/4</td>
</tr>
<tr>
<td>4 ft.</td>
<td>3-1/2 x 3-1/2 x 1/4</td>
<td>5 x 5 x 5/16</td>
<td>3-1/2 x 3-1/2 x 1/4</td>
</tr>
<tr>
<td>5 ft.</td>
<td>3-1/2 x 3-1/2 x 1/4</td>
<td>5 x 5 x 5/16</td>
<td>3-1/2 x 3-1/2 x 1/4</td>
</tr>
<tr>
<td>6 ft.</td>
<td>3-1/2 x 3-1/2 x 1/4</td>
<td>5 x 5 x 5/16</td>
<td>3-1/2 x 3-1/2 x 1/4</td>
</tr>
<tr>
<td>7 ft.</td>
<td>3-1/2 x 3-1/2 x 1/4</td>
<td>5 x 5 x 5/16</td>
<td>3-1/2 x 3-1/2 x 1/4</td>
</tr>
<tr>
<td>8 ft.</td>
<td>4 x 3-1/2 x 1/4</td>
<td>5 x 5 x 5/16</td>
<td>4 x 3-1/2 x 1/4</td>
</tr>
</tbody>
</table>

*Furnish two angles at all openings in 8 in. walls. Furnish a lintel angle for each masonry wythe.

2.8 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports for applications indicated that are not a part of structural steel framework as required to complete the Work.

B. Fabricate units to sizes, shapes, and profiles indicated and required to receive other adjacent construction retained by framing and supports. Fabricate from structural steel shapes, plates, and steel bars of welded construction using mitered joints for field connection. Cut, drill, and tap units to receive hardware, hangers, and similar items.
1. Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is placed.
   a. Except as otherwise indicated, space anchors 24 inches o.c. and provide minimum anchor units in the form of steel straps 1-1/4 inches wide by 1/4 inch thick by 8 inches long.

C. Fabricate support for suspended toilet partitions as follows:

1. Beams: Continuous steel shapes of size required to limit deflection to L/360 between hangers, but use not less than C8 by 11.5 channels or another shape with equivalent structural properties.

2. Hangers: Steel rods, 1/2-inch minimum diameter, spaced not more than 36 inches o.c. Thread rods to receive anchor and stop nuts. Fit hangers with wedge-shaped washers for full bearing on sloping flanges of support beam.

3. Braces and Angles: Steel angles of size required for rigid support of beam and for secure anchorage.

2.9 FINISHES, GENERAL

A. Comply with NAAMM “Metal Finishes Manual” for recommendations relative to applying and designing finishes.

B. Finish metal fabrications after assembly.

2.10 STEEL AND IRON FINISHES

A. Galvanizing: For those items required to be galvanized, apply zinc coating by the hot-dip process complying with the following requirements with a minimum G60 coating:

1. ASTM A 153 for galvanizing iron and steel hardware.

2. ASTM A 123 for galvanizing both fabricated and unfabricated iron and steel products made of uncoated rolled, pressed, and forged shapes, plates, bars, and strip 0.0299 inch thick or thicker.

B. Preparation for Shop Priming: Prepare uncoated ferrous metal surfaces to comply with minimum requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed metal fabrications:

1. Interiors (SSPC Zone 1A): SSPC-SP 3 “Power Tool Cleaning.”

C. Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finishes or to be embedded in concrete, sprayed-on fireproofing, or masonry, unless otherwise indicated. Comply with requirements of SSPC-PA 1 “Paint Application Specification No. 1” for shop painting.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
2.11 STEEL STAIR NOSINGS

A. Fabricate units of materials, sizes and configurations indicated. If not indicated, provide cast-iron units with an integral abrasive finish. Furnish in lengths as required to accurately fit each opening or conditions.

1. Cast units with an integral abrasive grit consisting of aluminum oxide, silicon carbide, or a combination of both.

B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include the following (approved equals will also be accepted):

1. American Safety Tread Co., Inc.
2. Amstep Products.
3. Armstrong Products, Inc.
4. Balco/Metalines, Inc.
5. Safe-T-Metal, Inc.
6. Wooster Products Inc.

C. Provide anchors for embedding units in concrete, either integral or applied to units, as standard with the manufacturer.

D. Apply black asphaltic coating to concealed bottoms, sides and edges of cast-iron units set into concrete.

E. Provide cross-hatched surfaces unless otherwise indicated.

F. Installation, General: Center nosings on tread widths with noses flush with riser faces and tread surfaces. Install with anchorage system indicated to comply with manufacturer’s recommendations.

2.12 TELEVISION BRACKETS

A. Provide ceiling mounted television bracket, equal to Jumbo JMC-650D as manufactured by Peerless Industries, or approved equal. Verify television sizes in field, and provide appropriate size per manufacturer’s recommendations.

B. Unit shall be complete with accessories, hangers and hardware. Provide additional framing as required to attach television bracket to suspended framing above hung ceiling. Provide additional cold rolled steel concealed framing as required to support 150# loading and comply with the NYC Building Code.

PART 3 – EXECUTION

3.1 PREPARATION

A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installing anchorages, including concrete inserts, sleeves, anchor bolts,
and miscellaneous items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

3.2 INSTALLATION, GENERAL

A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction. Include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws, and other connectors as required.

B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fining required for installing miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete masonry or similar construction.

D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop-welded because of shipping size limitations.

E. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing, and contour of welded surface matches those adjacent.

3.3 SETTING LOOSE PLATES


B. Set loose leveling and bearing plates on wedges or other adjustable devices. After the bearing members have been positioned and plumbed, tighten the anchor bolts. Do not remove wedges or shims, but if protruding, cut off flush with the edge of the bearing plate before packing with grout.

1. Use non-shrink, grout unless otherwise indicated.
2. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.4 INSTALLING SUPPORTS FOR TOILET PARTITIONS

A. Anchor supports securely to and rigidly brace from overhead building structure.
3.5 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.

1. Apply by brush or spray to provide a 2.0-mil minimum dry film thickness.

B. For galvanized surfaces, clean welds, bolted connections, and abraded areas, and apply galvanizing repair paint to comply with ASTM A 780.

3.6 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>05 50 00-1</td>
<td>Furnish and install loose steel lintels and/or miscellaneous framing, supports and rough hardware.</td>
<td>Per lb.</td>
</tr>
<tr>
<td>05 50 00-2</td>
<td>Furnish and install steel stair nosing.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>05 50 00-3</td>
<td>Furnish and install ceiling (or wall) mounted television bracket for 150 pound load.</td>
<td>Each</td>
</tr>
<tr>
<td>05 50 00-4</td>
<td>Radiator covers painted with all assembly and framing (up to 12” wide and 36” high.)</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>05 50 00-5</td>
<td>Radiator covers – Stainless steel with all assembly and framing (up to 12” wide and up to 36” high.)</td>
<td>Per lin. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 05 50 00]
SECTION 05 52 13 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Steel pipe and tube railings.

B. Related Sections:
   1. Division 06 Section “Rough Carpentry” for wood blocking for anchoring railings.

1.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design railings, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

B. General: In engineering railings to withstand structural loads indicated, determine allowable design working stresses of railing materials based on the following:
   1. Steel: 72 percent of minimum yield strength.

C. Structural Performance: Railings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
   1. Handrails and Top Rails of Guards:
      a. Uniform load of 50 lbf/ft. (0.73 kN/m) applied in any direction.
      b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
      c. Uniform and concentrated loads need not be assumed to act concurrently.
   2. Infill of Guards:
      a. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).
      b. Infill load and other loads need not be assumed to act concurrently.
   D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling,
opening of joints, overstressing of components, failure of connections, and other detrimental effects.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

E. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.3 ACTION SUBMITTALS

A. Product Data: For the following:
   1. Manufacturer's product lines of mechanically connected railings.
   2. Railing brackets.

B. Shop drawings: Include plans, elevations, sections, details, and attachments to other work.

C. Samples for Initial Selection: For products involving selection of color, texture, or design.

D. Samples for Verification: For each type of exposed finish required.
   1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters.
   2. Fittings and brackets.
   3. Assembled Sample of railing system, made from full-size components, including top rail, post, handrail, and infill. Sample need not be full height.
      a. Show method of finishing members at intersections.

E. Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified professional engineer.

B. Welding certificates.

C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.
D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, according to ASTM E 894 and ASTM E 935.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of railing from single source from single manufacturer.

B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

C. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

1.7 COORDINATION AND SCHEDULING

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorages for railings. 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.

C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following.
1. Steel Pipe and Tube Railings, as manufactured by:
   a. Pisor Industries, Inc.
   b. Wagner, R & B, Inc.; a division of the Wagner Companies.
   c. Or approved equal.

2.2 METALS, GENERAL
   A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
   B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

2.3 STEEL AND IRON
   A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
   B. Tubing: ASTM A 500 (cold formed).
   C. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.
      1. Provide galvanized finish for exterior installations and where indicated.
   D. Plates, Shapes, and Bars: ASTM A 36/A 36M.
   E. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.

2.4 FASTENERS
   A. General: Provide the following:
      1. Ungalvanized-Steel Railings: Plated steel fasteners complying with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5 for zinc coating.
      2. Hot-Dip Galvanized Railings: Type 304 stainless-steel or hot-dip zinc-coated steel fasteners complying with ASTM A 153/A 153M or ASTM F 2329 for zinc coating.
   B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.
C. Fasteners for Interconnecting Railing Components:
   1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless otherwise indicated.
   2. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.
   3. Provide square or hex socket flat-head machine screws for exposed fasteners unless otherwise indicated.

D. Post-Installed Anchors: Torque-controlled expansion anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
   1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.

2.5 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

B. Low-Emitting Materials: Paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

C. Etching Cleaner for Galvanized Metal: Complying with MPI#25.

D. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

E. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
   1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.

F. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.

G. Shop Primer for Galvanized Steel: Water base galvanized metal primer complying with MPI#134.
H. Intermediate Coats and Topcoats: Provide products that comply Division 09 painting Section.

I. Epoxy Intermediate Coat: Complying with MPI#77 and compatible with primer and topcoat.

J. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.


L. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.

1. Water-Resistant Product: where indicated provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

2.6 FABRICATION

A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

D. Form work true to line and level with accurate angles and surfaces.

E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.

G. Connections: Fabricate railings with either welded or nonwelded connections unless otherwise indicated.
H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove flux immediately.
4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.

J. Form changes in direction as follows:

1. As detailed.

K. Bend members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

L. Close exposed ends of railing members with prefabricated end fittings.

M. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch (6 mm) or less.

N. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers, or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.

O. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.
P. For railing posts set in concrete, provide steel sleeves not less than 6 inches (150 mm) long with inside dimensions not less than 1/2 inch (13 mm) greater than outside dimensions of post, with metal plate forming bottom closure.

Q. For removable railing posts, fabricate slip-fit sockets from steel tube or pipe whose ID is sized for a close fit with posts; limit movement of post without lateral load, measured at top, to not more than one-fortieth of post height. Provide socket covers designed and fabricated to resist being dislodged.

1. Provide chain with eye, snap hook, and staple across gaps formed by removable railing sections at locations indicated. Fabricate from same metal as railings.

R. Toe Boards: Where indicated, provide toe boards at railings around openings and at edge of open-sided floors and platforms. Fabricate to dimensions and details indicated.

2.7 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

D. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

2.8 STEEL AND IRON

FINISHES A. Galvanized

Railings:

1. Hot-dip galvanize exterior steel and iron railings, including hardware, after fabrication.
2. Hot-dip galvanize indicated steel and iron railings, including hardware, after fabrication.
5. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
6. Fill vent and drain holes that will be exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.

B. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.

C. Preparing Galvanized Railings for Shop Priming: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner.

D. For nongalvanized steel railings, provide nongalvanized ferrous-metal fittings, brackets, fasteners, and sleeves, except galvanize anchors to be embedded in exterior concrete or masonry.

E. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."


F. Primer Application: Apply shop primer to prepared surfaces of railings unless otherwise indicated. Comply with requirements in SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.

1. Shop prime uncoated railings with primers specified in Division 05, unless otherwise indicated.
2. Do not apply primer to galvanized surfaces.

G. Shop-Painted Finish: Comply with Division 05, unless otherwise indicated.

1. Color: As selected by Architect from manufacturer's full range.


1. Color: As selected by Architect from manufacturer's full range.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements have been clearly marked for Installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

A. Fit exposed connections together to form tight, hairline joints.

B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.

2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).

3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (5 mm in 3 m).

C. Adjust railings before anchoring to ensure matching alignment at abutting joints.

D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.

B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.

C. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches (50 mm) beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches (150 mm) of post.
3.4 ANCHORING POSTS

A. Use metal sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.

B. Form or core-drill holes as per Architectural Drawings for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.

C. Cover anchorage joint with flange of same metal as post, attached to post with set screws.

D. Leave anchorage joint exposed with anchoring material flush with adjacent surface.

E. Anchor posts to metal surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members as follows:
   1. For steel pipe railings, weld flanges to post and bolt to metal supporting surfaces.

F. Install removable railing sections, where indicated, in slip-fit metal sockets cast in concrete.

3.5 ATTACHING RAILINGS

A. Anchor railing ends at walls with round flanges anchored to wall construction and connected to railing ends using nonwelded connections.

B. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and connected to railing ends using nonwelded connections.

C. Attach railings to wall with wall brackets except where end flanges are used. Provide brackets with 1-1/2-inch (38-mm) clearance from inside face of handrail and finished wall surface. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
   1. Use type of bracket with predrilled hole for exposed bolt anchorage.
   2. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

D. Secure wall brackets and railing end flanges to building construction as follows:
   1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
2. For hollow masonry anchorage, use toggle bolts.
3. For steel-framed partitions, use hanger or lag bolts set into fire-retardant-treated wood backing between studs. Coordinate with stud installation to locate backing members.
4. For steel-framed partitions, use self-tapping screws fastened to steel framing or to concealed steel reinforcements.
5. For steel-framed partitions, use toggle bolts installed through flanges of steel framing or through concealed steel reinforcements.

3.6 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.

B. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint are specified in Division 09 painting.

C. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

3.7 PROTECTION

A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

3.8 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
</table>
| 05 52 13-1| Furnish and install pipe tube railing as specified with all hardware and supports. | Lin. ft.        

[END OF SECTION 05 52 13]
SECTION 05 53 00 - METAL GRATINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Metal bar gratings.
   2. Removable metal grating.
   3. Metal frames and supports for gratings.

B. Related Sections:
   1. Division 05 Section "Structural Steel Framing" for structural-steel framing system components.
   2. Division 05 Section "Pipe and Tube Railings" for metal pipe and tube handrails and railings.

1.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design gratings, including comprehensive engineering analysis by a qualified professional engineer, retained by the Contractor, using performance requirements and design criteria indicated.

B. Structural Performance: Gratings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.

1. Floors: Uniform load of 125 lbf/sq. ft. (6.00 kN/sq. m) or concentrated load of 2000 lbf (8.90 kN), whichever produces the greater stress.
2. Floors: Uniform load of 250 lbf/sq. ft. (11.97 kN/sq. m) or concentrated load of 3000 lbf (13.40 kN), whichever produces the greater stress.
3. Walkways and Elevated Platforms Other Than Exits: Uniform load of 60 lbf/sq. ft. (2.87 kN/sq. m).
4. Walkways and Elevated Platforms Used as Exits: Uniform load of 100 lbf/sq. ft. (4.79 kN/sq. m).
5. Sidewalks and Vehicular Driveways, Subject to Trucking: Uniform load of 250 lbf/sq. ft. (11.97 kN/sq. m) or concentrated load of 8000 lbf (35.60 kN), whichever produces the greater stress.

C. Seismic Performance: Provide gratings capable of withstanding the effects of earthquake motions determined according to ASCE/SEI 7.
1.3 ACTION SUBMITTALS

A. Product Data: For the following:
   2. Paint products.

B. Shop Drawings: Include plans, sections, details, and attachments to other work.

C. Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified professional engineer.

B. Mill Certificates: Signed by manufacturers of stainless-steel sheet certifying that products furnished comply with requirements.

C. Welding certificates.

D. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.

1.5 QUALITY ASSURANCE

A. Metal Bar Grating Standards: Comply with NAAMM MBG 531, "Metal Bar Grating Manual.

B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

C. Welding Qualifications: Qualify procedures and personnel according to the following:
   1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
   2. AWS D1.3, "Structural Welding Code - Sheet Steel."

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with gratings by field measurements before fabrication.
1.7 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorages for gratings, grating frames, and supports. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 FERROUS METALS

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

C. Steel Bars for Bar Gratings: ASTM A 36/A 36M or steel strip, ASTM A 1011/A 1011M or ASTM A 1018/A 1018M.

D. Wire Rod for Bar Grating Crossbars: ASTM A 510 (ASTM A 510M).

E. Galvanized-Steel Sheet: ASTM A 653/A 653M, structural quality, Grade 33 (Grade 230), with G90 (Z275) coating.

F. Expanded-Metal Galvanized Steel: ASTM F 1267, Class 2, Grade A.

2.2 FASTENERS

A. General: Unless otherwise indicated, provide for exterior use zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.

B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with hex nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.

C. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.
1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.


F. Post-Installed Anchors: Torque-controlled expansion anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.

2.3 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy that is welded.

B. Low-Emitting Materials: Paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

C. Shop Primers: Provide primers that comply with Division 09 painting Section.

D. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

2.4 FABRICATION

A. Shop Assembly: Fabricate grating sections in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

B. Cut, drill, and punch material cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

C. Form from materials of size, thickness, and shapes indicated, but not less than that needed to support indicated loads.

D. Fit exposed connections accurately together to form hairline joints.
E.  Welding: Comply with AWS recommendations and the following:
   1. Use materials and methods that minimize distortion and develop strength and 
corrosion resistance of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove welding flux immediately.

F.  Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate 
and space the anchoring devices to secure gratings, frames, and supports rigidly in place 
and to support indicated loads.
   1. Fabricate toeplates to fit grating units and weld to units in shop unless otherwise 
indicated.
   2. Fabricate toeplates for attaching in the field.
   3. Toeplate Height: 4 inches (100 mm) unless otherwise indicated.

2.5 METAL BAR GRATINGS

A.  Manufacturers: Subject to compliance with requirements, available manufacturers 
offering products that may be incorporated into the Work include, but are not limited to, 
the following:
   1. Alabama Metal Industries Corporation; a Gibraltar Industries company.
   2. All American Grating.
   5. Fisher & Ludlow; Division of Harris Steel Limited.
   7. Grupo Metelmex, S.A. de C.V.
   8. IKG Industries; a division of Harco Corporation.
   10. Ohio Gratings, Inc.
   11. Seidelhuber Metal Products; Division of Brodhead Steel Products.
   12. Or approved equal.

B.  Welded Steel Grating [MBG-<#>]:
   1. Bearing Bar Spacing: [7/16 or 1/2 inch (11 or 13 mm) o.c.
   2. Bearing Bar Depth: As required to comply with structural performance 
requirements.
   3. Bearing Bar Thickness: As required to comply with structural performance 
requirements.
   4. Crossbar Spacing: 4 inches (102 mm) o.c.
   5. Grating Mark: As indicated.
   6. Traffic Surface: As indicated.
7. Steel Finish: Hot-dip galvanized with a coating weight of not less than 1.8 oz./sq. ft. (550 g/sq. m) of coated surface.

C. Removable Grating Sections: Fabricate with banding bars attached by welding to entire perimeter of each section. Include anchors and fasteners of type indicated or, if not indicated, as recommended by manufacturer for attaching to supports.

1. Provide no fewer than four weld lugs for each heavy-duty grating section, with each lug shop welded to two bearing bars.
2. Provide no fewer than four saddle clips for each grating section composed of rectangular bearing bars 3/16 inch (4.8 mm) or less in thickness and spaced 15/16 inch (24 mm) or more o.c., with each clip designed and fabricated to fit over two bearing bars.
3. Provide no fewer than four weld lugs for each grating section composed of rectangular bearing bars 3/16 inch (4.8 mm) or less in thickness and spaced less than 15/16 inch (24 mm) o.c., with each lug shop welded to three or more bearing bars. Interrupt intermediate bearing bars as necessary for fasteners securing grating to supports.
4. Provide no fewer than four flange blocks for each section of aluminum I-bar grating, with block designed to fit over lower flange of I-shaped bearing bars.
5. Furnish threaded bolts with nuts and washers for securing grating to supports.
6. Furnish self-drilling fasteners with washers for securing grating to supports.
7. Furnish galvanized malleable-iron flange clamp with galvanized bolt for securing grating to supports. Furnish as a system designed to be installed from above grating by one person.

   a. Products: Subject to compliance with requirements, available products that may be incorporated into the work include, but are not limited to, the following:

      1) Kee Industrial Products, Inc.; Grating Clip.
      2) Lindapter North America, Inc.; Grate-Fast.
      3) Or approved equal.

D. Fabricate cutouts in grating sections for penetrations indicated. Arrange cutouts to permit grating removal without disturbing items penetrating gratings.

1. Edge-band openings in grating that interrupt four or more bearing bars with bars of same size and material as bearing bars.

E. Do not notch bearing bars at supports to maintain elevation.

2.6 GRATING FRAMES AND SUPPORTS

A. Frames and Supports for Metal Gratings: Fabricate from metal shapes, plates, and bars of welded construction to sizes, shapes, and profiles indicated and as necessary to
receive gratings. Miter and weld connections for perimeter angle frames. Cut, drill, and tap units to receive hardware and similar items.

1. Unless otherwise indicated, fabricate from same basic metal as gratings.
2. Equip units indicated to be cast into concrete or built into masonry with integrally welded anchors. Unless otherwise indicated, space anchors 24 inches (600 mm) o.c. and provide minimum anchor units in the form of steel straps 1-1/4 inches (32 mm) wide by 1/4 inch (6 mm) thick by 8 inches (200 mm) long.

B. Galvanize steel frames and supports in the following locations:

1. Exterior.
2. Interior

2.7 STEEL FINISHES

A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.

1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing gratings to in-place construction. Include threaded fasteners for concrete and masonry inserts, through-bolts, lag bolts, and other connectors.

B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing gratings. Set units accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete or masonry.

D. Fit exposed connections accurately together to form hairline joints.

1. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
E. Attach toeplates to gratings by welding at locations indicated.

F. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.

G. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

3.2 ADJUSTING AND CLEANING

Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

3.3 MEASUREMENT

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<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
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<td>05 53 00-1</td>
<td>Welded galvanized metal grating with necessary frames and supports</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>05 53 00-2</td>
<td>Removable galvanized metal grating with necessary frames and supports</td>
<td>Sq. Ft.</td>
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</tbody>
</table>

[END OF SECTION 05 53 00]
SECTION 06 10 00 – ROUGH CARPENTARY

PART – 1 GENERAL

1.1 SUMMARY

A. Work Included: The Work of this Section shall include but not be limited to the following:

1. Wood grounds, milers, blocking and furring and other miscellaneous carpentry work which is generally not exposed.
2. Plywood hacking panels for equipment.
3. Plywood subflooring/underlayment.
4. Wood framing and sleepers.
5. Temporary exterior handicap ramp.

B. Related Sections

1. Section 06 40 10 Architectural Woodwork Restoration.
2. Section 06 40 23 Interior Architectural Woodwork
3. For door and hardware installation refer to respective Openings sections in Division 8.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer’s specifications and installation instructions for manufactured materials, including construction panels.

B. Material Certificates: Submit listing of species and grade selected for framing lumber, and a signed copy of grading rules showing design, values for selected lumber. Design values shall comply with specified requirements and American Lumber Standards Committee.

C. Wood Treatment Data: Submit chemical treatment manufacturer’s instructions for handling, storing, and using treated material.

1. Submit certification by treating plant stating type of treatment, preservative retained and conformance with applicable standards.
2. Submit a statement that moisture content of treated materials complied with levels indicated before delivery.
3. Submit certification by treating plant that fire-retard ant-treated wood products comply with specified standards and other requirements.

1.3 PRODUCT HANDLING

A. Delivery and Storage: Keep materials under cover and dry. Stack wood to provide air circulation within and around stacks.

1.4 PROJECT CONDITIONS
A. Coordination: Fit carpentry work to other work accurately. Correlate location of supports for attachment of other work.

PART – 2 PRODUCTS

2.1 LUMBER, GENERAL

A. Lumber Standards: Comply with PS 20 “American Softwood Lumber Standard” and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee.

B. Grade Stamps: Furnish lumber with grade stamp of inspection agency to show compliance with grading rules, and identifying grading agency, grade, species, moisture content and mill.

C. Provide lumber sizes as required by PS 20, unless otherwise shown.

1. Provide dressed lumber, S4S.
2. Provide seasoned lumber with 15% maximum moisture content.

2.2 DIMENSION LUMBER

A. Structural Framing (2” to 4” thick, 2” to 5” and wider): Provide any species and grade under WWP A or WCLIB rules which meets the following values:

1. \( F_b \) (minimum extreme fiber stress in bending); 1,400 psi.
2. \( F_v \) (minimum horizontal shear force); 90 psi.
3. \( E \) (minimum modulus of elasticity); 1,400,000.

2.3 MICELLANEOUS LUMBER

A. General: Provide wood cants, nailers, blocking, furring, grounds and similar members, of sizes and shapes shown.

B. Grade: standard Grade light framing lumber of western or southern species, and Standard Grade boards per WCLIB or WWPA rules.

2.4 CONSTRUCTION PANELS


B. Trademark: Factory-mark each construction panel with APA trademark to show compliance with grade requirements.

C. APA Performance-Rated Panels: Provide APA Performance-Rated Panels of thickness shown and as follows:
1. Plywood Backing Panels: For backing panels where shown, provide fire-retardant treated plywood, APA C-D PLUGGED INT with exterior glue, not less than 1/2” thick.
2. Plywood Subflooring/Underlayment Panels: For subflooring/underlayment panels where shown, provide fire-retardant treated plywood, APA RATED STURD-I-FLOOR., span rated panels, EXPOSURE I, 1/2” thick, unless otherwise indicated.

2.5 MISCELLANEOUS MATERIALS

A. Fasteners and Anchorages: Provide size, type, material and finish complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers, anchors and connectors of the size and type recommended by the manufacturer for each use indicated including recommended nails.

1. Where rough carpentry work is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners and anchorages with a hot-dip zinc coating (ASTM A 153).
2. Provide galvanized steel connectors, minimum 16 gage, of type and size as recommended by manufacturer for use indicated.

B. Building Paper: ASTM D 226, Type J; asphalt saturated, non-perforated, 15-lb type.

2.6 WOOD-PRESERVATIVE-TREATED LUMBER

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 that 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, omit marking and provide certificates of treatment compliance issued by inspection agency.

D. Application: Treat [items 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 (460 mm) above the ground in crawlspaces or unexcavated areas.
5. Wood floor plates that are installed over concrete slabs-on-grade.

B. Fire-Retardant Treatment: Comply with City of New York Code. Pressure impregnate interior lumber and plywood with fire-retardant chemicals to comply with A WPA C20 and C27, respectively. Identify treated lumber with marking of Underwriters Laboratories, Inc., U.S. Testing, or other approved testing and inspecting agency.

1. Current Evaluation/Research Reports: Provide fire-retardant-treated wood for which a current model code evaluation/research report exists that is acceptable to authorities having jurisdiction and that evidences compliance of fire-retardant-treated wood for application indicated.
2. Interior Type A: For interior locations use fire-retardant chemical formulation that produces treated lumber and plywood with the following properties under conditions present after installation:
   a. No. reduction takes place in betiding strength, stiffness, arid fastener holding capacities below values published by manufacturer of chemical formulation that are based on tests by a qualified independent testing laboratory of treated wood products identical to those indicated for this Project under elevated temperature and humidity conditions simulating installed conditions.
   b. No other form of degradation occurs due to acid hydrolysis or other causes related to manufacture and treatment.
   c. No corrosion of metal fasteners results from their contact with treated wood.
3. Products: Subject to compliance with requirements, provide one of the following:
   b. “Pyro-Guard,” Hoover Treated Wood Products.

PART 3 – EXECUTION

3.1 INSTALLATION, GENERAL

A. Discard defective materials. Set carpentry work to required levels and lines, with members plumb and true to line and cut and fined.

B. Securely attach carpentry work as required by specified standards. Countersink nail heads on exposed carpentry work and fill holes.
C. Use fasteners of size ‘to not penetrate members to exposed side or into finish materials. Make tight connections; install fasteners without splitting of wood; predrill as required.

3.2 WOOD GROUNDS, NAILERS, BLOCKING AND SLEEPERS

A. Provide where shown for screeding or attachment of other work. Shape as shown and locate for true line and level of work to be attached.

B. Attach to support applied loading. Countersink exposed bolts and nuts flush with surfaces. Where possible, anchor to concrete and masonry during their installation.

C. Provide permanent grounds of dressed, preservative treated, key-beveled lumber not less than 1-1/2” wide and of thickness to match finish material. Remove temporary grounds when no longer required.

3.3 WOOD FURRING

A. Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of finished work.

B. Provide furring of sizes and spacing as shown on the Drawings.

3.4 INSTALLATION OF CONSTRUCTION PANELS


B. Fastening Methods: Fasten panels as indicated below:

1. Plywood Backing Panels: Nail or screw to supports.
2. Subflooring/Underlayment Panels: Glue-nail to framing. Continually glue and nail, 6” o.c. on panel edges and 8” o.c. over intermediate framing.

3.5 TEMPORARY EXTERIOR HANDICAP RAMP

A. Ramp: Temporary exterior handicap ramp shall be constructed with pressure treated (PT) structural wood members, 3/4” thick exteriors grade plywood and all necessary hardware, anchors and/or fasteners, finishes and accessories for a complete installation. Ramp shall include all framing, railings, landings and curbs.

B. Regulatory: Ramp shall comply with Building Code and ADA guidelines.

C. Signage: The Contractor will also be responsible for temporary signage (weather resistant) to redirect public. Signage material, size, lettering and quantity shall be appropriate for the scope and scale of the work and securely attached or posted (minimum: 2 Signs, 24” x 24” each).

D. Submittals: Provide shop drawings for ramp (anchoring, framing and railing, elevations and slopes, etc.) and signage, prior approval required by Architect or the RE/PM before construction is to begin.
E. Demolition: The Contractor is also responsible for the removal and clean up of any temporary ramp installed during the project. Therefore, the demolition, removal, associated patching and clean up of the temporary exterior ramp and related signage shall be deemed included in the Unit Price, at no additional cost to the City.

3.6 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>06 10 00-1</td>
<td>Furnish and install wood grounds, nailers, furring, blocking, and rough framing as specified.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>06 10 00-2</td>
<td>Furnish and install plywood subflooring, underlayment, sheathing and/or backing panels as specified.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>06 10 00-3</td>
<td>Furnish and install structural framing for floors, platforms, ramps, landings and railing-per 8” of height (measured in plan).</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>06 10 00-4</td>
<td>Furnish and install temporary exterior handicap ramp complete as specified (measured in plan).</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 06 10 00]
SECTION 06200 - MILL

WORK PART – 1

GENERAL

1.1 SUMMARY

A. Work Included: Provide mill work in accordance with the Contract Documents. The Contract Documents are as defined in the Agreement. The General Conditions governing all contracts shall apply to all work under the Contract. The Work of this Section includes the furnishing of all labor, material, equipment etc. necessary for the fabrication, delivery and installation of millwork, finish carpentry and interior architectural woodwork as shown on the drawings provided, specified herein, or as required and/or directed by the Architect or RE/PM. The Work of this Section shall include but not be limited to the following:
   1. Casework, cabinets, countertops and shelving.
   2. Miscellaneous trim and base work.
   3. Cabinet hardware and adjustable shelf hardware.
   4. Radiator Enclosures.
   5. Wood and Metal Access Panel.
   6. All other items of finish carpentry work as required or as directed by the Architect or RE/PM.

B. Related Sections: The following Sections contain requirements that relate to this Section:
   1. Section 061000 Rough Carpentry.
   2. Section 064010 Architectural Woodwork Restoration.
   3. Section 099100 Painting.
   4. Section 096519 Resilient Tile.

1.2 SUBMITTALS

A. Product Data for each type of factory-fabricated product and process specified, including details of construction relative to materials, dimensions of individual components, profiles, textures, and colors.

B. Wood treatment data as follows, including chemical treatment manufacturer's instructions for handling, storing, installing, and finishing treated material:
   1. For fire-retardant-treated wood products include certification by treating plant that treated materials comply with specified standard and other requirements.

C. Shop drawings showing location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
1. Show details full size.
2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcing specified in other Sections.
3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, and other items installed in architectural woodwork.
4. Show veneer leaves with dimensions, grain direction, exposed face, and an identification number indicated for each leaf.

D. Samples for initial selection of the following in the form of manufacturer's color charts consisting of actual units or sections of units showing the full range of colors, textures, and patterns available of each type of material indicated.
1. Each type of trim specified. 12" long samples.
2. Plastic laminate, 3 samples. 12" square, for each type, color and surface finish.
3. Exposed hardware, one unit of each type and finish.
4. Cabinet door and hardware before construction.
5. Granite, finish polished, minimum sample size 4" x 4" x 3/8" thick.

E. Material test reports from a qualified independent testing agency indicating and interpreting test results relative to compliance of fire-retardant-treated wood products with requirements indicated.

1.3 QUALITY ASSURANCE
A. Installer Qualifications: All work shall be performed by skilled workers. The Contractor or subcontractor performing the work of this section must have recently completed finish carpentry work similar in cost, material, design, and extent to that indicated by this section, and whose work has resulted in construction with a record of successful in-service performance.

1.4 DELIVERY, STORAGE, AND HANDLING
A. Protect woodwork during transit, delivery, storage and handling to prevent damage, soiling and deterioration.
B. Do not deliver interior finish carpentry until environmental conditions meet requirements specified for installation areas. If finish carpentry must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

1.5 PROJECT CONDITIONS
A. Environmental Limitations: Do not deliver or install interior finish carpentry until building is enclosed and weatherproof, wet-work in space is completed and
nominally dry, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels through the remainder of construction period.

B. Maintain temperature and humidity in installation area as required to maintain moisture content of installed woodwork within a 1.0 percent tolerance of optimum moisture content, form date of installation through remainder of construction period. Require Woodwork Manufacturer to establish optimum moisture content and required temperature and humidity conditions

1.6 RELATED DOCUMENTS

A. Drawings, details and/or plans by the Design Consultant, or Architect of the various courtroom locations will be supplied by the RE/PM as they become available.

PART – 2 PRODUCTS

2.1 MANUFACTURER

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering high pressure decorative laminates or granite which may be incorporated in the work include; but are not limited to, the following:

1. Formica Corp.
2. Nevamar Corp.
3. Ralph Wilson Plastics Co.
4. Chemcore Industries Inc.
5. Or an approved equal.

2.2 MATERIALS, GENERAL


B. Inspection Agencies: Inspection 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. SCMA - Southern Cypress Manufacturers Association.
5. SPIB - Southern Pine Inspection Bureau.
6. WCLIB - West Coast Lumber Inspection Bureau.
7. WWPA - Western Wood Products Association.

C. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and
identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
1. For exposed lumber, furnish pieces with grade stamps applied to ends or back of each piece, or omit grade stamps entirely and provide certificates of grade compliance issued by inspection agency.

D. Softwood Plywood: Comply with DOC PS 1, "U.S. Product Standard for Construction and Industrial Plywood."

E. Hardwood Plywood: Comply with HPVA HP-1, "Interim Voluntary Standard for Hardwood and* Decorative Plywood."

F. Hardboard:

ANSI/AHA A 135.4

G. Medium-Density Fiberboard: Product made without formaldehyde and complying with ANSI A208.2, Product Class MD.
1. Product: Subject to compliance with requirements, provide "Medite D" by Medite Co rp.

H. Particleboard: ANSI A208.1, Grade M-2. I. High Pressure Laminate:

NEMA LD 3.

J. Granite: Comply with ASTM C97, C99, C170, C241, C880.

2.3 FIRE-RETARDANT-TREATED MATERIALS

A. General: Use materials impregnated with fire-retardant chemical formulations indicated by a pressure process or other means acceptable to authorities having jurisdiction to produce products with fire-test-response characteristics specified. Comply with New York City Building Code requirements.

B. Fire-Retardant Chemicals: Use chemical formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.

C. Fire-Retardant-Treated Lumber Comply with the following:
1. Low-Hygroscopic Formulation: Interior Type A per AWPA C20.
2. Mill lumber before treatment and implement special procedures during treatment and drying processes that prevent lumber from warping and

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developing discolorations from drying sticks or other causes, marred, and other
defects affecting appearance of treated woodwork.
3. Discard treated material that does not comply with requirements of referenced standards. Do not use twisted, warped, bowed, discolored, or otherwise damaged or defective material.
4. Available Products: Subject to compliance with requirements, products that may incorporate in the Work include, but are not limited to, the following:
a. Low-Hygroscopic Formulation (Type A):
   2. D-Blaze; Chemical Specialties, Inc.
   3. Pyro-guard; Continental Wood Preservers, Inc.
   4. Dricon; Hickson Corp.
   5. Pyro-guard; Hoover Treated Wood Products, Inc.
   6. Or an approved equal.

2.4 BASIC MATERIALS AND FABRICATION METHODS

A. General: Except as otherwise indicated, comply with following requirements for Premium Grade as defined by AWI for millwork items specified

B. Wood Moisture Content Provide kiln-dried (KD) lumber with an average moisture content range of .6% to 11% for interior work. Maintain temperature and relative humidity during fabrication, storage and finishing operations so that moisture content values for woodwork at time of installation does not exceed 5% to 10%.

C. Fabricate woodwork to dimensions, profiles, and details indicated with openings and mortises precut, where possible, to receive hardware and other items of work.
   1. Ease edges to a 1/16” radius, for edges of solid wood (lumber) members less than 1” in nominal thickness, 1/8” radius for edges of rails and similar members over 1” in nominal thickness.

D. Complete fabrication, assembly, finishing, hardware application, and other work before shipment to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary, provide ample allowance for scribing, trimming, and fitting.

E. Pre-Cut Openings: Provide woodwork with pre-cut openings, where possible, for hardware, appliances, plumbing fixtures, electrical work; telephone, cut-outs and similar items. Locate openings accurately and provide proper size and shape. Smooth edges of cutouts and, where located in countertops, seal edges of cutouts with a water-resistant coating.

F. Measurements: Before fabrication of Woodwork to be fitted to other construction, obtain field measurements and verify dimensions and shop drawing details as required for accurate fit.
1. Where field measurements before fabrication would delay the project, fabricate without
field measurements and provide ample borders and edges to allow scribing and
trimming of woodwork.

G. Solid Wood: AWI Section 100, Grade 1, and as follows:
1. Opaque Finish: Premium quality medium density fiberboard.
3. Concealed: Any hardwood specie. Grade 01 per AWI Section 100.

H. Plywood: Veneer core, minimum 3/4" thick unless otherwise noted, interior grade using
exterior type waterproof glue.
1. Provide "A" face plies of 1/26" plain sliced, clear, paint grade for exposed
   and semi-exposed surfaces to receive "painted" finish.
2. Provide plywood for "painted" finish with "V" type hardwood edge banding on
   exposed edges and on all edges of adjustable shelves. Edge band shall be tongued
   and pressure glued core with mitered corners.

I. Panel Products: AWI Section 200, particleboard core plywood, with face veneers matched
   as indicated.
1. Opaque Finish: Premium grade medium density fiberboard which will not show any
   defects when finished with specified opaque finish.
3. Plastic Laminate: Comply with NEMA LD-3 for Grade GP-50; 0.050" thickness,
   of color, pattern and finish. Refer to schedule at end of Section.

J. Lumber: AWI Section 100 with the following requirements:
1. Hardwood for Concealed Blocking and Framing: Economy grade, any species
   which when painted, will not show any defects.

K. Particleboard: AWI Section 200, particleboard core unless otherwise indicated, with
   the following requirements:
1. Use particle cores of "Duraflake FR" as manufactured by Willamette
   Industries, Inc.
2. Provide facings and edgings as indicated.

L. Granite Countertop:
1. Adhere to the standards of ASTM and GSA for compressive strength, absorption by
   weight, density, abrasive resistance, etc.
2. Edge treatments will be eased or bullnosed. Thickness to be 1". Color, variegation and
   grain for countertop to be specified by Architect. If granite slabs to be joined,
   variegation and grain must be continuous and well-matched.
3. Mechanical fastener and adhesive anchoring products and techniques be specified by
   Architect.

M. Architectural Grille:
1. Radiator grille #Agio-B by Architectural Grille or approved equal. Aluminum
   with satin finish. Contractor to provide shop drawings to architect for approval
   prior to fabrication.
2.5 INTERIOR STANDING AND RUNNING TRIM

A. Hardwood Trim: Provide finished hardwood lumber and moldings complying with the following requirements:
   1. Species: Gear, kiln-dried white hardwoods.
   2. Texture: Surfaced (smooth).
   3. Lumber for Transparent Finish (Stained or Clear): Solid lumber stock.

2.6 MISCELLANEOUS MATERIALS

A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
   1. Where finish carpentry materials are exposed in areas of high humidity, provide fasteners and anchorages with hot-dip galvanized coating complying with ASTM A 153.

B. Fasteners:
   1. Wood Screws: FS FF-S-111, type, size, material and finish as required for the condition of use.
   2. Nails: FS FF-N-105, type, size, material and finish as required for the condition of use.
   3. Anchors: Type, size, material and finish as required for the condition of use.
   4. Staples: Type, size, to provide sufficient strength to hold upholstered fabric taut and in place without sagging.
   5. Panel Supports: Provide wood veneer panel supports where indicated.

C. Adhesives
   1. For Laminating Plastic Laminate Surfaces: Melamine, phenol-resin, or resorcinol-resin complying with FS MMM-A-181; type, grade and class best suited for the purpose.
   2. For All Other Uses: Moisture resistant complying with FS MMM-A-125, Type II, or MMM-A-188, Type I, II or III; type best suited for the purpose.
   3. All adhesives shall meet (MSDS) Material Safety Data Sheet Standards.

D. Grommets: Provide diameters shown; satin finished chrome grommet sleeves sizes as indicated on drawings.

E. Glue: Aliphatic- or phenolic-resin wood glue recommended by manufacturer for general carpentry use.

2.7 FABRICATION - GENERAL

A. General: Provide architectural woodwork visible from any one space or room fabricated from a single flitch obtained from the same tree, and shall match in cut grain, color, finish, and other aesthetic effects.
1. All woodwork for a given floor to be selected from the same flicht obtained from a single tree.

B. Provide steel framing and lumber framing for architectural woodwork, complete with all bracing and fastening devices as required for a rigid installation, and as required to sustain the imposed loads.

C. Do all fabrication from field measurement with provision for scribing as required to meet built-in conditions.

D. Coordinate the work of this Section with the work of other trades.

E. Fabricate units in largest practicable sections. Trial fit in the shop, disassemble for shipment and reassemble with concealed-fasteners.

F. Fabricate architectural woodwork from specified veneers, all sapwood and other imperfections shall be clipped out. Each elevation of specified woodwork shall be of a single flicht. Each item of woodwork for this project shall be fabricated of veneers, from a singletree.

G. Maintain relative humidity and temperature during fabrication, storage and finishing operations matching that of the areas of installation.

H. Details indicate me required type of construction. Modifications to conform to manufacturer's standards will be considered providing they comply with the Contract Documents, maintain the profiles shown and subject to acceptance by the RE/PM.

I. Reinforcing shown is minimum. Provide additional reinforcing as required to ensure a rigid assembly. Exposed surfaces shall be free from dents, tool marks, warpage buckle, glue and open joints, or other defects. Accurately fit all joints, corners and miters.

J. Provide openings for hardware, appliances, plumbing fixtures and electrical work. Locate openings accurately and use templates or diagrams for proper size and shape. Smooth edges of cutoffs and seal edges of cutouts in countertops with a water-resistant coating.

K. Provide balancing sheets as required, and specified, complying with referenced AWI standards.

2.8 CABINET HARDWARE

A. Schedule of acceptable cabinet hardware:
   1. Drawer glides: "Grant"; Model #328 (up to 50 lbs.): #329 (over 50 lbs.).
5. Shelf pins and ferrules: "Grass"; stainless steel.

B. Provide model, size as required for proper installation.

2.9 FACTORY FINISHING OF INTERIOR ARCHITECTURAL

WOODWORK A. Quality Standard: Comply with AWI Section 1500 unless otherwise indicated.

B. General: The entire finish of interior architectural woodwork is specified in this section, regardless of whether factory applied or field applied touch-up after installation.

C. Preparations for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces and similar preparations for finishing of architectural woodwork, as applicable to each unit of work.

D. Transparent Finish: Comply with the requirements of the City of New York EPP Minimum Standards for Construction Products (clear wood coating) as indicated below for grade, finish system, color, effect and sheen:
   1. Grade: Premium.
   2. AWI Finish System: TR-2 - Catalyzed Lacquer.

E. Opaque Finish: Comply with requirements indicated below for grade, finish system, color, effect and sheen:
   1. Grade: Premium.
   2. AWI Finish System: OP-2 - Catalyzed Lacquer.
   3. Color and Effect: As selected by Architect

Part – 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting installation and performance of finish carpentry. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 SCHEDULING
A. The Contractor shall begin diligently to fabricate all the above millwork and as each of the various courtroom spaces become available, The Contractor shall be notified to begin installation of his work at such premises.

B. The Contractor shall complete all of his fabrication and installation without the various premises interfering with the room activity.

C. Electrical work will be done by others, but the Contractor shall cooperate with such parties so that the work can be completed within the allowed contract time.

3.3 PREPARATION

A. Clean substrates of projections and substances detrimental to application.
B. Condition finish carpentry to average prevailing humidity conditions in installation areas before installation, for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

C. Prime and back-prime lumber for painted finish exposed on the exterior. Comply with requirements for surface preparation and application in Division 9 Section "Painting."

3.4 INSTALLATION, GENERAL

A. Do not use finish carpentry materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
   1. Do not use manufactured units with defective surfaces, sizes, or patterns.

B. Install finish carpentry plumb, level, true, and aligned with adjacent materials. Use concealed shims where required for alignment.
   1. Scribe and cut finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
   2. Countersink nails, fill surface flush, and sand where face nailing is unavoidable.
   3. Install to tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm) for plumb and level. Install adjoining finish carpentry with 1/32-inch (0.8-mm) maximum offset for flush installation and 1/16-inch (1.5-mm) maximum offset for reveal installation.
   4. Coordinate finish carpentry with materials and systems in or adjacent to standing and running trim and rails. Provide cutouts for mechanical and electrical items that penetrate exposed surfaces of trim and rails.

C. Finish according to specified requirements.

D. Refer to Division 9 Sections for final finishing of finish carpentry.

3.5 STANDING AND RUNNING 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. Plane backs of casings to provide uniform thickness across joints, if required.
   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 on exposed carpentry work and fill holes.
3.6 RADIATOR ENCLOSURES

A. Radiator enclosures shall be custom built and fabricated to suit existing job site conditions and dimensions. The enclosures shall be constructed the full length or part thereof as specified or as indicated on the drawings provided by the Architect or RE/PM.

B. Enclosure unit shall be constructed from 3/4" oak veneer plywood with interior lining of #
14 gauge cold-rolled stretcher level zinc-coated steel sheet unless otherwise directed by the Architect.

C. The radiator enclosure shall be fully detachable for complete access to radiator. Removable unit parts shall be easy to remove and unlock, to pull out and re-lock by screw or slide-in back method, and which shall be completely rattle-proof to touch or to die air pressure of the radiator.

D. Top cover shall be reinforced sufficiently to support its own load as well as other loads expected for a countertop to hold. Unit shall be provided with a deflection plate or support, carried through the full length of the enclosure.

E. Top cover shall have cutout to receive decorative discharge grille with border, aluminum with satin finish approximate 4" x 30" stock size or as shown on plans/drawings.

F. The radiator enclosure shall have swingout doors, provided with decorative, discharge grille as specified or shown on drawing.

G. Between operable door cabinets and metal radiator enclosure, the Contractor shall provide infill units of the same finish materials and dimensions as cabinets (false fronts) forming a flush surface, with the adjacent, as specified or shown on drawing.

H. The Contractor shall submit shop drawings for any variations from the detail shown on any and all drawings for Architect's approval.

3.7 SHELVING

A. Shelves shall be constructed of 3/4" thick oak veneered plywood, unless otherwise specified. Plywood shall be free from knots, cracks, blemishes, etc. and sanded smooth.

B. Wood finish shall be one (1) coat of stain and two (2) coats of polyurethane. Color of stain shall be selected by Architect Approval of stain or equal will be required before application.
C. All cut edges are to be finished with iron-on wood grain tape to match wood veneer or with
1/4" thick solid K.D. strip on all edges.

3.8 COUNTERS AND COUNTERTOPS

A. All woodwork shall be carefully cut and constructed throughout to conform with
finished dimensions as shown in drawings to be provided keeping with the best
practice of the trade. Work shall be pre-assembled as far as practical. No work
shall be installed until surface is cleaned, leveled and fully prepared.

B. Lumber and plywood used for construction shall be fire retardant treated.
Affidavits attesting to this shall be submitted for each type.

C. All woodwork corner joints shall be blind mitered, dovetail connected. Nailing and
gluing shall be neat sufficient and invisible wherever possible and shall result in a
rigid and squeak-free construction. All cut edges are to be finished with iron-on
wood grain tape to match wood veneer.

D. All lumber and plywood shall be straight, true and level, free of warpage, splitting,
serious cracking, knots and other defects affecting the strength and appearance.
Lumber shall be construction grade 1 (1400 lbs. Fiber stress to be grade and trade
marked). All exposed lumber and plywood shall be oak wood and shall be kiln
dried. Counters shall be constructed of 3/4" architectural grade plywood. Drawers
shall be constructed from 1/2" oak veneer plywood, provided with drawer slide
hardware for easy putting and return, and any and all hardware and fastenings as
required and necessary.

E. Counter shall be provided with drawer units and shelves as shown on the drawings
and specified herein. Drawers and shelves shall be square and true, sanded and
prepared ready for varnish.

F. Countertop should be prepared to receive 1" granite as indicated following
manufacturer's recommendations.

G. Granite countertop will be vanity mounted or wall hung on full perimeter steel
support angles and will include all cutouts required. For every 30" of width,
contractor shall provide a minimum of one (1) sink cutout to accept all related
faucets and accessories.

3.9 CABINETS

A. Cabinets shall be installed in locations shown on the plan and required to fit flush
with- line of window wall cabinetry. Cabinets shall be pairs of double door
cabinets, of approximate finish dimensions 24" deep exterior and a height of 30" or
up to the height of the finished window sill.
B. Cabinets shall sit on a board of continuous 2" X 4" lumber, forming a 4" high toe space covered in vinyl base molding and topped with oak trim.

C. Cabinets shall have a top counter of oak veneer plywood finish as selected and vertical surfaces shall be covered in hardwood veneer paneling as described in the drawing. All cabinets shall be edged in oak trim as described.

D. Doors shall be of oak plywood with solid edge throughout Doors shall be hung on one pair of fully concealed self-closing cabinet door hinges, so that doors fully overlap frames and no interior color or edge is visible when closed. Doors when open shall hold back against cabinets without damaging any woodwork or hardware.

E. Cabinets shall contain one 5/8" thick shelf covered on all sides with the same interior color of birch plywood. Shelf shall be easily adjustable on metal clips fitting into pre-coaled slotted standards painted to match interior finish, or approved fastening.

F. Doors shall be fitted with built-in handgrab, allowing an open area for grabbing of at least 1" deep and 3-1/2" long. Doors shall be fitted with interval positive fastening devices top and bottom and an approved pin tumbler cylinder lock, with bolt throw sufficient for easy and secure locking of each pair of doors. The Contractor shall supply four keys for each pair of cabinets (4 doors) to be keyed alike: The Contractor shall submit one complete door with hardware for approval before proceeding with construction.

3.10 ALL PURPOSE ACCESS PANEL

A. The Contractor shall furnish and install an all purpose access panel minimum size approximately 24" X 30" for use in plastered, masonry, drywall and certain ceiling surfaces. Exact dimension shall be in accordance with the site condition and as provided by the Architect.

B. The all-purpose access panel shall provide convenient access for inspection or services to vital components or utility services. Panel material shall be as directed by the Architect or RE/PM and in accordance with specifications.

3.11 WOOD ACCESS PANEL

A. Wood access panel shall have a frame of oak, kiln dried solid lumber and panel over of 1" thick veneer plywood with solid oak edge trims. Hinge shall be of concealed continuous stainless steel. Latch shall be flush mounted key lock or tamper resistant latch. Finish shall be one (1) coat of stain and two (2) coats of polyurethane unless otherwise specified by the Architect or RE/PM.

3.12 METAL ACCESS PANEL
A. Metal access panel shall have frame of 060-6063 T6 extruded aluminum and panel corner of 0.060 aluminum as manufactured by "CESCO Products" or approved equal. Hinge shall be concealed continuous stainless steel, Latch shall be flush mounted key lock or tamper resistant latch. Finish shall be galvanized steel/mill.

3.13 ADJUSTING

A. Repair damaged or defective finish carpentry where possible to eliminate functional or 'visual defects. Where not possible to repair, replace finish carpentry. Adjust joinery for uniform appearance.

3.14 PROTECTION

A. Provide final protection and maintain conditions that ensure finish carpentry is without damage or deterioration at the time of Substantial Completion.

3.15 MEASUREMENT AND PAYMENT

A. Unit Price:

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]
<table>
<thead>
<tr>
<th>Item#</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>06200-1</td>
<td>Furnish and install plastic laminate countertops (30 inches wide) without base cabinets.</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-2</td>
<td>Furnish and install plastic laminate countertops and base cabinets (30 inches wide) complete with hardware.</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-3</td>
<td>Furnish and install wood veneer countertops (30 inches wide) without base cabinets.</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-4</td>
<td>Furnish and install wood veneer Countertops and base cabinets (30 inches wide) complete with hardware.</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-5</td>
<td>Furnish and install 1&quot; granite countertops and wood veneer base cabinets (30 inches wide) complete with hardware.</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-6</td>
<td>Furnish and install eased or bullnosed 1&quot; granite counter-tops vanity mounted with all cutouts required for every 30&quot; of width or greater to accept faucets, accessories and undermount sinks.</td>
<td>Per lin ft.</td>
</tr>
<tr>
<td>06200-7</td>
<td>Furnish and install eased or bullnosed 1&quot;granite countertops, wall hung on mil perimeter steel support angles with all cutouts required for every 30&quot; of width or greater to accept faucets, accessories, and undermount sinks.</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-8</td>
<td>Furnish and install wood trim and basework with finish as specified. Furnish and install plastic laminate shelving complete (12 inches deep).</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-9</td>
<td>Furnish and install plastic laminate wall cabinets complete (12 inches deep) with 2 shelves.</td>
<td>Per lin ft.</td>
</tr>
<tr>
<td>06200-10</td>
<td>Furnish and install wood veneer shelving complete (12 inches deep).</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-11</td>
<td>Furnish and install wood veneer wall cabinets complete (12 inches deep) with 2 shelves.</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-12</td>
<td>Furnish and install radiator enclosure including architectural grille, aluminum with satin finish as specified.</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-13</td>
<td>Furnish and install radiator enclosure including architectural grille, aluminum with satin finish as specified.</td>
<td>Per lin.ft.</td>
</tr>
<tr>
<td>06200-14</td>
<td>Furnish and install access panel (metal or wood), min. 24&quot; x 30&quot; dimensions with hardware.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>
B. All the millwork furnished and installed under this Section of the Work shall include the finishing with a stain (submit sample for approval) and two coats of polyurethane, unless noted otherwise. The finishing of all millwork shall be deemed included in the Unit Price, at no additional cost to the City.

[END OF SECTION 06 20 00]
SECTION 07 13 53 – ELASTOMERIC SHEET WATERPROOFING

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide sheet membrane waterproofing in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. EPDM rubber sheet waterproofing.
2. Butyl rubber sheet waterproofing.

B. Related Sections

1. Division 3 Section – “Cast-In-Place Concrete”.
2. Division 9 Section – “Tiling”.
3. Division 7 Section – “Expansion Control”.

1.2 QUALITY ASSURANCE

A. Special Experience Requirements:

1. Installer Qualifications: A firm with recent successful waterproofing projects similar to requirements for this project.
2. Manufacturer’s Qualifications: Obtain primary waterproofing materials from a single manufacturer with not less than 5 years of successful experience in sheet waterproofing work. Provide secondary materials only as recommended by manufacturer of primary materials.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer’s specifications, installation instructions, and general recommendations for each material required. Include data substantiating that materials comply with requirements.

1.4 JOB CONDITIONS

A. Substrate: Proceed with work of this section only after substrate construction and penetrating work have been completed.

B. Ventilation: Provide ventilation to remove hazardous fumes during application and cure of solvent based components in enclosed spaces and maintain ventilation until full cure.

1.5 GUARANTEE
A. In accordance with the Article on Guarantees in the General Conditions, the Contractor hereby guarantees that all work specified in this Section will be free from defects of materials and workmanship for a period of five (5) years.

B. Furnish a guarantee in the form specified in the Article on Guarantees in the General Conditions governing all contracts.

C. The following types of failure will be adjudged as defective work:

1. Abnormal aging or deteriorating of materials.
2. Failure of sheet waterproofing.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include but are not limited to the following:

2. Pecora Corporation.
4. Or approved equal.

2.2 SHEET WATERPROOFING, MATERIAL

A. Self-adhering membrane of rubberized asphalt integrally bonded to polyethylene sheeting, formed into uniform flexible sheets of thickness shown, or not less than 56 mils if no thickness is shown, complying with the following:

1. Tensile Strength: 250 psi min; ASTM D 412.
4. Hydrostatic Head Resistance: 150 feet min.
5. Water Absorption: Not more than 0.1 percent weight gain after 48 hours or immersion at 70 deg. F; ASTM D 570.

B. Products: Subject to compliance with requirements, provide one of the following:

2. Duramem 700-SM; Pecora Corp.
3. MEL-ROL; W.R. Meadows, Inc.
4. Or approved equal.

2.3 MISCELLANEOUS MATERIALS

A. Primer: Provide type of concrete primer recommended by manufacturer of sheet waterproofing material for applications required.
B. Flashings and Accessories: As recommended by manufacturer of waterproofing membrane.

C. Insulation, General: Comply with Division 7 Section “Thermal Insulation”.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with installer present, for compliance with requirements and other condition affecting performance of the waterproofing.

1. Verify that concrete has cured and aged for minimum time period recommended in writing by waterproofing manufacturer.
2. Verify that substrate is visibly dry and within the moisture limits recommended in writing by manufacturer. Test for capillary moisture by plastic sheet method according to ASTM D 4263.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

A. Clean substrate and remove projections and substances detrimental to work; comply with instructions of membrane manufacturer.

B. Prime substrate as recommended by prime materials manufacturer.

C. Mask off adjoining surfaces, where necessary to avoid soiling materials outside membrane area.

D. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids.

E. Prepare, fill. Prime, and treat joint and cracks in substrates. Remove dust and dirt from joint and cracks according to ASTM D 4258.

F. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through waterproofing and at drains and protrusions.

3.3 INSTALLATION

A. Comply with manufacturer’s instructions. Provide complete waterproofing membranes over areas to be waterproofed. Seal projections through the membrane and seal seams. Provide installation with as few amounts of seams as possible.

B. Bond membrane to surfaces as recommended by the membrane manufacturer.

C. Install sheet-type flashings where recommended by prime materials manufacturer. Except as otherwise shown, extend flashings not less than 4” onto adjacent perpendicular surfaces.
3.4 FIELD QUALITY CONTROL

A. Flood Testing: Flood test each deck area for leaks, according to recommendations in ASTM D 5957, after completing waterproofing but before overlying construction is placed. Install temporary containment assemblies, plug or dam drains, and flood with potable water.

1. Flood to an average depth of 2-1/2 inches (64 mm) with a minimum depth of 1 inch (25 mm) and not exceeding a depth of 4 inches (100 mm). Maintain 2 inches (51 mm) of clearance from top of sheet flashings.
2. Flood each area for 48 hours.
3. After flood testing, repair leaks, repeat flood tests, and make further repairs until waterproofing installation is watertight.

B. Engage an independent testing agency to observe flood testing and examine underside of decks and terminations for evidence of leaks during flood testing.

C. Prepare test and inspection reports.

3.5 PROTECTION, REPAIR, AND CLEANING

A. Do not permit foot or vehicular traffic on unprotected membrane.

B. Protect waterproofing from damage and wear during remainder of construction period.

C. Protect installed board insulation and insulation drainage panels from damage due to UV light, harmful weather exposures, physical abuse, and other causes. Provide temporary coverings where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

D. Correct deficiencies in or remove waterproofing that does not comply with requirements; repair substrates, reapply waterproofing, and repair sheet flashings.

E. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.6 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 13 53-1</td>
<td>Furnish and install membrane waterproofing as specified.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

B. Above unit prices include all required surface preparation.
SECTION 07 21 00 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Glass-fiber blanket insulation.

B. Related Sections:

1. Division 04 Section "Unit Masonry" for insulation installed in cavity walls and masonry cells.
2. Division 09 Section(s) Gypsum Board Shaft Wall Assemblies, Gypsum Plastering, and Gypsum Veneer Plastering for installation in wood- and metal-framed assemblies of insulation specified by referencing this Section.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.3 INFORMATIONAL SUBMITTALS

A. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each product.

B. Research/Evaluation Reports: For foam-plastic insulation, from ICC-ES.

1.4 QUALITY ASSURANCE

A. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.
PART 2 - PRODUCTS

2.1 GLASS-FIBER BLANKET INSULATION

A. Manufacturers: Subject to compliance with requirements available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. CertainTeed Corporation.
2. Guardian Building Products, Inc.
5. Owens Corning.
6. Or approved equal.

B. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

C. Unfaced, Glass-Fiber Blanket Insulation: ASTM C 665, Type I; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.

D. Polypropylene-Scrim-Kraft-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type II (non-reflective faced), Class A (faced surface with a flame-spread index of 25 or less); Category 1 (membrane is a vapor barrier).

E. Kraft-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type II (non-reflective faced), Class C (faced surface not rated for flame propagation); Category 1 (membrane is a vapor barrier).

F. Reinforced-Foil-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type III (reflective faced), Class A (faced surface with a flame-spread index of 25 or less); Category 1 (membrane is a vapor barrier), faced with foil scrim, foil scrim kraft, or foil scrim polyethylene.

G. Foil-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type III (reflective faced), Class B (faced surface with a flame-propagation resistance of 0.12 W/sq. cm); Category 1 (membrane is a vapor barrier), faced with foil scrim, foil-scrim kraft, or foil-scrim polyethylene.

H. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide cross ventilation between insulated attic spaces and vented eaves.

I. Sustainability Requirements: Provide glass-fiber blanket insulation as follows:

1. Free of Formaldehyde: Insulation manufactured with 100 percent acrylic binders and no formaldehyde.
2. Low Emitting: Insulation tested according to ASTM D 5116 and shown to emit less than 0.05-ppm formaldehyde.
2.2 INSULATION FASTENERS

A. Adhesively Attached, Spindle-Type Anchors: Plate welded to projecting spindle; capable of holding insulation of specified thickness securely in position indicated with self-locking washer in place.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. AGM Industries, Inc.; Series T TACTOO Insul-Hangers.
   b. Gemco; Spindle Type.
   c. Or approved equal.

2. Plate: Perforated, galvanized carbon-steel sheet, 0.030 inch (0.762 mm) thick by 2 inches (50 mm) square.
3. Spindle: Copper-coated, low-carbon steel; fully annealed; 0.105 inch (2.67 mm) in diameter; length to suit depth of insulation indicated.

B. Adhesively Attached, Angle-Shaped, Spindle-Type Anchors: Angle welded to projecting spindle; capable of holding insulation of specified thickness securely in position indicated with self-locking washer in place.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. Gemco; 90-Degree Insulation Hangers.
   b. Or approved equal.

2. Angle: Formed from 0.030-inch- (0.762-mm-) thick, perforated, galvanized carbon-steel sheet with each leg 2 inches (50 mm) square.
3. Spindle: Copper-coated, low-carbon steel; fully annealed; 0.105 inch (2.67 mm) in diameter; length to suit depth of insulation indicated.

C. Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch- (0.41-mm-) thick galvanized-steel sheet, with beveled edge for increased stiffness, sized as required to hold insulation securely in place, but not less than 1-1/2 inches (38 mm) square or in diameter.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. AGM Industries, Inc.;
   b. Gemco;
   c. Or approved equal.

2. Protect ends with capped self-locking washers incorporating a spring steel insert to ensure permanent retention of cap in the following locations:
   a. Crawl spaces.
   b. Ceiling plenums.
   c. Attic spaces.
   d. Where indicated.
D. Insulation Standoff: Spacer fabricated from galvanized mild-steel sheet for fitting over spindle of insulation anchor to maintain air space of 1 inch (25 mm), 2 inches (50 mm), 3 inches (76 mm) or as indicated between face of insulation and substrate to which anchor is attached.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. Gemco; Clutch Clip.
   b. Or approved equal.

E. Anchor Adhesive: Product with demonstrated capability to bond insulation anchors securely to substrates indicated without damaging insulation, fasteners, and substrates.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. AGM Industries, Inc.; TACTOO Adhesive.
   b. Gemco; Tuff Bond Hanger Adhesive.
   c. Or approved equal.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean substrates of substances that are harmful to insulation or that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.

C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.3 INSTALLATION OF BELOW-GRADE INSULATION

A. On vertical surfaces, set insulation units using manufacturer's recommended adhesive according to manufacturer's written instructions.
1. If not otherwise indicated, extend insulation a minimum of 24 inches (610 mm) 36 inches (915 mm) below exterior grade line.

B. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.

1. If not otherwise indicated, extend insulation a minimum of 24 inches (610 mm) 36 inches (915 mm) in from exterior walls.

3.4 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.

B. Glass-Fiber Blanket Insulation: Install in cavities formed by framing members according to the following requirements:

1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
3. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
4. Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
5. For metal-framed wall cavities where cavity heights exceed 96 inches (2438 mm), support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.
6. For wood-framed construction, install blankets according to ASTM C 1320 and as follows:
   a. With faced blankets having stapling flanges, secure insulation by inset, stapling flanges to sides of framing members.
   b. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to maintain continuity of vapor retarder once finish material is installed over it.

3.5 INSTALLATION OF INSULATION IN CEILINGS FOR SOUND ATTENUATION

A. Where glass-fiber blankets are indicated for sound attenuation above ceilings, install blanket insulation over entire ceiling area in thicknesses indicated. Extend insulation 48 inches (1219 mm) up either side of partitions.
3.6 PROTECTION

A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

3.7 INSULATION SCHEDULE

A. Insulation Type as specified: Unfaced, glass-fiber blanket insulation.
B. Insulation Type as specified: Faced, glass-fiber blanket insulation.

3.8 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 21 00-1</td>
<td>Furnish and install glass fiber insulation 3 ½” thick</td>
<td>Per sq.ft.</td>
</tr>
<tr>
<td>07 21 00-2</td>
<td>Furnish and install glass fiber insulation between 3 ½” thick</td>
<td>Per sq.ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 07 21 00]
SECTION 07 51 00 – BUILT-UP ROOFING REPAIRS

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Repair of existing built-up membrane roofing, flashing, sheet metal work, aggregate surfacing, and related work, complete, in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Patching of insulation.
2. Patching built-up membrane roofing over insulation.
3. Temporary covers for open substrate.
   a. Protection of adjacent roofing to remain.
4. Cant strips and tapered edge strips in affected locations.

1.2 SUBMITTALS

A. Samples: Samples shall include the following:

1. Metal flashing: 6” lengths.
2. Rigid roof insulation: 8” x 12”, each kind.
3. Aggregate: 5 lb. bag.

B. Product Data: Submit manufacturer’s catalog cuts and pertinent accompanying technical data.

C. Shop Drawings

1. Shop drawings shall include typical and special details of all sheet metal work and flashing details as requested by the Resident Engineer.

1.3 PRIOR INSPECTION

A. The Contractor shall perform the following:

1. Examine areas to be patched and repaired. Inspect existing conditions.
2. Review roofing requirements.
3. Review materials and methods.
4. Review installers personnel, equipment and facilities required.
5. Review inspection, testing and certifying procedures.
1.4 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in manufacturer’s original unopened containers and rolls with manufacturer’s labels intact and legible. Where materials are covered by a referenced specification, the container shall bear the specification number, type and class, as applicable. Labels or bill of lading for roofing materials shall completely describe said materials. Deliver materials in sufficient quantity to allow continuity of work.

B. Storage: Protect roll materials against moisture absorption. Store roll materials on end on clean raised platforms in dry locations with adequate ventilation. Tie covering securely to the pallets in such a way as to be completely weather-tight and yet provide sufficient ventilation to prevent condensation. Polyethylene coverings are not permitted. Do not store more materials on the roof than can be installed the same day. Locate materials temporarily stored on the roof in approved areas and distribute the load to stay within the live load limits of the roof construction.

C. Handling: Select and operate material handling equipment so as not to damage existing construction and applied roofing. Handle roll materials in a manner to prevent damage to edges and ends.

1.5 ENVIRONMENTAL CONDITIONS

A. Application will not be permitted during inclement weather or when air temperature is below 40°F or is expected to go below 40°F within twenty-four (24) hours or when there is ice, frost, surface moisture, or visible dampness on the roof deck. (The restriction on the application of roofing materials below 40°F will be waived if the Contractor devises some artificial means, satisfactory to the Resident Engineer, of (1) maintaining the surrounding temperature above 40°F; and (2) maintaining the application temperature of heated materials without exceeding the “maximum specified kettle temperature. Maximum kettle temperature shall not be exceeded under any conditions.)

1. At such times when snow or rain is imminent, work must be discontinued and work areas and materials must be properly covered and protected against the elements.
2. The Contractor shall submit, for the RE/PM’s action, a statement denoting the kind and type of protection he proposes to use in the event of adverse weather conditions.
3. Failure to comply with the above requirements will be the Contractor’s responsibility to replace the roofing and pay for any damages resulting therefrom, over and above the provisions of the Guarantee.

1.6 PROTECTION OF PROPERTY

A. Protective Coverings: Lap protective coverings not less than 6 inches, secure against wind, and vent to prevent collection of moisture on covered surfaces. Protective coverings shall remain in place for the duration of the roofing work.

B. Flame-Heated Equipment: Locate and use flame-heated equipment at locations that will not endanger the structure or other materials on the site or adjacent property. Do not place
flame-heated equipment on the roof. Provide and maintain one (1) fire extinguisher of appropriate type and size adjacent to flame-heated equipment.

1.7 GUARANTEE

A. In accordance with the Article on Guarantees in the General Conditions governing all contracts, the Contractor hereby guarantees all workmanship and materials described in this Section for a period of 10 years.

B. The Contractor shall furnish security for the faithful performance of the above guarantee in the form of a surety bond executed by a duly authorized surety company in the penal sum of 25% of the cost of the work of the Section. The bond shall be in a form satisfactory to the Commissioner and the Comptroller of the City of New York. The required surety bond shall be effective for a two year period.

C. The Contractor performing the work of this Section shall furnish proof of its ability to obtain the type of bond described above, before the work is started.

D. The following types of failure will be adjudged as defective work:

1. All Work – Leaking, failure to stay in place.
2. Sheet Metal Work - Undue expansion, lifting, deformation, loosening, spitting up of seams.
3. Built-Up Roofs - Splitting, pulling loose from substrate, alligating, buckling, tearing.
4. Wearing Surfaces - Splitting, pulling loose tram substrate, buckling, opening up of joints, undue expansion and contraction.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Use similar or materials thus restoring the existing roof to a fully watertight condition.

B. New replacement materials shall be compatible with the existing material and of equal quality.

1. Replacement roof assembly shall consist of materials that have been tested and listed by UL for application indicated with UL “Class A” rating and Factory Mutual “Class I”.
2. Replacement insulation shall be of same type and thickness as existing material that has been removed. New insulation shall have an “R” factor equal to or greater than the existing insulation which is to remain.

   a. If existing insulation has a vapor barrier, then new insulation shall have matching vapor barrier.

3. Bitumen shall be the same material as existing and shall be certified compatible by the bitumen manufacturer.
C. Provide additional layers or strip membrane materials at joint between new and old roof, metal flashings, metal flanges, roof drains, vent pipe cracks, and at any other penetrations through the substrate construction as specified by roofing manufacturer.

D. Aggregate: Material, color and size matching existing and approved by the RE/PM.

E. Materials for Sheet Metal Work:

1. Materials for metal flash and related sheet metal work shall match existing conforming to ASTM Specifications of the following types and finishes. All material to match existing.
2. Unless otherwise hereinafter specified, stainless steel sheet shall be of the following U.S. Standard gauge numbers.
3. Solder generally shall be 50-50 pure block tin and pig lead.
4. Solder for jointing on surfaces which are exposed to view shall be 60-40 pure block tin and pig lead.
5. Flux for use in connection with soldering shall be recommended by the manufacturer on the stainless steel.
6. Paint for concealed coating of dissimilar metals shall be an approved brand of black asphaltum and/or zinc chromate paint.
7. Nails for metal work shall be 3/8” diameter head, stainless steel.
8. Expansion shields shall be lead or galvanized steel. Screws, bolts, and other miscellaneous fastenings shall be galvanized steel or stainless steel.

F. Form watertight umbrella and roof jacks in accordance with NRCA standards. Flash into existing roofing. Extend all flashings as required tie new work into existing work. Make all connections watertight.

PART 3 – EXECUTION

3.1 COORDINATION

A. Coordinate work covered under this Section with contiguous work of other trades or contracts. Carry out the work in accordance with a schedule of operation jointly prepared and accepted by all other trades or contracts involved.

3.2 REMOVAL OF EXISTING MATERIALS

A. Contractor shall scour, remove and stockpile existing gravel for reuse whenever practical. Remove insulation to the extent required to do the work. Boards that are wet, have punctured vapor barrier, have broken edges or corners or are damaged in any manner shall be discarded and removed.

B. Contractor shall provide a temporary waterproof covering for areas that are exposed to the elements until such time as the new roofing can be installed. Protect furniture, equipment, etc. from water damage.

C. Removal and relocation operations shall take place according to a prior approved schedule and place of operations.
D. Do not overload roof slab and other structural members when stockpiling materials.

3.3 PREPARATORY WORK

A. Roof decks designated to receive roofing and insulation must be free of defects, broom clean, dry, free from any substances which may affect the adherence qualities of the bonding materials used in connection therewith.

3.4 PROTECTION OF WORK

A. Protection of Work: Protect roofing work during construction operations and installations by other trades involved. Provide pathways of wood planks or plywood panels designed to protect completed roofing work against damages of any kind during installations by other trades and contracts within the roof deck areas.

3.5 WORKMANSHIP, GENERAL

A. Work shall be completed by an approved applicator in a manner conducive to good workmanship and overall compliance with the specification.

B. Materials shall be mixed, thinned, modified and applied as directed by the manufacturer’s instructions.

3.6 APPLICATION OF INSULATION

A. Secure insulation to deck in same manner as existing insulation. Bum insulation boards hand-tight, to each other. At junction of new and existing insulation, hand cut new boards for a tight fit. Tape joint using manufacturer-recommended tape.

3.7 INSTALLATION OF BUILT-UP ROOF MEMBRANE

A. Apply bed coat of bitumen and then the first ply of built-up roofing which shall extend not less than 6 inches beyond the patched area. Each succeeding ply shall extend not less than 6 inches beyond the preceding ply. (Three or four plies to match original roof composition.) All plies laid shingle style. Apply flood coat onto top ply and then apply bridge ply 3 feet wide over center of original cut. Over this apply second and third bridge plies each extending 6 inches on either side of preceding ply. Cover bridge plies with new flood coat and reinstall gravel over entire patch area to match existing work.

3.8 SHEET METAL WORK

A. Preparation: Clean surfaces and areas designed to be covered with sheet metal, free from dirt, mortar dropping, loose particles or any foreign substances with may adversely affect the superimposed installation.

B. Fabrication: Form sheet metal to required shapes and sizes. Assemble in as long lengths as practicable and join by means of locked and soldered seams.
1. Prior to soldering, clean and roughen edges with a coarse emery cloth at least 2 inches on each side of joint to produce suitable surfaces for pre-tinning operation.
2. Method of soldering, welding and use of flux shall be carried out in strict accordance with stainless steel manufacturer’s recommendations and printed specifications.
3. Use suitable type of solder and flux for joining sheet metal members which are exposed to view.
4. Immediately after soldering, remove all traces of acid and flux by swabbing with 5% to 10% solution of washing soda or other approved neutralizer, followed by a clear water rinse.
5. Seams other than expansion joints shall be soldered continuously showing one (1) full inch of evenly flowed solder. Wherever possible, solder joints in a flat position. Fabrication and installation shall provide watertight assemblies in the completed work.
6. Installed sheet metal work shall be clean, straight, true and performed to the satisfaction of the RE/PM.

3.9 CLEANING

A. Work under this Section shall be left in a clean and orderly condition, secure and true to the satisfaction of the RE/PM.

B. Sheet metal work, when finished, shall be thoroughly cleaned of all flux and, din. Excess flux which may cause acid stains must be neutralized by washing with a solution of five to ten percent (5% - 10%) washing soda. After cleaning, surfaces shall be washed with clear water.

C. Remove empty containers and debris, etc. from the roof surfaced about the premises resulting from the work and clean or otherwise restore surfaces damaged as a result of the work operations.

3.10 MEASUREMENT & PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 51 00-1</td>
<td>Furnish and install patching of built-up roofing.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>07 51 00-2</td>
<td>Furnish and install flashing at roof penetrations.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>07 51 00-3</td>
<td>Cut, patch, furnish and install Pitch Pockets up to and</td>
<td>Each</td>
</tr>
<tr>
<td></td>
<td>including 144 sq. inches.</td>
<td></td>
</tr>
<tr>
<td>07 51 00-4</td>
<td>Cut, patch, furnish and install Pitch Pockets bigger than</td>
<td>Each</td>
</tr>
<tr>
<td></td>
<td>144 sq. inches to and including 576 sq. inches.</td>
<td></td>
</tr>
</tbody>
</table>
B. Unit prices include surface preparation insulation, temporary covers and related materials.
C. The unit price for flashing at roof penetrations as pertains to the Work of this Section will not be applied to payment for other flashing work specified in other sections of work.

[END OF SECTION 07 51 00]
SECTION 07 57 60 - MECHANICAL ROOM WATERPROOFING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes: Provide a complete polyurethane waterproofing coating system where indicated on the Drawings, including all applicable sealants and elastomeric flashings needed to ensure a complete waterproof and weathertight system for deck, ramp, stair and landing surfaces at locations indicated.

1.2 SUBMITTALS

Product data:
1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
3. Shop Drawings or catalog illustrations in sufficient detail to show installation and interface of the work of this Section with the work of adjacent trades;
4. Manufacturer's current recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.
5. Written documentation of applicator's qualifications, including reference projects of similar scope and complexity, with current phone contacts of architects and owners for verification.

1.3 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

B. Applicator qualifications:

1. Applicator shall have at least three years’ experience in installing materials of types specified and shall have successfully completed at least three projects of similar scope and complexity.
2. Applicator shall designate a single individual as project foreman who shall be on site at all times during installation.

C. Examine Drawings and Specifications affecting work of this Section, verify all conditions, review installation procedures, and coordinate scheduling with interfacing portions of the Work.
1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to job site in manufacturer's unopened containers with all labels intact and legible at time of use.

B. Maintain the products in accord with manufacturer's recommendations with proper precautions to ensure fitness of material when installed.

1.5 SUBSTRATE CONDITIONS

A. General:

1. Provide applicator with surfaces that are broom clean, dry, sound and free of voids, bugholes, rockpockets, honeycombs, protrusions, excessive roughness, foreign matter, frost, ice and other contaminants which may inhibit application or performance of the waterproofing coating system.

2. Using suitable abrasive methods, remove residue of form release, curing compound, chemical retarders and other surface treatments, laitance, mortar smear, sawcutting residue, mill scale, rust, loose material and other contaminants from concrete, masonry and ferrous metal surfaces to receive the work of this Section.

B. Concrete: Where work of this Section will be applied to concrete, provide surfaces that are smooth with finish equal to one that is light steel troweled followed by a fine hair broom.

C. Decks:

1. Slope deck surfaces to drains that have flanges at coating level which are flush with deck surfaces.

2. Rigidly install pipe, vents and other surface protrusions, properly flash them, and cover to prevent entry of coating materials.

D. Metal flashings: Where metal flashings are substrate to waterproofing coating, set the flashings in continuous bedding bead of urethane sealant; install sealant S-bead between metal laps and mechanically fasten to substrate along leading edges at every 4" on center, staggered linearly, to lay flat without fishmouths.

E. Joints: Configuration shall be consistent with this Section and with all other requirements of the Contract Documents.

1.6 GUARANTEES

A. The Contractor shall provide the following written guarantees for the installed waterproof coating system:

1. Manufacturer's standard guarantee covering materials - Five (5) years; and

2. Applicator's standard guarantee covering workmanship - Five (5) years.
Should any defects occur during the stated period, they shall be corrected immediately, and all damage caused by such defects shall be corrected. Defects shall include, but not be limited to, adhesive failure, cohesive failure, weathering deficiencies and
waterproofing failure resulting from substrate cracking up to 1/16 inch. All corrective work shall be at the Contractor’s expense. The Guarantee Period shall commence upon final acceptance of the work.

PART 2 PRODUCTS

2.1 GENERAL

A. Provide a complete "Vulkem 360NF/Vulkem 950NF" Mechanical Room Coating System or Vulkem, 360NF/950NF/951NF HD Mechanical Room System liquid applied polyurethane waterproofing coating system manufactured by Tremco Inc. (800) 312-7906 and having the following minimum attributes:
   1. System designed for waterproofing decks subject to mechanical room traffic.
   2. Complying with ASTM C957-91 and having a Class A fire rating on concrete substrates.
   3. Color to be selected by Architect from manufacturer’s standard color range.

B. or Approved equal.

2.2 ACCESSORIES

A. Primer: As recommended by coating system manufacturer.

B. Joint backing: Closed-cell, polyethylene rod as recommended by coating manufacturer.

C. Aggregate: “Glass Sand” 90 Mesh Feldspar Slica Quartz Aggregate or 30-60 Felspar as noted for system and approved in mock-up.

D. Sealant: As recommended by coating manufacturer. Vulkem 116, Dymeric 240FC.

E. or Approved equal.

2.3 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor and approved by the coating system manufacturer as compatible, subject to the approval of the Architect.

PART 3 EXECUTION

3.1 SURFACE CONDITIONS

A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

B. Applicator shall examine the areas and conditions under which work of this Section will be performed.

   1. Verify conformance with manufacturer's requirements;
2. Report unsatisfactory conditions in writing to the Architect;
3. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION

A. Surface preparation and detailing procedures to be in accord with waterproof coating system manufacturer's instructions and recommendations except where more stringent requirements are indicated.

B. Clean all deck surfaces to receive coating system in accord with manufacturer's instructions; vacuum clean or blow clean with oil-free compressed air all surfaces to receive sealants, detailing materials or coatings immediately prior to installation.

C. Rout, clean, prepare and detail surface cracks in accord with manufacturer's instructions; install backer rod where required.

D. Clean metal surfaces to bright metal by wire brushing or mechanical etching; scuff-sand lead flashing and plastic surfaces.

E. Prime surfaces in accord with manufacturer's instructions only as required or recommended by the manufacturer.

F. Install 1/4" diameter backer rod into corner of all horizontal-to-vertical junctures subject to movement and cover with 1" detail cant of approved sealant; install 1" detail cants at projections, curbs and other horizontal-to-vertical junctures.

G. Install detail coats, joint and crack treatments, and liquid flashings in accord with manufacturer's instructions.

H. Allow detail applications to cure in accord with manufacturer's instructions prior to general application of coating.

3.3 APPLICATION (for Vulkem System), follow manufacturer applications for approved equal.

A. Verify proper dry condition of substrate using method recommended by coating system manufacturer; perform adhesion checks prior to general application of coating system using field adhesion test method recommended by manufacturer.

B. Mask off adjoining surfaces not to receive coating system.

C. Wipe clean all detail coats with white rags wetted with Xylene solvent; do not saturate detail coat.

D. Apply coating base coat and top uniformly, do not allow coatings to pond and allow to cure in accord with manufacturer's instructions.

E. Feather terminating edge when entire area cannot be completed in one day; clean area 6" wide along terminating edge of coating with Xylene solvent on clean white rags
prior to startup on next working day; use interlaminary primer per manufacturer's instructions as needed; overlap existing work by 6" with new work.

F. Install waterproof coating system in accord with manufacturer's recommendations and instructions as applies to the Work except where more stringent requirements are indicated:

1. Grid deck surfaces to assure proper coverage rates and verify coating wet-film mil thickness with gauges as work progresses.
2. Retain empty product containers during course of work to aid in determining whether completed coating system complies with manufacturers average thickness requirements.
3. Application of Vulkem 360NF/950NF or approved equal Mechanical Room System Standard Duty.
4. Complete all detail work as noted in standard system application instructions. Install base coat at the rate of 40 mils Mechanical Room Application Instructions.
5. Apply top coat of Vulkem 950 or approved equal at a rate of 125 square feet per gallon ( thinning may be required contact manufacturer for instructions for thinning) and while wet broadcast 90 mesh aggregate to rejection. Do not over broadcast. Allow to cure for 4-6 hours minimum. Sweep up any excess aggregate.
6. Application of 360NF/950NF/951NF Heavy Duty or approved equal Mechanical Room Coating for Exterior Applications.
7. Complete all detail work as noted in standard system application instructions. Install base coat at 40 mils thickness.
8. Apply Vulkem 950NF or approved equal at the rate of 125 square feet per gallon while wet broadcast 30-60 Felspar Silica quartz aggregate to rejection. After cure sweep up any excess aggregate.
9. Apply Vulkem 951NF Top Coat or approved equal at the rate of 125 mils per gallon. While wet broadcast 30-60 Felspar Silica quartz to rejection. Follow the manufacturer’s instructions for applications.

3.4 PROTECTION AND CLEAN-UP

A. Promptly remove primer or coating material with MEK, Toluene or Xylene or approved equal; leave work area in broom clean condition.

B. Allow completed Work to cure 24 hours before opening to pedestrian traffic.

3.5 MEASUREMENT AND PAYMENT

A. Unit Price

07 57 60-1 Furnish and install waterproofing at mechanical room as specified Per sq. ft.

[END OF SECTION 07 57 60]
SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide flashing and sheet metal in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Metal counter flashing; and base flashing.

B. Related Work: Refer to other Sections for the following:

1. Section 04 20 00 – Unit Masonry; for flashings within masonry walls.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer’s product data, installation instructions and general recommendations for each specified sheet material and fabricated product.

B. Samples: Submit 8” square samples of specified sheet materials. Submit 12” long samples of shop-fabricated products.

C. Shop Drawings: Submit shop drawings showing layout, joining, profiles, and anchorages of fabricated work, including major counter-flashings, scuppers and coping; layouts at 1/4” scale, details at 3” scale.

1.3 GUARANTEE

A. The Contractor shall provide a five (5) year written guarantee, covering the sheet metal flashing and trim materials and workmanship. Should any defects occur during the stated period, they shall be corrected immediately, and all damage caused by such defects shall be corrected. All corrective work shall be at the Contractor’s expense. The Guarantee Period shall commence upon final acceptance of the work.

B. The following types of failure will be adjudged as defective work:

1. Undue expansion, lifting, deformation, loosening, splitting up of seams.
2. Failure to stay in place.

PART 2 – PRODUCTS

2.1 FLASHING AND SHEET METAL MATERIALS

A. Stainless Steel: AISI Type 302/304, ASTM A 167, 2D annealed finish, soft except where harder temper required for forming or performance; 0.015” thick (28 gage) except as otherwise indicated.
B. Copper: ASTM B 370; temper H00 (cold-rolled) except where temper 060 is required for forming; 16 oz. (0.0216-inch thick) except as otherwise indicated.

2.2 MISCELLANEOUS MATERIALS AND ACCESSORIES

A. Solder: For use with stainless steel, provide 60-40 tin/lead solder (ASTM B 32), with acid-chloride type flux, except use rosin flux over tinned surfaces.

B. Fasteners: Same metal as flashing/sheet metal or, other non-corrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.

C. Retainers: 16 gage steel galvanized or stainless.

D. Bituminous Coating: SSPC Paint 12, asphalt mastic, nominally free of sulfur, compounded for 15- mil dry film thickness per coal.

E. Mastic Sealant: Polyisobutylene; non-hardening, non-skinning, non-drying, non-migrating sealant.

F. Elastomeric Sealant: Type recommended by manufacturer of metal and fabricator of components being sealed; comply with ASTM C 920.

G. Epoxy Seam Sealer: 2-part non-corrosive metal seam cementing compound, recommended by metal manufacturer for non-moving joints.

H. Polyethylene Sheet: ASTM D 4397, 6 mil thickness.

I. Adhesives: Type recommended by flashing manufacturer for waterproof seaming adhesive application of flashing sheet.

J. Metal Accessories: Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gage required for performance.


L. Elastic Flashing Filler: Closed-cell polyethylene or other soft closed-cell material recommended by elastic flashing manufacturer as filler under flashing loops to ensure movement with minimum stress.

2.3 FABRICATED UNITS

A. General: Comply with SMACNA “Architectural Sheet Metal Manual” and other recognized industry practices. Fabricate for waterproof and weather-resistant performance; with provisions for expansion.

1. Form work to fit substrates. Form exposed sheet metal work without excessive oil-canning, buckling and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.
2. Provide shop fabricated comers for coping.

B. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.

C. Expansion Provisions: Where necessary, form expansion joints of intermeshing hooked flanges, not less than 1” deep, filled with concealed mastic sealant.

D. Sealant Joints: Where movable, non-expansion type joints are required for proper performance of work, form metal for installation of elastomeric sealant, in compliance with SMACNA standards.

E. Separations: Provide for separation of metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact, with bituminous coating or other permanent separation.

PART 3 – EXECUTION

3.1 INSTALLATION REQUIREMENTS

A. General: Comply with manufacturer’s installation instructions and with SMACNA “Architectural Sheet Metal Manual.” Anchor units of work securely in place, providing for thermal expansion of metal units. Conceal fasteners where possible, and set units true to line and level. Install work with laps, joints and seams which will be permanently watertight and weatherproof.

B. Where sheet metal will be in contact with dissimilar materials, provide permanent separation for the sheet metal.

C. Bed flanges of work in a thick coat of bituminous roofing cement where required for waterproof performance.

D. Nail flanges of expansion joint units to curb nailers, at maximum spacing of 6”. Fabricate seams at joints between units with minimum 3” overlap, to form a continuous waterproof system.

E. Install reglets to receive counter-flashing in manner and by methods indicated. Where shown in concrete, furnish reglets to trades of concrete work for installation as work of Division 3 sections. Where shown in Masonry, furnish reglets to trades of masonry work, for installation as work of Division 4 sections.

F. Install counter-flashings in reglets, either by snap-in seal arrangement or by welding in place for anchorage and filling reglet with mastic or elastomeric sealant, as indicated and depending on degree of sealant exposure.

3.2 CLEANING AND PROTECTION

A. Clean exposed metal surfaces, removing substances which might cause corrosion of metal or deterioration of finishes.
B. Protection: Provide protection of flashings and sheet metal work during construction, to ensure that work will be without damage or deterioration; other than natural weathering, at time of Substantial Completion.

3.3 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 62 00-1</td>
<td>Furnish and install flashing at roof penetrations including waterproof sealant.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>07 62 00-2</td>
<td>Furnish and install stainless steel flashing as specified.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>07 62 00-3</td>
<td>Furnish and install copper flashing as specified.</td>
<td>Per lin. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 07 62 00]
SECTION 07 81 00 – APPLIED FIREPROOFING

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide fireproof patching in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. New fireproofing and patching or existing structural members.

1.2 QUALITY ASSURANCE

A. Single Source Responsibility: Obtain fireproofing materials from a single manufacturer for each different product.

B. Fire Performance Characteristics: Provide materials and construction which are identical to those tested for the following fire performance characteristics, according to test method indicated by UL or other testing and inspecting agency acceptable to authorities having jurisdiction. The Contractor shall be responsible for Fire Performance Testing.

1. Fire Resistance Ratings: As indicated by reference to design designation in UL “Fire Resistance Directory” for fire-rated assemblies in which fireproofing serves as direct-applied protection, tested per ASTM E 119,

2. Surface Burning Characteristics: As indicated for each fireproofing product required, tested per ASTM E 84 and listed in UL “Building Materials Directory”

C. Installation

1. Fireproofing shall be installed in strict accordance with manufacturer’s latest written instructions. Discrepancies between these instructions and this specification, drawings or site conditions are to be resolved by the Architect in writing.

2. Fireproofing shall be applied by a Contractor approved by the fireproofing manufacturer, and having the proper equipment, in accordance with manufacturer’s recommendations,

3. Before proceeding with the work, the Contractor shall apply fireproofing in accordance with the fire ratings to a representative surface area of approximately 50 square feet. Finish texture shall be inspected by the RE/PM before proceeding.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for fireproofing product indicated.

B. Test Reports:

1. Submit certified test results from an independent testing laboratory indicating compliance of fireproofing products with performance requirements indicated.

2. Submit test results of in-place performance as required under Part 3 of this section for field quality control.
1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to project site in original, unopened packages. Include labels with names of products and manufacturers, date of manufacture, shelf life, and UL labels for fire-resistance ratings.

1. Do not use materials whose shelf life has expired.

B. Store materials inside, under cover, and in a manner to keep them dry until ready to use. Remove from project site and discard any materials that have been exposed to moisture or have otherwise deteriorated.

PART 2 – PRODUCTS

2.1. FIREPROOF PATCHING MATERIALS

A. General: For concealed applications of fireproofing provide manufacturer’s standard products complying with requirements indicated below for material composition and physical properties representative of installed products.

B. Cementitious Fireproofing: Factory-mixed dry formulation of inorganic binders and lightweight mineral aggregates mixed with water at project site to form a slurry for troweled-on application.

C. Physical Properties: Minimum values, unless otherwise indicated, measured per standard test methods referenced with each property, as follows:

1. Bond Strength: 80 lbf per sq. ft. per ASTM E 736.
2. Compressive Strength: 3.47 lb per sq. inch per ASTM E 761.
4. Deflection: No cracking, spalling, delamination or the like per ASTM E 759.
5. Effect of Impact on Bonding: No cracking, spalling, delamination or the like per ASTM E 760.
6. Air Erosion: Maximum weight loss of 0.025 grams per sq. ft. per ASTM E 859.
7. Dry Density: Values for average and individual densities as required for fire-resistance rating indicated, per ASTM E 605, but not less than 14 lb. per cu. ft.
8. Hardness: 0.50 inch maximum penetration per ASTM C 569.
9. Surface Burning Characteristics: Maximum flame spread and smoke developed values of 10 and 0, respectively.

D. Products: Subject to compliance with requirements, provide Cementitious Fireproofing as follows; “Monokote”; Grace Construction Products Div., W.R. Grace & Co., or approved equal.

2.2 AUXILIARY FIREPROOFING MATERIALS
A. General: Provide auxiliary fireproofing materials which are compatible with fireproofing products and substrates approved for use indicated by manufacturer of fireproofing, and which have been approved by UL or other acceptable testing and inspecting agency for use in fire-resistance rated designs indicated.

B. Substrate Primers: Type approved by manufacturer of fireproofing for substrate and for conditions of exposure indicated.

PART 3 – EXECUTION

3.1 INSPECTION

A. Require Installer to examine substrates to determine if they are in satisfactory condition to receive fireproofing.

3.2 PREPARATION

A. Provide ventilation in areas to receive fire resistive coating.

B. Clean substrates of oil, grease, rolling compounds, incompatible primers, and loose mill scale which could impair bond of fireproofing.

C. Prime substrates where recommended by fireproofing manufacturer.

D. Cover other work and existing improvements which might be damaged by fall-out or spatter of fireproofing materials during application. Provide temporary enclosure as required to confine fireproofing operations, protect the environment, and to ensure adequate ambient conditions for temperature and ventilation.

3.3 INSTALLATION

A. General: Comply with fireproofing manufacturer’s instructions for mixing materials, application procedures and equipment used to convey and troweled fireproofing material.

B. Extend fireproofing full thickness over entire area of each substrate to be protected. Unless otherwise recommended by fireproofing manufacturer, install fireproof patching materials in a single course.

C. Apply fireproofing in thicknesses and densities indicated but not less than that required to achieve fire resistance ratings specified.

D. Apply fireproofing materials by troweled-on method to maximum extent possible.

3.4 FIELD QUALITY CONTROL

A. Testing Laboratory: Contractor shall employ and pay an independent testing laboratory to perform tests required for local authority approval.
B. Repair or replace fireproofing within areas where test results indicate fireproofing does not comply with code or performance requirements.

3.5 CLEANING, REPAIR AND PROTECTION

A. Immediately upon completion of troweled-on operations in each containable area of project, remove spatter and fall-out of materials from surfaces of other work and clean exposed surfaces to remove evidence of soiling.

B. The cleaning, repair and protection of the areas affected by the Work of this Section shall be the responsibility of the Contractor to the sole satisfaction of AM, at no additional cost to the City.

C. Cure exposed fireproofing materials in compliance with fireproofing manufacturer’s recommendations.

3.6 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 81 00-1</td>
<td>Furnish and install patching of existing fireproofing.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>07 81 00-2</td>
<td>Furnish and install new fireproofing</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 07 81 00]
SECTION 07 81 23 - INTERIOR INTUMESCENT FIREPROOFING

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Preparing surfaces to receive fireproofing.
B. Protection of adjacent surfaces from overspraying.
C. Spray application of water based, intumescent, fireproofing on interior, exposed structural steel wide flange columns, beams, pipe columns, and related exposed structural steel to provide rated fireproofing.

1.2 RELATED WORK

A. Section 05 12 00 - Structural Steel.
B. Section 05 31 00 - Steel Decking.

1.3 REFERENCES

A. ASTM D 256 - Impact Resistance Test.
B. ASTM D 638 - Tensile Strength.
E. ASTM D 1002 - Standard Test Method for Bond Strength.
G. ASTM D 4541 - Bond Strength.
K. SSPC-SP-1 Solvent Cleaning - Steel Structures Painting Council (SSPC).
L. SSPC-SP-2 Hand Tool Cleaning - Steel Structures Painting Council (SSPC).
M. SSPC-SP-3 Power Tool Cleaning - Steel Structures Painting Council (SSPC).
N. SSPC-SP-6 Commercial Blast Cleaning - Steel Structures Painting Council (SSPC).

1.4 PERFORMANCE REQUIREMENTS

A. Intumescent fireproofing system to provide a fire rating of one, three and one half hours.

1.5 SUBMITTALS

A. Submit product data.
   1. Indicate product characteristics, performance, and limitation criteria.
B. Submit manufacturer’s installation instructions.
C. Submit manufacturer’s certificate that products meet or exceed specified requirements.
D. Submit test reports.
E. Submit certified test reports indicating the following:
1. Fire test reports of fireproofing application to substrate materials similar to project conditions.
3. Submit applicator’s current certification, by product manufacturer, as a factory trained and manufacturer approved installer of this product.

1.6 QUALITY ASSURANCE

A. Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum five years documented experience.
B. Applicator: Company specializing in applying the work of this Section with minimum 3 years documented experience and approved by manufacturer.

1.7 REGULATORY REQUIREMENTS

A. Conform to applicable code for fire resistance ratings.
B. Submit certification of acceptability of fireproofing materials to authority having jurisdiction and to Architect.

1.8 MOCKUP

A. Provide mockup of applied intumescent fireproofing.
B. Provide testing and analysis of mockup to manufacturer’s published data.
C. Apply sample section of 100 sq ft. in size to representative substrate on site.
D. Comply with project requirements as to thickness, density, fire rating, and finish texture.
E. Examine installation to determine variances.
F. If accepted, mockup will demonstrate minimum standard for the Work. Mockup may remain as part of the Work.

1.9 ENVIRONMENTAL REQUIREMENTS

A. When temperature is less than 40F, follow manufacturer’s field instructions for cold weather installation. So not apply when surface temperature is less than 5 degrees F above the dew point.
B. Provide ventilation in areas to receive fireproofing during and 72 hours, minimum, after application, to dry materials and dissipate solvent odors.
C. Maintain non-toxic, unpolluted working area. Provide temporary enclosure to prevent spray from contaminating air.

1.10 SEQUENCING AND SCHEDULING

A. Sequence work in conjunction with placement of ceiling hanger tabs, mechanical component hangers, and electrical components.

1.11 GUARANTEES

A. Provide one year manufacturer’s guarantee under provisions of General Conditions.
B. Provide one year applicator’s guarantee under provisions of General Conditions.
C. Guarantee: Fireproofing to remain free from cracking, checking, dusting, flaking, spalling, separation, and blistering. Reinstall or repair such defects or failures.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Albi Manufacturing, East Berlin, CT (860) 828-0571; “ALBI CLAD TF.”
B. Or approved equal

2.02 MATERIALS

A. Intumescent Fireproofing: Single component, water based, factory mixed, asbestos free, intumescent material blended for uniform texture; conforming to the following requirements:
   1. Bond Strength: ANSI/ASTM E 736,
   2. Bond Impact: ASTM E 760, no cracking, flaking, or delamination,
   3. Dry Density: ASTM E 605,
   4. Surface Burning Characteristics, ASTM E84:
      b. Smoke Developed: 5.

PART 3 - EXECUTION

3.01 INSPECTION

A. Verify that surfaces are ready to receive work.
B. Verify that clips, hangers, supports, sleeves, and other items required to penetrate fireproofing are in place.
C. Verify ducts, piping, equipment, or other items which would interfere with application of fireproofing are not positioned until fireproofing work is complete.
D. Verify that voids and cracks in substrate are filled, and projections are removed where fireproofing is exposed to view as a finish material.
E. Beginning of installation means applicator accepts existing substrate.

3.02 PREPARATION

A. Work in accordance with SSPC guidelines SSPC-SP-1, SSPC-SP-2, SSPC-SP-3, or SSPC-SP-6 as appropriate to prepare substrate.
B. Clean substrate of dirt, dust, grease, oil, loose material, or other matter which may affect bond of fireproofing.
C. Seal all penetrations or open ended fireproofing termination by chamfering at a 45 degree angle and sealing with high heat silicone sealant.
D. Install reinforcement over structural members as indicated on Drawings, or U.L. Fire Resistance Directory Listings.
3.03 PROTECTION

A. Protect floor areas from this Work by completely covering with tarps or 4 mil polyethylene sheets.
B. Protect adjacent surfaces and equipment from damage by overspray, fall-out, and dusting.
C. Close off and seal ductwork in areas where fireproofing is being applied.

3.04 APPLICATION

A. Apply primer and fireproofing in accordance with manufacturer’s instructions. Do not apply to surfaces which would prohibit proper adhesions.
B. Apply primer according to primer manufacturer’s recommendations. Provide primer “cut-back” three inches for bolted connections and 12 inches for welded connections.
C. Apply fireproofing in sufficient thickness to achieve rating, with as many passes necessary to cover with monolithic blanket of uniform hardness, density and texture. Spray, and roll smooth the finished surface.

3.05 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed using manufacturer’s guidelines.
B. Inspections will be performed to verify compliance with requirements.
C. Patch fireproofing, which has been cut away to facilitate work of other trades, so as to maintain complete coverage of full thickness on appropriate substrate.
D. Correct unacceptable Work and provide further inspection to verify compliance with requirements, at no cost.

3.06 CLEANING

A. Remove excess material, overspray, droppings, and debris.
B. Remove fireproofing from materials and surfaces not specifically required to be fireproofed.

3.07 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>07 81 23-1</td>
<td>Furnish and install intumescent fireproofing as necessary up to 1 hour fire rating.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>07 81 23-2</td>
<td>Each additional ½ hour fire rating to above</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 07 81 23]
SECTION 07 84 13 – PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 SUMMARY

A. Firestopping protection in the following areas:
   1. Through Penetration Firestopping for the passage of cable, cable tray, conduit, pipe, duct, electrical bus-way, or other raceways through fire rated floor/ceiling (vertical barriers) and/or/wall/partitions (horizontal barriers).
   2. Recessed Light fixtures and openings in fire rated ceilings, floor/ceiling systems.
   3. Building Perimeter Firestopping between edge of floor slabs and curtain walls.
   4. Gaps between the head of wall and ceiling, or roof assemblies.
   5. Expansion joints in fire rated walls and floors.
   6. Openings around structural support members, which penetrate floors/walls.
   7. Openings and penetrations in fire rated walls or partitions containing fire doors.

B. Perform all work required, and furnish all materials necessary to complete proper installation of firestops in fire rated walls, floors and partitions, around penetrations of pipe, conduit, duct, cable, cable tray, bus duct, and all other devices, or in blank openings, as required by the job Contract Documents.

1.2 RELATED WORK

A. Related work which requires the placement of material, other than closure devices such as doors, for closing openings in fire rated barriers may be covered under other sections of the specifications. Only tested firestop systems shall be used in the locations and specification sections listed in Divisions 03, 04, 05, 07, 08 and 09.

B. A single contractor to maintain consistency and accountability on the project shall perform firestopping work.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM®) standard test methods for:
   1. ASTM E 84: Surface Burning Characteristics of Building Materials
   2. ASTM E 119: Fire Tests of Building Construction and Materials
   3. ASTM E 814: Fire Tests of Through-Penetration Firestoppers

B. Underwriters Laboratories Inc. (UL®)
   1. UL263: Fire Test of Building Construction Materials
   2. UL723: Surface Burning Characteristics Test of Building Materials
   3. UL1479: Fire Test of Through-Penetration Firestoppers
C. UL® Fire Resistance Directory - Current Year Edition - Section Classifications
   1. (CLIV) Wall Opening Protective Materials
   2. (XHEZ) Through-Penetration Firestop Systems
   3. (XHHW) Fill, void or Cavity Materials
   4. (XHJI) Firestop Devices
   5. (XHKU) Forming Materials
   6. (XHLU) Pipe Covering Materials

D. Other Test Agencies and Jurisdictional Authorities which publish design performance or
design evaluation services shall be acceptable, e.g.
   1. Factory Mutual Approval Guide - Current Year Edition (FM)
   2. FM4991: FM Approval Standard of Firestop Contractors – Class4991
   3. Omega Point Laboratories – Listing Services (OPL)
   4. Incheape Testing Services (Warnock Hersey,) (WH)
   5. Southwest Research (SwRI)
   6. Underwriters Laboratories of Canada (ULC)
   7. Underwriters Laboratories Products Certified for Canada (CU L)
      States, Cities, and Municipalities

1.3 DEFINITIONS

A. FIRESTOPS: Specially tested materials used to reestablish the integrity of a fire rated
   wall, floor, or other partition after the structure has been breached for the through-
   penetration of building utility items.

B. THROUGH PENETRATION: Pipes, conduits, ducts, cable trays, cable, wire, or any
   other element passing completely through an opening in a fire rated barrier/assembly.

C. MEMBRANE PENETRATION: Any penetration of a fire rated barrier that breaches one
   side, but does not pass completely through to the other side.

D. SYSTEM: The combination of specific materials and/or devices, including the
   penetrating item(s) required to complete the firestop, as tested by an independent third
   party test facility.

E. BARRIER/ASSEMBLY: A wall, floor, or other partition with a fire rating of 1, 2, 3 or 4
   hours.

F. F-RATING: The time a firestop - penetrating item/building material/firestop material -
   can withstand direct flame without a burn through as tested to ASTM E814 / UL 1479 /
   UL 2079.

G. T-RATING: The amount of time a through-penetration firestop limits the temperature
   rise on the cold side - outside the test furnace - as tested to ASTM E814 / UL 1479 / UL
   2079.

H. L-RATING: The L-Rating criteria determines the amount of air leakage, in cubic feet per
   minute, per square foot of opening (CFM/sq ft.), through the firestop system at ambient
and/or 400 F air temperature at an air pressure differential of 0.30 in. W.C. L-Ratings are used to determine the suitability of a firestop to stop smoke and toxic gases in accordance with the National Fire Protection Association Life Safety Code, NFPA 101.

1.4 SYSTEM DESCRIPTION

Design Requirements:

1. Designs selected for installation shall provide a fire resistance rating that is at least equal to the hourly resistance rating of the floor, wall or partition into which the firestop design will be installed.

2. Firestop systems and materials shall not require special tools for installation, and shall not emit hazardous, combustible, or irritating fumes during installation, curing, or use.

3. When more than one firestop design is acceptable, individual product characteristics shall be evaluated for secondary performance benefits, e.g. environmental sealing of water and dust, or for ease of retrofit modifications.

General Considerations:

1. Firestop systems do not re-establish the structural integrity of load bearing barriers. Consult structural engineer prior to cutting or core drilling any load bearing assembly.

2. Firestop systems are not designed for, or intended to support live loads and traffic. Curbs or steel plates may be required to restrict or accommodate potential traffic. Contractor shall notify RE/PM if there is reason to believe these limitations may be violated.

1.5 SUBMITTALS

A. Submit manufacturer's technical data/product literature, for each type of firestop material to be installed. Literature shall provide at minimum, product description, characteristics, test data, typical usage examples, independent test agency information, a product specification, installation temperature and storage requirements.

B. Submit Material Safety Data Sheets (MSDS) for each product delivered to jobsite.

C. Submit complete listing of all materials and systems to be used include UL® or FM ® Classification information or other third party test documentation.

D. Submitted system information or drawings must indicate specific products by catalog number, and the required installation thickness to be used in each through penetration opening.

E. Submit manufacturer's "engineering determination" drawings for non-standard installations where no 3rd party tested system exist.

F. Submit certificate, or other documentation, from manufacturer stating that the installer has
been trained in the proper installation of said manufacturer’s product, and is recognized as qualified to install such manufacturer’s product. In lieu of this documentation, installer shall submit a list of past projects to demonstrate capability to satisfactorily perform intended installations.

G. Submit product from "One Manufacturer" for entire project. Said manufacturer must be the entity producer of the products sold. Said manufacturer must have been producing firestop products for a minimum of 10 years.

1.6 QUALITY ASSURANCE

A. Workmanship:

1. Installation shall conform to requirements of qualified system designs, or manufacturer approved modification, as supported by engineering reports, or as approved by RE/PM and accepted by the authority having jurisdiction. All manufacturers engineering determinations or modifications shall be made, and signed by one of the manufacturers, in house, staff Firestop engineers.

2. Exposed surfaces of the firestop shall be finished to the standard of adjacent faces of the barrier being penetrated.

B. Regulatory Requirements:

1. Firestop systems shall be installed in all openings and around all penetrating items as required by these Contract Documents, and as required by applicable design, building and construction codes, subject to the interpretation of the jurisdictional authorities.

2. Firestop materials shall have the approval of the authority having jurisdiction.

C. Certification:

1. The performance of the intended firestop designs shall have been demonstrated by third party testing in accordance with the applicable reference standards of Paragraph 1.2A and 1.2B. Evidence of third-party acceptance shall include labeling or listing by an acceptable agency, as found in said agencies directory, or via written report.

2. Manufactured assemblies and material formulations shall be prepared under third party monitored Quality Control Program, e.g., UL® Follow-up Service.

3. Manufacturer shall be ISO 9001 compliant.

4. Contractor shall certify compliance with this section.

1.7 DELIVERY, STORAGE & HANDLING

A. All Firestop materials must be delivered to the jobsite in original unopened containers, or bags bearing the name of the manufacturer, product name, type, grade, and UL® Classification Mark (or other acceptable approval or listing mark) where applicable.

B. Coordinate delivery of materials with scheduled installation date to allow minimum storage time at jobsite.

C. Storage of products shall comply with manufacturer's requirements for each product.
D. Comply with recommended procedures, precautions or remedies as described in the Material Safety Data Sheets (MSDS) as applicable.

1.8 PROJECT CONDITIONS

A. Site conditions shall be in accordance with manufacturer’s requirements. Temperatures and other environmental conditions should not fall outside manufacturer’s suggested limits.

PART 2. PRODUCTS

2.1 FIRESTOPPING

Manufacturer:

1. EGS Nelson Firestop Products, Tulsa, OK. (800) 331-7325
2. Or Approved Equal

Materials:

A. Only firestop products that have been third party tested in accordance with ASTM E-814/UL1479; ASTM E-1966/UL2079 - for specific fire rated construction penetrations or construction joints shall be considered and used. Items shall be tested to specific parameters including the type and number of penetrating items, the size of the penetrating items, the maximum allowable annular space, joint width (& expansion/contraction), and rated for the hourly requirement of the structure.

FIRESTOPPING #1

Acceptance products for sealing nominal openings with penetrations of non-combustible items to include; cast and steel pipe, copper pipe, conduit, and electrical metallic tubing (EMT).

1. Nelson ES-1399 Firestop Elastomeric Sealant or approved equal.
2. Nelson CLK Firestop Silicone Sealant or approved equal.
3. Nelson LBS3 Firestop Intumescent Latex Based Sealant or approved equal.
4. Nelson FSP Firestop Putty or approved equal.

FIRESTOPPING #2

Acceptable products for sealing openings with penetrations of combustible items (penetrants which are consumed by high heat and fire) including: plastic pipe - PVC/CPVC etc., insulated metallic pipe, electric all data/telecommunications cable, cable bundles, in closed pipe systems.)

1. Nelson ES-1399 Firestop Elastomeric Sealant or approved equal.
2. Nelson FSP Firestop Putty or approved equal.
3. Nelson FSC3 Firestop Coating (3rd generation) or approved equal.
4. Nelson LBS3 Firestop Latex Based Sealant or approved equal.
5. Nelson PCS Firestop Pipe Choke Systems/Devices or approved equal.
6. Nelson PLW Firestop Pillows or approved equal.
7. Nelson WRS3 Firestop Intumescent Wrap Strips & Restraining Collars or approved equal.
FIRESTOPPING # 3
Acceptable products for penetrations of combustible pipes in open pipe systems.

1. Nelson LBS3 Firestop Latex Based Sealant or approved equal.
2. Nelson PCS Firestop Intumescent Pipe Choke System Collar/Devices or approved equal.
3. Nelson WRS3 Firestop Intumescent Wrap Strips & Restraining Collars or approved equal.
4. Nelson FSP Firestop Putty or approved equal.

FIRESTOPPING # 4
Acceptable products for large size – complex penetrations which accommodate individual or combinations of cable trays, multiple steel or copper pipes, electrical conduits, bus-ways, or electrical / data / telecommunications cables.

1. Nelson FB Intumescent Fire Brick or approved equal.
2. Nelson PLW Intumescent Firestop Pillows or approved equal.
3. Nelson CPS Firestop Intumescent Composite Sheet or approved equal.
4. Nelson CMP Firestop Mortar Compound or approved equal.
5. Nelson FSP Firestop Putty or approved equal.

2.2 PRODUCT SUBSTITUTIONS
A. No substitutions permitted.

PART 3. EXECUTION

3.1 MANUFACTURER’S INSTRUCTIONS
A. Comply with manufacturer’s installation instructions, technical data sheets and other product data for installation. Verify substrate conditions before installation.

3.2 EXAMINATION
A. Verify those all-penetrating elements and supporting devices have been properly installed, and that all temporary lines, and markings, have been removed.

3.3 PREPARATION
A. Provide drop clothes, or other satisfactory coverings for protection of adjacent areas in accordance with safe, and good work practices.

B. Surfaces, which will be in contact with penetration seal materials, shall be clean and free of dust, dirt grease, oil, loose materials, rust or any other substances.

3.4 INSTALLATION
A. Install penetration firestop seal materials in accordance with design requirements, and manufacturer’s installation procedures.

B. Follow design requirements pertaining to cable separation.
C. Follow manufacturer's recommendations to obtain a smooth, professional finish.

D. If forms or damming materials are used, they shall be removed after the designated cure/dry time unless the support materials used are of a fire resistant or noncombustible nature.

E. All installed through penetration firestops shall be identified via label, or stencil. Label shall state that the fill material around the penetrating item is a firestop, and that it shall not be disturbed except by authorized personnel. The label shall include the firestop brand name, product type or catalog number, and the UL® classified system number for which it was installed.

F. Consult with mechanical engineer, project manager, and damper manufacturer prior to installation of through-penetration firestop systems that might hamper the performance of fire dampers as it pertains to duct work.

3.5 FIELD QUALITY REQUIREMENTS

Quality Control:

1. Follow safety recommendations in Material Safety Data Sheets (MSDS) for products used.

2. Installation shall conform to requirements of qualified system designs, or manufacturer approved modification, as supported by engineering reports, or as approved by Project Engineers and accepted by the authority having jurisdiction. All manufacturers engineering determinations or modifications shall be made, and signed by one of the manufacturers, in house, staff firestop engineers.

3. Exposed surfaces of the firestop shall be finished to the standard of adjacent faces of the barrier being penetrated.

Inspections:

1. Specify applicable product inspection requirements after product installation.

2. Firestop installations shall be made accessible until inspection by applicable Code Authorities.

3. Installations found to be not in compliance should be corrected and re-inspected.

Identification:

1. Identify firestop systems with readily visible, self adhesive labels applied to both sides of the assembly having the following information:

b) Installing contractor’s name, address and phone number.
c) System designation of applicable testing and inspection agency.
d) Date of installation.
e) Firestop system manufacturer’s name.

3.6 CLEANING

Remove excess fill materials around firestop installations without disturbing materials within the openings. Remove all debris, leaving area in a clean undamaged condition. Clean installed products in accordance with manufacturer’s instructions.

3.7 PROTECTION

Protect installed product and installations from additional construction activity.

3.8 MEASUREMENT AND PAYMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 84 13-1</td>
<td>Penetration of non-combustible items</td>
<td>Lin. ft.</td>
</tr>
<tr>
<td>07 84 13-2</td>
<td>Penetration of combustible items</td>
<td>Lin. ft.</td>
</tr>
<tr>
<td>07 84 13-3</td>
<td>Penetration of combustible items (open pipe system)</td>
<td>Lin. ft.</td>
</tr>
<tr>
<td>07 84 13-4</td>
<td>Complex penetrations</td>
<td>Lin. ft.</td>
</tr>
<tr>
<td>07 84 13-5</td>
<td>Gaps between existing structurally separate section of walls to floors (exclude new wall assemblies as defined in Division 7) [measured one side length only].</td>
<td>Lin. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 07 84 13]
SECTION 07 92 00 – JOINT SEALANTS

PART I – GENERAL

1.1 SUMMARY

A. Work Included: Provide Joint sealers in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Section Includes:
   a. Silicone joint sealants.
   b. Urethane joint sealants.
   c. Polysulfide joint sealants.
   d. Latex joint sealants.
   e. Solvent-release-curing joint sealants.
   f. Performed joint sealants.
   g. Acoustical joint sealants.

B. Related Work: Refer to other Sections for the following:

1. Division 03 Sections.
2. Division 04 Section “Unit Masonry” for masonry control and expansion joint fillers and gaskets.
4. Division 08 Section “Hollow Metal Doors and Frames” for sealant for door frames.
5. Division 08 Section “Glazing” for sealant for glazing.
6. Division 09 Section “Gypsum Board Assemblies” for sealing perimeter joints.
7. Division 09 Section “Acoustical Panel Ceilings”.

C. General Performance: Joint sealers are required to establish and maintain airtight and waterproof continuous seals.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer’s technical data and installation instructions for each joint sealer product required.

B. Samples: Submit manufacturer’s standard bead samples consisting of strips of actual products showing full range of standard colors available.

C. Certified Tests: Submit certified test reports for elastomeric sealants on aged performances, including hardness, stain resistance, adhesion, cohesion, low-temperature flexibility, modulus of elasticity, and resistance to heat and weathering.

D. Certificates: Submit certificates from manufacturers that their products comply with specifications and are suitable for the use indicated.

E. Warranties: Sample of special warranties.
1.3 QUALITY ASSURANCE

A. References: Applicable trade association names and titles of general standards are referred to by accepted abbreviations.

B. Installer Qualifications: One who has successfully completed similar joint sealer applications.

C. Single Source for Materials: Obtain joint sealer materials from a single manufacturer for each different product.

D. Preconstruction Field Tests: Prior to installation of joint sealants, field-test adhesion to joint substrates as recommended in ASTM C 962.

1.4 PROJECT CONDITIONS

A. Weather Conditions: Do not proceed with installation of liquid sealants under unfavorable weather conditions. Install elastomeric sealants when temperature is in lower third of temperature range recommended by manufacturer for installation.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original unopened containers with labels indicating manufacturer, expiration date, and other pertinent data.

B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.6 GUARANTEE

A. The Contractor shall provide a five (5) year written guarantee, covering the Joint Sealants materials and workmanship. Should any defects occur during the stated period, they shall be corrected immediately, and all damage caused by such defects shall be corrected. All corrective work shall be at the Contractor’s expense. The Guarantee Period shall commence upon final acceptance of the work.

B. The following types of failure will be adjudged as defective work:

1. Abnormal deterioration, aging or weathering.
2. Failure in adhesion or cohesion or to remain watertight.

PART 2 – PRO DUCTS

2.1 MANUFACTURERS (approved equals will also be accepted):

A. Manufacturers of Polyurethane Sealants

3. “NR-201 Urexpian”; Pecora Corp.

B. Manufacturers of Nonacid Silicone Sealants.
2. “Dow Coming 790”; Dow Coming Corp.

C. Manufacturers of Acid-Curing Silicone Sealants
2. “Dow Coming 999A”; Dow Coming Corp.

D. Manufacturers of Sanitary Sealants
1. “Dow Coming 786”; Dow Coming Corp.
3. “863 #345 White”; Pecora Corp.

E. Manufacturers of Acrylic Sealants
1. “60+Unicrylic”; Pecora Corp.
2. “PTI 738”; Protective Treatments Inc.
3. “PTI 767”; Protective Treatments Inc.
4. “Mono”; Tremco Inc.

F. Manufacturers of Butyl-Polyisobutylene Sealants
1. “PTI 404”; Protective Treatments Inc.
2. “Extru-Seal Tape”; Pecora Corp.
3. “Shim-Seal Tape”; Pecora Corp.
4. “PTI 606 or 303 or 626”; Protective Treatments, Inc.
5. “Tremco 440 Tape”; Tremco Inc.

G. Manufacturers of Security Sealants
1. “La-Mod Gel” Sika Corp.

2.2 SEALANT MATERIALS

A. General Requirements: Provide colors as selected. Select materials for compatibility with joint surfaces and other indicated exposure, and select modulus of elasticity and hardness or grade recommended by manufacturer for each application required.
B. Polyurethane Sealant: (For joints in floors and pavements) One-part, polyurethane-based sealant; complying with ASTM C920 Type S Class 25, self-leveling type.

C. Silicone Rubber Sealant: One-part, silicone-rubber-based, non-sag sealant; complying with ASTM C920 Type S Class 25 Grade NS.
   1. Non-Acid Type (For exterior Joints): Provide non-acid, “low-modulus” type; with tensile strength minimum 245 psi at 100% elongation per ASTM 0412.
   2. Sanitary Interior Type: Where used in high-humidity or wet service, provide manufacturer’s mold/mildew-resistant, acid type sealant for application to nonporous sealant bond surfaces.

D. Acrylic Sealant: (For interior non-moving joints) Acrylic terpolymer, solvent-based, one-part, thermo-plastic sealant compound; solid not less than 95% acrylic; recommended by manufacturer for general use as an exposed building construction sealant.

E. Polyisobutylene Sealant: (For concealed joints subject to shear movement but not subject to normal joint movement) Provide either liquid or preformed ribbon (coiled with release paper) of polyisobutylene-based mastic; as recommended by manufacturer.

F. Security Sealant (Sealant within inmate areas): Two component, solvent free, epoxy resin formulated for non-sag, gap-filling material used as a small joint filler.

2.3 JOINT FILLERS AND SEALANT BACKERS

A. Sponge Rubber: (For joints in floors and pavements) Provide resilient, non-extruding, open-cell type pre-molded rubber, gray to match concrete, complying with ASTM D 1752 Type I.

B. Closed-Cell Synthetic Rubber: (For exterior joints requiring maximum durability) Provide expanded synthetic rubber complying with ASTM D1752 or ASTM D 1056, Class SC-E (oil-resistant and medium swell), of density as recommended by the manufacturer.

C. Expanded Polyethylene: (For typical joints, except concrete joints) Provide flexible, compressible, non-gassing closed-cell polyethylene, subject to approval of the sealant manufacturer.

D. Open-Cell Polyurethane: (For joints of low percentage movement) Provide flexible, compressible, open-cell polyurethane foam subject to approval of the sealant manufacturer.

2.4 MISCELLANEOUS MATERIALS

A. Joint Primer/Sealer: Provide type of joint primer/sealer recommended by sealant manufacturer for joint surfaces to be primed or sealed.

B. Cleaners: Provide non-staining cleaner of type acceptable to manufacturer of sealant and sealant backing materials.
C. Bond Breaker Tape: Provide polyethylene tape or other plastic tape as recommended by sealant manufacturer, to prevent bond between sealant and material at back of joint. Provide self-adhesive tape where applicable.

D. Sealant Backer Rod: Provide compressible rod stock of polyethylene foam, polyurethane foam, neoprene foam or other flexible, permanent, durable non-absorptive material recommended by sealant manufacturer for back-up of and compatibility with sealant.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine joint surfaces and conditions that may affect joint sealer work. Proceed with work after unsatisfactory conditions have been corrected.

3.2 JOINT PREPARATION

A. Clean joint surfaces immediately before installation of sealants to comply with recommendations of joint sealer manufacturers and the following requirements:

1. Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including water.
2. Clean porous joint substrate surfaces to produce a clean, sound substrate. Remove loose particles remaining from cleaning.
3. Remove laitance and form release agents from concrete.
4. Clean non-porous surfaces with cleaners which are not harmful to substrates or leave residues that may affect joint sealers.

B. Prime or seal joint surfaces where recommended by sealant manufacturer. Confine primer/sealer to areas of sealant bond only.

3.3 INSTALLATION

A. Comply with ASTM C962 and manufacturer’s printed instructions except where more stringent requirements are specified.

B. Set joint filler units at depth to coordinate with other work including installation of bond breakers, backer rods and sealants. Do not leave gaps between ends of joint fillers.

C. Install bond backer rod for liquid-applied sealants, except where recommended to be omitted by sealant manufacturer.

D. Install bond breaker tape where required by manufacturer to ensure that liquid-applied sealants will perform as intended.

E. Use proven techniques to ensure that sealants are uniform, continuous ribbons without gaps or air pockets, with complete “wetting” of joint bond surfaces. Form sealant to a slightly concave surface.
F. Install elastomeric sealants to depths as recommended by sealant manufacturer but within
the following general limitations, measured at center (thin) section of beads:

1. For joints subject to traffic, abrasion and indentation, fill joints to a depth equal to
75% of joint width, but neither more than 5/8” deep nor less than 3/8” deep.
2. For normal moving joints not subject to traffic, fill joints to a depth equal to 50% of
joint width, but neither more than 1/2” deep nor less than 1/4” deep.
3. For joints sealed with non-elastomeric sealants fill joints to a depth in range of
75% to 125% of joint width.

G. Do not allow sealants onto adjoining work. Clean adjoining surfaces to eliminate
evidence of sealants.

H. Recess exposed edges of exposed joint fillers slightly behind adjoining surfaces, so that
compressed units will not protrude.

I. Install security sealant in open joints between all building components attached to walls
and floors in inmate areas.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

1. Extent of Testing: Test completed and cured sealant joints as follows:
   a. Perform 10 tests for the first 1000 feet of joint length for each kind of
      sealant and joint substrate.
   b. Perform 1 test for each 1000 feet of joint length thereafter or 1 test per
each floor per elevation.

2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant
   Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail
   Procedure, in ASTM C 1521.
   a. For joints with dissimilar substrates, verify adhesion to each substrate separately;
      extend cut along one side, verifying adhesion to opposite side. Repeat
      procedure for opposite side.

3. Inspect tested joints and report on the following:
   a. Whether sealants filled joint cavities and are free of voids.
   b. Whether sealants dimensions and configurations comply with specified
      requirements.
   c. Whether sealants in joints connected to pulled-out portion failed to adhere
to joint substrates or tore cohesively. Compare these results to determine
   if adhesion passes sealant manufacturer’s field-adhesion hand-pull test
   criteria.
3.5 CLEANING

A. Clean off excess sealants or sealant smears as work progresses by methods and materials approved by manufacturers of joint sealers.

3.6 CURE AND PROTECTION

A. Cure sealants in compliance with manufacturer’s instructions and recommendations so that they will be without deterioration or damage at time of substantial completion.

B. Replace or restore joint sealers which are damaged or deteriorated during construction period.

3.7 MEASUREMENT AND PAYMENT

A. Unit Price

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 92 00-1</td>
<td>Furnish and install sealant with all necessary joint filler and backup as specified.</td>
<td>Per lin. ft.</td>
</tr>
</tbody>
</table>

B. Sealant work includes joint surface preparation, cleaners, primer /sealers, sealant backer rods, joint fillers and bond breaker tapes as specified and/or recommended by the sealant manufacturer.

[END OF SECTION 07 92 00]
SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Standard hollow metal doors and frames.

B. Related Sections:
   1. Division 04 Section, Unit Masonry for embedding anchors for hollow metal work into masonry construction.
   2. Division 08 Section, Door Hardware for door hardware for hollow metal doors.
   3. Division 09 Section, Painting for field painting hollow metal doors and frames.

1.2 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings.

B. Standard Hollow Metal Work: Hollow metal work fabricated according to ANSI/SDI A250.8.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, fire-resistance rating, and finishes.

B. Shop Drawings: Include the following:
   1. Elevations of each door design.
   2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
   3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
   4. Locations of reinforcement and preparations for hardware.
   5. Details of each different wall opening condition.
   6. Details of anchorages, joints, field splices, and connections.
   7. Details of accessories.
   8. Details of moldings, removable stops, and glazing.
   9. Details of conduit and preparations for power, signal, and control systems.

C. Samples for Initial Selection: For units with factory-applied color finishes.

D. Samples for Verification:
1. For each type of exposed finish required, prepared on Samples of not less than 3 by 5 inches (75 by 125 mm).
2. For the following items, prepared on Samples about 12 by 12 inches (305 by 305 mm) to demonstrate compliance with requirements for quality of materials and construction:
   a. Doors: Show vertical-edge, top, and bottom construction; core construction; and hinge and other applied hardware reinforcement. Include separate section showing glazing if applicable.
   b. Frames: Show profile, corner joint, floor and wall anchors, and silencers. Include separate section showing fixed hollow metal panels and glazing if applicable.

E. Other Action Submittals:

1. Schedule: Provide a schedule of hollow metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with door hardware schedule.

1.4 INFORMATIONAL SUBMITTALS

A. Oversize Construction Certification: For assemblies required to be fire rated and exceeding limitations of labeled assemblies.

B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of hollow metal door and frame assembly.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain hollow metal work from single source from single manufacturer.

B. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252

1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.

2. Temperature-Rise Limit: Where indicated, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.

C. Fire-Rated, Borrowed-Light Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled, by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 257. Label each individual glazed lite.
D. Smoke-Control Door Assemblies: Comply with NFPA 105 2.

E. All Doors and frames are to meet all New York City code requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
   1. Provide additional protection to prevent damage to finish of factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch-(102-mm-) high wood blocking. Do not store in a manner that traps excess humidity.
   1. Provide minimum 1/4-inch (6-mm) space between each stacked door to permit air circulation.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.8 COORDINATION

A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements of the following:
   1. Amweld Building Products, LLC.
   2. Benchmark; a division of Therma-Tru Corporation.
   3. Ceco Door Products; an Assa Abloy Group company.
   4. Curries Company; an Assa Abloy Group company.
   5. Deansteel Manufacturing Company, Inc.
7. Fleming Door Products Ltd.; an Assa Abloy Group company.
10. Kewanee Corporation (The).
11. Mesker Door Inc.
14. Steelfraft; an Ingersoll-Rand company.
15. Windsor Republic Doors.
16. Or approved equal.

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) metallic coating.

D. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z (12G) coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.

E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

F. Powder-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow metal frames of type indicated.

G. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.

H. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool with 6- to 12-lb/cu. ft. (96- to 192-kg/cu. m) density; with maximum flame-spread and smoke-development indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

I. Glazing: Comply with requirements in Division 08 Section "Glazing."

J. 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.
2.3 STANDARD HOLLOW METAL DOORS

A. General: Provide doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8.

1. Design: Flush panel.
2. Core Construction: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core.
   a. Fire Door Core: As required to provide fire-protection ratings indicated.
   b. Thermal-Rated (Insulated) Doors: Where indicated, provide doors fabricated with thermal-resistance value (R-value) of not less than 6.0 deg F x h x sq. ft./Btu
      1) Locations: Exterior doors.
   a. Beveled Edge: 1/8 inch in 2 inches (3 mm in 50 mm).
4. Vertical Edges for Double-Acting Doors: Round vertical edges with 2-1/8-inch (54-mm) radius.
5. Top and Bottom Edges: Closed with flush or inverted 0.042-inch- (1.0-mm-) thick, end closures or channels of same material as face sheets.

B. Exterior Doors: Face sheets fabricated from metallic-coated steel sheet. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:

1. Level 3 (Extra Heavy Duty), Model 1 (Full Flush).

C. Interior Doors: Face sheets fabricated from cold-rolled steel sheet. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:

1. Level 2 Model 1 (Full Flush).

D. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

E. Fabricate concealed stiffeners and hardware reinforcement from either cold- or hot-rolled steel sheet.
2.4 STANDARD HOLLOW METAL FRAMES

A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.

1. Fabricate frames with mitered or coping corners.
2. Fabricate frames as full profile welded unless otherwise indicated.
3. Frames for Level 1 Steel Doors: 0.042-inch (1.0-mm-) thick steel sheet.
4. Frames for Level 2 Steel Doors: 0.053-inch (1.3-mm-) thick steel sheet.
5. Frames for Level 3 Steel Doors: 0.053-inch (1.3-mm-) thick steel sheet.
6. Frames for Level 4 Steel Doors: 0.067-inch (1.7-mm-) thick steel sheet.

C. Interior Frames: Fabricated from cold-rolled steel sheet.
1. Fabricate frames with mitered or coping corners.
2. Fabricate frames as full profile welded unless otherwise indicated.
3. Fabricate knocked-down, drywall slip-on frames for in-place gypsum board partitions.
4. Frames for Level 1 Steel Doors: 0.042-inch (1.0-mm-) thick steel sheet.
5. Frames for Level 2 Steel Doors: 0.053-inch (1.3-mm-) thick steel sheet.
6. Frames for Level 3 Steel Doors: 0.053-inch (1.3-mm-) thick steel sheet.
7. Frames for Level 4 Steel Doors: 0.067-inch (1.7-mm-) thick steel sheet.
8. Frames for Wood Doors: 0.053-inch (1.3-mm-) thick steel sheet.
9. Frames for Borrowed Lights: 0.053-inch (1.3-mm-) thick steel sheet.

D. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material as frames.

2.5 FRAME

ANCHORS A. Jamb

Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (50 mm) wide by 10 inches (250 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.
2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
3. Compression Type for Drywall Slip-on Frames: Adjustable compression anchors.
4. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

B. Floor Anchors: Formed from same material as frames, not less than 0.042 inch (1.0 mm) thick, and as follows:
1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch (50-mm) height adjustment. Terminate bottom of frames at finish floor surface.

2.6 HOLLOW METAL PANELS

A. Provide hollow metal panels of same materials, construction, and finish as specified for adjoining hollow metal work.

2.7 STOPS AND MOLDINGS

A. Moldings for Glazed Lites in Doors: Minimum 0.032 inch (0.8 mm) thick, fabricated from same material as door face sheet in which they are installed.

B. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch (16 mm) high unless otherwise indicated.

C. Loose Stops for Glazed Lites in Frames: Minimum 0.032 inch (0.8 mm) thick, fabricated from same material as frames in which they are installed.

D. Terminated Stops: Where indicated on interior door frames, terminate stops 6 inches (152 mm) above finish floor with a 45-degree angle cut, and close open end of stop with steel sheet closure. Cover opening in extension of frame with welded-steel filler plate, with welds ground smooth and flush with frame.

1. Provide terminated stops where indicated.

2.8 LOUVERS

A. Provide louvers for interior doors, where indicated, that comply with SDI 111C, with blades or baffles formed of 0.020-inch- (0.5-mm-) thick, cold-rolled steel sheet set into 0.032-inch- (0.8-mm-) thick steel frame.

1. Sightproof Louver: Stationary louvers constructed with inverted V-shaped or Y-shaped blades.
2. Lightproof Louver: Stationary louvers constructed with baffles to prevent light from passing from one side to the other, any angle.
3. Fire-Rated Automatic Louvers: Louvers constructed with movable blades closed by actuating fusible link, and listed and labeled for use in fire-rated door assemblies of type and fire-resistance rating indicated by same testing and inspecting agency that established fire-resistance rating of door assembly.
2.9 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.

B. Ceiling Struts: Minimum 1/4-inch-thick by 1-inch- (6.4-mm-thick by 25.4-mm-) wide steel.

C. Grout Guards: Formed from same material as frames, not less than 0.016 inch (0.4 mm) thick.

2.10 FABRICATION

A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117 and ANSI/NAAMM-HMMA 861.

C. Hollow Metal Doors:

1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
2. Glazed Lites: Factory cut openings in doors.
3. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch (19 mm) beyond edge of door on which astragal is mounted.

D. Hollow Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
2. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
3. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
4. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
5. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
6. Jamb Anchors: Provide number and spacing of anchors as follows:
a. Masonry Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:

1) Two anchors per jamb up to 60 inches (1524 mm) high.
2) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
3) Four anchors per jamb from 90 to 120 inches (2286 to 3048 mm) high.
4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 120 inches (3048 mm) high.

b. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:

1) Three anchors per jamb up to 60 inches (1524 mm) high.
2) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
3) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) high.
4) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 96 inches (2438 mm) high.
5) Two anchors per head for frames above 42 inches (1066 mm) wide and mounted in metal-stud partitions.

c. Compression Type: Not less than two anchors in each jamb.

d. Postinstalled Expansion Type: Locate anchors not more than 6 inches (152 mm) from top and bottom of frame. Space anchors not more than 26 inches (660 mm) o.c.

7. Door Silencers: Except on weather-striped doors, drill stops to receive door silencers as follows. Keep holes clear during construction.

a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.

b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

E. Fabricate concealed stiffeners, edge channels, and hardware reinforcement from either cold- or hot-rolled steel sheet.

F. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."

1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8 and ANSI/NAAMM-HMMA 861.

2. Reinforce doors and frames to receive nontemplated, mortised and surface-mounted door hardware.
3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

G. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints.

1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow metal work.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
4. Provide loose stops and moldings on inside of hollow metal work.
5. Coordinate rabbet width between fixed and removable stops with type of glazing and type of installation indicated.

2.11 STEEL FINISHES

A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.


PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.

C. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness to the following tolerances:

1. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a perpendicular line from head to floor.

C. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.

B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.

1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.

   a. At fire-protection-rated openings, install frames according to NFPA 80.
   b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
   c. Install frames with removable glazing stops located on secure side of opening.
   d. Install door silencers in frames before grouting.
   e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
   f. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
g. Field apply bituminous coating to backs of frames that are filled with grout containing antifreezing agents.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
   a. Floor anchors may be set with powder-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.

4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
5. Concrete Walls: Solidly fill space between frames and concrete with grout. Take precautions, including bracing frames, to ensure that frames are not deformed or damaged by grout forces.
6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
7. In-Place Gypsum Board Partitions: Secure frames in place with postinstalled expansion anchors through floor anchors at each jamb. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
8. Ceiling Struts: Extend struts vertically from top of frame at each jamb to overhead structural supports or substrates above frame unless frame is anchored to masonry or to other structural support at each jamb. Bend top of struts to provide flush contact for securing to supporting construction. Provide adjustable wedged or bolted anchorage to frame jamb members.
9. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
   a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
   b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
   c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Standard Steel Doors:
   a. Jambs and Head: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
   b. Between Edges of Pairs of Doors: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
   c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch (9.5 mm).
d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch (19 mm).

2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

D. Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with hollow metal manufacturer's written instructions.

1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (50 mm) o.c. from each corner.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

D. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

3.5 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 11 13-1</td>
<td>Furnish and install hollow metal door and frame (up to including 3’ x 7’ x 1 3/4”).</td>
</tr>
<tr>
<td>08 11 13-1a</td>
<td>Furnish and install hollow metal double door and frame (2’ x 3’ x 7’ x 13/4”)</td>
</tr>
<tr>
<td>08 11 13-2</td>
<td>Furnish and install hollow metal door and frame (up to including 4’ x 8’ x 1 3/4”).</td>
</tr>
<tr>
<td>08 11 13-2a</td>
<td>Furnish and install hollow metal double and frame (2’ x 4’ x 8’ x 1 3/4”)</td>
</tr>
<tr>
<td>08 11 13-3</td>
<td>Additional cost for vision panel in hollow metal door (1/4” thick tempered clear glass).</td>
</tr>
<tr>
<td>08 11 13-4</td>
<td>Additional cost for glass panel for upper section of door and sidelite.</td>
</tr>
<tr>
<td>08 11 13-5</td>
<td>Sound proofing of hollow metal door as specified</td>
</tr>
</tbody>
</table>

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urnish and install hollow metal transom & sidelites, to match door and frame (with glass or steel panel) as specified.
SECTION 08 12 16 – ALUMINUM FRAMES

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide framing system to receive up to 1/2” thick butt glazed tempered glass panels at top, bottom and side. Material will be aluminum channels with clear silicon glazing sealant, channel finish and color to be specified.

1.2 QUALITY ASSURANCE

A. Standards: Comply with recommended specifications of the A.W.M.A., except to the extent more stringent requirements are indicated.

B. Separate all dissimilar metals by providing means of permanent separation at all points of contact.

C. Manufacturers: Subject to compliance with the requirements, provide products manufactured by Kawneer, EFCO, Mid-States Aluminum Corp., Temroe Metals, Precision Extrusions, Inc., Cardinal Aluminum Co., Light Metals Corp., Fab Masters Co., Inc., Talan Products Inc., or approved equal.

1.3 SUBMITTALS

A. Manufacturer’s Data: Submit manufacturer’s specifications, recommendations and standard details for each type of unit required. Include information on fabrication methods, finishing and accessories.

B. Shop Drawings: Submit shop drawings for fabrication and installation of all work and associated components of work. Include elevations at 1/4” scale, typical unit elevations at 1: scale and full size section details of every typical composite member. Show glazing channel for glass specified in Section 08800. Indicate preparation of aluminum frames to receive up to 1/2” glass panels.

C. Samples: Submit three (3) samples of each specified finish, on 12” lengths of each member including corner construction. Samples will be reviewed for color and finish only. Compliance with other requirements is exclusive responsibility of Contractor.

PART 2 – PRODUCTS

2.1 GENERAL

A. Aluminum framing for glass panels shall be 1-3/4” x 4-1/2” storefront framing with 4-1/2” x 4-1/2” base and shall include all accessories as necessary to complete the installation as shown.

B. Provide adapter members for frame sections to receive up to 1/2” glass in-fills.
C. Glass and glazing materials specified in Section 08 80 00.

2.2 MATERIALS

A. Aluminum frame members shall be manufacturer’s extruded shapes of AA-6063-T5 and temper, alloy as designed by approved manufacturer to comply with all requirements.

B. Provide tubular frame, aluminum comer tube and aluminum sub-frame of dimensions required. Provide custom components where necessary to provide profiles as detailed and dimensioned on Drawings.

C. Trim Members: As required “trim” includes glazing beads, channels, stops and similar items not of prime structural importance. Provide gauges required.

D. Mullions: Horizontals. Sub-frames: Aluminum extruded shapes of profile shown or if not shown, manufacturer’s standard for span and spacing indicated.

E. Installation Accessories: Provide accessories as indicated or required for complete and proper installation. Components shall be single, full length extrusions. No splicing will be permitted.

F. Fasteners shall be of metal guaranteed by manufacturer to be non-corrosive and compatible with frame members, trim, hardware, anchors and other components of frame units. Provide exposed fasteners (if any) which match finish of member or hardware being fastened. Provide Phillips flathead machine screws for exposed fasteners.

G. See Section 08 80 00 for sealants and glass setting materials.

2.3 FABRICATION

A. General: Provide manufacturer’s standard fabricated framing, accessories, and finish, except to extent more specific or more stringent requirements are indicated. Include complete system of anchorage for work and prepare units for glazing from both sides.

B. Sizes and Profiles: Sizes and profile requirements for all work as required. Variable dimensions (if any) are indicated along with maximum and minimum dimensions as required to achieve design requirements and coordination with other work.

C. Coordination of Fabrication: Check actual openings in construction work by accurate field-measurements before fabrication, and show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress as required to avoid delay of work. Where necessary, proceed with fabrication without all field measurements, and coordinate installation tolerances to ensure proper fit of frame units. Extend and attach frame to structure as required. Carefully coordinate with existing conditions prior to preparation of shop drawings.

D. Glazing Stops: Provide screw-applied or snap-on glazing stops (beads), coordinated with glass types and glazing system as specified herein and required in Section 08800. Finish
glazing stops to match frame units. Units shall be capable of being glazed from both sides.

E. Installation Accessories: Provide all accessories required for complete and proper installation. Components shall be single-piece, full length extrusions.

2.4 SHOP FINISH

A. Aluminum materials shall be finished with manufacturer’s standard baked enamel finish to match approved color sample. Color shall be selected by Architect from manufacturer’s full range of standard colors.

PART 3 – EXECUTION

3.1 INSPECTION

A. Examine the supporting structure and coordinate work with conditions under which it is to be erected. Notify Commissioner in writing of conditions detrimental to proper and timely completion or work. Do not proceed with erection until unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Do not install component parts which are observed to be defective in any way, including warped, bowed, racked, dented, abraded and broken units or members. Remove and replace units which have been damaged during installation or thereafter before time or final acceptance.

B. Do not cut, trim, weld or braze component parts during erection in any manner which would damage finish, decrease strength, or result in visual imperfection or failure in performance of work. Return component parts which require alteration to shop for refabrication, if possible, or for replacement by new parts.

C. Install component parts level, plumb, true to line and with uniform joints and reveals. Secure to structure with non-staining and non-corrosive shims, anchors, fasteners, spacers and fillers. Use erection equipment which will not mar or stain finished surface, and will not damage component parts in any way.

D. Comply with manufacturer’s specifications and recommendations for the installation of units, hardware, operators and other components of the work.

E. Set all members plumb, level, and true to line, without warp or rack of frames. Anchor securely in place.

F. Separate dissimilar metal surfaces from sources of corrosion or electrolytic action of points of contact with other materials by approved means.

G. Refer to Section 08 80 00 for glazing installation requirements.
H. Advise Commissioner of protective and other precautions required through remainder or construction period, to ensure that work will be without damage or at time of acceptance.

3.3 PROTECTION AND CLEANING

A. Before shipment from manufacturer’s plant, all aluminum work shall be adequately protected as recommended by Aluminum Association on all finished and exposed surfaces so as to ensure delivery at site in undamaged and unblemished condition.

B. Installer shall adequately protect work included herein against damage at all times, and shall repair or replace all defective or damaged work, so as to leave all components in condition satisfactory to Architect upon completion of project. Scratches in finish shall not be perceptible by Architect from 4 feet when project is ready for final acceptance.

C. Installer shall thoroughly clean all exposed surfaces or work upon completion of all other work liable to cause soiling of these surfaces and before acceptance by Architect.

D. Cleaning of new and existing surfaces shall follow applicable procedures described in the following publications of Aluminum Co. of America shall be followed, and are hereby made a part or this Specification:

1. “Care During Construction.”
2. “Cleaning and Maintenance.”

E. Special precautions to be observed in protecting and cleaning the finish shall follow coating manufacturer’s recommendations.

3.4 MEASUREMENT AND PAYMENT

A. Unit Price

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 12 16-1</td>
<td>Provide framing system to receive up to 1/2” butt glazed tempered glass panels, and gasket as specified.</td>
<td>Per lin. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 08 12 16]
SECTION 08 14 16 – FLUSH WOOD DOORS

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide wood doors in accordance with the Contract Documents. This Section includes the following:

1. Solid core doors with wood veneer faces.
2. Shop priming of flush wood doors.
3. Factory finishing of flush wood doors.
4. Factory fitting flush wood doors to frames and factory machining for hardware.
5. Louvers for flush wood doors.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 6 Section “Interior Architectural Woodwork”
2. Division 8 Section “Glazing.”
3. Division 8 Section “Hollow Metal Doors and Frames.”

1.2 SUBMITTALS

A. Product data for each type of door, including details of core and edge construction, trim for openings, louvers, or glazing and factory-finishing specifications.

B. Shop drawings indicating location and size of each door, elevation of each kind of door, details of construction, location and extent of hardware blocking, fire ratings, requirements for veneer matching and factory finishing and other pertinent data.

1. For factory-machined doors, indicate dimensions and locations of cutouts for locksets and other cutouts adjacent to light and louver openings.

C. Samples for initial selection in the form of color charts consisting of actual materials in small sections for the following:

1. Faces of factory-finished doors with transparent finish. Show the full range of colors available for stained finishes.

D. Samples for verification in the form and size indicated below:

1. Corner sections of doors approximately 12 inches square with door faces and edgings representing the typical range of color and grain for each species of veneer and solid lumber required. Finish sample with same materials proposed for factory-finished doors.
2. Louvers consisting of blade and frame, 6 inches long, for each material and finish specified.
3. Frames for light openings, 6 inches long, for each material, type, and
finish required.
4. Glazing as specified, 6 inches by 6 inches, sample to have beveled smooth edges.

1.3 QUALITY ASSURANCE

A. Quality Standard: Comply with the following standard:
   2. AWI Quality Standard: AWI’s “Architectural Woodwork Quality Standards” premium grade of door, core, construction, finish, and other requirements.

B. Single-Source Responsibility: Obtain doors from one source and by a single manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Comply with requirements of referenced standard and manufacturer’s instructions.

B. Mark each door on (top and) bottom rail with opening number used on Shop Drawings.

1.5 PROJECT CONDITIONS

A. Conditioning: Do not deliver or install doors until building is enclosed, wet work is complete, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.

1.6 GUARANTEES

A. Special Guarantee: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified guarantee period.

1. Failures include, but are not limited to, the following:
   a. Warping (bow, cup, or twist) more than 1/4 inch (6.4 mm) in a 42-by-84-inch (1067-by-2134-mm) section.
   b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 76.2-mm) span.

2. Guarantee shall also include installation and finishing that may be required due to repair or replacement of defective doors.


5. Guarantee Period for Hollow-Core Interior Doors: 5 Years from final acceptance of the Work.
B. Furnish a guarantee in the form specified in Article on “GUARANTEES” of the General Conditions.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering doors that may be incorporated in the Work include, but are not limited to, the following:

1. Solid Core Doors:
   a. Eagle Plywood & Door Manufacturing, Inc.
   b. Eggers Industries, Architectural Door Division.
   c. Oshkosh Architectural Door Company
   d. Mohawk Flush Doors, Inc.; a Masonite company
   e. Or approved equal.

2.2 INTERIOR FLUSH WOOD DOORS

A. Solid Core Doors for Transparent Finish: Comply with the following requirements:

1. Faces: AAA@ of either Red Oak/Maple rift sawn/Birch unless otherwise indicated.
2. Grade: AWI Premium.
3. Construction: 5 plies.
4. Core: Particleboard core.
5. Bonding: Stiles and rails bonded to core, then entire unit abrasive planed before veneering.

B. Solid Core Doors for Opaque Finish: Comply with the following requirements:

1. Faces: Any closed-grain hardwood of mill option.
2. Grade: AWI Premium.
3. Construction: 5 plies.
4. Core: Particleboard core.
5. Bonding: Stiles and rails bonded to core, then entire unit abrasive planed before veneering.

2.3 VENEER MATCHING

A. Within Door Faces: Provide doors with the following veneer matching:


B. Pairs and Sets: Provide pair matching and set matching for pairs of doors and for doors hung in adjacent sets.
C. Doors with Transoms: Provide the following matching:

1. End matching.

2.4 LOUVERS

A. Metal Louvers: Size, type, and profile shown and fabricated from the following:

1. Galvanized Steel: 0.0396 inch thick; hot dip, zinc coated, and factory primed for paint finish.

2.5 FABRICATION

A. Fabricate flush wood doors to comply with following requirements:

1. Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels:
   a. Comply with clearance requirements of referenced quality standard for fitting.

2. 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.
   a. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before proceeding with factory machining.

B. Transom and Side Panels: Fabricate matching panels with same construction, exposed surfaces, and finish as specified for associated doors.

1. Fixed Transom Panels: Fabricate fixed panels with solid lumber transom bottom rail and door top rail, both rabbed as indicated. Provide factory-installed spring bolts for concealed attachment into jambs of metal door frames.

C. Openings: Cut and trim openings through doors to comply with applicable requirements of referenced standards for kind(s) of door(s) required.

1. Light Openings: Trim openings with moldings of material and profile indicated.

2. Louvers: Factory install louvers in prepared openings.

2.6 SHOP PRIMING

A. Doors for Opaque Finish: Shop prime exposed portions of doors for paint finish with one coat of wood primer specified in Division 9 Section “Painting.”

2.7 FACTORY FINISHING

A. General: Comply with referenced quality standard’s requirements for factory finishing.

B. Finish wood doors at factory.
C. Transparent Finish: Comply with requirements indicated for grade, finish system, staining effect, and sheen.

1. Grade: Premium.
2. Finish: AWI System TR-4 conversion varnish.
3. Staining: Stain to match approved sample for color.
4. Effect: Filled finish, unless otherwise indicated.
5. Sheen: Satin, unless otherwise indicated.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine installed door frames prior to hanging door:

1. Verify that 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. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Hardware: For installation see Division 8 Section “Door Hardware.”

B. Manufacturer’s Instructions: Install wood doors to comply with manufacturer’s instructions and referenced quality standard and as indicated.

C. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

D. Factory-Finished Doors: Restore finish before installation, if fitting or machining is required at the job site.

E. Field-Finished Doors: Refer to the following for finishing requirements:

1. Division 9 Section “Painting.”

3.3 ADJUSTING AND PROTECTION

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Refinish or replace doors damaged during installation.

C. Protect doors as recommended by door manufacturer to ensure that wood doors will be without damage or deterioration at the time of Substantial Completion.
### 3.4 MEASUREMENT AND PAYMENT

#### A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 14 16-1</td>
<td>Furnish and install solid core wood door and frame (factory primed), up to and including 3’x7’x1 3/4”</td>
<td>Each</td>
</tr>
<tr>
<td>08 14 16-2</td>
<td>Furnish and install veneer-faced solid core wood door and frame (factory primed), up to and including 3’x7’x1 3/4”</td>
<td>Each</td>
</tr>
<tr>
<td>08 14 16-3</td>
<td>Furnish and install matching wood transome and side panels as specified.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

#### B. All above dimensions are approximate and final dimensions will be based on design and shop drawings.

#### C. All flush wood doors shall include the furnishing and installation of wood door frames and trim to match (or factory primed steel door frames), hardware installation, finish, louvers and glazing as indicated by the Architect or RE/PM, deemed included in the Unit Price, and at no additional cost to the City.

[END OF SECTION 08 14 16]
SECTION 08 31 13 – ACCESS DOORS AND FRAMES

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide access doors in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Access doors as indicated.
2. Installation of access.

B. Related Work: Refer to other sections for the following:

1. Division 8 Section – “Door Hardware”.

1.2 QUALITY ASSURANCE

A. Fire-Resistance Ratings: Wherever a fire-resistance classification is required in any assembly to receive an access door, provide access door assembly from manufacturer listed in Underwriters Laboratories, Inc.; “Classified Building Materials Index” for rating required. Provide UL Label on fire-rated doors.

B. Size Variations: Obtain acceptance of manufacturer’s standard size units which may vary slightly from sizes required.

C. Coordination: Furnish inserts and anchoring devices which must be built into other work for installation of access doors. Coordinate delivery with other work to avoid delay.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer’s technical data and installation instructions, including setting drawings, templates, instructions and directions for installation of anchorage devices.

B. Shop Drawings: Submit shop drawings showing location of each access door.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Manufacturer: Subject to compliance with requirements, provide access doors as manufactured by one of the following:

1. Base: J.L. Industries
2. Milcor Inc.
4. Or approved equal.
2.2 MATERIALS AND FABRICATION

A. General: Furnish each access door assembly manufactured as an integral unit, complete and ready for installation.

B. Sizes: Minimum 12” x 12” at walls, 18” x 18” at ceilings and as indicated or required to allow inspection of items requiring service, maintenance, or repair.

C. Steel Access Doors and Frames: Fabricate units of continuous welded steel construction. Grind welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access panels properly.

D. Frames: Fabricate from 14-gage steel except security frames shall be 12-gage, with exposed flange approximately 1” wide around perimeter of frame for units installed in the following construction:

1. Exposed masonry.
2. Security ceilings.

E. Flush Panel Doors: Fabricate from not less than 16-gage sheet steel except security doors shall be 12-gage, with concealed spring hinges or concealed continuous piano hinge set to open 175 degrees. Prime with manufacturer’s factory-applied baked enamel prime paint. Finish painting refer to Section 09900. Reinforce doors as required to prevent buckling.

1. Fire Rated Doors: Provide manufacturer’s standard insulated flush panel doors, automatic closer with positive latching, interior release device, with continuous piano hinge.
2. Recessed Doors: Fabricate with face of panel recessed, where required to receive applied finish.
3. Locking Devices: Furnish flush locks to hold door in flush, smooth plane when closed. Provide security locking with flush cylinder lock per access door. Furnish 2 keys per lock and key all locks keyed alike to the building system.
4. In areas where access doors cannot be provided, Folger Adam 416 access panels shall be provided with Folger Adam No. 12 dead lock.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Comply with manufacturer’s instructions for installation of access doors. Coordinate installation with work of other trades.

B. Set frames accurately in position and securely attach to supports with face panels plumb or level with adjacent finish surfaces.

3.2 ADJUST AND CLEAN

A. Adjust hardware and panels after installation for proper operation.
B. Remove and replace units which are warped, bowed or damaged.

3.3 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 31 13-1</td>
<td>Furnish and install access doors 12” x 12” as specified</td>
<td>Per door</td>
</tr>
<tr>
<td>08 31 13-2</td>
<td>Furnish and install access doors 18” x 18” as specified</td>
<td>Per door</td>
</tr>
<tr>
<td>08 31 13-3</td>
<td>Furnish and install access doors 24” x 24” as specified</td>
<td>Per door</td>
</tr>
<tr>
<td>08 31 13-4</td>
<td>Install access door only</td>
<td>Per door</td>
</tr>
</tbody>
</table>

[END OF SECTION 08 31 13]
SECTION 08 41 13 – ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide swing entrance assemblies in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Aluminum entrance doors and frames.
2. Aluminum balanced entrance doors and frames.
3. Bronze balanced entrance doors and frames.

B. Related Sections

1. Division 7 Section – “Joint Sealers”.
2. Division 8 Section – “Door Hardware”.
3. Division 8 Section – “Automatic Door Operators”.
4. Division 8 Section – “Glazing”.

1.2 PERFORMANCE REQUIREMENTS

A. General: Provide aluminum and bronze entrances that comply with specified performances, as proven by testing corresponding stock assemblies in accordance with specified test methods.

B. Thermal Movement: Provide systems capable of withstanding thermal movements resulting from a metal temperature range of 180 deg. F.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer’s specifications, technical data, standard details, and installation recommendations. Include fabrication methods, finishing and accessories.

B. Shop Drawings: Submit shop drawings for fabrication and installation of entrances, including elevations, detail sections of composite members, anchorages, hardware, reinforcements, expansion provisions and glazing details. Include a complete glazing schedule coordinated with shop drawings.

C. Samples: Submit samples of each aluminum finish, on 12” long extrusions or formed shapes and on 6” square sheets.

1. When requested, submit samples of fabricated sections, to show quality of workmanship and finish, before fabrication.

D. Test Reports: Provide certified test results showing that entrance assemblies have been tested by a recognized testing laboratory or agency and comply with specified performance characteristics.
1.4 QUALITY ASSURANCE

A. Manufacturer’s Qualifications: Provide entrances from a manufacturer with not less than 5-years successful experience in the fabrication of similar assemblies.

B. Installer’s Qualifications: Entrances shall be installed by a firm that has not less than 3-years successful experience in the installation of similar systems.

C. Design Criteria: Drawings indicate sizes, spacings and profiles of entrances. Minor deviations will be accepted in order to use standard products when, in the RE/PM’s sole judgment, such deviations do not materially detract from the design concept or intended performances.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver entrance assemblies in the manufacturer’s original protective packaging.

B. Store components in a clean dry location away from masonry or concrete. Cover components with waterproof sheeting in a manner to permit circulation of air.

1. Stack framing components to prevent bending and avoid significant or permanent damage.

1.6 PROJECT CONDITIONS

A. Field Measurements: Check openings by field measurement before fabrication. Show measurements on final shop drawings. Coordinate fabrication with construction progress to avoid delay in the work. Where necessary, proceed with fabrication without field measurements, and coordinate fabrication tolerances to ensure proper fit.

1.7 GUARANTEE

A. The Contractor shall provide a five (5) year written guarantee, covering the Aluminum-framed Entrances and Storefronts materials and workmanship. Should any defects occur during the stated period, they shall be corrected immediately, and all damage caused by such defects shall be corrected. All corrective work shall be at the Contractor’s expense. The Guarantee Period shall commence upon final acceptance of the work.

B. Furnish a guarantee in the form specified in Article on Guarantees of the General Conditions governing all contracts.

C. The following types of failure will be adjudged as defective work:

1. Abnormal deterioration, aging or weathering of the work.
2. Water leakage under conditions equivalent to, or less severe than, those specified.
3. Air leakage exceeding specified limits.
4. Structural failure due to pressures and forces up to specified limits.
5. Sealant (including structural silicone) loss of adhesion, loss of cohesion, cracking or discoloration.
6. Disengagement of gaskets or weatherstrips for conditions not exceeding specified
design pressure, building movement and racking test requirements.
7. Deterioration or discoloration of finish.
8. Loss of effective glass bite due to shifting of glass.
9. Loss of effective glass bearing on setting blocks due to shifting of glass or blocks.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. Available Manufacturer: Subject to compliance with requirements, manufacturer’s offering products which may be incorporated in the Work include the following:

1. Kawneer Co., Inc. (specified below)
2. Vistawall Architectural Products.
3. Tubelite, Inc.
4. Efco.
5. Ellison (specified below).
6. Or approved equal.

B. Product: (Type 1) Kawneer Series wide stile aluminum and glass entrance doors, 1-3/4” thick, or approved equal.

C. Product: (Type 2) Ellison Series wide stile balanced aluminum and glass entrance doors, 1-3/4” thick, or approved equal.

D. Entrance Framing: Kawneer, extruded aluminum framing, as selected by the Resident Engineer.

E. Finish Hardware: Refer to Section 08 71 00 - Door Hardware for installation requirements.

F. Glass: Provide glass of types and thicknesses indicated. Fabricate to sizes indicated with edge clearances and tolerances that comply with manufacturer’s recommendations. Refer to Section 08 80 00 “Glass and Glazing” for requirements.

G. Sealants: Provide structural and weather-seal sealants recommended by the manufacturer of the structural sealant glazed curtain wall system.

H. Product: (Type 3) Ellison Series wide stile balanced bronze and glass entrance doors, 1-3/4” thick, or an approved equal.

2.2 MATERIALS

A. Aluminum Members: Alloy and temper recommended by the manufacturer for strength, corrosion resistance, and finish; comply with ASTM B 221 for extrusions and ASTM B 209 for sheet or plate. Minimum thickness of aluminum is 0.125”.

B. Fasteners: Provide fasteners of aluminum, non-magnetic stainless steel, or other materials warranted by the manufacturer to be non-corrosive and compatible with
aluminum and other components.

1. Reinforcement: Where fasteners screw-anchor into aluminum less than 0.125” thick, reinforce the interior with aluminum or nonmagnetic stainless steel to receive screw threads, or provide standard non-corrosive pressed-in splined grommet nuts.
2. Exposed Fasteners: Avoid use of exposed fasteners. For the application of hardware, use fasteners that match the finish of member or hardware being fastened.
3. Type: Provide Phillips flat-head machine screws for exposed fasteners, with finish to match item fastened.

C. Concealed Flashing: Provide 26 gage minimum dead-soft stainless steel, or 0.26” minimum extruded aluminum of alloy and type selected by manufacturer for compatibility with other components.

D. Brackets and Reinforcements: Provide high-strength aluminum brackets and reinforcements; otherwise provide nonmagnetic stainless steel or hot-dip galvanized steel complying with ASTM A 123.

E. Concrete/Masonry Inserts: Provide inserts of cast-iron, malleable iron, or hot-dip galvanized steel complying with ASTM A 123.

F. Compression Weatherstripping: Replaceable compressible weatherstripping gaskets of molded neoprene or molded PVC complying with ASTM D 2287.

G. Copper Alloy, Bronze: Type and form indicated to comply with the following requirements:

1. Extruded Shapes: ASTM B 455, alloy UNS No. C38500 (extruded architectural bronze); minimum 0.125 inch (3.2 mm) thick.
2. Plate, Sheet, Strip and Flat Bars: ASTM B 36/B 36M, alloy UNS No. C28000 (muntz metal, 60 percent copper); minimum 0.062 inch (1.6 mm) thick, except minimum 0.04 inch (1 mm) thick for cladding.

2.3 COMPONENTS

A. Stile-and-Rail Type Entrance Doors: Provide tubular frame members, fabricated with mechanical joints using heavy inserted reinforcing plates and concealed tie-rods or j-bolts.

1. Glazing: Fabricate doors to facilitate replacement of glass or panels, without disassembly of stiles and rails. Provide snap-on extruded aluminum glazing stops, with exterior stops anchored for non-removal.

B. Brackets and Reinforcements: Provide manufacturer’s standard brackets and reinforcements that are compatible with adjacent materials. Provide nonstaining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer’s standard corrosion-resistant, non-staining,
non-bleeding fasteners and accessories compatible with adjacent materials.

1. Do not use exposed fasteners, except for hardware application. For hardware application, use countersunk Phillips flat-head machine screws finished to match framing members or hardware being fastened, unless otherwise indicated.
2. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A 123 or ASTM A 153 requirements.
3. Concealed Flashing: Manufacturer’s standard corrosion-resistant, non-staining, non-bleeding flashing, compatible with adjacent materials, and of type recommended by manufacturer.
4. Weather Stripping: Manufacturer’s standard replaceable weather stripping as follows:
5. Compression Weather Stripping: Molded neoprene complying with ASTM D 2000 requirements or molded PVC complying with ASTM D 2287 requirements.

D. For bronze components, use bronze fasteners, bronze exposed reinforcement and pull handles. For concealed fasteners, use non-corrosive metal.

2.4 HARDWARE

A. General: Provide heavy-duty hardware units indicated in sizes, number, and type recommended by manufacturer for entrances indicated. Finish exposed parts to match door finish, unless otherwise indicated.

B. Balanced-Door Hinge Assembly: Manufacturer’s standard balanced-door mechanism with balancing guide roller and top- and bottom-sealed, self-aligning, antifriction bearings, arms, and pivots and as follows:
   1. Steel Hinge Tube: Concealed in jamb.

C. Pull Handles: As selected by RE/PM from manufacturer’s full range of pull handles and plates. Stainless steel unless otherwise indicated.

2.5 FABRICATION

A. General: Fabricate aluminum entrance components to designs, sizes and thicknesses indicated.
   1. Thermal-Break Construction: Where required provide framing system with a concealed, low-conductance thermal barrier, located between exterior materials and interior members. Use manufacturer’s standard construction that has been in use for not less than 3 years.

B. Prefabrication: Before delivery, complete fabrication, assembly, finishing, hardware application, and other work to the greatest extent possible. Disassemble components only as necessary.
   1. Do not drill and tap for surface-mounted hardware items until time of installation at project site.
2. Perform cutting, fitting, forming, drilling and grinding of metal work to prevent damage to exposed finish surfaces. For hardware, perform these operations prior to application of finishes.

C. Welding: Comply with AWS recommendations; grind exposed welds flush and smooth. Restore mechanical finish.

D. Reinforcing: Install reinforcing as required for hardware and necessary for performance requirements, sag resistance and rigidity.

E. Dissimilar Metals: Separate dissimilar metals with zinc chromate primer, or other separator that will prevent corrosion.

F. Continuity: Maintain accurate relation of planes and angles, with hairline fit of contacting members.

G. Fasteners: Conceal fasteners wherever possible.

H. Weatherstripping: For exterior doors, provide compression weatherstripping against fixed stops; at other edges, provide sliding weatherstripping retained in adjustable strip mortised into door edge.

1. Provide EPDM or vinyl blade gasket weatherstripping in bottom door rail, adjustable for contact with threshold.

2.6 ALUMINUM FINISHES

A. General: Comply with NAAMM’s “Metal Finishes Manual for Architectural and Metal Products” for recommendations relative to applying and designating finishes.

B. 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.

C. Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.

D. High-Performance Organic Coating Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer’s written instructions.

1. Fluoropolymer 3-Coat Coating System: Manufacturer’s standard 3-coat, thermocured system composed of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluorocarbon topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 605.2.
2. Color: Custom color as selected by Resident Engineer.

2.7 COPPER-ALLOY FINISHES

A. Finish designations prefixed by CDA comply with the system established by the Copper Development Association for designing copper-alloy finishes.

B. Statuary Conversion Coating over Satin Finish: CDA M32-C55 (Mechanical Finish: directionally textured, fine satin. Chemical Finish: conversion coating, sulfide.)

1. Color: Match existing adjoining finishes as approved by the RE/PM.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Comply with manufacturer’s instructions and recommendations for installation.

B. Set units plumb, level, and true to line, without warp or rack of framing members or doors. Provide proper support and anchor securely. Separate aluminum and other metal from corrosion or electrolytic action at dissimilar materials.

C. Drill and tap frames and doors and apply surface-mounted hardware items. Comply with hardware manufacturer’s instructions and template requirements. Use concealed fasteners wherever possible. Do not through bolt hardware unless specifically approved by the RE/PM.

D. Set sill members in a bed of sealant or with joint fillers or gaskets to provide weathertight construction. Comply with Section 07900.

E. Install glass and glazing in accordance with requirements of Section Glass and Glazing.

F. Repair all damaged finishes with coating systems compatible with and equal to factory applied finishes.

3.2 CLEANING

A. Clean the completed system, inside and out, promptly after installation.

B. Clean glass surfaces after installation, complying with requirements in the “Glass and Glazing” section for cleaning and maintenance. Remove excess glazing and sealant compounds, dirt and other substances.

3.3 PROTECTION

A. Provide protection to ensure that entrances will be without damage or deterioration, other than normal weathering, at time of Substantial Completion.

3.4 MEASUREMENT AND PAYMENT
### A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 41 13-1</td>
<td>Furnish and install aluminum and glass swing entrance doors with frame and hardware (push/pulls), up to and including 3’-6” x 8’-0” as specified.</td>
<td>Per door</td>
</tr>
<tr>
<td>08 41 13-1a</td>
<td>Furnish and install aluminum and glass swing entrance double doors with frame and hardware (push/pulls), up to and including 2x (3’-6” x 8’-0”) as specified.</td>
<td>Per door</td>
</tr>
<tr>
<td>08 41 13-2</td>
<td>Furnish and install balanced aluminum and glass entrance doors with frame and hardware (push/pulls), up to and including 3’-6”x 8’-0” as specified.</td>
<td>Per door</td>
</tr>
<tr>
<td>08 41 13-2a</td>
<td>Furnish and install balanced aluminum and glass entrance double doors with frame and hardware (push/pulls), up to and including 7’x 8’</td>
<td>Per door</td>
</tr>
</tbody>
</table>

### B. Provide protection to ensure that entrances will be without damage or deterioration, other than normal weathering, at time of Substantial Completion.

### C. Swing entrance assemblies include all related preparation, joint sealant applications and the installation of door hardware and power door operators as indicated by the Architect and/or as directed by the RE/PM, deemed included in the Unit Price.

[END OF SECTION 08 41 13]
SECTION 08 41 26 - ALL-GLASS ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Interior and exterior and manual-swinging all-glass entrance doors.
   2. All-glass sidelights and transoms.
   3. Interior and exterior all-glass storefronts.

B. Related Sections:
   1. Division 05 Section "Metal Fabrications" for overhead-steel support for all-glass systems.
   2. Division 08 Section "Aluminum-Framed Entrances and Storefronts" for storefront systems that incorporate all-glass entrance doors.
   3. Division 08 Section "Glazing" for general glass requirements.

1.2 PERFORMANCE REQUIREMENTS

A. General Performance: All-glass systems shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction.

B. Structural Performance: All-glass systems shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to SEI/ASCE 7.

1. Wind Loads: As indicated on Drawings.
   a. Basic Wind Speed: 90 mph

2. Seismic Loads: As indicated on Drawings.

3. Deflection Limits: Deflection normal to glazing plane is limited to 1/175 of clear span or 3/4 inch (19 mm), whichever is smaller.

C. Delegated Design: Design all-glass systems, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

D. Thermal Movements: Allow for thermal movements resulting from the following ambient and surface temperature changes.

1. Temperature Change (Range): 120 deg F (67 deg C)
1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for all-glass system.

B. Shop Drawings: Show fabrication and installation details, including the following:
   1. Plans, elevations, and sections.
   2. Details of fittings and glazing, including isometric drawings of patch and rail fittings.
   3. Door hardware locations, mounting heights, and installation requirements.

C. Samples for Initial Selection: For each type of exposed finish indicated.

D. Other Action Submittals:
   1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, sidelights, transoms, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

E. Delegated-Design Submittal: For all-glass systems indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
   1. Detail fabrication and assembly of all-glass systems.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For all-glass systems to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Testing Agency Qualifications: Qualified according to ASTM E 699 for testing indicated.

C. Engineering Responsibility: Prepare data for all-glass systems, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in systems similar to those indicated for this Project.

D. Source Limitations: Obtain all-glass systems from single source from single manufacturer.
E. Accessible All-Glass Entrance Doors: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1].

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with all-glass systems by field measurements before fabrication and indicate measurements on Shop Drawings.

1.7 GUARANTEE

A. Special Guarantee: Manufacturer's standard form in which manufacturer agrees to repair or replace components of all-glass systems that do not comply with requirements or that fail in materials or workmanship within specified guarantee period.

1. Failures include, but are not limited to, the following:
   a. Structural failures including excessive deflection, air infiltration, or water leakage.
   b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
   c. Failure of operating components.

2. Guarantee Period: Five (5) years from date of final acceptance of the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

1. ACI Distribution; a division of Vitro America, Inc.
2. Alpha Door & Rail, Inc.
3. Arch Aluminum & Glass Co., Inc.
5. Otte Glass, Inc.
6. Virginia Glass Products Corporation; a subsidiary of Virginia Mirror Company.
7. Vistawall Architectural Products; The Vistawall Group; a Bluescope Steel company.
8. Or approved equal.

2.2 MATERIALS

A. Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated surfaces), Type I (transparent), tested for surface and edge compression per ASTM C 1048 and for impact strength per 16 CFR 1201 for Category II materials.

1. Class 1: Clear monolithic.
   a. Thickness: or 1/2 inch (13 mm)
   b. Locations: As indicated.

2. Class 2: Tinted monolithic.
   a. Color: As per

DOHMH
   b. Thickness: 3/8 inch (10 mm) or 1/2 inch (13 mm).
   c. Locations: As indicated.

B. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), with strength and durability characteristics of not less than Alloy 6063-T5.

2.3 METAL COMPONENTS

A. Fitting Configuration:
   1. Manual-Swinging, All-Glass Entrance Doors Sidelights and Transoms: Continuous rail fitting at top and bottom

B. Patch Fittings: Aluminum.

C. Rail Fittings:
   1. Material: Aluminum

D. Accessory Fittings: Match patch- and rail-fitting metal and finish for the following:
   1. Overhead doorstop.
   2. Center-housing lock.
   3. Glass-support-fin brackets.

E. Anchors and Fastenings: Concealed.

F. Weather Stripping: Pile type; replaceable without removing all-glass entrance doors from pivots.
   1. Deadbolt operated by key outside and thumb turn inside.
2.4 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

B. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
   1. Color: As selected by Architect from full range of industry colors and color densities.

2.5 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. After completion of all-glass storefront installation and nominal curing of sealant and glazing compounds, but before installation of interior finishes, test for water leaks according to AAMA 501.2.

C. Perform test for total areas as designated by Architect.

D. Work will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports.

2.6 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 41 26-1</td>
<td>Butt - Glazed - All Glass Door (Single) with frame and hardware (up to and including 3’ x 7’ x 1-3/4”).</td>
<td>Each</td>
</tr>
<tr>
<td>08 41 26-2</td>
<td>Butt - Glazed - All Glass Door (Double) with frame and hardware (up to and including 2 x [3’ x 7’ x 1-3/4”]).</td>
<td>Each</td>
</tr>
<tr>
<td>08 41 26-3</td>
<td>Furnish and install balanced frameless glass entrance doors, 1 hr fire-rated, double pivots top and bottom.</td>
<td>Each</td>
</tr>
</tbody>
</table>

[END OF SECTION 08 41 26]
SECTION 08 71 00 – DOOR HARDWARE

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide finish hardware in accordance with the Contract Documents. The Work of this Section shall include the furnishing and installation of all finish hardware in relation to all interior doors (and exterior doors as directed). The Work of this Section shall also include but not be limited to the following:

1. Hinges.
2. Spring hinges.
3. Key control system.
4. Lock cylinders and keys.
5. Lock and latch sets.
7. Exit devices.
8. Push/pull units.
11. Miscellaneous door control devices.
12. Door trim units.
13. Protection plates.
14. Sound stripping for interior doors.
15. Automatic drop seals (door bottoms).
16. Astragals or meeting seals on pairs of doors.
17. Door stops.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 8 Section - “Hollow Metal Doors and Frames”.
2. Division 8 Section – “Flush Wood Doors”.
3. Division 8 Section – “Aluminum Framed Entrances and Storefronts”.
4. Division 8 Section – “Automatic Door Operators”.

C. Products furnished but not installed under this Section include:

1. Cylinders for locks on interior doors.

1.2 SUBMITTALS

A. Product data including manufacturers’ technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.

B. Final hardware schedule coordinated with doors, frames, and related work to ensure
proper size, thickness, hand, function, finish of door hardware and ADA requirements and compliance.

1. Final Hardware Schedule Content: Based on hardware indicated, organize schedule into “hardware sets” indicating complete designations of every item required for each door or opening. Include the following information:

   a. Type, style, function, size, and finish of each hardware item.
   b. Name and manufacturer of each item.
   c. Fastenings and other pertinent information.
   d. Location of each hardware set cross referenced to indications on Drawings both on floor plans and in door and frame schedule.
   e. Explanation of all abbreviations, symbols, and codes contained in schedule.
   f. Mounting locations for hardware.
   g. Door and frame sizes and materials.
   h. Keying information.

2. Submittal Sequence: Submit schedule along with essential product data in order to facilitate the fabrication of other work that is critical in the Project construction schedule.

3. Keying Schedule: Coordinate keying requirements with the RE/PM for each site. Submit separate detailed schedule indicating clearly how the keying of locks has been fulfilled.

C. Samples of each type of exposed hardware unit in finish indicated and tagged with full description for coordination with schedule. Submit samples prior to final submission of hardware schedule.

   1. Samples will be returned to the supplier. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated in the Work, within limitations of keying coordination requirements.

D. Templates for doors, frames, and other work specified to be factory prepared for the installation of 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.

1.3 QUALITY ASSURANCE

A. Single Source Responsibility: Obtain each type of hardware (latch and lock sets, hinges, closers, etc.) from a single manufacturer.

B. Supplier Qualifications: A recognized architectural door hardware supplier, with warehousing facilities in the Project’s vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that employs an experienced architectural hardware consultant (AHC) who is available to the AM, RE/PM and Contractor, at reasonable
times during the course of the Work, for consultation.

1. Require supplier to meet with Owner to finalize keying requirements and to obtain final instructions in writing.

C. Fire-Rated Openings: Provide door hardware for fire-rated openings where directed by the Architect that complies with NFPA Standard No. 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by UL, Warnock Hersey, Factory Mutual Research Corporation, or other testing and inspecting organization acceptable to authorities having jurisdiction for use on types and sizes of doors indicated in compliance with requirements of fire-rated door and door frame labels.

D. Comply with applicable requirements of the ADA and the New York City Building Code requirements for accessibility.

1.4 PRODUCT HANDLING

A. Tag each item or package separately with identification related to final hardware schedule, and include basic installation instructions with each item or package.

B. Packaging of door hardware is responsibility of supplier. As material is received by hardware supplier from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set number to match set numbers of approved hardware schedule. Two or more identical sets may be packed in same container.

C. Inventory door hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.

D. Deliver individually packaged door hardware items promptly to place of installation (shop or Project site).

E. Provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items that are not immediately replaceable so that completion of the Work will not be delayed by hardware losses both before and after installation.

1.5 MAINTENANCE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for the DOMH’ continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the
following:

1. Butt Hinges:
   a. Bommer Industries, Inc.
   b. Hager Hinge Co.
   c. Stanley Hardware, Div. Stanley Works.

2. Key Control System:
   a. Key Control Systems, Inc.
   b. Telkee Inc.

3. Cylinders and Locks:
   a. Best access systems; Div. of Stanley Security Solutions Inc.
   b. Schlage Lock, Div. Ingersoll-Rand Door Hardware Group.
   c. Yale Security Inc.

4. Bolts:
   a. Hager Hinge Co.
   b. H. B. Ives, A Harrow Company.
   c. Stanley Hardware, Div. Stanley Works.

5. Exit/Panic Devices:
   a. Precision Hardware, Inc.
   b. Von Duprin, Div. Ingersoll-Rand Door Hardware Group.
   c. Yale Security Inc.

6. Push/Pull Units:
   a. Baldwin Hardware Corp.
   b. Hager Hinge Co.
   c. H. B. Ives, A Harrow Company.

7. Overhead Closers:
   a. LCN, Div. Ingersoll-Rand Door Hardware Group.
   c. Yale Security Inc.

8. Floor Closers:
   b. Dorma.

9. Door Control Devices:
a. Baldwin Hardware Corp.
b. Hager Hinge Co.
c. H. B. Ives, A Harrow Company.

10. Door Trim Units:

a. Baldwin Hardware Corp.
b. Hager Hinge Co.
c. H. B. Ives, A Harrow Company.

11. Kick, Mop, and Armor Plates:

a. Baldwin Hardware Corp.
b. Hager Hinge Co.
c. H. B. Ives, A Harrow Company.

12. Security Hardware:

a. Folger Adams.

13. Door Stripping and Seals:

a. Hager Hinge Co.
b. National Guard Products, Inc.
c. Pemko Manufacturing Co., Inc.

14. Thresholds:

a. Hager Hinge Co.
b. National Guard Products, Inc.
c. Pemko Manufacturing Co., Inc.

15. Automatic Drop Seals:

a. Hager Hinge Co.
b. National Guard Products, Inc.
c. Pemko Manufacturing Co., Inc.

16. Sound Stripping:

a. National Guard Products, Inc.
b. Pemko Manufacturing Co., Inc.
c. Reese Enterprises, Inc.

17. Astragals:

a. Hager Hinge Co.
b. National Guard Products, Inc.
c. Pemko Manufacturing Co., Inc.
2.2 SCHEDULED HARDWARE

A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in the “Hardware Schedule” at the end of this Section. Products are identified by using hardware designation numbers of the following:

1. Manufacturer’s Product Designations: The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or, where more than one manufacturer is specified under the Article “Manufacturers” in Part 2 for each hardware type, the comparable product of one of the other manufacturers that complies with requirements, or approved equal.

2. ANSI/BHMA designations used elsewhere in this Section or in schedules to describe hardware items or to define quality or function are derived from the following standards. Provide products complying with these standards and requirements specified elsewhere in this Section.

(a) Butt Hinges: ANSI/BHMA A156.1.
(b) Bored and Preassembled Locks and Latches: ANSI/BHMA A156.2.
(c) Exit Devices: ANSI/BHMA A156.3.
(d) Door Controls - Closers: ANSI/BHMA A156.4.
(e) Auxiliary Locks and Associated Products: ANSI/BHMA A156.5.
(f) Architectural Door Trim: ANSI/BHMA A156.6.
(g) Template Hinge Dimensions: ANSI/BHMA A156.7.
(h) Door Controls - Overhead Holders: ANSI/BHMA A156.8.
(j) Closer Holder Release Devices: ANSI/BHMA A156.15.
(k) Auxiliary Hardware: ANSI/BHMA A156.16.
(l) Self-Closing Hinges and Pivots: ANSI/BHMA A156.17.
(m) Materials and Finishes: ANSI/BHMA A156.18.

2.3 MATERIALS AND FABRICATION

A. Manufacturer’s Name Plate: All hardware shall be stamped with the name of the manufacturer and installed so that the manufacturer’s name is visible.

(1) Manufacturer’s identification will be permitted on rim of lock cylinders only.

B. Base Metals: Produce hardware units of basic metal and forming method indicated, using manufacturer’s standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units by applicable ANSI/BHMA A156 series standards for each type of hardware item and with ANSI/BHMA A156.18 for finish selected. Do not furnish “optional” materials or forming methods for those indicated, except as otherwise specified.

C. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.

D. Furnish screws for installation with each hardware item. Provide Phillips flat-head
screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including “prepared for paint” surfaces to receive painted finish.

E. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless their use is the only means of reinforcing the work adequately to fasten the hardware securely and is approved by the RE/PM. Where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex screw fasteners.

F. Where the finished shape or size of existing members receiving finish hardware are such as to render unsuitable or prevent the use of the specific types or sizes of hardware, suitable types or sizes shall be furnished upon approval of the Architect and/or RE/PM, having as meanly as practicable the same function, operation and quality as the specified finish hardware.

2.4 HINGES, BUTTS, AND PIVOTS

A. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.

B. Screws: Provide Phillips flat-head screws complying with the following requirements:

1. For metal doors and frames install machine screws into drilled and tapped holes.
2. For wood doors and frames install wood screws.
3. For fire-rated wood doors install #12 x 1-1/4-inch, threaded-to-the-head steel wood screws.
4. Finish screw heads to match surface of hinges or pivots.

C. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:

1. Out-Swing Corridor Doors with Locks: Non-removable pins.
(2) Interior Doors: Non-rising pins.
(3) Tips: Flat button and matching plug, finished to match leaves, except where hospital tip (HT) indicated.

D. Number of Hinges: Provide number of hinges indicated but not less than 3 hinges per door leaf for doors 90 inches or less in height and one additional hinge for each 30 inches of additional height.

1. Fire-Rated Doors: Not less than 3 hinges per door leaf for doors 86 inches or less in height with same rule for additional hinges.

E. Hinge sizes shall be detailed so that the least amount of projection shall be visible from the frame.

F. Unless otherwise noted, butt hinges shall be full mortise, five knuckle ball or oil
impregnated bearings with flat button tip.

2.5 LOCK CYLINDERS AND KEYING

A. Existing System: Grandmasterkey the locks to the DOHMH’ existing system, with a new masterkey for the Project.

B. Review the keying system with the DOHMH and provide the type required (master, grandmaster or great-grandmaster), either new or integrated with the DOHMH’ existing system.

C. Equip locks with manufacturer’s standard 6-pin tumbler cylinders.

D. Equip locks with manufacturer’s special 6-pin tumbler cylinder with construction masterkey feature that permits voiding of construction keys without cylinder removal.

E. Where applicable to existing keying a specific site, equip locks with cylinders for interchangeable-core pin tumbler inserts. Furnish only temporary inserts for the construction period, and remove these when directed.

   1. Furnish final cores and keys for installation by the DOHMH.

F. Metals: Construct lock cylinder parts from brass or bronze, stainless steel, or nickel silver.

G. Comply with the DOHMH’ instructions for masterkeying and, except as otherwise indicated, provide individual change key for each lock that is not designated to be keyed alike with a group of related locks.

   1. Permanently inscribe each key with number of lock that identifies cylinder manufacturer’s key symbol, and notation, “DO NOT DUPLICATE.”

H. Key Material: Provide keys of nickel silver only.

I. Key Quantity: Furnish 3 change keys for each lock, 5 master keys for each master system, and 5 grandmaster keys for each grandmaster system.

   1. Furnish one extra blank for each lock.
   2. Deliver keys to Project Manager.

2.6 KEY CONTROL SYSTEM

A. Where an existing key control system exists at a site provide required envelopes, labels, tags with self-locking key clips, receipt forms, or other required items to coordinate with key control system.

2.7 LOCKS, LATCHES, AND BOLTS

A. Strikes: Provide manufacturer’s standard wrought box strike for each latch or lock bolt,
with curved lip extended to protect frame, finished to match hardware set, unless otherwise indicated.

1. Provide flat lip strikes for locks with 3-piece, antifriction latchbolts as recommended by manufacturer.
2. Provide extra long strike lips for locks used on frames with applied wood casing trim.
3. Provide recess type top strikes for bolts locking into head frames, unless otherwise indicated.
4. Provide dust-proof strikes for foot bolts, except where special threshold construction provides non-recessed strike for bolt.
5. Provide roller type strikes where recommended by manufacturer of the latch and lock units.


C. Flush Bolt Heads: Minimum of 1/2-inch- diameter rods of brass, bronze, or stainless steel with minimum 12-inch- long rod for doors up to 84 inches in height. Provide longer rods as necessary for doors exceeding 84 inches in height.

D. Equip all locks with ADA approved lever design, consistent with adjoining hardware.

2.8 PUSH/PULL UNITS

A. Concealed Fasteners: Provide manufacturer’s special concealed fastener system for installation, thru-bolted for matched pairs but not for single units.

2.9 CLOSERS AND DOOR CONTROL DEVICES

A. Closer: Heavy-duty, cast iron cylinder, UL listed for use on fire-rated doors, all weather hydraulic fluid, ADA compliant, interior or exterior application, surface mounted closer with “hold-open” arm and 10-year warranty.

1. Manufacturer: 4000 Series - Model No. 4010: Hinge (pull side) mounted or Model No. 4020: Top jamb (push side) mounted by LCN Division, Ingersoll-Rand Company or approved equal.
2. Finish: LCN Aluminum - AL (BHMA 689) or as specified by Architect.

B. Combination Door Closers and Holders: Provide units designed to hold door in open position under normal usage and to release and close door automatically under fire conditions. Incorporate an integral electromagnetic holder mechanism designed for use with UL listed fire detectors, provided with normally closed switching contacts.

1. Provide integral smoke detector device in combination door closers and holders complying with UL 228.
C. Door Control Devices: Provide black resilient parts for exposed bumpers.

2.10 DOOR TRIM UNITS

A. Fasteners: Provide manufacturer’s standard exposed fasteners for door trim units consisting of either machine screws or self-tapping screws.

B. Fabricate edge trim of stainless steel to fit door thickness in standard lengths or to match height of protection plates.

C. Fabricate protection plates not more than 1-1/2 inches less than door width on hinge side and not more than 1/2 inch less than door width on pull side by height indicated.

1. Metal Plates: Stainless steel, 0.050 inch (U.S. 18 gage).
2. Metal Plates: Brass or bronze, 0.062 inch (U.S. 16 gage).

2.11 SEALS

A. General: Provide continuous sound seals on interior doors where indicated or scheduled.

B. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strip is easily replaceable and readily available from stocks maintained by manufacturer.

2.12 SADDLE THRESHOLDS

A. The Contractor shall provide saddle threshold for each door as directed by the Architect or RE/PM. Type, style and material of saddle thresholds shall be specified by the Architect. Materials include, but not limited to bronze and aluminum.

B. Door saddle thresholds shall meet the requirements of the conditions of wall thickness, height and ADA compliance for wheelchair accessibility.

C. Thresholds shall provide for a smooth transition between materials on both sides of the door opening and shall be of uniform quality, free of defects and anchored with appropriate anchoring materials to the flooring substrate. Use screws, fasteners, adhesives or other means as recommended by the threshold manufacturer or Architect.

D. Saddle thresholds shall exceed the finished thickness of the adjacent wall by 1/2” on both sides.

2.13 HARDWARE FINISHES

A. Match items to the manufacturer’s standard color and texture finish for the latch and lock sets (or push-pull units if no latch or lock sets).

B. Provide finishes that match those established by BHMA or, if none established, match the RE/PM’s sample.

C. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer’s standards, but in no case
less than specified by referenced standards for the applicable units of hardware.

D. Provide protective lacquer coating on all exposed hardware finishes of brass, bronze, and aluminum, except as otherwise indicated. The suffix “-NL” is used with standard finish designations to indicate “no lacquer.”

E. The designations used in schedules and elsewhere to indicate hardware finishes are the industry-recognized standard commercial finishes, except as otherwise noted.

F. The submittal requirements of this Section shall apply.

2.14 FINISHES

A. Finishes Specified: Unless otherwise specified use the following finishes:

1. Exterior Hinges and wet rooms. US32D (630)
2. Interior Hinges (H.M.) US26D (626)
3. Interior Hinges (WD) US26D (626)
4. Locks and Latches US32D (630)
5. Exit Devices US32D (630)
6. Door Closers EN
8. Stops and Holders US26D (626)
9. Miscellaneous US26D (626)

2.15 MISCELLANEOUS

A. Escutcheons: All locksets shall be provided with standard escutcheons with finish as specified by the Architect.

B. Lever Handles: All locksets shall include ADA compliant lever handles with finish as specified by the Architect.

PART 2) – EXECUTION

3.1 INSTALLATION

A. Mount hardware units at heights indicated in following applicable publications, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by RE/PM.

1. “Recommended Locations for Builders Hardware for Standard Steel Doors and Frames” by the Door and Hardware Institute.
2. NWWDA Industry Standard I.S.1.7, “Hardware Locations for Wood Flush Doors.”
3. Applicable requirements of the ADA for accessibility.

B. Install each hardware item in compliance with the manufacturer’s instructions and recommendations. Where cutting and fitting is required to install hardware onto or into
surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrates involved.

C. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

D. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

E. Seals: Comply with manufacturer’s instructions and recommendations to the extent installation requirements are not otherwise indicated.

3.2 ADJUSTING, CLEANING, AND DEMONSTRATING

A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.

1. During the week prior to acceptance or occupancy and make final check and adjustment of all hardware items. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

B. Clean adjacent surfaces soiled by hardware installation.

C. Instruct the DOHMH’s personnel in the proper adjustment and maintenance of door hardware and hardware finishes.

D. Six-Month Adjustment: Approximately six months after the date of Substantial Completion, the Installer, accompanied by representatives of the manufacturers of latchesets and locksets and of door control devices, and of other major hardware suppliers, shall return to the Project to perform the following work:

1. Examine and re-adjust each item of door hardware as necessary to restore function of doors and hardware to comply with specified requirements.
2. Consult with and instruct the DOHMH’s personnel in recommended additions to the maintenance procedures.
3. Replace hardware items that have deteriorated or failed due to faulty design, materials, or installation of hardware units.
4. Prepare a written report of current and predictable problems (of substantial nature) in the performance of the hardware.

3.3 HARDWARE SCHEDULE

A. General: Provide hardware for each door to comply with requirements of Section “Door Hardware,” hardware set numbers indicated in door schedule, and in the following schedule of hardware sets.
1. Hardware sets indicate quantity, item, manufacturer and product designation, size, and finish or color, as applicable.
2. Lockset Designs: Provide lockset designs matching design present in the existing facility.

B. Set No. 1 - Cylindrical Deadbolt Set

3 Hinges
1 Lockset (function as required) - Grade 1, Heavy Duty, Double Cylinder
1 Floor stop

C. Set No. 2 - Mortise Set

3 Hinges
1 Lockset (function as required) - Operational Grade 1, Security Grade 1
1 Floor stop

D. Set No. 3 - Panic Set

3 Hinges
1 Exit Device (function as required)
1 Floor stop

E. Set No. 4 - Security Set

3 Hinges
1 Deadlock
1 Mortise Keeper w/switch
1 Lock Mount
1 Door Position Switch
1 Cylinder Shield
2 Pulls (outside & inside)
1 Over Head Closer
1 Wall or Floor Stop

FA 4-1/2 FM-ICS
FA 86-6
FA 80-4BL
FA HM
FA 523
FA 2CS
FA 4
LCN 2215
Ferrum

F. Set No. 5 - Typical Office Set

1 Lockset Heavy Duty Commercial, “Vandlgard” Keyed Lever Locks with “Athens” lever hande by Schlage.
3 Hinges # FBB179, 4-1/2 x 4-1/2 Full Mortise by Stanley.
1 Door Stop # 436B10 or # 438B10 by Ives.
3 Door Silencer # 20 Frame Cut by Ives, (3) Rubber Door Silencers Per Door.

3.4 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 71 00-1</td>
<td>Hardware Set No. 1 - Furnish and install finish hardware complete for each door opening with</td>
<td>Per opening</td>
</tr>
</tbody>
</table>
cylindrical lockset.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 71 00-2</td>
<td>Hardware Set No. 2 - Furnish and install finish hardware complete for each door opening with mortise lockset.</td>
<td>Per opening</td>
</tr>
<tr>
<td>08 71 00-3</td>
<td>Hardware Set No. 3 - Furnish and install finish hardware complete for each door opening with exit device (panic device) lockset.</td>
<td>Per opening</td>
</tr>
<tr>
<td>08 71 00-4</td>
<td>Hardware Set No. 4 - Furnish and install security finish hardware complete for each door opening as specified.</td>
<td>Per opening</td>
</tr>
<tr>
<td>08 71 00-5</td>
<td>Hardware Set No. 5 - Furnish and install function office finish hardware complete for each door opening as specified.</td>
<td>Per opening</td>
</tr>
<tr>
<td></td>
<td>Furnish and install ADA compliant, heavy-duty, overhead, surface-mounted closer.</td>
<td>Each</td>
</tr>
<tr>
<td>08 71 00-7</td>
<td>Furnish and install swing clear hinges.</td>
<td>Per opening</td>
</tr>
<tr>
<td>08 71 00-8</td>
<td>Furnish and install bronze door saddle/threshold.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>08 71 00-9</td>
<td>Furnish and install aluminum door saddle/threshold.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>08 71 00-10</td>
<td>Furnish and install Bronze/Stainless steel Kick plates up to and including 2'-0&quot; high.</td>
<td>Each</td>
</tr>
<tr>
<td>08 71 00-11</td>
<td>Furnish and install panic exit device (for swing entrance or balanced doors) as specified.</td>
<td>Per Door</td>
</tr>
</tbody>
</table>

B. All finish hardware not specified as a hardware set or indicated as a unit price line item will be furnished and installed as directed by the Architect or RE/PM.

1. The cost for finish hardware not listed above shall be paid under the “Materials and Consumables Allowance” provision of the Contract.

2. There shall be no additional labor charge for the installation of finish hardware paid for under the “materials and consumables allowance.” All labor costs
associated with the installation of additional finish hardware requirements shall be deemed included in the material cost.

[END OF SECTION 08 71 00]
SECTION 08 71 13 – AUTOMATIC DOOR OPERATORS

PART 1 – GENERAL

1.1 SUMMARY

i) Work Included: Provide power door operators in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Automatic Swinging Door Systems as required by Drawings also included will be fire rated Swing Doors with necessary connecting hardware.
2. Surface-mounted overhead, low power units for one-way swing doors.
3. In-floor mounted, low power units for one-way swing doors.

B. Related Sections:

1. Division 8 Section: “Aluminum-Framed Entrances and Storefronts”.
2. Division 8 Section: “Door Hardware”.

1.2 SUBMITTALS

A. Product data for each door operator type required, including the manufacturer’s standard details and fabrication methods and general published recommendations for each component of the door operating systems required, and the following:

1. Roughing-in diagrams.
2. Certified performance reports.
3. Installation instructions.
4. Parts lists.

B. Wiring diagrams detailing wiring for power operator, signal, and control systems. Clearly differentiate between manufacturer-installed wiring and field-installed wiring. Include wiring diagrams for fire-rated openings.

C. Maintenance Data: Submit manufacturer’s maintenance and service data for door operators and control system including the name, address and telephone number of the nearest authorized service representative.

1.3 QUALITY ASSURANCE

A. Engage an experienced Installer who is an authorized representative of the manufacturer for the installation and maintenance of the type of units required for this Project.

B. Fire-Rated and Emergency Exit Openings: Provide door operators that comply with NFPA 80 requirements for doors as emergency exits, and do not interfere with fire ratings.

C. BHMA Standard: Provide power door operators that comply with applicable requirements of ANSI A156.19 (BHMA 1601), Low Power Operated Pedestrian Door
D. **UL Standard:** Provide power door operators that comply with UL 325.

**PART 2 – PRODUCTS**

**2.1 MANUFACTURERS**

A. **Surface-Mounted Overhead Units:** Provide low power electro-mechanical-operated swinging units as manufactured by DOR-O-MATIC as specified here in, or approved equal manufactured by Besam Automatic Door Operators.

B. **In-Floor Mounted Units:** Provide in-floor units as manufactured by Saino Manufacturing, as specified herein, or approved equal.

**2.2 GENERAL DOOR OPERATOR REQUIREMENTS**

A. **Capacity:** Provide operators of the size recommended by the manufacturer for the door size, weight, and movement, for condition of exposure, and for long-term, maintenance-free operation under normal traffic load for the type of occupancy indicated.

B. **Hinge Operation:** For swing type doors, refer to Division 8 Section “Door Hardware” to determine type of hinge action to be matched by the door operator action.

C. **Exposed Housing:** Minimum 0.062-inch-thick extruded or formed aluminum cover with provisions for maintenance access. Provide fasteners that are concealed when door is in the closed position. Finish as selected by RE/PM.

D. **Adjustment Features:** Operators shall be fully adjustable. Provide adjustment for opening, closing, and checking speeds, as well as length of time the door remains open.

**2.3 SWINGING DOOR OPERATORS**

A. **Electro-Mechanical Operator for Swinging Doors:** Provide the manufacturer’s door operators with power-opened and spring-closed, with the closing speed controlled mechanically by gear train and dynamically by braking action of electric motor and, with easy manual operation including spring closing with power off. Provide operator action as indicated and mounting as indicated below:

1. **Operator Mounting Type:**
   a. Surface-mounted overhead operator.
   b. In-floor mounted operator.

2. **Power-Assisted Closing:** Provide low power-assisted spring closing for overcoming wind and static pressures.

3. **Fire Door Accessories:** Provide fire door accessory package consisting of UL-listed Electric solenoid latches. If required provide power reset box, and
caution labels for fire-resistance rated doors indicated for electro-mechanical operation. For center-pivoted doors provide emergency release for reverse swing action of doors which are indicated or required to function as exits.

2.4 OPERATOR CONTROL SYSTEMS

A. Controls:

1. Open control: #1291-900 Push plate, push to open, quantity: 2 min. per operator

B. Exit Hardware for rated doors:

1. Panic Bars #8847F Concealed.

C. Provide equivalent operator control systems as recommended by Saino Manufacturing for the in-floor mounted operator.

D. Coordinate with Electrical Contract for related preparation and install all necessary accessories, push plates, sensors, lock out relays and hardware for a complete and operational system as indicated on the drawings by the Architect, all deemed included in the Unit Price.

PART 3 – EXECUTION

3.1 PREPARATION

A. Templates and Diagrams: Furnish templates, diagrams, and other data to fabricators and installers of related work, as necessary, for coordination of the power door operator installation.

3.2 INSTALLATION

A. General: Comply with manufacturer’s recommendations.

1. Install complete power door operator system in accordance with manufacturer’s instructions, including controls, control wiring, and remote power units.

B. Set tracks, header assemblies, operating brackets, rails, and guides level and true to location with adequate anchorage for permanent support.

3.3 ADJUSTING

A. After repeated operation of completed installation equivalent to 3 days use by normal traffic (100 to 300 cycles), readjust door operators and controls for optimum operating condition and safety, and for a weathertight closure. Lubricate as recommended by manufacturer; comply with requirements of applicable BHMA standards.
3.4 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 71 13-1</td>
<td>Furnish and install surface-mounted overhead power door operators complete for rated (or non-rated) doors as specified.</td>
<td>Per operator</td>
</tr>
<tr>
<td>08 71 13-2</td>
<td>Furnish and install in-floor mounted power door operators complete for rated (or non-rated) doors as specified.</td>
<td>Per operator</td>
</tr>
<tr>
<td>08 71 13-3</td>
<td>Furnish and install pedestal mounted touch plate for remote access by handicap.</td>
<td>Per plate</td>
</tr>
</tbody>
</table>

B. Installation includes all related preparation, testing and adjustment as specified.

C. Electrical supply required will be performed by Electrical Contract, unless otherwise noted.

[END OF SECTION 08 71 13]
SECTION 08 80 00 – GLAZING

PART 1) – GENERAL

1.1 SUMMARY

A. Work Included: Provide glass and glazing in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Vision lites in doors and frames.
2. Glazing for storefront construction.
3. Information window with holes.
4. Bullet resistant glass.

B. Related Sections

1. Division 08 Section: “Hollow Metal Doors and Frames”.
2. Division 08 Section: “Flush Wood Doors”.
3. Division 08 Section: “All-Glass Entrances and Storefronts”

1.2 DEFINITIONS

A. Manufacturer is used in this Section to refer to a firm that produces primary glass or fabricated glass as defined in the referenced glazing standard.

B. Deterioration of Laminated Glass: Defects developed from normal use that are attributed to the manufacturing process and not to glass breakage and practices for maintaining and cleaning laminated glass contrary to manufacturer’s directions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated glass standard.

1.3 SYSTEM PERFORMANCE REQUIREMENTS

A. General: Provide glazing systems that are produced, fabricated, and installed to withstand normal thermal movement, wind loading, and impact loading (where applicable), without failure including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; and other defects in construction.

B. Glass Design: Glass thicknesses indicated on Drawings are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites for the various size openings in the thicknesses and strengths (annealed or tempered) to meet or exceed the following criteria:

1. Minimum glass thickness, nominally, of lites in exterior work is 1/4 inch.
2. Minimum glass thicknesses of lites, whether composed of annealed or tempered glass, are selected so the worst-case probability of failure does not exceed the following:
a. 8 lites per 1000 for lites set vertically or not over 15 degrees off vertical and under wind action. Determine minimum thickness of monolithic annealed glass according to ASTM E 1300. For other than monolithic annealed glass, determine thickness per glass manufacturer’s standard method of analysis including applying adjustment factors to ASTM E 1300 based on type of glass.

3. Provide tempered safety glass where required by Code and for all doors and sidelights.

1.4 SUBMITTALS

A. Product data for each glass product and glazing material indicated.

B. Samples for verification purposes of 12-inch square samples of each type of glass indicated except for clear monolithic glass products, and 12-inch long samples of each color required (except black) for each type of sealant or gasket exposed to view. Install sealant or gasket sample between two strips of material representative in color of the adjoining framing system.

C. Product certificates signed by glazing materials manufacturers certifying that their products comply with specified requirements.

1. Separate certifications are not required for glazing materials bearing manufacturer’s permanent labels designating type and thickness of glass, provided labels represent a quality control program of a recognized certification agency or independent testing agency acceptable to authorities having jurisdiction.

2. Submit certification of compliance with safety glazing standards.

D. Compatibility test report from manufacturer of insulating glass edge sealant indicating that glass edge sealants were tested for compatibility with other glazing materials including sealants, glazing tape, gaskets, setting blocks, and edge blocks.

1.5 QUALITY ASSURANCE

A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, except where more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.

2. AAMA Publications: AAMA TIR-A7 “Sloped Glazing Guidelines” and “Glass Design for Sloped Glazing.”

1. Subject to compliance with requirements, provide safety glass permanently marked with certification label of Safety Glazing Certification Council (SGCC) or other certification agency acceptable to authorities having jurisdiction.

C. Glazier Qualifications: Engage an experienced glazier who has completed glazing similar in material, design, and extent to that indicated for Project with a record of successful in-service performance.

D. Single-Source Responsibility for Glass: Obtain glass from one source for each product indicated below:

1. Primary glass of each (ASTM C 1036) type and class indicated.
2. Heat-treated glass of each (ASTM C 1048) fully tempered condition.
3. Laminated glass of each (ASTM C 1172) kind indicated.
4. Insulating glass of each construction indicated.

E. Single-Source Responsibility for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials to comply with manufacturer’s directions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

1. Where insulating glass units will be exposed to substantial altitude changes, comply with insulating glass fabricator’s recommendations for venting and sealing to avoid hermetic seal ruptures.

1.7 PROJECT CONDITIONS

A. Environmental Conditions: Do not proceed with glazing when ambient and substrate temperature conditions are outside the limits permitted by glazing materials manufacturer or when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 40 deg F (4.4 deg C).

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the products specified in Product Data Sheets at end of this Section.
2.2 PRIMARY FLOAT GLASS PRODUCTS

A. Float Glass: ASTM C 1036, Type I (transparent glass, flat), Class as indicated below, and Quality q3 (glazing select).

1. Class 1 (clear) unless otherwise indicated.

B. Refer to Primary Clear Float Glass Product Data Sheet for Class 1 uncoated tinted glass for monolithic glazing.

C. Refer to requirements for sealed insulating glass units for performance characteristics of assembled units composed of tinted glass, coated or uncoated, relative to visible light transmittance, U-values, shading coefficient, and visible reflectance.

2.3 HEAT-TREATED (FULLY TEMPERED) FLOAT GLASS PRODUCTS, GENERAL

A. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed, unless otherwise indicated.

2.4 HEAT-TREATED (FULLY TEMPERED) FLOAT GLASS

A. Uncoated, Clear, Heat-Treated Float Glass: ASTM C 1048, Condition A (uncoated surfaces), Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), kind as indicated below.

1. Kind FT (fully tempered) where indicated.

B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering heat-treated glass products that may be incorporated in the Work include, but are not limited to, the following companies.

1. AFG Industries, Inc.
2. Cardinal IG.
4. Falconer Glass Industries.
5. Glasstemp, Inc.
7. Tempglass.
8. Viracon, Inc.

2.5 WIRED GLASS

A. Wired Glass: ASTM C 1036, Type II (patterned and wired glass, flat), Class 1 (clear), Quality q8 (glazing); 1/4 inch thick; of form and mesh pattern indicated below:

1. Polished Wired Glass: Form 1 (wired, polished both sides), and as follows:
   a. Mesh m2 (square).
B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering wired glass products that may be incorporated in the Work include, but are not limited to, the following companies.

1. Polished Wired Glass:
   a. Ashai Glass Co.
   b. Central Glass Co., Ltd.
   c. Nippon Sheet Glass Ltd.
   d. Pilkington Sales (North America) Ltd.

2.6 LAMINATED GLASS PRODUCTS

A. Laminated Glass Products: Comply with ASTM C 1172 for kinds of laminated glass indicated and other requirements specified, including those in Laminated Glass Product Data Sheet at the end of this Section. Refer to primary and heat-treated glass requirements relating to properties of glass products comprising laminated glass products.

B. Interlayer: Interlayer material as indicated below, in clear or colors, and 0.060 inch thick with a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after laminating glass lites and installation.

1. Interlayer Material: Polyvinyl butyral sheets.
2. Available Products: Subject to compliance with requirements, the plastic interlayer products that may be incorporated in the Work include, but are not limited to, the following:
   a. Polyvinyl Butyral Interlayer:
      i. Saflex, Monsanto Co.

C. Laminating Process: Fabricate laminated glass to produce glass free of foreign substances and air or glass pockets as follows:

1. Laminate lites with polyvinyl butyral interlayer in autoclave with heat plus pressure.

2.7 INSULATING GLASS PRODUCTS

A. Sealed Insulating Glass Units: Preassembled units consisting of organically sealed lites of glass separated by dehydrated air spaces complying with ASTM E 774 and with other requirements indicated, including those in Insulating Glass Product Data Sheet at the end of this Section.

1. For properties of individual glass lites making up units, refer to requirements specified elsewhere in this Section applicable to types, classes, kinds, and conditions of glass products comprising lites of insulating glass units.
2. U-values are expressed as Btu/hr x sq. ft. x deg F (W/sq. m x K).

2.8 ELASTOMERIC GLAZING SEALANTS
A. General: Provide products of type indicated, complying with the following requirements:

1. Compatibility: Select glazing sealants and tapes of proven compatibility with other materials they will contact, including glass products, seals of insulating glass units, and glazing channel substrates, under conditions of installation and service, as demonstrated by testing and field experience.

2. Suitability: Comply with sealant and glass manufacturer’s recommendations for selecting glazing sealants and tapes that are suitable for applications indicated and conditions existing at time of installation.

3. Colors: Provide color of exposed joint sealants to comply with the following:

   a. Provide selections made by Resident Engineer from manufacturer’s full range of standard colors for products of type indicated.

B. Elastomeric Glazing Sealant Standard: Provide manufacturer’s standard chemically curing, elastomeric sealants of base polymer indicated that comply with ASTM C 920 requirements indicated on each Elastomeric Glazing Sealant Product Data Sheet at the end of this Section, including those referencing ASTM classifications for Type, Grade, Class and Uses.

   1. Additional Movement Capability: Where additional movement capability is specified in Elastomeric Glazing Sealant Product Data Sheet, provide products, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, with the capability to withstand the specified percentage change in the joint width existing at time of installation and remain in compliance with other requirements of ASTM C 920 for uses indicated.

2.9 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tape: Preformed, butyl-based elastomeric tape with a solids content of 100 percent, nonstaining and nonmigrating in contact with nonporous surfaces, with or without spacer rod as recommended by tape and glass manufacturers for application indicated, packaged on rolls with a release paper backing, and complying with AAMA 800 for products indicated below:

1. AAMA 804.1.
2. AAMA 806.1.
3. AAMA 807.1.

B. Expanded Cellular Glazing Tape: Closed-cell, polyvinyl chloride foam tape, factory coated with adhesive on both surfaces, packaged on rolls with release liner protecting adhesive, and complying with AAMA 800 for product 810.5.

C. Available Products: Subject to compliance with requirements, glazing tape that may be incorporated in the Work include, but is not limited to, the following:

1. Back-Bedding Mastic Glazing Tape Without Spacer Rod:

   a. PTI 303 Glazing Tape (shimless), Protective Treatments, Inc.
c. Tremco 440 Tape, Tremco Inc.
d. Extru-Seal, Pecora Corp.
e. PTI 606 Architectural Sealant Tape, Protective Treatments, Inc.
f. Dyna-Seal, Pecora Corp.
g. PTI 626 Architectural Sealant Tape, Protective Treatments, Inc.
h. S-M 5710 H.P Poly-Glaze Tape Sealant, Schnee-Morehead, Inc. i
   SST-800 Tape, Tremco, Inc.

2. Back-Bedding Mastic Glazing Tape With Spacer Rod:
   a. PTI 303 Glazing Tape (with shim), Protective Treatments, Inc.
   b. Pre-shimmed Tremco 440 Tape, Tremco, Inc.
   c. PTI 606 Architectural Sealant Tape, Protective Treatments, Inc.

3. Expanded Cellular Glazing Tape:

2.10 GLAZING GASKETS

A. Dense Compression Gaskets: Molded or extruded gaskets of material indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:

2. EPDM, ASTM C 864.
4. Thermoplastic polyolefin rubber, ASTM C 1115.
5. Any material indicated above.

B. Soft Compression Gaskets: Extruded or molded closed-cell, integral-skinned gaskets of material indicated below, complying with ASTM C 509, Type II, black, and of profile and hardness required to maintain watertight seal:

1. Neoprene.
2. EPDM.
4. Thermoplastic polyolefin rubber.
5. Any material indicated above.

C. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include, but are not limited to, the following companies:

1. Preformed Gaskets:
   a. Advanced Elastomer Systems, L.P.
   b. Schnee-Morehead, Inc.
   c. Tremco, Inc.
2.11 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials involved for glazing application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore A durometer hardness of 85 plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions with a Shore A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side-walking).

F. Plastic Foam Joint Fillers: Preformed, compressible, resilient, non-staining, non-extruding, non-outgassing, strips of closed-cell plastic foam of density, size, and shape to control sealant depth and otherwise contribute to produce optimum sealant performance.

G. Perimeter Insulation for Fire-Resistive Glazing: Identical to product used in test assembly to obtain fire-resistant rating.

H. Information Window: Provide laminated glass assembly of the sizes shown on the drawings, with stainless steel fasteners to form the speaker window requirement.

I. Speaker Holes: Provide clear anodized aluminum speak holes, circular anodized aluminum, of diameter shown on the drawings, as manufactured by Nissen & Company, or approved equal.

J. Security Glazing (S): Provide laminated security glass consisting of sheets of clear glass and plastic complying with ASTM C 1036, Type I, Class 1, quality g3; permanently laminated together with a clear plastic polyvinyl butyral interlayer. Laminated glass assemblies shall have edges factory sealed prior to proprietary chemical tempering.

1. Thickness: 11/16 inches, unless otherwise indicated.
2. Selected Product: Provide “Secur-Tem + Poly 2116” as manufactured by Globe Amarada Glass Co., or approved equal acceptable to the Architect.

2.12 FABRICATION OF GLASS AND OTHER GLAZING PRODUCTS

a. Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with recommendations of product manufacturer and referenced glazing standard as required to comply with system performance requirements.

b. Clean cut or flat grind vertical edges of butt-glazed monolithic lites in a manner that
produces square edges with slight kerfs at junctions with indoor and outdoor faces.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine glass framing, with glazier present, for compliance with the following:

1. Manufacturing and installation tolerances, including those for size, squareness, offsets at corners.
2. Presence and functioning of weep system.
3. Minimum required face or edge clearances.
4. Effective sealing between joints of glass-framing members.

B. Do not proceed with glazing until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings that are not firmly bonded to substrates.

3.3 GLAZING, GENERAL

A. Comply with combined recommendations of manufacturers of glass, sealants, gaskets, and other glazing materials, except where more stringent requirements are indicated, including those in referenced glazing publications.

B. Glazing channel dimensions as indicated on Drawings provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation.

C. Protect glass from edge damage during handling and installation as follows:

1. Use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar. Rotate glass lites with flares or bevels on bottom horizontal edges so edges are located at top of opening, unless otherwise indicated by manufacturer’s label.
2. Remove damaged glass from Project site and legally dispose of off site. Damaged glass is glass with edge damage or other imperfections that, when installed, weaken glass and impair performance and appearance.

D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.

E. Install elastomeric setting blocks in sill rabbets, sized and located to comply with referenced glazing standard, unless otherwise required by glass manufacturer. Set blocks
in thin course of compatible sealant suitable for heel bead.

F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

G. Provide spacers for glass sizes larger than 50 united inches (1250 mm) (length plus height) as follows:

1. Locate spacers inside, outside, and directly opposite each other. Install correct size and spacing to preserve required face clearances, except where gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and comply with system performance requirements.

2. Provide 1/8-inch (3 mm) minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

H. Provide edge blocking to comply with requirements of referenced glazing publications, unless otherwise required by glass manufacturer.

I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

K. Square cut wedge-shaped gaskets at corners and install gaskets in manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.4 TAPE GLAZING

A. Position tapes on fixed stops so that when compressed by glass their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously but not in one continuous length. Do not stretch tapes to make them fit opening.

C. Where framing joints are vertical, cover these joints by applying tapes to heads and sills first and then to jambs. Where framing joints are horizontal, cover these joints by applying tapes to jambs and then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Do not remove release paper from tape until just before each lite is installed.

F. Apply heel bead of elastomeric sealant.

G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of
openings.

H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 GASKET GLAZING (DRY)

A. Fabricate compression gaskets in lengths recommended by gasket manufacturer to fit openings exactly, with stretch allowance during installation.

B. Secure compression gaskets in place with joints located at corners to compress gaskets producing a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

C. Install gaskets so they protrude past face of glazing stops.

3.6 SEALANT GLAZING (WET)

A. Install continuous spacers between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel weep systems until sealants cure. Secure spacers in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial wash away from glass. Install pressurized gaskets to protrude slightly out of channel to eliminate dirt and moisture pockets.

[NO FURTHER TEXT ON THIS PAGE]
### 3.7 MEASUREMENT AND PAYMENT

#### A. Unit Price

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<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
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</thead>
<tbody>
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<td>08 80 00-1</td>
<td>Furnish and install glazing (laminated, tempered, wire, insulated) specified in construction documents – 1/4” thickness.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 08 80 00]
SECTION 09 21 16 – GYPSUM BOARD SHAFT WALL ASSEMBLIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Gypsum board shaft wall assemblies.

1.2 ACTION SUBMITTALS

A. Product Data: For each component of gypsum board shaft wall assembly.

B. Evaluation Reports: For shaft wall assemblies firestop tracks, from ICC-ES.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.4 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or with gypsum board manufacturer's written recommendations, whichever are more stringent.

B. Do not install interior products until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, moisture damaged, or mold damaged.

1.  Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, and irregular shape.

2.  Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
B. STC-Rated Assemblies: Provide materials and construction identical to those of assemblies tested according to ASTM E 90 and classified according to ASTM E 413 by a testing and inspecting agency.

C. Low-Emitting Materials: Gypsum shaft wall assemblies 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 GYPSUM BOARD SHAFT WALL

ASSEMBLIES A. Fire-Resistance Rating: 1 to 4 hours

B. STC Rating: 51, minimum.

C. Studs: Manufacturer's standard profile for repetitive members, corner and end members, and fire-resistance-rated assembly indicated.
   1. Depth: As indicated.
   2. Minimum Base-Metal Thickness: 0.018 inch (0.45 mm).

D. Runner Tracks: Manufacturer's standard J-profile track with manufacturer's standard long-leg length, but at least 2 inches (51 mm) long and matching studs in depth.

E. Firestop Tracks: Provide firestop track at head of shaft wall on each floor level.

F. Insulation: Sound attenuation blankets.

2.3 PANEL PRODUCTS

A. Recycled Content of Gypsum Panel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent by weight.

B. Regional Materials: Gypsum panel products shall be manufactured within 500 miles (800 km) of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles (800 km) of Project site.

C. Regional Materials: Gypsum panel products shall be manufactured within 500 miles (800 km) of Project site.

D. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

E. Gypsum Shaftliner Board, Type X: ASTM C 1396/C 1396M; manufacturer's proprietary fire-resistive liner panels with paper faces.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. American Gypsum; Shaft Liner.
b. CertainTeed Corp.; ProRoc Shaftliner.
c. Georgia-Pacific Gypsum LLC, Subsidiary of Georgia Pacific; ToughRock
Fireguard Shaftliner.
d. Lafarge North America, Inc.; Firecheck Type X Shaftliner.
e. National Gypsum Company; Gold Bond Brand Fire-Shield Shaftliner.
f. PABCO Gypsum; Pabcore Shaftliner Type X.
g. Temple-Inland Inc.; Fire-Rated SilentGuard Gypsum Shaftliner System.
h. USG Corporation; Sheetrock Brand Gypsum Liner Panel.
i. Or approved equal.

2. Thickness: 1 inch (25.4 mm).

F. Gypsum Shaftliner Board, Moisture- and Mold-Resistant Type X: 
ASTM C 1396/C 1396M; manufacturer's proprietary fire-resistive liner panels with 
moisture- and mold-resistant core and surfaces.

1. Products: Subject to compliance with requirements available products that may 
be incorporated into the Work include, but are not limited to, the following:

a. CertainTeed Corp.; ProRoc Moisture and Mold Resistant Shaftliner.
b. Georgia-Pacific Gypsum LLC, Subsidiary of Georgia Pacific; Dens-Glass 
Ultra Shaftliner.
c. Lafarge North America, Inc.; Firecheck Moldcheck Type X Shaftliner.
d. National Gypsum Company; Gold Bond Brand Fire-Shield Shaftliner XP.
e. PABCO Gypsum; Pabcore Mold Curb Shaftliner Type X.
f. Temple-Inland Inc.; Fire-Rated SilentGuard TS Mold-Resistant Gypsum 
Shaftliner System.
g. USG Corporation; Sheetrock Brand Mold Tough Gypsum Liner Panel.
h. Or approved equal.

2. Thickness: 1 inch (25.4 mm).
4. Mold Resistance: ASTM D 3273, score of 10 as rated according to 
ASTM D 3274.

G. Gypsum Board: As specified in Division 09 Section "Gypsum Board Assemblies."

H. Gypsum Base for Gypsum Veneer Plaster: As specified in Division 09 Section 
"Gypsum Veneer Plastering."

I. Cementitious Backer Units: As specified in Division 09 Section "Gypsum Board 
Assemblies." Division 09 Section "Tiling."

2.4 NON-LOAD-BEARING STEEL FRAMING

A. Recycled Content of Steel: Postconsumer recycled content plus one-half of 
preconsumer recycled content not less than 25 percent.
B. Steel Framing Members: Comply with ASTM C 645 requirements for metal unless otherwise indicated.


C. Firestop Tracks: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. Fire Trak Corp.; Fire Trak System attached to studs with Fire Trak Posi Klip.
   b. Grace Construction Products; FlameSafe FlowTrak System.
   c. Metal-Lite, Inc.; The System.
   d. Steel Network Inc. (The); VertiClip SLD VertiTrack VTD Series.
   e. Or approved equal.

2.5 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with manufacturer's written recommendations.

B. Trim Accessories: Cornerbead, edge trim, and control joints of material and shapes as specified in Division 09 Section "Gypsum Board Assemblies" Division 09 Section "Gypsum Veneer Plastering" that comply with gypsum board shaft wall assembly manufacturer's written recommendations for application indicated.

C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.

D. Track Fasteners: Power-driven fasteners of size and material required to withstand loading conditions imposed on shaft wall assemblies without exceeding allowable design stress of track, fasteners, or structural substrates in which anchors are embedded.

1. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 5 times design load, as determined by testing according to ASTM E 488 conducted by a qualified testing agency.

2. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times design load, as determined by testing according to ASTM E 1190 conducted by a qualified testing agency.

E. Sound Attenuation Blankets: As specified in Division 09 Section "Gypsum Board Assemblies." Division 09 Section "Gypsum Veneer Plastering."
F. Acoustical Sealant: As specified in Division 09 Section "Gypsum Board Assemblies." Division 09 Section "Gypsum Veneer Plastering."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates to which gypsum board shaft wall assemblies attach or abut, with Installer present, including hollow-metal frames, elevator hoistway door frames, cast-in anchors, and structural framing. Examine for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, or mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Sprayed Fire-Resistive Materials: Coordinate with gypsum board shaft wall assemblies so both elements of Work remain complete and undamaged. Patch or replace sprayed fire-resistive materials removed or damaged during installation of shaft wall assemblies to comply with requirements specified in Division 07 Section "Applied Fireproofing."

B. After sprayed fire-resistive materials are applied, remove only to extent necessary for installation of gypsum board shaft wall assemblies and without reducing the fire-resistant material thickness below that which is required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.

3.3 INSTALLATION

A. General: Install gypsum board shaft wall assemblies to comply with requirements of fire-resistance-rated assemblies indicated, manufacturer's written installation instructions, and ASTM C 754 other than stud-spacing requirements.

B. Do not bridge building expansion joints with shaft wall assemblies; frame both sides of expansion joints with furring and other support.

C. Install supplementary framing in gypsum board shaft wall assemblies around openings and as required for blocking, bracing, and support of gravity and pullout loads of fixtures, equipment, services, heavy trim, furnishings, wall-mounted door stops, and similar items that cannot be supported directly by shaft wall assembly framing.

1. Elevator Hoistway: At elevator hoistway-entrance door frames, provide jamb struts on each side of door frame.

2. Reinforcing: Where handrails directly attach to gypsum board shaft wall assemblies, provide galvanized steel reinforcing strip with 0.033-inch (0.84-mm)
minimum thickness of base metal (uncoated), accurately positioned and secured behind at least one layer of face panel.

D. Penetrations: At penetrations in shaft wall, maintain fire-resistance rating of shaft wall assembly by installing supplementary steel framing around perimeter of penetration and fire protection behind boxes containing wiring devices, elevator call buttons, elevator floor indicators, and similar items. Ensure all firestopping is provided at penetrations as specified in Division 7 Penetration Firestopping.

E. Isolate perimeter of gypsum panels from building structure to prevent cracking of panels, while maintaining continuity of fire-rated construction.

F. Firestop Tracks: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated. Ensure all firestopping is provided in the fire rated shaftways.

G. Control Joints: Install control joints at locations indicated on Drawings according to ASTM C 840 and in specific locations approved by Architect while maintaining fire-resistance rating of gypsum board shaft wall assemblies.

H. Sound-Rated Shaft Wall Assemblies: Seal gypsum board shaft walls with acoustical sealant at perimeter of each assembly where it abuts other work and at joints and penetrations within each assembly.

I. Cant Panels: At projections into shaft exceeding 4 inches (102 mm), install 1/2- or 5/8-inch-(13- or 16-mm)-thick gypsum board cants covering tops of projections.

1. Slope cant panels at least 75 degrees from horizontal. Set base edge of panels in adhesive and secure top edges to shaft walls at 24 inches (610 mm) o.c. with screws fastened to shaft wall framing.

2. Where steel framing is required to support gypsum board cants, install framing at 24 inches (610 mm) o.c. and extend studs from the projection to shaft wall framing.

J. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

3.4 PROTECTION

A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

B. Remove and replace panels that are wet, moisture damaged, or mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, and irregular shape.

2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

3.5 MEASUREMENT AND PAYMENT
A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
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<tbody>
<tr>
<td>09 21 16-1</td>
<td>Furnish and install one layer of 5/8” thick gypsum board on double steel studs – both sides for chase wall.</td>
<td>Per sq. ft.</td>
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<td>09 21 16-2</td>
<td>Furnish and install 1&quot; thick core board, metal studs / channels, 2 layer of 5/8&quot; thick gypsum wall board for Shaft Wall.</td>
<td>Per sq. ft.</td>
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[END OF SECTION 09 21 16]
SECTION 09 23 00 – GYPSUM PLASTERING

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide lath and plaster work in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Metal furring and lathing.
2. Suspension system for metal lath for plaster.
3. Gypsum plastering with modified gypsum plaster finish coat.
4. Portland cement plaster for security ceilings.
5. Inspection and repair of existing furred and suspended metal lath.
6. Cutting, patching and blending existing plaster.
7. Patching of perlite plaster fireproofing.

B. Related Sections

1. Section 02 41 19 - Demolition and removal of selected portions of buildings and site elements.
2. Section 07 81 00 - Applied Fireproofing.
3. Section 07 92 00 - Joint Sealants.
4. Section 09 29 00 - Gypsum Board Assemblies.
5. Section 09 91 01 - Paint Removal.
6. Section 09 91 00 - Painting.

1.2 DEFINITIONS - Defective Products

A. Plaster is considered defective if it is cracked, crumbling, crystallized or chalking, rust stained or if any layer is separated from its substrate.

B. Metal lath is considered defective if rust is exposed through plaster or if spacing of metal supports exceeds the performance criteria for that type of lath.

C. Furring and runners are considered defective if rust or damage has visibly reduced section of metal or if spacing of metal supports exceeds the performance criteria for suspended or furred ceiling or if furring and runners have been cut or damaged by attachment of ductwork or piping.

D. Wire ties are considered defective if rusted or damaged.

E. Hangers are considered defective if rust and damage have visibly reduced section. Hangers are considered defective if concrete slab exhibits cracking, spalling or efflorescence in the immediate area of hanger attachment to concrete slab.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Engage an Installer who has successfully completed within the
last 5 years at least 5 lath and plaster projects similar to this Project.

B. Coordination of Work: Coordinate layout and installation of suspension system for suspended ceilings and soffits with other work supported by, or penetrating through, ceilings and soffits prior to installation.

1. Proceed with re-supporting of primary and secondary furring, runners and hangers only after mechanical, plumbing, fire protection and electrical coordination is completed and approved.
2. Coordinate with removal trades and masonry trades to maintain masonry supports of furring channels.
3. Coordinate with fireproofing trades to assist in the location and sequence of repair to fireproofing of new and existing structure prior to the installation of plaster work.

C. Metal Lath and Framing Standards: Comply with the applicable requirements of the following standards:

1. “Specifications for Metal Lath and Furring” by the Metal Lath/Steel Framing Association.
2. “Specification for Metal Lath and Furring” by the NAAMM.

1.4 MOCK-UPS AND TESTING

A. Field Mock-Ups: Prior to plastering, provide 4’ x 4’ mock-ups panels for each type of finish and application required, where directed. Show the proposed range of color, texture and workmanship to be expected in completed work. Obtain Resident Engineer’s acceptance of panels visual quality before start of work.

B. Provide field mock-ups as follows:

1. Suspended plaster blended to existing plaster.
2. Plaster on furred metal lath wall blended to existing plaster.
3. Plaster on concrete masonry unit blended to existing plaster.

1.5 SUBMITTALS

A. Product Data: Submit manufacturer’s product data for plaster materials, additives, admixtures, lath, metal supports and accessories.

B. Material Certificates: Submit producer’s certificate for each kind of plaster aggregate to show that materials comply with requirements.

C. Field verify the location of main runners and indicate them on coordination drawings.

D. Fireproofing Data: Submit UL Design Number(s) for proposed assemblies along with UL description of assemblies and approvals as required by New York City Building Code.

1.6 DELIVERY, STORAGE, AND HANDLING
A. Deliver materials in original containers with identification of product and manufacturer.

B. Store materials inside, under cover and keep them dry, protected from weather, contamination, aging, corrosion, and damage. Protect metal corner beads and trim from being bent or damaged.

1.7 PROJECT CONDITIONS

A. Environmental Requirements, General: Comply with requirements of plaster application standards and recommendations of plaster manufacturer for environmental conditions before, during, and after application of plaster.

B. Maintain a uniform temperature of not less than 55 deg. F, nor more than 80 deg. F, for not less than 1 week before plaster application, during application, and until plaster is dry but for not less than one week after application.

C. Ventilation: Ventilate building spaces to remove excess moisture, immediately after plaster is applied and until it sets. Maintain adequate ventilation to control humidity (between 40 and 75% relative humidity) for one week prior, during and at least one week after plaster application.

D. Protect contiguous work from soiling, splattering and other harmful effects which might result from plastering.

E. Do not apply over saturated masonry surfaces including furred systems. Notify Owner’s Representative immediately if conditions are encountered.

F. Dust: Schedule installation and protect masonry, gypsum lath, intermediate plaster coats and finish coat from dust and debris which may affect bonding.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. General: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

B. Manufacturers of Metal Lath and Accessories
   2. Milcor Division; Inryco, Inc.
   3. United States Gypsum Co.
   4. Or approved equal.

C. Manufacturers of Gypsum Plaster, Base Coat and Finish Coat Lime
   2. United States Gypsum Co.
3. Or approved equal.

D. Manufacturers for Portland Cement

1. Lone Star Cement
2. Lehigh Portland Cement Company
3. Or approved equal.

E. Manufacturers of Bonding Agents

1. Larsen Products Corporation
2. Thoro Bond
3. Or approved equal.

F. Reinforcing Fibers

3. Or approved equal.

2.2 METAL SUPPORTS FOR CEILINGS AND SOFFITS

A. General: Size metal ceiling supports to comply with the following, unless otherwise indicated or required by New York City Building Code.

1. Interior Lathing and Furring: ASTM C 841.

B. Wire for Ties: ASTM A 641, 18 gauge minimum, Class 1 zinc coating, soft temper.

C. Rod or Flat Hangers: Mild steel, zinc or cadmium coated, 1/4” rods unless otherwise shown or required to meet code requirements. Flat hangers: min. 3/16” x 1” mild steel, galvanized per ASTM A 123.

D. Channels For Indirect Ceiling Systems: Cold-rolled steel, 0.0598” minimum thickness of base metal, allowable bending stress of 18,000 psi, with rust inhibitive paint or galvanizing complying with ASTM A 525 for G60 coating designation, and as follows:

1. Carrying Channels: 1-1/2” deep x 7/16” wide flanges, 475 lbs. per 1000’ painted, 508 lbs. per 1000” galvanized.
2. Furring Channels: 3/4” deep x 7/16” wide flanges, 300 lbs per 1000’ painted, 316 lbs per 1000” galvanized.
3. Steel Studs for Furring Channels: ASTM C 645, minimum 0.0179 inch thickness of base metal. Provide standard depth as shown.
4. Steel Rigid Furring Channels: ASTM C 645, hat-shaped, depth of 7/8 inch, and minimum of 0.0179 inch thickness of base metal.
5. Attachment of Furring to Suspended Members: Minimum 130 degree bend at rods and 3/8 inch round head stove bolts at flat hangers.

E. Support Systems: Support System components to meet requirements of New York City
Building Code.

F. Hanger Anchorage Devices: Provide devices appropriate for anchorage to the structure whose suitability has been proven through certified test data, and as follows:

1. General: Size devices to develop full strength of hanger but not less than 3 times calculated hanger loading, except size direct pull-out concrete inserts for 5 times the calculated hanger loading. All hanger anchorage shall support a minimum of 200 pounds dead load.
2. Concrete Slabs - 4” Minimum: Provide drilled expansion type anchors of size to suit the load.
3. Provide appropriate code approved hangers where other support conditions exist.

2.3 LATH

A. Expanded Metal Lath: Provide lath complying with ASTM C 847 for type, configuration and other characteristics indicated below, painted after fabrication.

1. Diamond Mesh Lath: Comply with the following requirements:
   a. Configuration: Flat or self-furring as applicable to substrate.
   b. Weight: 3.4 lbs. per sq. yd.

B. Lath Attachment Devices: Devices as required by referenced standards and recommended by lath manufacturer for secure attachment of lath.

2.4 PLASTER ACCESSORIES

A. General: Comply with ASTM C 1063; coordinate depth of accessories with thicknesses of plaster.

B. Metal Corner Reinforcement: Expanded large-mesh diamond mesh lath fabricated from zinc-alloy or welded wire mesh fabricated from 0.0475-inch-diameter zinc-coated (galvanized) wire and specially formed to reinforce external corners of Portland cement plaster on exterior exposures while allowing full plaster encasement.

C. Metal Corner Beads: Small nose corner beads fabricated from zinc alloy, with expanded flanges of large-mesh diamond lath to allow full encasement by plaster.

D. Strip Reinforcement: Smooth edge strips of expanded metal lath fabricated from painted or zinc-coated (galvanized) steel sheet.

E. Casing Beads: Square-edged style, with 7/8” expanded metal flanges to suit plaster bases indicated; of zinc-coated (galvanized) steel.

F. Control Joint: Galvanized steel “M” and “W” type. Taped joints at flat or re-entrant corners - 7/8” expanded metal ground.

2.5 LIME PORTLAND CEMENT PLASTER MATERIALS

A. Base Coat Cement: ASTM C 150, Type I or II, Portland cement and autoclaved lime
complying with ASTM C 270.

B. Finish Coat: The finish coat shall consist of lime (ASTM C 206, Type S) and gypsum gauging plaster (ASTM C 28) for smooth trowel finish.

C. Aggregate for Base Coats: ASTM C 897.

D. Aggregate for Finish Coat: ASTM C 897, manufactured from white sand.

E. Fibers for Base Coat: Sisal hemp fibers or alkaline-resistant glass or polypropylene fibers, 1/2 inch long, free of contaminants, manufactured for use in Portland cement plaster.

2.6 PORTLAND CEMENT PLASTER MIXES AND COMPOSITIONS

A. General: Comply with ASTM C 926 for Portland cement plaster base and finish coat mixes as applicable to plaster bases, materials, and other requirements indicated.

B. Portland Cement Plaster Base Coat Mixes and Compositions: Proportion materials for respective base coats in parts by volume for cementitious materials and in parts by volume per sum of cementitious materials for aggregates to comply with the following requirements for each method of application and plaster base indicated. Adjust mix proportions below within limits specified to attain workability.

1. Fiber Content: Add fiber to following mixes after ingredients have mixed at least 2 minutes. Comply with fiber manufacturer’s directions but do not exceed 2 lbs. per cu. ft. of cementitious materials. Reduce aggregate quantities accordingly to maintain workability.

C. Three-Coat work Over Metal Lath: Base coats as indicated below:

1. Scratch Coat: 15 percent Portland cement to 85 percent lime, 2-1/2 to 3 parts sand.
2. Brown Coat: 15 percent Portland cement to 85 percent lime, 3 parts sand.

D. Job-Mixed Plaster Finish Coat:

1. For Gypsum Gauging Plaster: 1 part gypsum gauging plaster and 2 parts lime. Comply with ASTM C 842.

E. Crack Patching in Plaster Base Coat:

1. Brown Coat: 15 percent Portland cement to 85 percent lime, and fine (100% passing through 30 mesh screen) silica sand aggregate and 2 to 1 ratio of water to polymer admixture.

F. Crack Patching in Gypsum Finish Coat:

1. Finish Coat: 1 part gauging plaster and 2 parts lime putty and 2 to 1 ratio of water to polymer admixture.
2.7 MISCELLANEOUS MATERIALS

A. Water for Plaster: Drinkable, free of substances capable of affecting plaster or of damaging lath or accessories.

B. Bonding Agent for Portland Cement Plaster: ASTM C 631, equal to “Plaster Weld” by Larsen Products Corp.

C. Acid Etch Solution: Muriatic acid, mixed one part acid to 6 to 10 parts water.

2.8 MIXING

A. Mechanically mix cementitious and aggregate materials for plasters to comply with applicable referenced application standard and with recommendations of plaster manufacturer.

2.9 GYPSUM PLASTER MATERIALS, USED AS FIREPROOFING

A. Base Coat Plaster: ASTM C 28, gypsum ready-mixed plaster with perlite aggregate.

B. Finish Coat Plaster: High-strength gypsum gauging plaster, ASTM C 28, with a minimum average dry compressive strength of 5,000 psi per ASTM C 472 for a neat mix.

C. Finishing Hydrated Lime: ASTM C 206, Type N, normal hydrated lime for finishing purposes.

D. Aggregates for Base Coat Plaster: ASTM C 35; graded per ASTM C 842, perlite aggregate.

E. Manufacturers of Perlite Plaster:
   1. Pennsylvania Perlite Corp. of York.
   2. Redco, Inc.
   3. Supreme Perlite Co.
   5. Or approved equal.

2.10 GYPSUM PLASTER MIX AND COMPOSITION USED AS FIREPROOFING

A. Plaster Base Coat Composition: Comply with ASTM C 842 and manufacturer’s directions for gypsum plaster base coat proportions that correspond to application method and plaster bases indicated below. Comply with UL Design and New York City Building Code requirements regarding mix design.

   1. Three-Coat Work Over Metal Lath: Base coats, as indicated below:
      a. Scratch Coat: High-strength gypsum plaster with perlite aggregate.

B. Finish Coat: Proportion materials in parts by dry weight for finish coat to comply with the following requirements.
1. Troweled Finishes: Finish coat as indicated below:
   a. High-Strength Gypsum Gauging Plaster: Proportion as indicated below:
      1 part plaster and 1 part lime.

PART 3 – EXECUTION

3.1 INSTALLATION OF LATHING AND FURRING, GENERAL

A. Interior Lathing and Furring Installation Standard: Install lathing and furring materials
   for Portland cement plaster to comply with ASTM C 1063 and the Standards stated
   hereinbefore.

B. Supplementary Framing: Install supplementary framing, at terminations in the work and
   for support of fixtures, toilet accessories, and similar work to comply with recommendations
   of gypsum plaster manufacturer, or “Gypsum Construction Handbook” published by United
   States Gypsum Co.

C. Isolation: Isolate lathing and metal support system to prevent transfer of structural
   loading into the work. Install slip or cushion type joints to absorb deflections but
   maintain lateral support.

   1. Frame both sides of control and expansion joints independently, and do not bridge
      joints with furring and lathing.

3.2 INSTALLATION OF CEILING AND SOFFIT SUSPENSION SYSTEMS

A. Preparation and Coordination: Coordinate installation of suspension systems with
   overhead structural systems to ensure that anchorage provisions will receive ceiling
   hangers in a manner that will develop their full strength and at required spacings.

B. Hanger Installation: Attach hangers to structure above ceiling to comply with ML/SFA
   “Specifications for Metal Lathing and Furring” and with referenced standards. Do not
   use metal deck tabs. Where structure above is not adequate to support suspension system
   attach suspension system to supplemental support system specified in Division 5.

C. Reuse of Existing Hangers: Replace defective hanger with materials to meet the
   performance criteria herein.

D. Reuse of Existing Furring and Suspension Systems: Replace existing defective metal lath
   suspension systems with materials to meet the performance criteria.

E. Partial Reuse of Existing Furred or Suspended Ceilings: Cut back all runners and re-
   support with new hangers to meet performance criteria. Provide runner parallel along
   entire perimeter of cut back area within 8” of cut edges if none exist to remain. Repair
   existing cut carrying angles with splices to develop full strength or replace carrying
   angle. Reattach loose hanger supports.

F. Install suspension system components of sizes and spacings required by referenced
lathing and furring installation standards. The following sizes are minimum. Increase sizes to accommodate loading as required by New York City Building Code.

1. **Hangers:** Space hangers not over 4'-0" o.c. parallel with, and not over 3'-0" perpendicular to, direction of carrying and angles channels, unless otherwise indicated, and within 6" of carrying channel ends. Do not increase existing spacing at hangers at existing angles and channels.

2. **Carrying Channels:** Space carrying channels not over 3'-0" o.c. with 4'-0" o.c. hanger spacing.

3. **Furring Channels to Receive Metal Lath:** Space furring channels not over 16" o.c. for 3.4 lb. diamond mesh lath.

### 3.3 EXISTING CEILING SUSPENSION SYSTEMS LEFT IN PLACE

**A.** General: Inspect areas requiring patching. Examine existing suspension system. Where suspension system support members are damaged, the covering plaster and lath or other finish, must be removed to the extent necessary to permit the repairs to be made. Damaged elements that shall be removed include, but are not limited to, furring members that are defective or otherwise unsuitable for reuse; and hangers and hanger attachments that are unsuitable for reuse. Unsuitable for reuse means that the hanger cannot support the imposed loads.

**B.** Existing hangers and hanger attachments that have been left in place where suspended ceiling furring has been removed shall be examined to verify their suitability to support the new furring. Those found to be unsuitable shall be removed by cutting close to slab. Existing hangers that are sound, adequate, and suitable for reuse may be left in place, or removed, cleaned and reused.

**C.** For patching existing ceilings, use approved hangers and hanger attachments. Provide new hangers and attachments where existing have been removed or improperly placed or otherwise unsuitable, and where there are no existing hangers.

**D.** Splice new furring members to existing members using procedures recommended by furring manufacturer for splice joint.

**E.** Prime all exposed metal with the exception of zinc coated or stainless steel members with a zinc rich primer.

**F.** Schedule work to eliminate other trades from loading suspension systems after repairs and new work is installed.

### 3.4 METAL LATHING

**A.** Install expanded metal lath for the following applications, to comply with referenced lathing installation standards.

1. **Ceilings, Soffits and Walls:** Diamond mesh lath, 3.4 lbs. per sq. yd.

**B.** Existing metal lath that is defective or otherwise unsuitable shall be removed. 4” minimum at sound lath shall be left exposed to tie to the new lath.
1. Provide new metal lath where existing has been removed. Metal lath shall be lapped over and tied to existing lath following procedures recommended by lath manufacturer for joining sections of lath, and referenced lathing installation standards.

2. Cracks shall be widened to about 6”. The plaster shall be removed down to the lath or solid substrate. Strip lath shall be placed over substrate, centered at the location of the crack and securely fastened in place before the plaster is repaired.

3. Install metal lath to comply with referenced standards unless indicated otherwise. Lath for patching and extending existing work shall match existing installation, but never should be of less quality or of different design from those currently recognized as proper for that installation.

4. Any trace of paint, dirt, oil, grease and/or other foreign matter shall be removed from surfaces to receive new lath or plaster.

3.5 INSTALLATION OF PLASTERING ACCESSORIES

A. General: Comply with referenced lathing and furring installation standards for installation of plaster accessories. Miter or cope accessories at corners; install with tight joints and in alignment. Attach accessories securely to plaster bases.

B. Accessories: Provide the following:

1. Corner Reinforcement: Install at external corners.
2. Corner Beads: Install at external corners.
3. Casing Beads: Install at all terminations of plaster work, at all mechanical, electrical, communications and other miscellaneous openings in the plaster work, except where plaster passes behind and is concealed by other work.
4. Control Joints: Install control joints at locations indicated or, if not indicated, at locations complying with the following criteria and approved by Resident Engineer.
   a. Where plaster panel sizes or dimensions change, extend joints full width or height of plaster membrane.
   b. For Lime Portland Cement Plaster: Where distances between and areas within control joints exceed, respectively, the following measurements: 30 feet in either direction.

C. Existing Plaster Accessories: Remove where damaged and where necessary to carry out the work.

1. Install new plaster accessories where existing accessories have been removed. Anchor securely to substrates. Match lines of existing accessories where the total plaster thickness increases because new plaster is placed over existing plaster, it will be necessary to remove the existing accessories and provide new accessories properly sized for the new conditions.

3.6 PLASTER APPLICATION, GENERAL

A. Prepare monolithic surfaces for bonded base coats and use bonding compound or agent to
comply with requirements of referenced plaster application standards for conditioning of monolithic surfaces.

B. Tolerances: Do not deviate more than 1/8” in 10’-0” from a true plane in finished plaster surfaces, as measured by a 10’-0” straightedge placed at any location on surface.

C. Grout hollow metal frames, with base coat plaster and prior to lathing where necessary. Except where full grouting is required for fire-resistance rating, grout 6” lengths at each anchorage.

D. Sequence plaster application with the installation and protection of other work, so that neither will be damaged by the other.

E. Plaster flush with metal frames and other built-in metal items, unless otherwise indicated. Where plaster is not terminated at metal by casing beads, cut base coat free from metal before plaster sets and groove finish coat at the junctures with metal.

F. Apply thicknesses and number of coats of plaster as indicated; or as required by referenced standards. Minimum thickness is 3/4” and as required to match existing adjoining work.

G. Concealed Plaster: Where plaster will be permanently concealed, finish-coat may be omitted; where concealed behind cabinets, furnishings and equipment, apply finish-coat; where used as a base for adhered finishes, omit finish-coat and coordinate thickness with dimension as shown, and comply with tolerances specified.

3.7 LIME PORTLAND CEMENT PLASTER APPLICATION

A. Plaster Application Standard: Apply Portland cement plaster materials, compositions, and mixes to comply with ASTM C 926. Minimum thickness for plaster work is 3/4 inch and as required to match existing adjoining work.

B. Number of Coats: Apply plaster as three-coat work, of composition indicated.

1. Finish Coat: Trowel finish unless otherwise indicated; match Resident Engineer’s sample for texture and color.

C. Time between coats shall allow for adequate plaster and bonding agent curing and drying.

3.8 CUTTING, PATCHING AND RESTORATION OF PLASTER

A. General: Cut, patch, point-up, repair and/or restore new and existing plaster as necessary to accommodate other work and to repair defects, and where bond to the substrate has failed. Use initial patches as mock-ups, when approved, for subsequent repairs.

B. Defective Plaster: Carefully remove soft, deteriorated, weak, unbounded, cracked, effloresced, broken, loose, re-crystallized, and otherwise damaged existing plaster back to masonry or lath and to solid adjacent plaster. The edges shall be rectilinear, clean, sharp, and beveled inward to permit keying repairs into existing materials.
1. Remove plaster by layers until a sound, well-adhered layer is encountered. Unsound or poorly adhered base coats shall be removed in step fashion so that each new coat in the path will lap over the underlying existing plaster coat.

2. Cracks: Enlarge cracks that are 1/16” wide or wider. Cut back to solid substrate using carborundum-tipped saw blade. Cut perpendicular to surface and straight. Do not further enlarge cracks except to remove soft, broken, or loose materials or to repair backup materials. Where approved, widen cracks and install strip lath over substrate centered at location of cracking before making plaster repairs.

3. Do not attempt to repair cracks until the underlying cause of the cracks has been identified and eliminated.

4. Do not attempt to repair more cracks than can be finished before the patching plaster has had a chance to set up.

C. Patching: Clean, prepare surface and moisten existing plaster to be patched, apply bonding agent and plaster to comply with referenced standards and manufacturer’s recommendations. Finish coat patching over stable base coats will be acceptable. Where existing substrate is wire lath apply plaster following recommendation for new work on wire lath.

1. Direct Plastering: Except where metal lath is indicated, etch concrete and masonry surfaces for direct plastering. Wet surface, scrub with acid etch solution and rinse thoroughly; repeat if necessary for adequate plaster bond. Protect all adjacent materials from acid contact.

2. Bonding Agents: Apply to every surface that will receive plaster. Apply complete bond coat over existing and new lime Portland cement plaster base coat prior to application of finish coat. Surfaces to which bonding agent is to be applied shall be clean and free from substances that will affect bond. Follow bonding agent manufacturer’s recommendations in every instance. Permit bonding agent to dry properly before applying plaster. Do not exceed manufacturer’s recommendations for application of plaster to bonding agent. Do not apply plaster to bonding agents contaminated with dust. Coordinate drying and curing time of plaster with application of bonding agents to prevent excessive drying of bonding agent.

3. Cleaning and Dampening Substrates: Sweep masonry and lath clean immediately before plaster is applied, and a bonding agent is applied. Dampen surfaces of existing plaster, unless the bonding agent manufacturer recommends otherwise.

4. Thickness and Number of Coats: At patches and extensions in existing work, match thickness of existing plaster, and make finish of patch or extension flush with existing plaster. New plaster patches or extensions, including all coats shall match adjacent, existing plaster thickness.

5. Each coat shall be allowed to cure and dry thoroughly before the succeeding coat is applied. Full-thickness patches shall be built-up in layers, the same as new work. Extensions and full-thickness patches shall be made using three-coat plaster applications. Two-coat plaster applications will be limited to those recommended by the plaster manufacturer and permitted by applicable ASTM standards and governing regulations.

6. Apply final coat of plaster to match and blend with existing plaster, where applicable.

7. After finishing plaster patches, remove plaster residue and lime from the plaster surface using clear water. When the water has dried, wipe the area with clean dry
rags to remove plaster dust completely.

D. Finish: Sand smooth-troweled finishes lightly to remove trowel marks and arises. Repairs and extensions shall match existing finishes and be blended so that patches and extensions are indiscernible.

E. Replace plaster materials that are tested by other to contain excessive alkalis.

F. All surfaces are to be inspected by the painting contractor with the plaster contractor. Perform all required remedial work, to provide acceptable surfaces, ready for painting.

3.9 GYPSUM PLASTER APPLICATION USED AS FIREPROOFING


B. Number of Coats: Apply gypsum plaster, of composition indicated, to comply with the following requirements.

1. Use three-coat work over metal lath or as required to achieve the fire resistance rating of the structural member that is patched.

C. Finish Coat: Apply finish coat to comply with the following requirements:

1. Troweled finish for gypsum finish coat plaster.

3.10 CLEANING AND PROTECTION

A. Remove temporary protection and enclosure of other work. Promptly remove plaster from surfaces which are not to be plastered. Repair floors, walls and other surfaces which have been stained, or damaged by plastering work. When plastering work is completed, remove unused materials, containers and equipment and clean floors of plaster debris.

B. Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures plaster work being without damage or deterioration at time of Final Acceptance.

C. Protect furniture, equipment, carpet, light fixtures, fan coil enclosures, etc., at no additional cost to the Owner, including time required if the Contractor is required to return to correct plaster or painting deficiencies due to failure in workmanship or materials or an inability to meet the schedule.

3.11 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>092300-1</td>
<td>Furnish and install gypsum plaster on wire lath as</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>
specified.

09 23 00-2  Patching existing gypsum plaster as specified.  Per sq. ft.
09 23 00-3  Skim coat wall or ceiling to prepare for finish painting.  Per sq. ft.

B. Suspension system for lath and plaster, up to and including 4’-0” from the structure above, is deemed in the Unit Price.

[END OF SECTION 09 23 00]
SECTION 09 26 13 – GYPSUM VENEER PLASTERING

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide veneer plaster in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Steel framing members to receive gypsum base.
2. Gypsum base screwed to steel framing.
3. Two-component veneer plastering over gypsum base.
4. Finishing of veneer plasterwork.

B. Related Sections

1. Section 09 23 00 - Gypsum Plastering.
2. Section 09 29 00 - Gypsum Board Assemblies.
3. Section 09 91 00 - Painting.

1.2 DEFINITIONS

A. Gypsum Board Construction Terminology: Refer to ASTM C 11 and GA 505 for definitions of terms for gypsum board construction not otherwise defined in this section or other referenced standards.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer’s technical data and installation instructions for each type of product specified.

1.4 QUALITY ASSURANCE

A. Fire-Resistance Ratings: Where indicated, match assemblies whose fire resistance rating has been determined per ASTM E 119 by a testing agency acceptable to authorities having jurisdiction and in compliance with the New York City Building Code.

B. Single Source: Obtain veneer plaster products from a single manufacturer for each veneer plaster system indicated.

1.5 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, dirt and deterioration. Neatly stack gypsum base flat to prevent sagging.

C. Handle gypsum base to prevent damage to edges, ends, and surfaces. Do not bend or
otherwise damage metal corner beads and trim.

1.6 PROJECT CONDITIONS

A. Environmental Conditions: Maintain proper conditions for application of veneer plaster to comply with ASTM C 843 and with veneer plaster manufacturer’s recommendations.

B. Minimum Room Temperatures: Maintain not less than 50 deg. F, nor more than 80 deg F for one week before plaster application and until veneer plaster has fully dried. Distribute heat evenly; prevent concentrated or uneven heat on veneer plaster.

C. Ventilate building spaces to remove excess moisture. Avoid conditions which result in veneer plaster drying too rapidly.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the Work include but are not limited to the following:

1. Steel Framing and Furring:
   a. Bostwick Steel Framing Co.
   c. United States Gypsum Co.
   d. Or approved equal.

2. Veneer Plaster Products:
   a. Georgia Pacific Corp.
   c. United States Gypsum Co.
   d. Or approved equal.

2.2 METAL SUPPORTS FOR CEILINGS AND SOFFITS

A. General: Size metal ceiling supports to comply with the following, unless otherwise indicated or required by New York City Building Code.

1. Interior Lathing and Furring: ASTM C 841.

B. Wire for Ties: ASTM A 641, 18 gauge minimum, Class 1 zinc coating, soft temper.

C. Rod or Flat Hangers: Mild steel, zinc or cadmium coated, 1/4” rods unless otherwise shown or required to meet code requirements. Flat hangers: min. 3/16” x 1” mild steel, galvanized per ASTM A 123.

D. Channels For Indirect Ceiling Systems: Cold-rolled steel, 0.0598” minimum thickness of
base metal, allowable bending stress of 18,000 psi, with rust inhibitive paint or galvanizing complying with ASTM A 525 for G60 coating designation, and as follows:

1. Carrying Channels: 1-1/2” deep x 7/16” wide flanges, 475 lbs. per 1000’ painted, 508 lbs. per 1000’ galvanized.
2. Furring Channels: 3/4” deep x 7/16” wide flanges, 300 lbs per 1000’ painted, 316 lbs per 1000’ galvanized.
3. Steel Studs for Furring Channels: ASTM C 645, minimum 0.0179 inch thickness of base metal. Provide standard depth as shown.
4. Steel Rigid Furring Channels: ASTM C 645, hat-shaped, depth of 7/8 inch, and minimum of 0.0179 inch thickness of base metal.
5. Attachment of Furring to Suspended Members: Minimum 130 degree bend at rods and 3/8 inch round head stove bolts at flat hangers.


F. Hanger Anchorage Devices: Provide devices appropriate for anchorage to the structure whose suitability has been proven through certified test data, and as follows:

1. General: Size devices to develop full strength of hanger but not less than 3 times calculated hanger loading, except size direct pull-out concrete inserts for 5 times the calculated hanger loading. All hanger anchorage shall support a minimum of 200 pounds deadload.
2. Concrete Slabs - 4” Minimum: Provide drilled expansion type anchors of size to suit the load.
3. Provide appropriate code approved hangers where other support conditions exist.

2.3 STEEL FRAMING FOR WALLS

A. Steel Studs and Runners: ASTM C 645, Thickness: 22 gage (for partitions up to and including 10’) and 20 gage (for partitions over 10’ high).

B. Steel Rigid Furring Channels: ASTM C 645, hat-shaped, 7/8 inch depth and 0.0179 inch minimum thickness of base (uncoated) metal.

C. Furring Brackets: Serrated-arm type, adjustable, complying with ASTM C 645, minimum thickness of base metal of 0.0329 inch.

D. Z-Furring Members: Standard zee-shaped members of galvanized steel sheet complying with ASTM A 525, Coating Designation G60; with a minimum base metal thickness of 0.0179 inch, and of depth to fit insulation thickness indicated.

E. Fasteners: Provide fasteners recommended by the veneer plaster manufacturer to fasten steel framing and furring members securely.

2.4 GYPSUM BOARD PRODUCTS

A. General: Provide gypsum boards of type indicated in maximum lengths available to minimize end-to-end joints.
1. Thickness: Provide gypsum board in 5/8” thickness, unless otherwise indicated.

B. Gypsum Base for Veneer Plaster: ASTM C 588, of Regular Type, with tapered long edges as standard with manufacturer.

C. Gypsum Backing Board for Multi-Layer Applications: Gypsum backing board, ASTM C 442; or gypsum base, ASTM C 588; or gypsum wallboard, ASTM C 36, as recommended by manufacturer.

D. Products: Subject to compliance with requirements, provide one of the following products for Gypsum Base:

1. “Dens-Cote Plaster Base”; Georgia-Pacific Corp.

2.5 TRIM ACCESSORIES

A. Provide corner beads, edge trim, and control joints which comply with ASTM C 1047 and veneer plaster manufacturer’s recommendations.

1. Material: Formed sheet steel coated with zinc by hot-dip or electrolytic processes, or with aluminum.
2. Trim Shapes: Provide corner beads, casing beads and control joints of size and shape to suit field conditions.

2.6 JOINT REINFORCING MATERIALS

A. General: Provide joint reinforcing materials which comply with ASTM C 587 and are acceptable to veneer plaster manufacturer.

B. Joint Tape: Paper.

C. Embedding Material for Joint Tape: As recommended by veneer plaster manufacturer for use with joint tape material indicated.

D. Products: Subject to compliance with requirements, provide one of the following:

1. Paper Joint Tape:
   a. “G-P Tape”; Georgia-Pacific Corp.
   d. Or approved equal.

2. Embedding Material for Paper Joint Tape:
   a. “G-P Speed Set Joint Compound”; Georgia Pacific Corp.
   b. “Kal-Cote Base Plaster”; Gold Bond Building Products Div., National
Gypsum Co.
d. Or approved equal.

2.7 VENEER PLASTER MATERIALS

A. Two-Component Regular Veneer Plaster: ASTM C 587, manufacturer’s standard products consisting of separate veneer plaster formulations for base and finish coats for application over gypsum base.

B. Products: Subject to compliance with requirements, provide one of the following two-component regular veneer plasters:

1. Products of Gold Bond Div., National Gypsum Co., or approved equal.
   Base Coat: “Kal-Kote Base Coat”.
   Smooth Finish Coat: “Kal-Kote Smooth Finish”.
   Textured Finish Coat: “Kal-Kote Texture Finish”.

2. United States Gypsum Co. Products, or approved equal.
   Base Coat: “Imperial Base Coat”.
   Smooth Finish Coat: “Diamond Interior Finish”.
   Textured Finish Coat: Job-Aggregated “Diamond Interior Finish”.

2.8 MISCELLANEOUS MATERIALS

A. General: Provide auxiliary materials for veneer plaster construction which comply with referenced standards and the recommendations of veneer plaster manufacturer.


C. Spot Grout: ASTM C 475, setting-type joint compound of type recommended for spot grouting hollow metal door frames.

D. Gypsum Base Screws: ASTM C 1002.

E. Asphalt Felt: ASTM D 226, Type I (No. 15).

F. Concealed Acoustical Sealant: Nondrying, non-hardening, non-skinning, non-staining, non-bleeding, gunnable sealant complying with requirement specified in Division 7 section “Joint Sealers”.

G. Sound Attenuation Blankets: Unfaced glass fiber blanket insulation to comply with ASTM C 665 for Type I, thickness to match stud depth as manufactured by USG or approved equal.

2.9 VENEER PLASTER MIXES

A. Mechanically mix veneer plaster materials to comply with referenced veneer plaster application standard and with recommendations of veneer plaster manufacturer.
PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates which veneer plaster construction attaches to or abuts including preset hollow metal frames, cast-in-anchors, and structural framing, for compliance with installation tolerances and other conditions affecting veneer plaster. Proceed with installation after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Ceiling Anchorages: Coordinate installation of ceiling suspension system. Verify that anchorage provisions have been properly installed to support ceiling.

B. Concrete Preparation: Prepare monolithic concrete substrates for veneer plastering as follows:

1. Clean concrete to remove dust, loose particles, grease, compounds, and other foreign matter which could impair bond with bonding compound and plaster.
2. Remove protrusions greater than 1/8” and fill depressions greater than 1/4” with portland cement mortar. Allow to set and dry.
3. Apply bonding compound on dried concrete substrates to comply with bonding agent manufacturer’s directions.

3.3 INSTALLATION OF STEEL FRAMING, GENERAL

A. Steel Framing Installation Standard: Comply with ASTM C 754 and with ASTM C 844 requirements that apply to framing installation.

B. Install supplementary framing at terminations in the veneer plaster construction and for support of fixtures, accessories, and similar construction to comply with recommendations of veneer plaster manufacturer, or with “Gypsum Construction Handbook” published by United States Gypsum Co.

C. Isolate steel framing from building structure to prevent transfer of structural loading at locations indicated below:

1. Where suspended ceilings abut building structure.
2. Where partition and wall framing abuts overhead structure.

D. Do not bridge building expansion and control joints with steel framing; independently frame both sides of joints.

3.4 INSTALLATION OF CEILING AND SOFFIT SUSPENSION SYSTEMS

A. Preparation and Coordination: Coordinate installation of suspension systems with overhead structural systems to ensure that anchorage provisions will receive ceiling hangers in a manner that will develop their full strength and at required spacings.
B. Hanger Installation: Attach hangers to structure above ceiling to comply with ML/SFA “Specifications for Metal Lathing and Furring” and with referenced standards. Do not use metal deck tabs. Where structure above is not adequate to support suspension system attach suspension system to supplemental support system specified in Division 5.

C. Install suspension system components of sizes and spacings required by referenced lathing and furring installation standards. The following sizes are minimum. Increase sizes to accommodate loading as required by New York City Building Code.

1. Hangers: Space hangers not over 4'-0" o.c. parallel with, and not over 3'-0" perpendicular to, direction of carrying and angles channels, unless otherwise indicated, and within 6" of carrying channel ends. Do not increase existing spacing at hangers at existing angles and channels.
2. Carrying Channels: Space carrying channels not over 3'-0" o.c. with 4'-0" o.c. hanger spacing.
3. Furring Channels: Space furring channels not over 16" o.c.

D. Installation Tolerances: Install suspension members level within 1/8 inch in 12 ft. as measured both lengthwise on each member and transversely between parallel members.

E. Wire-tie or clip furring members to main runners and to other structural supports as indicated.

3.5 STEEL FRAMING FOR WALLS

A. Install runners at floors, ceilings and structural members where veneer plaster stud system abuts other construction.

1. Where studs are installed directly against exterior walls, install asphalt felt strips between studs and wall.

B. Installation Tolerances: Install each steel framing and furring member within 1/8 inch from plane of faces of adjacent framing.

C. Unless otherwise indicated, extend partition framing full height to structure above suspended ceilings. Provide framing over doors and openings and frame around ducts in partitions above ceiling to provide support for gypsum base.

D. Terminate partition framing at suspended ceilings only where indicated.

E. Install steel studs and furring in sizes and at spacings indicated but not less than that required by referenced steel framing installation standards published by United States Gypsum Company and as required to comply with New York City Building Code requirements.

F. Frame door openings to comply with applicable recommendations of veneer plaster manufacturer. Attach vertical studs to door frames; install runner track at head and secure to jamb studs.
1. Extend vertical jamb studs through suspended ceilings and attach to underside of structure above.
2. Install cripple studs in runner track above door frame.

G. Frame openings other than door openings in same manner as door openings; and install framing below sills of openings to match framing above door heads.

3.6 APPLICATION OF GYPSUM BASE, GENERAL

A. Gypsum Base Application Standard: Comply with ASTM C 844.

B. Erection Tolerance: No more than 1/16 inch offsets between gypsum base faces, and 1/8 inch in 8'-0” for plumb, level, warp and bow.

C. Install sound attenuation blankets as indicated.

D. Locate end-butt joints away from center of walls and ceilings, and stagger not less than 24 inches in alternate courses.

E. Install gypsum base for ceilings to minimize the number of end-butt joints, and to avoid end joints in the central area of each ceiling.

F. Install gypsum base for walls to minimize the number of end-butt joints. At stairwells and similar high walls, install gypsum base horizontally with end joints staggered over studs.

G. Install gypsum base with face side out. Do not install imperfect, damaged or damp boards. Butt boards with not more than 1/16 inch open space between boards. Do not force into place.

H. Attach gypsum base to steel studs so that leading edge of each board is attached to open (unsupported) edge of stud flange first.

I. Attach gypsum base to supplementary framing and blocking provided for additional support at openings and cutouts.

J. Spot grout hollow metal door frames. Spot grout each jamb anchor clip just before inserting gypsum base into frame.

K. Form control and expansion joints in veneer plaster surfaces at locations indicated, with space between edges of gypsum base, prepared to receive trim accessories.

L. Cover both faces of steel stud partition framing with gypsum base in concealed spaces, except in chase walls which are braced internally.

1. Except for sound, fire, or smoke ratings, scraps of not less than 8 sq. ft. area may be used where concealed.
2. Fit gypsum base around ducts, pipes, and conduits.

M. Isolate perimeter of non-load-bearing veneer plaster partitions from the structure.
Provide 1/4 inch to 1/2 inch space and trim edge with “U” bead edge trim. Seal joints with acoustical sealant.

N. Space fasteners in gypsum base to comply with referenced gypsum base application standard and manufacturer’s recommendations.

3.7 METHODS OF GYPSUM BASE APPLICATION

A. Single-Layer Application: Install gypsum base in accordance with referenced standards and system manufacturer’s requirements.

B. Double-Layer Application: Install gypsum backing board for base layer and gypsum base for face layer as follows:

1. On ceilings apply base. Offset joints between layers at least 10 inches. Apply base layers at right angles to supports.
2. On partitions and walls apply base layer and face layers vertically with joints of base layer over supports and face layer joints offset at least 10 inches with base layer joints.
3. On Z-furring members apply base layer and face layer vertically, with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.

C. Single-Layer Fastening Methods: Apply gypsum boards to supports with screws spaced as required by manufacturer and as required to achieve the required fire resistance rating.

D. Double-Layer Fastening Methods: Apply base layer and face layer separately to supports with screws and as required to achieve the required fire resistance rating.

3.8 INSTALLATION OF TRIM

A. General: Where feasible, use same fasteners to anchor trim as required to fasten gypsum base. Fasten flanges to comply with veneer plaster manufacturer’s recommendations. Closely fit and align ends of trim.

B. Install metal corner beads at external corners of gypsum base.

C. Install metal edge trim at exposed or semi-exposed edges of gypsum base. Provide type with face flange to receive joint compound.

1. Install L-type trim where veneer plaster abuts other work, and where edge is exposed, revealed, gasketed, or sealant-filled.
2. Install U-bead where indicated.
3. Install control joints at locations required by referenced gypsum base application standard, and not greater than 30 feet on center, unless otherwise indicated.

3.9 INSTALLATION OF JOINT REINFORCEMENT

A. Reinforce interior angles and flat joints in gypsum base with joint tape and embedding material to comply with referenced gypsum veneer plaster application standard and with
veneer plaster manufacturer’s recommendations.

3.10 VENEER PLASTERING

A. Gypsum Veneer Plaster Application Standard: Apply gypsum veneer plaster to comply with ASTM C 843 and veneer plaster manufacturer’s directions.

B. Grout frames continuously where required for fire-resistance ratings; otherwise spot-grout at each anchorage point.

C. Concealed Surfaces: Omit veneer plaster in the following areas where plaster will be concealed, but do not omit veneer plaster behind cabinets and other removable items:

1. Above suspended ceilings.
2. Behind or under permanent wall or ceiling finishes.

D. Base Coat Application

1. Over Gypsum Base: Embed tape, fill beads, and allow plaster to set; then scratch and immediately double back to a thickness of 1/16” in accordance with the manufacturer’s printed directions.
2. Over Monolithic Concrete: Apply plaster bonding agent to concrete surfaces in a continuous film according to manufacturer’s recommendations. Concrete shall be free of dirt, grease, wax, oil or other unsound surface conditions. Laitance, efflorescence and releasing agents shall be chemically removed. Apply plaster base coat by firmly grinding a thin coat into the bonding agent. Immediately double back to a completed thickness of 1/16” leaving a level surface ready for finish coat application.

E. Finish Coat Application

1. Apply to basecoat by scratching in tight and doubling back to a uniform surface and thickness of 1/16”. Remove trowel marks and surface imperfections by drawing-up or laying-down surfaces with light trowel pressure when plaster has stiffened. Water trowel to density and polish surface.”

F. Provide smooth-trowel finish, unless otherwise indicated.

G. Grounds: Where frames and other units in the veneer plaster act as grounds (not including trim accessories) for flush plaster, groove finish coat at juncture with the other work.

3.11 CLEANING

A. Remove temporary coverings used to protect other work.

B. Remove plaster spillage promptly from other adjoining work. Repair surfaces which have been damaged by plastering work.
3.12 PROTECTION
A. Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures veneer plaster work being without damage or deterioration at time of Substantial Completion.

3.13 MEASUREMENT AND PAYMENT
A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>09 26 13-1</td>
<td>Furnish and install veneer plaster partition, fire resistant rated, up to and including 3-5/8” steel studs.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 26 13-2</td>
<td>Furnish and install veneer plaster suspended ceilings complete (rated), up to and including 4’-0” from structure above.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 26 13-3</td>
<td>Furnish and install veneer plaster suspended ceilings complete (rated), greater than 4’-0” and less than 8’-0” from structure above.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 09 26 13]
SECTION 09 29 00 – GYPSUM BOARD ASSEMBLIES

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide gypsum board assemblies in accordance with the Contract Documents. The Contractor shall furnish and install all labor, materials and equipment necessary to complete all rough and finish carpentry work and related work incidental thereto as required by the drawings and specified therein. The Work of this Section shall include but not be limited to the following:

1. Steel framing members to receive gypsum board.
2. Gypsum board screw-attached to steel framing and furring members.
3. Glass mesh mortar units for application of tile.

B. Related Sections

1. Section 02 41 19 - Demolition and removal of selected portions of buildings and site elements.
2. Section 07 81 00 - Applied Fireproofing.
3. Section 07 84 13 – Penetration Firestopping
4. Section 07 92 00 - Joint Sealants.
5. Section 09 26 13 – Gypsum Veneer Plastering
6. Section 09 91 01 - Paint Removal.
7. Section 09 91 00 - Painting.

1.2 DEFINITIONS

A. Gypsum Board Construction Terminology: Refer to ASTM C 11 and GA 505 for definitions of terms for gypsum board construction not otherwise defined in this section or other referenced standards.

1.3 SUBMITTALS

A. Product data from manufacturers for each type of product specified.

1.4 QUALITY ASSURANCE

A. Fire-Resistance Ratings: Where indicated, provide materials and construction which are identical to those of assemblies whose fire resistance rating has been determined per ASTM E 119 by a testing and inspecting organization acceptable to authorities having jurisdiction.

1. Provide fire-resistance-rated assemblies identical to those indicated by reference to GA File No’s. in GA-600 “Fire Resistance Design Manual” or to design designations in U.L. “Fire Resistance Directory” or in listing of other testing and agencies acceptable to authorities having jurisdiction and in compliance with the requirements of the New York City Building Code.
B. Single Source Responsibility: Obtain each type of gypsum board and related joint treatment materials from a single manufacturer.

C. The Contractor shall perform all cutting and fitting required to complete the work of the contract and to accommodate the work of all other trades. All cutting and fitting shall be neatly and accurately done, all members shall be securely fastened in place. All finished surfaces shall be free of tool marks or open joints.

1.5 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. Neatly stack gypsum boards flat to prevent sagging.

C. Handle gypsum boards to prevent damage to edges, ends, and surfaces. Do not bend or otherwise damage metal corner beads and trim.

1.6 PROJECT CONDITIONS

A. Environmental Conditions, General: Establish and maintain environmental conditions for application and finishing gypsum board to comply with ASTM C 840 and with gypsum board manufacturer’s recommendations.

B. Minimum Room Temperatures: For nonadhesive attachment of gypsum board to framing, maintain not less than 40 deg F (4 deg C). For adhesive attachment and finishing of gypsum board maintain not less than 50 deg F (10 deg C) for 48 hours prior to application and continuously thereafter until drying is complete.

C. Ventilate building spaces to remove water not required for drying joint treatment materials. Avoid drafts during dry, hot weather to prevent materials from drying too rapidly.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the Work include, but are not limited to, the following:

1. Steel Framing and Furring:
   a. Bostwick Steel Framing Co.
   c. United States Gypsum Co.
   d. Or approved equal.
2. Gypsum Boards and Related Products:
   
a. Georgia-Pacific Corp.
c. United States Gypsum Co.
d. Or approved equal.

2.2 STEEL FRAMING COMPONENTS FOR SUSPENDED AND FURRED CEILINGS

A. General: Size metal ceiling supports to comply with the following, unless otherwise indicated or required by New York City Building Code.

B. Wire for Ties: ASTM A 641, 18 gauge minimum, Class 1 zinc coating, soft temper.

C. Rod or Flat Hangers: Mild steel, zinc or cadmium coated, 1/4” rods unless otherwise shown or required to meet code requirements. Flat hangers: min. 3/16” x 1” mild steel, galvanized per ASTM A 123.

D. Channels For Indirect Ceiling Systems: Cold-rolled steel, 0.0598” minimum thickness of base metal, allowable bending stress of 18,000 psi, with rust inhibitive paint or galvanizing complying with ASTM A 525 for G60 coating designation, and as follows:
   
   1. Carrying Channels:  1-1/2” deep x 7/16” wide flanges, 475 lbs. per 1000’ painted, 508 lbs. per 1000’ galvanized.
   2. Furring Channels:  3/4” deep x 7/16” wide flanges, 300 lbs per 1000’ painted, 316 lbs per 1000’ galvanized.
   3. Steel Studs for Furring Channels: ASTM C 645, minimum 0.0179 inch thickness of base metal. Provide standard depth as shown.
   4. Steel Rigid Furring Channels: ASTM C 645, hat-shaped, depth of 7/8 inch, and minimum of 0.0179 inch thickness of base metal.
   5. Attachment of Furring to Suspended Members: Minimum 130 degree bend at rods and 3/8 inch round head stove bolts at flat hangers.


F. Hanger Anchorage Devices: Provide devices appropriate for anchorage to the structure whose suitability has been proven through certified test data, and as follows:

   1. General: Size devices to develop full strength of hanger but not less than 3 times calculated hanger loading, except size direct pull-out concrete inserts for 5 times the calculated hanger loading. All hanger anchorage shall support a minimum of 200 pounds dead load.
   2. Concrete Slabs - 4” Minimum: Provide drilled expansion type anchors of size to suit the load.
   3. Provide appropriate code approved hangers where other support conditions exist.
2.3       STEEL FRAMING FOR WALLS AND PARTITIONS

A. Steel Studs and Runners: All metal studs shall be galvanized steel, channel type, rolled formed “C” studs, ASTM C 645, with flange edges of studs bent back 90 deg and doubled over to form 3/16” minimum lip (return), runners shall match steel studs in gage and compatible in dimension, and comply with the following requirements for minimum thickness of base (un-coated) metal and for depth:

1. Thickness:  22 gage (for partitions up to and including 10’)
               20 gage (for partitions over 10’ high)
2. Depth:      3-5/8”

B. Steel Rigid Furring Channels: ASTM C 645, hat-shaped, depth and minimum thickness of base (uncoated) metal as follows:

1. Depth:  7/8 inch.
2. Thickness:  25 gage minimum, unless otherwise indicated.

C. Furring Brackets: Serrated-arm type, adjustable, fabricated from corrosion-resistant steel sheet complying with ASTM C 645, minimum thickness of base (un-coated) metal of 0.0329 inch, designed for screw attachment to steel studs and steel rigid furring channels used for furring.

D. Steel Resilient Furring Channels: Manufacturer’s standard product designed to reduce sound transmission, complying with ASTM C 645 for base metal, finish and widths of face and fastening flange, fabricated to form 1/2 inch deep channel of the following configuration:

1. Single-Leg Configuration: Assymetric-shaped channel with face connected to a single flange by a single slotted leg (web).

E. Z-Furring Members: Manufacturer’s standard zee-shaped furring members with slotted or non-slotted web, fabricated from hot-dip galvanized steel sheet complying with ASTM A 525, Coating Designation G60; with a minimum base metal (un-coated) thickness of 0.0179 inch, face flange of 1-1/4 inch, wall-attachment flange of 7/8 inch, and of depth required to fit insulation thickness indicated.

F. Fasteners: Provide fasteners of type, material, size, corrosion resistance, holding power and other properties required to fasten steel framing and furring members securely to substrates involved; complying with the recommendations of gypsum drywall manufacturers for applications indicated.

2.4       GYPSUM BOARD

A. General: Provide gypsum board of types indicated in maximum lengths available to minimize end-to-end joints.

1. Thickness: Provide gypsum board in 5/8 inch thicknesses, unless otherwise indicated.
B. Gypsum Wallboard: ASTM C 36, and as follows:
   1. Type: Type X for fire-resistance-rated assemblies.
   2. Edges: Tapered.
   3. Thickness: 5/8 inch, unless otherwise indicated.
   4. Available Products: Subject to compliance with requirements, products which may be incorporated in the Work where Type X gypsum wallboard is indicated include, but are not limited to, the following:
      d. Or approved equal.

C. Gypsum Backing Board for Multi-Layer Applications: ASTM C 442 or, where backing board is not available from manufacturer, gypsum wallboard, ASTM C 36, and as follows:
   1. Type: Type X for fire-resistance-rated assemblies.
   2. Edges: Manufacturer’s standard.
   3. Thickness: 5/8 inch, unless otherwise indicated.

D. Water-Resistant Gypsum Backing Board: ASTM C 630, and as follows:
   1. Type: Type X for fire-resistance-rated assemblies.
   2. Thickness: 5/8 inch, unless otherwise indicated.

2.5 GLASS MESH MORTAR UNITS

A. Provide cementitious backer units complying with ANSI A118.9, of thickness and width indicated below, and in maximum lengths available to minimize end-to-end butt joints and complying with the following requirements:
   1. Coated Gypsum Panels: Gypsum core with glass fiber mesh surface mats and manufacturer’s proprietary water and vapor retarding coating on both faces, fabricated in panels 1/2 inch thick by 48 inches wide by 96 inches long, and weighing 2.0 lbs per sq. ft.
   2. Cement-Coated Portland Cement Panels: High density Portland cement surface coating on both faces and lightweight concrete core composed of Portland cement and expanded ceramic aggregate; fabricated in panels 7/16 inch thick by 36 inches wide by 36, 48, or 60, 64, or 72 inches long; and weighing 3.2 - 3.8 lbs per sq. ft.
   3. Vinyl-Coated Portland Cement Panels: Core formed in a continuous process from aggregated Portland cement slurry and reinforced with vinyl-coated woven glass fiber mesh embedded in both surfaces, with one face smooth and other textured; fabricated in panels 1/2 inch thick and by 36 inches wide by 48, 60, and 72 inches long; and weighing 3 lbs per sq. ft.

B. Available Products: Subject to compliance with requirements, glass mesh mortar units which may be incorporated in the Work include, but are not limited to, the following:
1. “Dens-Shield”; Georgia Pacific Corp.
2. “Wonder-Board”; Modulars Inc.
4. Or approved equal.

C. Where boards are part of a fire rated assembly, provide boards that are approved for the required fire resistance rating assembly.

2.6 TRIM ACCESSORIES

A. Cornerbead, stops, edge trim, “J” beads and similar trim members shall be metal, No. 25 U.S. Gauge, galvanized or cadmium plated and roll formed for proper shape equal to USG “Durabead” with 1-1/4” x 1-1/4” flange. For Interior Installation: Provide corner beads, edge trim and control joints which comply with ASTM C 1047 and requirements indicated below:

1. Material: Formed metal, complying with the following requirement:
   a. Sheet steel zinc-coated by hot-dip process.
   b. Sheet steel coated with zinc by hot-dip or electrolytic processes, or with aluminum.

2. Edge trim shapes indicated below by reference to designations of Fig. 1 in ASTM C 1047:
   a. “LC” Bead, unless otherwise indicated.
   b. “LK” Bead with square nose for use with kerfed jambs.
   c. “L” Bead where indicated.
   d. “U” Bead where indicated.

3. One-Piece Control Joint: Formed with vee-shaped slot per Fig. 1 in ASTM C 1047, with slot opening covered with removable strip.
4. All inside corners shall be reinforced tape. Reinforcing tape shall be “Perf-A-Tape” reinforcing tape, spark perforated and with beveled edges, or approved equal.

2.7 GYPSUM BOARD JOINT TREATMENT MATERIALS:

A. General: Provide multi-purpose materials complying with ASTM C 475, ASTM C 840, and recommendations of manufacturer of both gypsum board and joint treatment materials for the application indicated.

B. Joint Tape: Paper reinforcing tape, unless otherwise indicated.

1. Use pressure sensitive or staple-attached open-weave glass fiber reinforcing tape with compatible joint compound where recommended by manufacturer of gypsum board and joint treatment materials for application indicated.

C. Drying-Type Joint Compounds: Factory-prepackaged vinyl-based products complying with the following requirements for formulation and intended use.

3. Taping compound formulated for embedding tape and for first coat over fasteners and flanges of corner beads and edge trim.
4. Topping compound formulated for fill (second) and finish (third) coats.
5. All-purpose compound formulated for use as both taping and topping compound.

2.8 MISCELLANEOUS MATERIALS

A. General: Provide auxiliary materials for gypsum drywall construction which comply with referenced standards and the recommendations of the manufacturer of the gypsum board.

B. Laminating Adhesive: Special adhesive or joint compound recommended for laminating gypsum boards.

C. Spot Grout: ASTM C 475, setting-type joint compound of type recommended for spot grouting hollow metal door frames.

D. Gypsum Board Screws: ASTM C 1002.

E. Concealed Acoustical Sealant: Non-drying, non-hardening, non-skimming, non-staining, non-bleeding, gammable sealant complying with requirement specified in Division-7 section “Joint Sealers.” Fire retardant caulking to be installed where applicable.

F. Sound Attenuation Blankets: Un-faced mineral fiber blanket insulation produced by combining mineral fibers of type described below with thermosetting resins to comply with ASTM C 665 for Type I (blankets without membrane facing); and as follows:

   1. Mineral Fiber Type: Fibers manufactured from glass.

G. Glass Mesh Mortar Unit Finishing Materials: Tape and joint compounds as recommended by glass mesh mortar unit manufacturer.

H. All other materials, not specifically described but required for a complete and proper installation of steel studs, shall be new, first quality of their respective kind, in strict accordance with the recommendations of the manufacturer of the metal studs used and subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates to which drywall construction attaches or abuts, preset hollow metal frames, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of drywall construction. Do not proceed with installation until unsatisfactory conditions have been corrected.
3.2 PREPARATION

A. Ceiling Anchorages: Coordinate installation of ceiling suspension system with installation of overhead structural systems to ensure that inserts and other structural anchorage provisions have been installed to receive ceiling anchors in a manner that will develop their full strength and at spacing required to support ceiling.

1. Furnish concrete inserts and other devices indicated, to other trades for installation well in advance of time needed for coordination with other construction.

B. Before sprayed-on fireproofing is applied, attach offset anchor plates or ceiling runners (tracks) to surfaces indicated to receive sprayed-on fireproofing. Where offset anchor plates are required provide continuous units fastened to building structure not more than 24 inches o.c. and to ceiling runners.

C. After sprayed-on fireproofing has been applied, remove only as much fireproofing as needed to complete installation of drywall construction. Protect fireproofing that remains from damage.

3.3 INSTALLATION OF STEEL FRAMING, GENERAL

A. Steel Framing Installation Standard: Comply with ASTM C 754 and with ASTM C 844 requirements that apply to framing installation.

B. Install supplementary framing at terminations in the veneer plaster construction and for support of fixtures, accessories, and similar construction to comply with recommendations of veneer plaster manufacturer, or with “Gypsum Construction Handbook” published by United States Gypsum Co.

C. Isolate steel framing from building structure to prevent transfer of structural loading at locations indicated below:

1. Where suspended ceilings abut building structure.
2. Where partition and wall framing abuts overhead structure.

D. Do not bridge building expansion and control joints with steel framing; independently frame both sides of joints.

E. Accurately lay out partition and wall lines from the dimensions given on the drawings supplied during construction.

F. External angles of all partitions shall be reinforced as needed to brace wall and prevent vibration of door slams from rattling the partitions. Reinforcement shall be floor to ceiling post or other braces as approved.

3.4 INSTALLATION OF STEEL FRAMING FOR SUSPENDED AND FURRED CEILINGS

A. Preparation and Coordination: Coordinate installation of suspension systems with overhead structural systems to ensure that anchorage provisions will receive ceiling hangers in a manner that will develop their full strength and at required spacings.
B. Hanger Installation: Attach hangers to structure above ceiling to comply with ML/SFA
“Specifications for Metal Lathing and Furring” and with referenced standards. Do not use metal deck tabs. Where structure above is not adequate to support suspension system attach suspension system to supplemental support system specified in Division 5.

C. Install suspension system components of sizes and spacings required by referenced lathing and furring installation standards. The following sizes are minimum. Increase sizes to accommodate loading as required by New York City Building Code.

1. Hangers: Space hangers not over 4’-0” o.c. parallel with, and not over 3’-0” perpendicular to, direction of carrying and angles channels, unless otherwise indicated, and within 6” of carrying channel ends. Do not increase existing spacing at hangers at existing angles and channels.

2. Carrying Channels: Space carrying channels not over 3’-0” o.c. with 4’-0” o.c. hanger spacing.

3. Furring Channels: Space furring channels not over 16” o.c.

D. Installation Tolerances: Install suspension members level within 1/8 inch in 12 ft. as measured both lengthwise on each member and transversely between parallel members.

E. Wire-tie or clip furring members to main runners and to other structural supports as indicated.

3.5 INSTALLATION OF STEEL FRAMING FOR WALLS AND PARTITIONS

A. Install runners (tracks) at floors, ceilings and structural walls and columns where gypsum drywall stud system abuts other construction.

1. Where studs are installed directly against exterior walls, install asphalt felt strips between studs and wall.

2. Secure runners to existing concrete slab at 24” o.c.

3. Runners (tracks) shall be securely anchored to the supporting structure.

B. Installation Tolerances: Install each steel framing and furring member so that fastening surface do not vary more than 1/8 inch from plane of 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.

D. Terminate partition framing at suspended ceilings where indicated.

E. Install steel studs and furring in sizes and at spacings indicated but not less than that required by referenced steel framing installation standard.

1. For single and double layer construction: 24” o.c., unless otherwise indicated.

2. Provide double steel studs at door openings, jambs, headers, etc.

3. Provide horizontal channel bracing at midpoints between studs.

4. Where jambs of door occur, a thru post shall be extended an secured to the ceiling slab as approved.
F. Install steel studs so that flanges point in the same direction and gypsum boards can be installed in the direction opposite to that of the flange.

G. Frame door openings to comply with details indicated, with GA-219 and with applicable published recommendations of gypsum board manufacturer. Attach vertical studs at jambs with screws either directly to frames or to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

1. Extend vertical jamb studs through suspended ceilings and attach to underside of floor or roof structure above.
2. Jack studs or cripples shall be installed above door heads and elsewhere to furnish support, and shall be securely attached to the supporting members.

H. Frame openings other than door openings to comply with details indicated, or if none indicated, in same manner as required for door openings; and install framing below sills of openings to match framing required above door heads.

3.6 APPLICATION AND FINISHING OF GYPSUM BOARD, GENERAL

A. Gypsum Board Application and Finishing Standard: Install and finish gypsum board to comply with ASTM C 840.

B. Install sound attenuation blankets where indicated, prior to gypsum board unless readily installed after board has been installed.

C. Locate exposed end-butt joints as far from center of walls and ceilings as possible, and stagger not less than 24 inches in alternate courses of board.

D. Install ceiling boards across framing in the manner which minimizes the number of end-butt joints, and which avoids end joints in the central area of each ceiling. Stagger end joints at least 24 inches.

E. Install wall/partition boards in manner which minimizes the number of end-butt joints or avoids them entirely where possible. At stairwells and similar high walls, install boards horizontally with end joints staggered over studs.

F. Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16 inch open space between boards. Do not force into place. All burred edges shall be smooth before application. Damaged edges shall be cut back neatly to sound board.

G. Locate either edge or end joints over supports, except in horizontal applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that like edges abut, tapered edges against tapered edges and mill-cut or field-cut ends against mill-cut or field-cut ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions. Boards shall be staggered so that the corners of any four (4) boards will not meet at the same point.

H. Attach gypsum board to steel studs so that leading edge or end of each board is attached to
open (unsupported) edge of stud flange first.

I. Attach gypsum board to supplementary framing and blocking provided for additional support at openings and cutouts.

J. Spot grout hollow metal door frames for solid core wood doors, hollow metal doors and doors over 32 inches wide. Apply spot grout at each jamb anchor clip just before inserting board into frame.

K. Form control joints and expansion joints at locations indicated, with space between edges of boards, prepared to receive trim accessories.

L. Cover both faces of steel stud partition framing with gypsum board in concealed spaces (above ceilings, etc.), except in chase walls which are braced internally.

1. Except where 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. area, and may be limited to not less than 75 percent of full coverage.
2. Fit gypsum board around ducts, pipes, and conduits.
3. Where partitions intersect open concrete coffers, cut gypsum board to fit profile of coffers and allow 1/4 to 1/2 inch wide joint for sealant.

M. Isolate perimeter of non-load-bearing drywall partitions at structural abutments. Provide 1/4 inch to 1/2 inch space and trim edge with “U” bead edge trim. Seal joints with acoustical sealant.

N. Where sound-rated drywall construction is indicated, seal construction at perimeters, control and expansion joints, openings and penetrations with a continuous bead of acoustical sealant including a bead at both faces of partitions. Comply with ASTM C 919 and manufacturer’s recommendations for location of edge trim, and close off sound-flanking paths around or through construction, including sealing of partitions above acoustical ceilings.

O. Space fasteners in gypsum boards in accordance with referenced gypsum board application and finishing standard and manufacturer’s recommendations.

P. All wall board to extend above the ceilings a minimum of six (6) inches.

Q. Joints on opposite sides of partitions shall be arranged as to occur on different studs. All joints shall be neatly fitted and staggered.

3.7 METHODS OF GYPSUM BOARD APPLICATION

A. Single-Layer Application: Install gypsum wallboard as follows:

1. On partitions/walls apply gypsum board vertically (parallel to framing), unless otherwise indicated, and provide sheet lengths which will minimize end joints.
2. On Z-furring members apply gypsum board vertically (parallel to framing) with no end joints. Locate edge joints over furring members.

B. Wall Tile Base: Where drywall is base for thin-set ceramic tile and similar rigid applied wall
finishes, install gypsum backing board.

1. In “dry” areas install gypsum backing board or wallboard with tapered edges taped and finished to produce a flat surface.

2. At showers, tubs and similar “wet” areas, install water-resistant gypsum backing board to comply with ASTM C 840 and recommendations of gypsum board manufacturer.

C. At showers, tubs and similar “wet areas” install glass mesh mortar units and treat joints to comply with manufacturer’s recommendations for type of application indicated.

D. Double-Layer Application: Install gypsum backing board for base layer and gypsum wallboard for face layer.

1. Offset joints between layers at least 10 inches. Apply base layers at right angles to supports unless otherwise indicated.

2. On partitions/walls apply base layer and face layers vertically (parallel to framing) with joints of base layer over supports and face layer joints offset at least 10 inches with base layer joints.

3. On 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.

E. Fastening Gypsum Board to Steel Studs: Fasten gypsum board with screws spaced 12” o.c. in the field of the board and 8” o.c. staggered along vertical abutting edges. Screws shall be power driven in slightly below the surface of the wall board, care must be taken not to crush core of the board or the surface of the paper with the screw heads forming a slight depression below the surface of the board. Screws shall not be driven closer than 3/8” from edges and sides of boards to provide uniform dimples over 1/32” deep. Wall board adjacent to the point of fastening shall be held tightly against the framing members while driving screws.

F. Single-Layer Fastening Methods: Apply gypsum boards to supports as follows:

1. Fasten with screws as described above.

G. Double-Layer Fastening Methods: Apply base layer of gypsum board and face layer to base layer as follows:

1. Fasten both base layers and face layers separately to supports with screws.

3.8 INSTALLATION OF DRYWALL TRIM ACCESSORIES

A. General: Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges to comply with manufacturer’s recommendations.

B. Install metal corner beads at external corners. Provide metal casing bead terminating wall board in all locations where gypsum wall board abuts a dissimilar material. External corners shall be one piece sheet metal treated, applied with joint compound as specified for joints.
The corner reinforcement of minimum 25 gage sheet steel, electro-galvanized, perforated for cement treatment and formed to an angle of 90 degrees with wings approximately 2/3” wide. Fasten with screws 24” o.c. on each leg.

C. Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed, and except where plastic trim is indicated. Provide type with face flange to receive joint compound except where “U” bead (semi-finishing type) is indicated.

1. Install “LC” bead where drywall construction is tightly abutted to other construction and back flange can be attached to framing or supporting substrate.
2. Install “LK” bead where substrate is kerfed to receive long flange of trim.
3. Install “L” bead where edge trim can only be installed after gypsum board is installed.
4. Install U-type trim where edge is exposed, revealed, gasketed, or sealant-filled (including expansion joints).

D. Install control joints at locations indicated, or if not indicated, at spacings and locations required by referenced gypsum board application and finish standard, and approved by the Resident Engineer for visual effect. Provide control joints of either metal or PVC, where control joints are indicated, or if not indicated, at door frames and areas recommended by the manufacturer.

E. Internal corners shall be treated in the manner specified for joints, except that the reinforcing tape shall be folded lengthwise through the middle and fitted neatly into the corner.

3.9 FINISHING OF DRYWALL

A. General: Treat gypsum board joints, interior angles, flanges of cornerbead, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration.

B. Pre-fill open joints, rounded or beveled edges, and damaged areas using setting-type joint compound.

C. Apply joint tape over gypsum board joints, except those with trim accessories having flanges not requiring tape.

D. Apply joint tape over gypsum board joints and to flanges of trim accessories as recommended by trim accessory manufacturer.

E. Levels of Gypsum Board Finish: Provide the following levels of gypsum board finish per GA-214.

1. Level 1 for ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.
2. Level 2 where panels form substrates for tile and where indicated.
3. Level 5 for exposed gypsum board surfaces.

F. Use the following joint compound combination as applicable to the finish levels specified:
1. Embedding and First Coat: Ready-mixed, drying-type, all-purpose or taping compound. Fill (Second) Coat: Ready-mixed, drying-type, all-purpose or topping compound. Finish (Third) Coat: Ready-mixed, drying-type, all-purpose or topping compound.

G. Where Level 5 gypsum board finish is indicated, embed tape in joint compound and apply first, fill (second), and finish (third) coats of joint compound over joints, angles, fastener heads, and accessories; and apply a thin, uniform skim coat of joint compound over entire surface. For skim coat, use joint compound specified for third coat, or a product specially formulated for this purpose and acceptable to gypsum board manufacturer. Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects, tool marks, and ridges and ready for decoration.

H. Where Level 2 gypsum board finish is indicated, embed tape in joint compound and apply first coat of joint compound.

I. Where Level 1 gypsum board finish is indicated, embed tape in joint compound.

J. Finish water-resistant gypsum backing board forming base for ceramic tile to comply with ASTM C 840 and gypsum board manufacturer’s directions for treatment of joints behind tile.

K. Finish glass-mat, water-resistant gypsum backing board to comply with gypsum board manufacturer’s directions.

L. Finish cementitious backer units to comply with unit manufacturer’s directions.

3.10 PROTECTION

A. Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures gypsum drywall construction being without damage or deterioration at time of Substantial Completion.

3.11 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>09 29 00-1</td>
<td>Furnish and install one layer of 5/8” thick gypsum board on 3-5/8” steel studs – both sides.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 29 00-2</td>
<td>Furnish and install two layers of 5/8” thick gypsum board on 3-5/8” steel studs – both sides.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 29 00-3</td>
<td>Furnish and install one layer of 5/8” thick gypsum board on steel studs on 1-5/8” steel studs – one side only.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 29 00-4</td>
<td>Furnish and install one layer of 5/8” thick gypsum board on steel studs, up to and including 3-5/8” steel</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>Item Code</td>
<td>Description</td>
<td>Unit</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>09 29 00-5</td>
<td>Furnish and install two layers of 5/8” thick gypsum board on steel studs, up to and including 3-5/8” steel stud – one side only.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 29 00-6</td>
<td>Furnish and install one layer of cement backer board facing on, up to and including 3-5/8” steel stud - one side only.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 29 00-7</td>
<td>Furnish and install one layer of 5/8” thick gypsum board as laminate to existing surface. Thoroughly clean existing surface to receive board. Furnish and apply gypsum board adhesive to existing surface as per manufacturer’s specifications. Furnish and attach mechanical fasteners as required.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 29 00-8</td>
<td>Furnish and install vertical fascia detail with 20 ga. Framing enclosed in 5/8” thick gypsum board from underside of slab.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

B. All gypsum boards shall be 5/8” thick, equivalent to “Fire Code C” by United States Gypsum Co., unless otherwise indicated by the Architect or directed by the RE/PM, or furnish an approved equal.

C. All steel studs shall be 22 gage (20 gage, for partitions over 10’) and spaced at 24 inches on center, unless otherwise indicated by the Architect or directed by the RE/PM.

D. All gypsum board partitions shall include acoustical insulation and sealant (ASTM E 136-65), fireproofing, taping and joint compounding for a complete wall assembly installation and made ready for application of finish, and all shall be deemed included in the Unit Price.

E. Where indicated, provide materials and construction identical to those of assemblies with fire resistance ratings at no additional cost to the City.

F. All gypsum board partitions and assemblies shall include fiberglass batt insulation deemed included in the Unit Price. The characteristics of R-value, facing, lining, spacing, etc. shall be determined by the Architect and deemed included in the Unit Price at no additional cost to the City.

[END OF SECTION 09 29 00]
SECTION 09 30 00 – TILING

PART 1) – GENERAL

1.1 SUMMARY

A. Work Included: Provide tile in accordance with the Contract Documents. The Work of this Section shall include the furnishing and installation of tiles required as indicated on the plans/drawings and required by the job conditions. Work includes, but not limited to floors, bases, walls and all materials necessary for a complete and proper installation. The Work of this Section shall include but not be limited to the following:

1. Unglazed ceramic mosaic tile.
2. Glazed ceramic mosaic tile.
3. Unglazed quarry tile.
4. Glazed wall tile.
5. Stone thresholds.

B. Related Sections: The following sections contain requirements that relate to this Section:

1. Division 2 Section “Demolition and removal of selected portions of buildings and site elements.” for removal of existing tile.
2. Division 3 Section “Cast-In-Place Concrete” for monolithic slab finishes specified for tile substrates.
3. Division 7 Section “Joint Sealants” for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
4. Division 9 Section “Gypsum Plastering” for Portland cement scratch coat over metal lath on wall surfaces.
5. Division 9 Section “Gypsum Board Assemblies” for cementitious backer units installed as part of gypsum wallboard systems.

1.2 SUBMITTALS

A. Product data for each type of product specified.

B. Shop drawings indicating tile patterns and locations and widths of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.

C. Samples for initial selection purposes in form of manufacturer’s color charts consisting of actual tiles or sections of tile showing full range of colors, textures, and patterns available for each type and composition of tile indicated. Include samples of grout and accessories involving color selection.

D. Samples for verification purposes of each item listed below, prepared on samples of size and construction indicated, products involve color and texture variations, in sets showing full range of variations expected.

1. Each type and composition of tile and for each color and texture required, at least
12 inches square, mounted on plywood or hardboard backing and grouted.
2. Full-size units of each type of trim and accessory for each color required.

E. Material test reports from qualified independent testing laboratory indicating and interpreting test results relative to compliance of tile and tile setting and grouting products with requirements indicated.

F. The Architect reserves the right to select tiles as approved equals. Color and pattern will be selected by the Architect.

1.3 QUALITY ASSURANCE

A. Single-Source Responsibility for Tile: Obtain each color, grade, finish, type, composition, and variety of tile from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

B. Single-Source Responsibility for Setting and Grouting Materials: Obtain ingredients of a uniform quality from one manufacturer for each cementitious and admixture component and from one source or producer for each aggregate.

C. Installer Qualifications: Engage an experienced Installer who has successfully completed tile installations similar in scope, material, and design to that indicated for Project. Use only thoroughly trained and experienced journeyman tile setters who are completely familiar with the requirements of this work, and the recommendations contained in the referenced standards.

1.4 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 of ANSI A137.1 for labeling sealed tile packages.

B. Prevent damage or contamination to materials by water, freezing, foreign matter, and other causes.

1.5 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.

1.6 EXTRA MATERIALS

A. Deliver extra materials to the CITY. Furnish extra materials that match products installed as described below, packaged with protective covering for storage and identified with labels clearly 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.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:

1. Unglazed and/or Glazed Ceramic Mosaic Tile:

   a. American Olean Tile Co., Inc.
   b. Dal-Tile Corp.
   c. United States Ceramic Tile Co.
   d. Villeroy & Boch (U.S.A.) Inc.
   e. Or approved equal.

2. Unglazed Quarry Tile:

   a. American Olean Tile Co., Inc.
   b. Dal-Tile Corp.
   c. Summitville Tiles, Inc.
   d. Or approved equal.

3. Unglazed and/or Glazed Wall Tile:

   a. American Olean Tile Co., Inc.
   b. Dal-Tile Corp.
   c. United States Ceramic Tile Co.
   d. Villeroy & Boch (U.S.A.) Inc.
   e. Or approved equal.

4. Dry-Set Mortars and Grouts:

   a. American Olean Tile Co., Inc.
   b. DAP Inc. Div.; USG Corp.
   c. Laticrete International Inc.
   d. Summitville Tiles, Inc.
   e. Or approved equal.

5. Latex-Emulsion-Based Latex-Portland Cement Mortars:

   a. American Olean Tile Co., Inc.
   b. DAP Inc. Div.; USG Corp.
   c. Laticrete International Inc.
   d. Summitville Tiles, Inc.
   e. Or approved equal.
6. Water-Cleanable Tile Setting Epoxy Adhesives:
   a. American Olean Tile Co., Inc.
   c. Summitville Tiles, Inc.
   d. Or approved equal.

7. Organic Adhesives, Type I:
   a. American Olean Tile Co., Inc.
   b. DAP Inc. Div.; USG Corp.
   c. Laticrete International Inc.
   d. Or approved equal.

8. Commercial Portland Cement Grouts:
   a. American Olean Tile Co., Inc.
   b. Bostik Construction Products Div.
   c. Custom Building Products.
   d. Or approved equal.

9. Acrylic Emulsions for Latex-Portland Cement Grouts:
   a. American Olean Tile Co., Inc.
   b. Bostik Construction Products Div.
   c. Custom Building Products.
   d. DAP Inc. Div.; USG Corp.
   e. Laticrete International Inc.
   Or approved equal.

2.2 PRODUCTS, GENERAL


1. Furnish tile complying with “Standard Grade” requirements unless otherwise indicated.

B. ANSI Standard for Tile Installation Materials: Comply with ANSI standard referenced with products and materials indicated for setting and grouting.

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. Provide selections made by Architect from manufacturer’s full range of standard colors, textures, and patterns for products of type indicated.
2. Provide tile trim and accessories that match color and finish of adjoining flat tile. Provide ceramic trimmers, bullnose and shapes to match wall and/or floor as required for complete installation.

D. Factory Blending: For tile exhibiting color variations within the ranges selected during sample submittals, blend tile in factory and package accordingly so that tile units taken from one package show the same range in colors as those taken from other packages and match approved samples.

E. Mounting: Where factory-mounted tile is required, provide back- or edge-mounted tile assemblies as standard with manufacturer unless another mounting method is indicated.

2.3 TILE PRODUCTS

A. Unglazed Ceramic Mosaic Tile: Provide factory-mounted flat tile complying with the following requirements:

2. Composition: Porcelain with abrasive admixture.
3. Nominal Facial Dimensions: 1 inch x 1 inch +/- 1/4 inch
   Actual size 2 inch x 2 inch +/- 1/4 inch
   Varies 4 inch x 4 inch +/- 1/4 inch
   6 inch x 6 inch +/- 1/4 inch
5. Face: Plain with cushion edges.

B. Glazed Ceramic Mosaic Tile: Provide factory-mounted flat tile complying with the following requirements:

2. Nominal Facial Dimensions: 1 inch x 1 inch +/- 1/4 inch
   Actual Size 2 inch x 2 inch +/- 1/4 inch
   Varies 4 inch x 4 inch +/- 1/4 inch
   6 inch x 6 inch +/- 1/4 inch
4. Face: Plain with cushion edges.

C. Unglazed Quarry Tile: Provide square-edged flat tile complying with the following requirements:

1. Wearing Surface: Abrasive aggregate embedded in surface where indicated; nonabrasive elsewhere.
4. Face: Plain.

D. Glazed Wall Tile: Provide flat tile complying with the following requirements:

1. Nominal Facial Dimensions: 4-1/4 inches by 4-1/4 inches (or 2 inches by 2 inches).
3. Face: Plain with modified square edge or cushion edge.

E. Unglazed Wall Tile: Provide flat tile complying with the following requirements:

1. Nominal Facial Dimensions: 4-1/4 inches by 4-1/4 inches (or 2 inches by 2 inches).
3. Face: Plain with modified square edge or cushion edge.

F. Trim Units: Provide tile trim units to match characteristics of adjoining flat tile and to comply with following requirements:

1. Size: As indicated, coordinated with sizes and coursing of adjoining flat tile where applicable.
2. Shapes: As follows, selected from manufacturer’s standard shapes:
   c. Wainscot Cap for Portland Cement Mortar Installations: Bullnose cap.
   d. Wainscot Cap for Thinset Mortar Installations: Surface bullnose.
   e. Wainscot Cap for Flush Conditions: Regular flat tile for conditions where tile wainscot is shown flush with wall surface above.
   f. External Corners for Portland Cement Mortar Installations: Bullnose shape with a radius of at least 3/4 inch unless otherwise indicated.
   g. External Corners for Thinset Installations: Surface bullnose.
   h. Internal Corners: Field-butted square corners, except use coved base and cap angle pieces designed to member with stretcher shapes.

G. Water Absorption: Tile installed on floors shall be slip resistant and have water absorption not to exceed 0.5%.

2.4 STONE THRESHOLDS

A. General: Provide stone that is uniform in color and finish, fabricated to sizes and profiles indicated or required to provide transition between tile surfaces and adjoining finished floor surfaces.

B. Marble Thresholds: Provide marble thresholds complying with ASTM C 503 requirements for exterior use and for abrasion resistance where exposed to foot traffic, a minimum hardness of 10 per ASTM C 241.

1. Provide White, Pink Tennessee, or any other color and shade to match existing (or replace in kind), honed marble complying with MIA Group “A” requirements for soundness.

C. Stone Thresholds: Provide stone threshold as specified by the Architect or as directed by Project Manager.
2.5 WATERPROOFING FOR THINSET TILE INSTALLATIONS

A. Latex Rubber Waterproofing: Manufacturer’s standard factory-prepackaged, job-mixed, proprietary two-part formulation consisting of liquid latex rubber and powder for trowel application and glass fiber fabric reinforcing.

B. Available Products: Subject to compliance with requirements, products which may be incorporated in the Work include, but are not limited to, the following:

1. Latex Rubber Waterproofing:
   a. “Laticrete 301/335 Waterproof Membrane”; Laticrete International Inc.
   b. Or an approved equal.

2.6 SETTING MATERIALS

A. Portland Cement Mortar Installation Materials: Provide materials complying with ANSI A108.02 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 thick.
2. Reinforcing Wire Fabric: Galvanized welded wire fabric, 2 inches by 2 inches - W.O.3 by W.O.3 (16 ASW gage or 0.0625 inch diameter); comply with ASTM A 185 and ASTM A 82 except for minimum wire size.
3. Expanded Metal Lath: Provide diamond mesh lath complying with ASTM C 847 for requirements indicated below:
   a. Base Metal and Finish for Interior Applications: Fabricate lath from uncoated or zinc-coated (galvanized) steel sheet, with uncoated steel sheet painted after fabrication into lath.
   b. Configuration Over Studs and Furring: Flat.
   d. Weight: 3.4 psf.
4. Latex additive (water emulsion) described below, serving as replacement for part or all of gauging water, of type specifically recommended by latex additive manufacturer for use with job-mixed portland cement and aggregate mortar bed.


C. Latex-Portland Cement Mortar: ANSI A118.4, composition as follows:

1. Prepackaged dry mortar mix composed of portland cement, graded aggregate, and the following dry polymer additive in the form of a re-emulsifiable powder to which only water is added at job site.
   a. Dry Polymer Additive: Polyvinyl acetate or ethylene vinyl acetate.
2. Latex additive (water emulsion) of type described below, serving as replacement for part or all of gauging water, combined at job site with prepackaged dry mortar mix supplied or specified by latex additive manufacturer.

   a. Latex Type: Acrylic resin.

D. Organic Adhesive: ANSI A136.1, Type I for installation of ceramic tile on drywall. Shear strength shall be 50 psi minimum. Adhesive primer as recommended by adhesive manufacturer. Manufacturer shall certify, in writing, that adhesive and primer used are proper types for the intended tile types and application.

E. Water: Clean, fresh and suitable for drinking.

2.7 GROUT MATERIALS

A. Sand-Portland Cement Grout: ANSI A108.10, composed of white or gray cement and white or colored aggregate as required to produce colors selected by the RE/PM.

B. Standard Cement Grout: ANSI A118.6, color as selected by the RE/PM.

C. Dry-Set Grout: ANSI A118.6, color as indicated.

D. Latex-Portland Cement Grout: ANSI A118.6, color as indicated, composition as follows:

   1. Latex additive (water emulsion) serving as replacement for part or all of gauging water, added at job site with dry grout mixture, with type of latex and dry grout mix as follows:

      a. Latex Type: Acrylic resin.

      b. Dry Grout Mixture: Dry-set grout specified or supplied by latex additive manufacturer. Use latex additive without retarder with dry-set grout.

         i. Application: Use dry-set grout combined with latex additive for grouting joints in glazed wall tile.

      c. Dry Grout Mixture: Commercial portland cement specified or supplied by latex additive manufacturer.

         i. Application: Use commercial portland cement grout combined with latex additive for grouting joints in floor tile unless otherwise indicated.

E. Water: Clean, fresh and suitable for drinking.

2.8 ELASTOMERIC SEALANTS

A. General: Provide sealants as specified herein and that comply with requirements of Division 7 Section “Joint Sealers,” including ASTM C 920 as referenced by Type, Grade, Class, and Uses.
B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints unless otherwise indicated.

C. One-Part Mildew-Resistant Silicone Sealant: ASTM C920, 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 temperature extremes.

D. Available Products: Subject to compliance with requirements, products which may be incorporated in the Work include, but are not limited to, the following:

1. One-Part Mildew-Resistant Silicone Sealant:
   a. “Dow Corning 786”; Dow Corning Corp.
   c. “863 #345 White”; Pecora Corp.
   d. “Rhodorsil 6B White”; Rhone-Poulenc Inc.
   e. “Proglaze White”; Tremco Corp.
   f. Or an approved equal.

2.9 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with requirements of referenced standards and manufacturers including those for accurate proportioning of materials, water, or additive content; type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other procedures needed to produce mortars and grouts of uniform quality with optimum performance characteristics for application indicated.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates and areas 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, and free from oil or waxy films and curing compounds.
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.

B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Blending: For tile exhibiting color variations within the ranges selected during sample
submittals, verify that tile has been blended in factory and packaged accordingly so that
tile units taken from one package show the same range in 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.

B. Condition of Surfaces: Allowable variations in substrate levels Flooded: +/- 1/8” in 10’ -
0” distance and 1/4” total maximum variation from levels shown. Grind or fill concrete
and masonry substrates as required to comply with allowable variations.

C. Preparation: Etch concrete substrate with 10% solution of muriatic acid as may be
required to remove substance that would interfere with proper bond of setting bed. Rinse
with water to remove all traces of acid.

3.3 INSTALLATION, GENERAL

A. ANSI Tile Installation Standard: Comply with parts of ANSI 108 series of tile
installation standards included under “American National Standard Specifications for the
Installation of Ceramic Tile” that apply to type of setting and grouting materials and methods
indicated.

B. TCA Installation Guidelines: TCA “Handbook for Ceramic Tile Installation”; comply
with TCA installation methods indicated.

C. Extend tile work into recesses and under or behind equipment and fixtures to form a
complete covering without interruptions except as otherwise shown. Terminate work
neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

D. Accurately and neatly 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, drains and other penetrations so that plates, collars, or covers overlap tile.
Perform all necessary cutting and fitting of the tile work wherever required in connection
with the work as may be necessary to overcome inaccuracies, and to make the materials
properly fit and conform to the conditions encountered.

E. Jointing Pattern: Unless otherwise shown, lay tile in grid pattern. 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 shown.

1. For tile mounted in sheets, make joints between tile sheets same width as joints
within tile sheets so that extent of each sheet is not apparent in finished work.
Joints: Not more than 1/16” wide, maintain the standard mounting width of joints
between all tile of each sheet and between adjacent sheets of tile.

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 installation of tiles.
1. Locate joints in tile surfaces directly above joints in concrete substrates.
2. Prepare joints and apply sealants to comply with requirements of Division 7 Section “Joint Sealers.”

H. Grout tile to comply with the requirements of the following 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.
   2. All tile shall be grouted in approved manner and to the best practice of the trade. Provide manufacturer’s recommended sealer after grouting.

I. Mortar: Do not use mortar that has reached its initial set. Do not retemper mortar.

J. Adhesives: Install wall tile adhesives using matched trowel to a thickness of not less than 3/16”.

3.4 WATERPROOFING FOR THINSET TILE INSTALLATIONS

A. Install waterproofing in compliance with waterproofing manufacturer’s instructions to produce a waterproof membrane of uniform thickness bonded securely to substrate.

B. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.

3.5 FLOOR INSTALLATION METHODS

A. Ceramic Mosaic Tile: Install tile to comply with requirements indicated below for setting bed methods, TCA installation methods related to types of subfloor construction, and grout types:

   1. Portland Cement Mortar: ANSI A108.1
      a. Bond Coat: Portland cement paste or dust coat on plastic bed.
      b. Bond Coat: Latex-portland cement mortar on cured bed, ANSI A108.5.
      c. Bond Coat: Dry-set portland cement mortar on cured bed, ANSI A108.5.
      d. Bond Coat: Portland cement paste or dust coat on plastic bed or the following thin-set mortar on cured bed, ANSI A108.5, at Contractor’s option:
         i. Latex-portland cement mortar.
      e. Concrete Subfloors, Interior: TCA F111 (cleavage membrane).
      f. Concrete Subfloors, Interior: TCA F112 (bonded).
      g. Concrete Subfloors, Interior, Waterproofing Membrane: TCA F121.
      h. Wood Subfloors, Interior: TCA F141.
      i. Grout: Latex-portland cement.

b. Wood Subfloors, Interior: TCA F142.


   b. Cementitious Backer Unit Underlayment, Interior: TCA F144.

B. Quarry Tile: Install tile to comply with requirements indicated below for setting-bed method, TCA installation method related to type of subfloor construction, and grout type:


   a. Bond Coat: Portland cement paste or dust coat on plastic bed.
   c. Concrete Subfloor, Interior: TCA F111 (cleavage membrane).
   d. Concrete Subfloor, Interior: TCA F112 (bonded).
   e. Concrete Subfloor, Interior: TCA F114 (with chemical- resistant resin grout).


   b. Concrete Subfloor, Interior: TCA F115 (with chemical-resistant resin grout).

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.
2. Comply with TCA TR611, unless otherwise indicated.

D. Stone Thresholds: Bevel stone thresholds to comply with ADA requirements.

   1. Bevel by grinding and polish stone threshold - approval of method by Architect.
   2. Provide dust and noise control.

3.6 WALL TILE INSTALLATION METHODS

A. Install types of tile designated for wall application to comply with requirements indicated below for setting-bed methods, TCA installation methods related to subsurface wall conditions, and grout types:

a. Masonry or Concrete, Interior: TCA W211 (bonded).
c. Solid Backing, Interior: TCA W222 (one-coat method).
e. Grout: Sand-portland cement.

2. Organic Adhesive: ANSI A108.4. (for gypsum drywall backing only)

b. Cementitious Backer Units, Interior: TCA W244.


3.7 CLEANING AND PROTECTION

A. Cleaning: Upon completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
   1. Remove latex-portland cement grout residue from tile as soon as possible.
   2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer’s printed instructions, but no sooner than 14 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.

B. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken, un-bonded, and otherwise defective tile work.

C. Provide final protection and maintain conditions in a manner acceptable to manufacturer and installer that ensure tile is without damage or deterioration at time of Substantial Completion.
   1. When recommended by tile manufacturer, apply a protective 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.
   2. Prohibit foot and wheel traffic from tiled floors for at least 7 days after grouting is completed.
D. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

3.8 MEASUREMENT AND PAYMENT

A. Unit Prices

**TILING**

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
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<tbody>
<tr>
<td>093000-1</td>
<td>Furnish and install unglazed and/or glazed ceramic mosaic floor tile in a full mortar bed. No additional charge for horizontal/vertical cuts.</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>093000-1A</td>
<td>Install unglazed and/or glazed ceramic mosaic floor tile in a full mortar bed. No additional charge for horizontal/vertical cuts.</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>093000-2</td>
<td>Furnish and install unglazed and/or glazed ceramic mosaic floor tile in a thin set bed. No additional charge for horizontal/vertical cuts.</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>093000-2A</td>
<td>Install unglazed and/or glazed ceramic mosaic floor tile in a thin set bed. No additional charge for horizontal/vertical cuts.</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>093000-3</td>
<td>Furnish and install unglazed and/or glazed wall tile in a mortar setting bed. No additional charge for horizontal/vertical cuts.</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>093000-3A</td>
<td>Install unglazed and/or glazed wall tile in a mortar setting bed. No additional charge for horizontal/vertical cuts.</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>093000-4</td>
<td>Furnish and install unglazed and/or glazed wall tile in a thin setting bed. No additional charge for horizontal/vertical cuts.</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>093000-4A</td>
<td>Install unglazed and/or glazed wall tile in a thin setting bed. No additional charge for horizontal/vertical cuts.</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>093000-5</td>
<td>Cut and patch wall tile. No additional charge for horizontal/vertical cuts.</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>093000-6</td>
<td>Furnish and install Ceramic Tile Base. No additional charge for horizontal and vertical cuts.</td>
<td>Lin. Ft.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Unit</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>093000-6A</td>
<td>Install Ceramic Tile Base. No additional charge for horizontal and vertical cuts.</td>
<td>Lin. Ft.</td>
</tr>
<tr>
<td>093000-7</td>
<td>Furnish and install 12” mosaic tile band. No additional charge for horizontal and vertical cuts.</td>
<td>Lin. Ft.</td>
</tr>
<tr>
<td>093000-7A</td>
<td>Install Ceramic Tile Base. No additional charge for horizontal and vertical cuts.</td>
<td>Lin. Ft.</td>
</tr>
<tr>
<td>093000-8</td>
<td>Furnish and install stone threshold at door opening. No additional</td>
<td>Lin. Ft.</td>
</tr>
</tbody>
</table>
charge for horizontal/vertical cuts

093000-8A  Install stone threshold at door opening. No additional charge for horizontal/vertical cuts  Lin. Ft.

093000-9  Bevel existing stone threshold for ADA compliance. No additional charge for horizontal/vertical cuts.  Lin. Ft.

B. For the above systems base all costs upon the Resident Engineer selecting either 1” x 1”, 2” x 2”, 4” x 4” or 6” x 6” ceramic mosaic floor tile and 4-1/4” x 4-1/4” or 2” x 2” wall tile. For color selection guide use products equal to American Olean Bright Series for glazed wall tile and Group “A” Series for ceramic mosaic tile.

C. The Contractor shall cut all the tile required under the contract for the work in accordance with the orientation as determined by AM at its own discretion at no additional cost.

D. The Contractor shall layout all the tile required under the contract for the work in accordance with the orientation as determined by AM at its own discretion at no additional cost.

E. DOHMH reserves the right to provide materials for installation purposes only as pertains to 093000-1A, 093000-2A, 093000-3A, 093000-4A, 093000-6A, 093000-7A, 093000-8A.

[END OF SECTION 09 30 00]
SECTION 09 51 13 – ACOUSTICAL PANEL CEILINGS

PART I) – GENERAL

1.1 SUMMARY

A. Work Included: Provide acoustical panel ceilings in accordance with the Contract Documents. The Work of this Section shall include the furnishing of all labor, materials, equipment and services necessary to completely install acoustical ceiling tile, in quantities needed for repairs or complete ceiling installations, shown on the drawings to be provided and specified herein. The Work of this Section shall include but not be limited to the following:

1. Ceilings composed of acoustical panels and exposed suspension grid systems including associated Wire hangers, fasteners, main runners, cross tees, and wall angle moldings.
2. Acoustical ceiling tile cemented directly to ceiling.
3. Drywall soffit on suspension system.
4. Framing and support for light fixtures, air diffusers, registers, etc.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 9, Section “Gypsum Board Assemblies”.

C. ALTERNATES

1. Prior Approval: Unless otherwise provided for in the Contract documents, proposed product substitutions may be submitted no later than TEN (10) working days prior to the date established for receipt of bids. Acceptability of a proposed substitution is contingent upon the Architect's review of the proposal for acceptability and approved products will be set forth by the Addenda. If included in a Bid are substitute products which have not been approved by Addenda, the specified products shall be provided without additional compensation.

2. Submittals which do not provide adequate data for the product evaluation will not be considered. The proposed substitution must meet all requirements of this section, including but not necessarily limited to, the following: Single source materials suppliers (if specified in Section 1.5); Underwriters' Laboratories Classified Acoustical performance; Panel design, size, composition, color, and finish; Suspension system component profiles and sizes; Compliance with the referenced standards.

D. REFERENCES

   a. ASTM A 1008 Standard Specification for Steel, Sheet, Cold Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
c. ASTM A 653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
d. ASTM C 423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
f. ASTM C 636 Recommended Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
j. ASTM E 1264 Classification for Acoustical Ceiling Products.


1.2 SUBMITTALS

A. Product data for each type of product specified.

B. Coordination drawings for reflected ceiling plans drawn accurately to scale and coordinating penetrations and ceiling-mounted items. Show the following:

1. Ceiling suspension system members.
2. Method of attaching suspension system hangers to building structure.
3. Ceiling-mounted items including light fixtures; air outlets and inlets; speakers; sprinklers; and special moldings at walls, column penetrations, and other junctures of acoustical ceilings with adjoining construction.

C. Samples for initial selection in the form of manufacturer’s color charts consisting of actual acoustical panels or sections of panels and sections of suspension system members showing the full range of colors, textures, and patterns available for each ceiling assembly indicated.

D. Samples for verification of each type of exposed finish required, prepared on samples of size indicated below. Where finishes involve normal color and texture variations, include sample sets showing the full range of variations expected.

1. 6-inch- (150-mm-) square samples of each acoustical panel type, pattern, and
1. Install color.
2. Full-size samples of each acoustical panel type, pattern, and color.
3. Set of 12-inch- (300-mm-) long samples of exposed suspension system members, including moldings, for each color and system type required.

E. Product test reports from a qualified independent testing agency that are based on its testing of current products for compliance of acoustical panel ceilings and components with requirements.

F. Research reports or evaluation reports of the model code organization acceptable to authorities having jurisdiction that show compliance of acoustical panel ceilings and components with the building code in effect for the Project.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who has completed acoustical panel ceilings similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

B. Fire-Test-Response Characteristics: Where required to maintain fire resistance rating, provide acoustical panel ceilings that comply with the following requirements:

1. Fire-response tests are performed by a qualified testing and inspecting agency. Qualified testing and inspecting agencies include Underwriters Laboratories (UL), Warnock Hersey, or another agency that is acceptable to authorities having jurisdiction and that performs testing and follow-up services.
2. Surface-burning characteristics of acoustical panels comply with ASTM E 1264 for Class A materials as determined by testing identical products per ASTM E 84.
3. Acoustical panel ceilings indicated are identical in materials and construction to those tested for fire resistance per ASTM E 119.
4. Fire-resistance-rated, acoustical panel ceilings are indicated by design designations listed in the UL “Fire Resistance Directory,” in the Warnock Hersey “Certification Listings,” or in the listing of another qualified testing and inspecting agency and as approved for use in New York City.
5. Products are identified with appropriate markings of applicable testing and inspecting agency.

C. Single-Source Responsibility for Ceiling Units: Obtain each type of acoustical ceiling panel from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying the Work.

D. Single-Source Responsibility for Suspension System: Obtain each type of suspension system from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying the Work.

1. Obtain both acoustical panels and suspension system from the same manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical panels and suspension system components to Project site in original,
unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.

C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

1.5 PROJECT CONDITIONS

A. Space Enclosure and Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, wet-work in spaces is completed and dry, work above ceilings is complete, and ambient temperature and humidity conditions are being maintained at the levels indicated for Project when occupied for its intended use.

1.6 COORDINATION

A. Coordinate layout and installation of acoustical panels and suspension system components with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system components (if any), and partition assemblies (if any).

1.7 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels clearly describing contents.

1. A. Acoustical Ceiling Units: Furnish quantity of full-size units equal to 2.0 percent of amount installed.
2. Exposed Suspension System Components: Furnish quantity of each exposed component equal to 2.0 percent of amount installed.

1.8 GUARANTEE

A. Acoustical Panel: Submit a five (5) year written guarantee executed by the manufacturer, agreeing to repair or replace acoustical panels that fail within the guarantee period. Failures include, but are not limited to:
1. Acoustical Panels: Sagging and warping as a result of defects in materials or factory workmanship.
2. Grid System: Rusting and manufacturer's defects
3. Acoustical Panels with BioBlock Plus or designated as inherently resistive to the growth of micro-organisms installed with Armstrong suspension systems: Visible sag and will resist the growth of mold/mildew and gram positive and gram negative odor and stain causing bacteria.

B. The Warranty shall not deprive DOHMH of other rights the DOHMH may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.
1.9 MAINTENANCE

A. Extra Materials: Deliver extra materials to Owner. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.
   1. Acoustical Ceiling Units: Furnish quality of full-size units equal to 5.0 percent of amount installed.
   2. Exposed Suspension System Components: Furnish quantity of each exposed suspension component equal to 2.0 percent of amount installed.

PART 2–PRODUCTS

2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, acoustical panels that may be incorporated in the Work include, but are not limited to, the following:

1. Armstrong World Industries, Inc.
2. The Celotex Corporation.
3. USG Interiors, Inc.
4. Or approved equal.

2.2 ACOUSTICAL CEILING UNITS

A. Acoustical Panels Type-1:

1. Surface Texture: Medium
2. Composition: Mineral Fiber
3. Color: White
4. Size: 24inch X 24inch X 5/8inch or 24inch X 48inch X 5/8inch
5. Edge Profile: Square Lay-In for interface with Prelude XL 15/16" Exposed Tee.
6. Noise Reduction Coefficient (NRC): ASTM C 423; Classified with UL label on product carton, 0.55.
7. Ceiling Attenuation Class (CAC): ASTM C 1414; Classified with UL label on product carton, 33
9. Flame Spread: ASTM E 1264; Class A (UL)
10. Light Reflectance (LR): ASTM E 1477; White Panel: Light Reflectance: 0.82.
11. Dimensional Stability: Standard -Space is enclosed, weatherproofed, HVAC systems operating.
12. Antimicrobial Protection: None
13. Acceptable Product: Cortega Tile & Lay-In, Item #770 or #769A as manufactured by Armstrong World Industries or approved equal.

B. Suspension Systems Type-1:
1. Components: All main beams and cross tees shall be commercial quality hot-dipped galvanized steel as per ASTM A 653. Main beams and cross tees are double-web steel construction with 15/16 inch type exposed flange design. Exposed surfaces chemically cleanse, capping pre-finished galvanized steel in baked polyester paint. Main beams and cross tees shall have rotary stitching.
   1. Structural Classification: ASTM C 635 HD.
   2. Color: White and match the actual color of the selected ceiling tile, unless noted otherwise.
   3. Acceptable Product: Prelude XL 15/16" Exposed Tee as manufactured by Armstrong World Industries, Inc.
2. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.
3. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least time three design load, but not less than 12 gauge.
4. Edge Moldings and Trim: Metal or extruded aluminum of types and profiles indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations, including light fixtures, that fit type of edge detail and suspension system indicated. Provide moldings with exposed flange of the same width as exposed runner.
5. Accessories

C. Acoustical Panels Type 2:

1. Surface Texture: Fine
2. Composition: Mineral Fiber
3. Color: White
4. Size: 24in X 24in X 3/4in
5. Edge Profile: Beveled Tegular for interface Silhouette XL 9/16" Bolt Slot - 1/8" Reveal.
6. Noise Reduction Coefficient (NRC): ASTM C 423; Classified with UL label on product carton, 0.70.
7. Ceiling Attenuation Class (CAC): ASTM C 1414; Classified with UL label on product carton, 35.
9. Flame Spread: ASTM E 1264; Class A (UL)
11. Dimensional Stability: HumiGuard Plus - Temperature is between 32°F (0°C) and 120°F (49°C). It is not necessary for the area to be enclosed or for HVAC systems to be functioning. All wet work (plastering, concrete, etc.) must be complete and dry.
12. Antimicrobial Protection: BioBlock Plus - Resistance against the growth of mold/mildew and gram positive and gram negative odor and stain causing bacteria.
D. Suspension System Type 2:

1. Components: All main beams and cross tees shall be commercial quality hot-dipped galvanized (galvanized steel, aluminum, or stainless steel) as per ASTM A 653. Main beams and cross tees are double-web steel construction with type exposed flange design. Exposed surfaces chemically cleansed, capping pre-finished galvanized steel (aluminum or stainless steel) in baked polyester paint. Main beams and cross tees shall have rotary stitching (exception: extruded aluminum or stainless steel).
   a. Structural Classification: ASTM C 635 HD.
   b. Color: White and match the actual color of the selected ceiling tile, unless noted otherwise.
   c. Acceptable Product: Silhouette XL 9/16" Bolt Slot - 1/8" Reveal as manufactured by Armstrong World Industries, Inc., or approved equal.
2. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.
3. Wire for Hangers and Ties: ASTM A 641, Class I zinc coating, soft temper, pre-stretched, with a yield stress load of at least time three design load, but not less than 12 gauge.
4. Edge Moldings and Trim: Metal or extruded aluminum of types and profiles indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations, including light fixtures, that fit type of edge detail and suspension system indicated. Provide moldings with exposed flange of the same width as exposed runner.
5. Accessories

2.3 ACOUSTICAL PANELS, GENERAL

A. Acoustical Panel Standard: Provide manufacturer’s standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances, unless otherwise indicated.

1. Mounting Method for Measuring Noise Reduction Coefficient (NRC): Type E-400 [plenum mounting in which face of test specimen is 15-3/4 inches (400 mm) away from the test surface] per ASTM E 795.
2. Test Method for Ceiling Attenuation Class (CAC): Where acoustical panel ceilings are specified to have a CAC, provide units identical to those tested per ASTM E 1414 by a qualified testing agency.

B. Acoustical Panel Colors and Patterns: Match appearance characteristics indicated for each product type.

1. Where appearance characteristics of acoustical panels are indicated by reference to ASTM E 1264 pattern designations and not to manufacturers’ proprietary product designations, provide products selected by Architect from each manufacturer’s full range of products that comply with requirements indicated for type, pattern, color, light reflectance, acoustical performance, edge detail, and size.
C. Panel Characteristics: Comply with requirements indicated on each Acoustical Panel Ceiling Product Data Sheet at the end of this Section, including those referencing ASTM E 1264 classifications.

2.4 ACOUSTICAL CEILING PANELS (FIRE RETARDANT)

A. Install suspension system according to ASTM C-636-76, Recommended Practice For Installation of Metal Ceiling Suspension System For Acoustical Tile and Lay-In panels.”

B. Panel Characteristics: Fire retardant fiberboard by “U.S.G. Acoustone” or approved equal.

1. Color: White, unless otherwise indicated.
2. Light Reflectance Coefficient: LR-1 (75% or over)
3. Noise Reduction Coefficient: NRC Range (.50-.60)
5. Edge Detail: Square Edge, unless otherwise indicated.
7. Insulation Value: Average C Factor, (At 75 F is 64), R Factor is 1.56
8. Thickness: 5/8 inch, unless otherwise indicated.
9. Size: 24 by 24 inches, unless otherwise indicated.

2.4 METAL SUSPENSION SYSTEMS, GENERAL

A. Metal Suspension System Standard: Provide manufacturer’s standard metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable ASTM C 635, “Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings” requirements.

1. Suspension system shall be wide flange type, hung directly from structure above or by means of carrying channels.
2. Suspension system shall be hung by means of 1-1/2” cold rolled 16 gauge steel #1.475 carrying channels accurately leveled and placed not over 4’-0” o.c., with first channel not over 10” from wall.
3. The (exposed) “T” grid shall be “snap action” type of 24 gauge (0.025 inch) 1-1/2” high electro-galvanized steel finish, off-white enameled on exposed 15/16” surfaces. Main slots to form grid for 24” x 24” tiles and lights, unless otherwise indicated. Form grid as shown on drawing (reflected ceiling plan) and constructed so the cross tee may be snapped in place.
4. All metal work used shall be galvanized and/or fully primed and coated to form corrosion resistance. Metal work shall be relocated and/or protected from contact with condensation.
5. Attachment Devices: Suspension system shall be hung by anchor straps of 1” x 1/8” galvanized steel straps or 12 gauge galvanized wire hangers to 1/4” diameter steel hook-end rods running in GAT clips such as #481-5L clamped to channels, not more than 4’-0” o.c., or as approved.
6. Maximum allowable deflection in the ceiling suspension is 1/360 of the span. The manufacturer must furnish and certify deflection data on his suspension system.
7. Ceiling height from finished floor elevation will be established by Architect, or as directed by the Project Manager, and shall be leveled to within one-eighth of an inch in twelve feet (1/8" in 12'-0").

B. Finishes and Colors: Provide manufacturer’s standard factory-applied finish for type of system indicated. Provide similar material to frame around perimeter walls, light fixtures, air diffusers, registers, etc.

C. Hanger Rods: Mild steel, zinc coated, or protected with rust-inhibitive paint, size and type complying with the New York City Building Code.

D. Flat Hangers: Mild steel, zinc coated, or protected with rust-inhibitive paint, size and type complying with the New York City Building Code.

E. Sheet-Metal Edge Moldings and Trim: Type and profile indicated, or if not indicated, manufacturer’s standard moldings for edges and penetrations that fit acoustical panel edge details and suspension systems indicated; formed from sheet metal of same material and finish as that used for exposed flanges of suspension system runners.

1. For lay-in panels with reveal edge details, provide stepped-edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.

2. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.

3. For narrow-face suspension systems, provide suspension system and manufacturer’s standard edge moldings that match width and configuration of exposed runners.

F. Miscellaneous Accessories: All miscellaneous accessories including tempered spring steel spacers, clips, clamps, fastenings and similar items shall be furnished and installed under this contract as required to insure the proper installation of all work and to provide a safe rigid and level ceiling with a continuous grid and fully framed around all edges, post columns, etc.

1. All alterations necessary shall be performed to ceiling channels, grid, lights, etc. to keep the ceiling as close as possible to the existing ducts, obstructions, etc. as required, directed or as approved.

2. Wall moldings shall be installed at intersection of suspended ceiling and vertical surfaces.

3. All perimeter and column edges shall be provided with steel angle or channel trim of similar material and appearance.

4. Provide all necessary alterations and modifications so that the “T” grid system shall frame around the existing ducts, edges, columns, etc. and allow for installation of new diffusers, lights, etc.

5. Splines shall be used as recommended by the tile manufacturer.

6. Tiles shall be laid out symmetrically. Butt all existing raceway, conduit, partition, pipes, canopies, etc., neatly and tightly to suit all conditions.
2.5 SOFFITS (STEEL FRAMED)
A. Where windows, radiators and/or ducts require alteration to ceiling edges, and ceiling height is indicated on drawings, suspended ceiling shall stop with framed soffit edges constructed with visible edges faced in 5/8” Fire Code 60 gypsum board over 2-1/2” (25 gauge) galvanized steel framing 12” o.c. with entire window/ceiling recess and areas of the wall, radiators and/or ducts, if directed, painted to match the ceiling tile color.

B. The Contractor shall carefully “box in” all ducts and protrusions that come below ceiling height with acoustical tiles applied to lower framed duct surfaces, as directed and approved.

C. Framing for gypsum board shall connect with or allow for suspension ceiling system and shall be fully independent of duct hangers, conduits, etc., and shall be hung off black iron channel or as approved. The Contractor shall insure these areas are safe, rigid, and consistent with the finest construction practice and reinforced as needed or directed.

2.6 ACOUSTICAL TILE (GLUED)
A. Acoustical tile shall be 12” x 12” units, 3/4” thick, fissured mineral fiber tile having a noise reduction co-efficient of 0.65 - 0.75, manufactured by “Armstrong”, or approved equal.

B. The tile shall be on incombustible material and have a flame material spread rating of 0-25.

C. The units shall be securely spot cemented in place in the standard approved best practice with an adhesive cement such as “Hertzels Acoustiglue”, or approved equal, that has a strength of not less than 1/2 lb. per sq. inch when first applied and a strength not less than 1-1/2 lbs. per sq. inch 24 hours after application.

D. Such adhesive shall be waterproof and resistant to alkaline solutions and of such nature that they remain plastic during and after application.

2.7 GYPSUM BOARD CEILING ON SUSPENDED CEILING
A. As required by the Architect, or as directed by the RE/PM, a suspended gypsum board ceiling shall be installed either in lieu of an acoustical tile ceiling or as a ceiling design accent. The ceiling shall be installed in accordance with all applicable building and fire codes and taped and finished as described in the “Gypsum Board Assemblies” Section of the Specifications.

B. The Contractor shall furnish and install ceiling fascia as shown on the drawing.

C. The Contractor shall secure 25 gauge channel runners to the underside of slab above and to the wall above the windows. Channel runners shall be 3-5/8” steel manufactured by “Gold Bond”, or approved equal.

D. Steel studs shall be 3-5/8”, 25 gauge, spaced at 16” o.c.
E. Gypsum wall board shall be one layer, 5/8” thick, “Fire Code 60”, secured to steel studs with steel screws with rust inhibiting coating.

F. Fascia corner molding shall be extruded alloy 6063T5 with clear anodized finish, # FCM-75 manufactured by “Fry Reglet”, or approved equal. Fascia and/or soffits shall have one layer of gypsum board, unless otherwise indicated.

1. All joints shall be neatly fitted, taped with perforated tape, an approved type joint compound shall be applied and tape centered over joints and seated into compound.

2. Sufficient compound must remain under tape to provide an even and proper bond. Immediately after a skim coat shall follow. After skim coat is thoroughly dry, a fill coat shall be applied, covering tape and feathering out 4 inches on each side of tape.

3. All fastening and depressions shall be properly taped and topped with compound as required. All screw heads shall be depressed.

G. Finish details and practices shall comply with all applicable provisions of Paragraph 2.4 “Metal Suspension Systems, General” and 2.5 “Soffit (Steel Framed)” of this Section and related Sections, in regards to, but not limited to, miscellaneous accessories, grids, soffits, fascia painting, “box-in”, ceiling heights, leveling, etc.

2.8 ACOUSTICAL SEALANT

A. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer’s standard non-sag, paintable, non-staining latex sealant complying with ASTM C 834 and the following requirements:

1. Product is effective in reducing airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies per ASTM E 90.

2. Product has flame-spread and smoke-developed ratings of less than 25 per ASTM E 84.

B. Acoustical Sealant for Concealed Joints: Manufacturer’s standard non-drying, non-hardening, non-skimming, non-staining, gunnable, synthetic rubber sealant recommended for sealing interior concealed joints to reduce transmission of airborne sound.

C. Available Products: Subject to compliance with requirements, acoustical sealants that may be incorporated in the Work include, but are not limited to, the following:

1. Acoustical Sealant for Exposed and Concealed Joints:

   a. AC-20 FTR Acoustical and Insulation Sealant; Pecora Corp.
   b. SHEETROCK Acoustical Sealant; United States Gypsum Company.

PART 3 – EXECUTION

3.1 EXAMINATION
A. Examine substrates and structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Coordination: Furnish layouts for cast-in-place anchors, clips, and other ceiling anchors whose installation is specified in other Sections.

1. Furnish cast-in-place anchors and similar devices to other trades for installation well in advance of time needed for coordinating other work.

B. Measure each ceiling area and establish the layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and conform to the layout shown on reflected ceiling plans.

3.3 INSTALLATION

A. General: Install acoustical panel ceilings to comply with publications referenced below per manufacturer’s instructions and CISCA “Ceiling Systems Handbook.”


B. Suspend ceiling hangers from building’s structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of the supporting structure or of the ceiling suspension system.
2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.
3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
4. Secure hangers to ceiling suspension members and to supports above with a minimum of 3 tight turns. Connect hangers either directly to structures or to inserts, eye screws, or other devices that are secure, that are appropriate for substrate, and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure
and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them
to deteriorate or fail due to age, corrosion, or elevated temperatures.

6. Secure bracing wires to ceiling suspension members and to supports with a minimum of 4 tight turns. Fasten bracing wires to concrete with cast-in-place or post-installed anchors.

7. Do not support ceilings directly from permanent metal forms. Fasten hangers to cast-in-place hanger inserts, powder-actuated fasteners, or drilled-in anchors that extend through forms into concrete.

8. Do not attach hangers to steel deck tabs.

9. Do not attach hangers to steel roof deck. Attach hangers to structural members.

10. Space hangers not more than 48 inches (1200 mm) o.c. along each member supported directly from hangers, unless otherwise shown; and provide hangers not more than 8 inches (200 mm) from ends of each member.

C. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.

1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.

2. Screw attach moldings to substrate at intervals not over 16 inches (400 mm) o.c. and not more than 3 inches (75 mm) from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet (3.18 mm in 3.66 m). Miter corners accurately and connect securely.

3. Do not use exposed fasteners, including pop rivets, on moldings and trim.

D. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

E. Install acoustical panels with undamaged edges and fitted accurately into suspension system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide neat, precise fit.

1. Arrange directionally patterned acoustical panels as follows:

   a. Install panels with pattern running in one direction parallel to axis of space.

2. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension system runners and moldings.

3. For reveal-edged panels on suspension system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.

4. For reveal-edged panels on suspension system members with box-shaped flanges, install panels with reveal surfaces in firm contact with suspension system surfaces and panel faces flush with bottom face of runners.

5. Paint the cut panel edges remaining exposed after installation; match color of exposed panel surfaces using coating recommended for this purpose by acoustical panel manufacturer.

6. Install hold-down clips in areas indicated and in areas required by governing regulations, or for fire-resistance ratings; space as recommended by panel manufacturer, unless otherwise indicated or required.

7. For ceiling that are patched, use tile size, pattern, color and edge that matches
existing adjoining tiles remaining. Run pattern is same direction as existing ceiling.

3.4 CLEANING

A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension system members. Comply with manufacturer’s instructions for cleaning and touch-up of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

3.5 MEASUREMENT AND PAYMENT

A. Unit Prices

**ACOUSTICAL PANEL CEILINGS**

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>095113-1</td>
<td>Furnish and install acoustical ceiling system complete, 2’ x 2’ panel. (Type - 1)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-1A</td>
<td>Install acoustical ceiling system complete, 2’ x 2’ panel. (Type - 1)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-2</td>
<td>Furnish and install acoustical ceiling system complete, 4’ x 2’ panel. (Type -1)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-2A</td>
<td>Install acoustical ceiling system complete, 4’ x 2’ panel. (Type -1)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-3</td>
<td>Furnish and install acoustical ceiling system complete, 2’ x 2’ panel. (Type -2)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-3A</td>
<td>Install acoustical ceiling system complete, 2’ x 2’ panel.(Type -2)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-4</td>
<td>Furnish and install acoustical ceiling panels only, 2’ x 2’ panel. (Type -1)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-4A</td>
<td>Install acoustical ceiling panels only, 2’ x 2’ panel. (Type -1)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-5</td>
<td>Furnish and install acoustical ceiling panels only, 4’ x 2’ panel. (Type -1)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-5A</td>
<td>Install acoustical ceiling panels only, 4’ x 2’ panel. (Type -1)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-6</td>
<td>Furnish and install acoustical ceiling panels only, 2’ x 2’ panel. (Type -2)</td>
<td>Sq. Ft.</td>
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<tr>
<td>Code</td>
<td>Description</td>
<td>Unit</td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>095113-6A</td>
<td>Install acoustical ceiling panels only, 2’ x 2’ panel. (Type - 2)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>095113-7</td>
<td>Furnish and install 12” x 12” x 3/4” thick acoustical tile (glued)</td>
<td>Sq. Ft.</td>
</tr>
</tbody>
</table>
095113-7A Install 12” x 12” x 3/4” thick acoustical tile (glued). Sq. Ft.

095113-8 Furnish and install gypsum board ceiling on suspension system adjacent to acoustical ceiling. Sq. Ft.

095113-9 Furnish and install fascia adjacent to acoustical ceiling. Lin. Ft.

095113-10 Furnish and install soffit adjacent to acoustical ceiling. Lin. Ft.

095113-11 Furnish & install 5/8” gypsum board ceiling on suspension system 1 hr rated. Sq. Ft.

095113-12 Furnish & install 2 layers 5/8” gypsum board ceiling on suspension system 2 hr rated. Sq. Ft.

B. Installation of ceiling systems above shall include suspension system up to 2’ x 4’ to structure above. Installation includes all additional items specified to make the ceiling system complete.

C. DOHMH reserves the right to provide materials of installation purposes only as pertains to 095113-1A, 095113-2A, 095113-3A, 095113-3A, 095113-4A, 095113-5A, 095113-5A, 095113-6A, 095113-7A.

[END OF SECTION 09 51 13]
SECTION 09 63 40 – STONE FLOORING

PART 1 – GENERAL

1.1 SUMMARY

A. Work included: Provide interior stone restoration in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Rake out and regout joints in stonework.
2. Repair damaged or broken stonework by installing stone “dutchmen” matching the adjoining stone in all respects.
3. Repair damage in stonework smaller than 2” x 2” by patching with patching compound.

B. Definitions

1. As used here the term “Dutchman” refers to any new or salvaged stone fitted into an existing stone.
2. As used here “plug” refers to a circular dutchman drilled out of existing stone. For the purposes of this Specification, all “plugs” shall be considered “dutchmen.”

1.2 QUALITY ASSURANCE

A. The Contractor or subcontractor performing the Work of this Section, must during the last five (5) years prior to bid opening, as a prime contractor or subcontractor have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work in this Contract (i.e. interior work on buildings that are considered landmark, landmark quality or buildings of equivalent historical or architectural significance.)

B. All Subcontractors are bound by the same requirements as the Contractor. Subcontractors shall not begin work unless approved by the RE/PM.

C. Bidders must visit the site beforehand and make themselves thoroughly familiar with specific conditions relating to this Section.

D. The Contractor shall maintain a steady work crew consisting of qualified craftsmen and a full time foreman who speaks and reads fluent English. The Contractor shall confirm that all workmen under his direction fully understand the requirements of the job.

1.3 SUBMITTALS

A. Test Panels:

1. Prepare mock-ups of dutchmen repair.
2. Prepare mock-ups of marble patching.
3. Provide 3” x 3” x 1” hand samples of all grouting materials color matched to the materials being grouted for approval by the RE/PM. Resubmit samples until approved.

B Shop Drawings:
1. Prepare and submit shop drawings for approval. These drawings shall show all details of jointing, anchoring and other essential aspects of the work.
2. The Contractor shall be responsible for all field measurements and the preparation of drawings fully defining the conditions for the installation of all new masonry.
3. Shop drawings and setting drawings shall be based upon the Contractor’s field verification of existing conditions.

C. Stone Samples and Affidavits: The Contractor shall submit two (2) samples measuring at least 6” x 6” x 1”. Provide notarized affidavits from the supplier verifying sufficient quantities of stone on hand to complete all restoration work.

D. Product Literature: The Contractor shall submit copies of manufacturer’s latest published literature and instructions for materials specified herein for approval, and obtain approval before materials are delivered to the site. Product data shall be submitted on all materials.

1.4 JOB CONDITIONS

A. Protect, using extreme care, surrounding materials and finishes. Products and water used for cleaning of masonry may be harmful to paint finishes, plaster, metal and glass and construction backup materials to remain. Any damage to materials caused by the cleaning process is unacceptable and shall be repaired to the satisfaction of the RE/PM at no cost to the City.

B. Provide protection from water damage to building, structure, or building contents as required.

C. The Contractor shall provide water disposal and removal systems for work on the interior of the building. Test all water removal systems to assure that drains and systems are functioning properly prior to performing any cleaning operations. The Contractor shall notify the RE/PM immediately of any and all drains or systems that are found to be stopped or blocked. Contractor shall repair drains if so directed by the RE/PM. Do not begin work of this Section until the drains are in working order.

D. Provide a method to prevent solids such as masonry residue from entering the drains or drain lines. Contractor shall be responsible for cleaning out drains and drain lines that become blocked or filled by residue or other solids because of work performed under this Contract.

E. Decorative metal finishes, fixtures, hardware, plaques, statuary, and plaster paint and glazed finishes, and fabric installations and furnishes shall be protected during the course of masonry cleaning. Selected items shall be removed for storage prior to masonry cleaning.
PART 2 – PRODUCTS

2.1 MATERIALS FOR INTERIOR MASONRY RESTORATION

A. STONE

1. All Stone shall match adjacent existing Stone in color, texture, and finish. Before matching any Stone specified in this section, a 12” by 12” area of existing Stone to be matched shall be thoroughly cleaned in order to show true color and texture.

2. No Stone components shall be fabricated until color, texture and finish match has been approved by Resident Engineer.

3. Color consistency shall fall within range of samples approved by the RE/PM.

4. New Marble shall comply with ASTM C 503.


5. New Limestone shall comply with ASTM C 568.

   a. Fabrication: Fabrication of limestone shall be in compliance with recommendations of the Indiana Limestone Institute of America.

6. Finish and Surface: New Stone shall match adjacent existing Stone in finish and surface except as modified herein.

7. Stone Profile:

   a. Thickness of Stone and profile shall exactly match existing adjacent Stone units. Modifications and manufacturer’s recommendations shall be subject to approval by the RE/PM.

   b. Ends and planes shall be square, dressed uniformly, free of projections, mars, chips or depressions. Tapers as approved.

   c. Holes for anchors shall be diamond cored.

8. Joints and Beds:

   a. Joints shall be located only where shown on approved shop drawings.

   b. Mortar and grout beds shall exactly match existing sizes.

B. GROUT

1. Materials for grouting and patching shall conform to the following:

   a. White Portland Cement: Type I, ASTM C 150

   b. Portland Cement: Type I or Type II, ASTM C 150

   c. Hydrated Lime: ASTM C-207, Type S
d. Sand: Clean sharp sand free of loam, silt, soluble salts and organic matter, ASTM C 144.
e. Water shall be potable, from city mains.
f. Oxide pigments shall be stable, non-fading, and alkali resistant.
g. Acrylic admixture shall be Laticrete 4237, as manufactured by Laticrete International, Inc.

2. Grout Mixes: Prepare the following mixtures for required joints widths.
   a. For joints up to 1/8” wide: 1 part Portland cement to 1 part fine graded sand.
   b. For joints greater than 1/8” and up to 1/2” wide: 1 part Portland cement to 2 parts fine graded sand.
   c. For joints greater than 1/2” wide: 1 part Portland cement to 3 parts fine graded sand.

3. Mixing of Grout:
   a. Grout ingredients shall be measured carefully so that proportions are con-
trolled and maintained throughout all work periods.
   b. Grout shall be mixed in an approved type power operated batch mixer. Mixing time shall be such as to produce a plastic homogeneous mortar, but mixing shall not be less than five minutes, approximately two minutes of which shall be for mixing the dry materials and not less than three minutes for continuing the mixing after water has been added. A minimum amount of water shall be used to produce a workable consistency.
   c. Where grout is required in small batches of less than a cubic yard and the Resident Engineer specifically approves, grout may be mixed by hand in clean wooden or metal boxes prepared for that purpose but not on slabs, sidewalks, etc., provided the methods of mixing and transferring the mortar are approved by the RE/PM.
   d. Grout shall be placed in final position within two hours of mixing. Retempering of partially hardened material is not permitted.

C. PATCHING MATERIALS FOR STONE REPAIRS:

1. For Marble: Polyester Adhesive: 2-component Akemi Knife Grade Polyester adhesive, manufactured by Akemi Plastics, Inc., Eaton Rapids, MI, or approved equal. Tint the adhesive with Akemi Coloring Paste, using different color tints to gain the color of the existing clean marble.
2. For Limestone: Jahn Restoration M70 colored to match existing limestone, as manufactured by Cathedral Stone Company, Washington, D.C., or approved equal.

PART 3 – EXECUTION

3.1 GROUTING MARBLE

A. Grouting of Marble shall consist of removal of existing grout in Marble joints, and the insertion of new grout materials.
B. The work shall proceed from the top of the wall downward. Work shall not be considered complete until the Resident Engineer has so notified the Contractor in writing.

C. The Contractor shall protect all adjacent plaster and paint finishes, glass, paint, metals from overspray and run-off.

D. At the Contractor’s discretion, joints may be taped before grouting. After grouting operations are complete, the Contractor shall remove all traces of tape and adhesive from the stone.

3.2 SETTING STONE DUTCHMEN

A. “Thin set” mortars for typical conditions shall employ Laticrete 4237. Use “thin set” mortar when the mortar bed is less than 3/8” thick to produce an initially tacky mortar exhibiting high strength properties when set. This mortar is to be set in “bonding” joints only and not in stone course jointwork. Keep stone course joints clear for standard pointing mortar.

B. Use Laticrete 3701 for special conditions to produce high strength “thick set” mortar when rough inside or other “bonding” surfaces require mortar to fill greater than 3/8” thick voids. Stone must be temporarily held in place with nylon wedges or other means until the mortar has sufficiently set.

C. Adhesives for attaching anchors and for direct pinning:

1. All attachments shall be fastened by mechanical locking, in addition to appropriate adhesives and mortars.
2. Where permitted, anchors may be held in place with high modulus, high strength, moisture insensitive, epoxy adhesive.

D. General Method for Dutchman Repair of Stone:

1. All replacement stone for the restoration of all defects indicated on the contract drawings, shall be salvaged stone wherever possible. These repairs involving salvaged and/or new material (referred to as “Dutchmen”) shall vary in overall size, but shall not be less than 2” thick under any circumstance. Salvaged and/or new stone shall be carefully cut and selected to be sound and in good condition, free of defects, cracks, breaks, or other observable defects.
2. Dutchman shall be fastened with stainless steel wire, pins, and anchors, as necessary, designed to facilitate mechanical locking and to prevent possible slippage of the stone. The metal fasteners shall be positioned without weakening the stone in any way.
3. Cement mortar containing “Laticrete” latex emulsion additives shall be used for all setting purposes. All insertions shall be fully dressed on all sides, and carefully fitted to the patch opening, with an allowance of not more than 1/8” buttered joint between front edges. Undercutting shall not weaken the stone in any way. The joints between new and old work shall be finished to match the color and texture of the stone.
4. The surface of the new stone shall be dressed to resemble the appearance, tooling and texture of the adjoining stone by an approved method. All surface dressing of new work shall be done before the stone is set.

5. Protect the adjacent materials during the process of stone restoration. Wipe and rinse any mortar accidentally splashed onto adjacent surfaces immediately. Clean uncured epoxy adhesive immediately with acetone.

   a. Any damage to stone or materials to remain resulting from epoxy and mortar spills shall be restored to the full satisfaction of the Resident Engineers at no additional cost to the City.

6. The face of all new stone dutchmen shall be cleaned following the completion of all setting work. Clean mortar splashes, smears, etc. with scrapers, or by vigorously brushing with stiff natural bristle brushes and potable water. If necessary, clean white sand may be added to the water. Cleaning shall start at the top of the structure and proceed downward.

3.3 MARBLE SURFACE REPAIR

   A. Remove deteriorated stone veins with hand tools. Clean out all the dust and particles and prepare the surfaces in accordance with the recommendations of the patching material manufacturer.

   B. Mix a range of color samples to match the variegated colors of the marble to be patched. Submit the samples to the RE/PM for approval. Do not proceed with the patching until receiving written approval for the color samples.

   C. Mix the patching material and apply it in accordance with the written recommendations of the manufacturer.

3.4 MEASUREMENT AND PAYMENT

   A. Unit Price

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>09 63 40-1</td>
<td>Furnish and install stone dutchmen to match existing.</td>
<td>Per cu. in.</td>
</tr>
</tbody>
</table>

[END OF SECTION 09 63 40]
SECTION 09 65 19 – RESILIENT TILE FLOORING

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide resilient floor tile in accordance with the Contract Documents. The Work of this Section includes the furnishing of all labor and materials, equipment and services necessary to install and/or complete flooring work and related work as shown on the drawings supplied during construction and specified therein. The Work of this Section shall include, but not limited to, the following:

1. Resilient floor tile, base and accessories.
2. Sheet linoleum flooring, base and accessories.
3. Resilient Terrazzo Floor Tile

1.2 QUALITY ASSURANCE

A. References: Applicable trade association names and titles of general standards are referred to by accepted abbreviations.

B. Manufacturer: Where possible, provide resilient flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives, sealants, and leveling compounds.

C. Fire Test Performance: Unless otherwise indicated, provide resilient flooring having the following classifications or properties when tested in accordance with the standard fire tests referenced below:

1. Critical Radiant Flux (CRF): Not less than 0.45 watts per sq. cm. per ASTM E 648.
2. Flame Spread: Not more than 75 as per ASTM E 84.
3. Smoke Developed: Not more than 450 as per ASTM E 84.
4. Smoke Density: Not more than 450 as per ASTM E 662.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer’s technical data and installation instructions for each type of resilient flooring and accessory.

B. Samples: Submit samples of each color and pattern of resilient flooring indicating full range of color and pattern. Provide full-size tile units and 12” long sections of flooring accessories for approval by Architect and/or RE/PM.

C. Certification for Fire Test Performance: Submit manufacturer’s certification that resilient flooring complies with required fire test performance and has been tested and meets indicated requirements.

D. Maintenance Instructions: Submit manufacturer’s recommended maintenance practices
for resilient flooring.

E. Replacement Material: After completion of work, deliver to project site replacement materials from same manufactured lot as materials installed, not less than one box for each 50 boxes or fraction thereof, for each color installed.

1.4 JOB CONDITIONS

A. Maintain temperature above 65 deg. F. in spaces to receive resilient flooring for at least 48 hours before, after and during installation. Store materials in spaces where they will be installed for at least 48 hours before beginning installation. Subsequently, maintain temperature above 55 deg. F in areas where work is completed.

B. Install resilient flooring and accessories after other finishing operations, including painting, have been completed. Do not install resilient flooring over concrete slabs until the latter have been cured and are sufficiently dry to achieve bond with adhesive as determined by manufacturer’s recommended bond and moisture test.

1.5 GUARANTEE

A. In accordance with Article on “GUARANTEES” of the General Conditions, the Contractor hereby guarantees that all work specified in this Section will be free from defects of materials and workmanship for a period of two (2) years.

B. Furnish a guarantee in the form specified in Article on “GUARANTEES” of the General Conditions.

C. The following types of failure, that are not due to abuse, will be adjudged as defective work:

1. Damaged, loose, broken or curled tiles or base.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Colors and Patterns: As selected by Architect or RE/PM from manufacturer’s standards. B.

Vinyl Composition Floor Tile: FS SS-T-312B, type IV; 12” x 12” unless otherwise indicated; Composition 1 - asbestos-free, gage: 1/8”.

1. Selected Product: Equal to Armstrong Stonetex Excelon, as manufactured by Armstrong World Industries.

2. The tiles shall be free from defects affecting its serviceability or appearance and the surface shall have a smooth calendared finish free from sand, grid or lumps. All tile shall be given a wax finish at the factory.

3. The tiles shall have straight edges and square corners.

4. All materials shall be delivered in the manufacturer’s sealed package with the labels intact and the seal unbroken.

5. The tile installed shall match in every aspect the approved samples.
C. Linoleum Sheet Flooring and Base: FS LLL-F-1238A; homogeneous floor covering composed of linseed oil, cork, wood floor, resin binders, dry pigments containing NO asbestos, mixed and calendered onto jute backing; 79” wide sheet, 3.2 mm thick, with bonded jute backing.

1. Selected Product: Equal to Forbo Industries, Marmolium Dual, Thickness: 3.2 mm thick.

D. Wall Base: Provide standard top-set cove base complying with FS SS-W-40; Type II, with matching end stops and preformed or molded corner units, and as follows:

1. Height: 4” or 6”.
2. Thickness: 1/8”.

E. Resilient Edge Strips: 1/8” thick, homogeneous vinyl or rubber composition, tapered edge, color as selected from standard colors available; not less than 1” wide.

F. Adhesives (Cements): Waterproof, stabilized type as recommended by flooring manufacturer to suit material and substrate conditions.

G. Concrete Slab Primer: Non-staining type as recommended by flooring manufacturer.

H. Leveling Compound: Latex type as recommended by flooring manufacturer.

I. Resilient Terrazzo Floor Tile:

   a. Resilient Terrazzo Floor Tile: Marble or granite chips embedded in flexible, thermoset-polyester-resin matrix; electrically nonconductive and chemical, oil, and corrosion resistive, with smooth wearing surface and manufacturer's standard factory-applied, protective urethane coating.

      i. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

         1. Fritz Industries;
         2. Or approved Equal.

   b. Thickness: 1/8 inch (3.0 mm) 3/16 inch (4.8 mm).

   c. Size: 12 by 12 inches (305 by 305 mm).

   d. Performance Characteristics:

      i. Compressive Strength: 2900 to 5000 psi (20 to 34.5 MPa), ASTM C 109/C 109M or ASTM D 695.
      ii. Abrasion Resistance: Maximum 0.0196 cubic centimeters volume loss, ASTM F 510, Taber abrader, S-39 wheels, at 500 cycles with 1000-gram load.
iii. Static Load Limit: 0.0007-inch (0.0177-mm) maximum indentation, ASTM F 970 at 125 lb (57 kg).
iv. Resin Matrix Hardness: Not less than 78, as measured using Shore, Type D durometer per ASTM D 2240.

e. Colors and Patterns: Match Architect's sample As selected by Architect from full range of industry colors.

f. Terrazzo Floor Tile Adhesives: As per by manufacturer's specifications

PART 3 – EXECUTION

3.1 PREPARATION

A. Broom clean or vacuum surfaces to be covered, and inspect subfloor. Start of flooring installation indicates acceptance of subfloor conditions and full responsibility for completed work.

B. Use leveling compound as recommended by flooring manufacturer for filling small cracks and depressions in subfloors.

C. Perform bond and moisture tests on concrete slabs to determine that concrete surface are sufficiently cured, dried and ready to receive flooring.

D. Apply concrete slab primer, if recommended by flooring manufacturer, prior to application of adhesive. Apply in compliance with manufacturer’s directions. Inspect substrate and make other required corrections prior to staring installation.

3.2 INSTALLATION, GENERAL

A. Where movable partitions are shown, install resilient flooring before partitions are erected.

B. Install flooring in strict compliance with manufacturer’s recommendations. Extend flooring into toe spaces, door reveals and into closets and similar openings.

C. Maintain reference markers, holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other non-permanent marking device.

D. Install flooring on recessed covers within finished floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on these items. Tightly cement edges to perimeter of floor around such items.

1. Unless otherwise directed lay out tiles in basket weave pattern with grain direction alternating between reversed and adjacent tiles.

E. Tightly cement flooring to subbase without open cracks or other surface imperfections. Hand roll flooring at perimeter of each covered area to assure adhesion.
F. Prior to installation, review patterns, direction, starting points, borders and other layout conditions with the RE/PM.

3.3 FLOORS

A. Unless otherwise directed, lay tile from center marks so those tiles at opposite edges of room are of equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Lay tile square to room axis.

B. Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged if so numbered. Cut tile neatly around all fixtures. Broken, cracked, chipped, or deformed tiles are not acceptable. Lay tile with grain in one direction or as directed by the RE/PM.

C. Adhere tile flooring to substrates using full spread of adhesive applied in compliance with flooring manufacturer’s directions.

3.4 ACCESSORIES

A. Apply wall base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is required. Install base in lengths as long as practicable, with molded corners. Tightly bond base to substrate at horizontal and vertical surfaces.

B. On masonry surfaces, or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer’s recommended adhesive filler material.

C. Place resilient edge strips tightly butted to flooring and secure with adhesive. Install edging strips at edges of flooring which would otherwise be exposed.

D. Provide metal or vinyl edge moulding as binder bar, stair nosing, reducer strips, etc. as directed. Approval by the Architect or RE/PM for the edge moulding is required before installation.

3.5 CLEANING AND PROTECTION

A. Remove any excess adhesive or other surface blemishes, using neutral type cleaners as recommended by flooring manufacturer. Protect installed flooring with heavy Kraft paper or other covering.

B. After completion of project and just prior to final inspection of work, thoroughly clean floors and accessories.

C. Apply polish and buff, with type of polish, number of coats, and buffing procedures in compliance with flooring manufacturer’s instructions.

3.6 MEASUREMENT AND PAYMENT

A. Unit Prices:
## RESILIENT TILE FLOORING

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>096519-1</td>
<td>Furnish and install resilient floor tile (including resilient base).</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>096519-1A</td>
<td>Install resilient floor tile (including resilient base).</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>096519-2</td>
<td>Furnish and install resilient base only (4” or 6”).</td>
<td>Lin. Ft.</td>
</tr>
<tr>
<td>096519-2A</td>
<td>Install resilient base only (4” or 6”).</td>
<td>Lin. Ft.</td>
</tr>
<tr>
<td>096519-3</td>
<td>Furnish and install resilient flexible terrazzo marble floor tile including</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td></td>
<td>sealing all exposed perimeters with sealant.</td>
<td></td>
</tr>
<tr>
<td>096519-3A</td>
<td>Install resilient flexible terrazzo marble floor tile including sealing</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td></td>
<td>all exposed perimeters with sealant.</td>
<td></td>
</tr>
<tr>
<td>096519-4</td>
<td>Furnish and install sheet flooring (including resilient base)</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>096519-4A</td>
<td>Install sheet flooring (including resilient base).</td>
<td>Sq. Ft.</td>
</tr>
<tr>
<td>096519-5</td>
<td>Cut and patch resilient flooring.</td>
<td>Sq. Ft.</td>
</tr>
</tbody>
</table>

**B.** For resilient floor tile installations, the surface preparation, resilient base and accessories shall be included in the cost of resilient tile work and deemed included in the Unit Price.

**C.** DOHHM reserves the right to provide materials for installation purposes only as pertains to 096519-1A, 096519-2A, 096519-3A, 096519-4A.

[END OF SECTION 09 65 19]
SECTION 09 68 16 – CARPETING

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide carpet in accordance with the Contract Documents. The Work of this Section includes the furnishing of all labor and materials necessary and required for the installation of carpeting on the floor as indicated on the drawing furnished during construction and specified herein. The Work of this Section shall include, but not be limited to, the following:

1. Carpet, carpet cushion and carpet moulding.
2. Carpet tile and carpet moulding.

B. Related Sections: The following Sections contain requirements that relate to this Section:

(1) Division 2 Section for removing existing flooring.
(2) Division 3 Sections for curing compounds and other concrete treatments compatibility with carpet and carpet cushion adhesives.
(3) Division 9 Section “Resilient Tile Flooring” for materials and installation.

1.2 SUBMITTALS

A. Product Data for each type of carpet material, carpet cushion, and installation accessory specified. Submit manufacturer’s printed data on physical characteristics, durability, fade resistance, and fire-test-response characteristics. Submit methods of installation for each type of substrate.

B. Shop Drawings showing columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet. Indicate the following:

1. Carpet type, color, and dye lot.
2. Locations where dye lot changes occur.
3. Seam locations, types, and methods.
4. Type of subfloor.
5. Type of installation.
6. Pattern type, repeat size, location, direction, and starting point.
7. Pile direction.
8. Type, color, and location of insets and borders.
9. Type of cushion.
10. Type, color, and location of edge, transition, and other accessory strips.
11. Transition details to other flooring materials.

C. Samples for initial selection in the form of manufacturer’s color charts or Samples of materials showing the full range of colors, textures, and patterns available for each type of carpet indicated.

D. Samples for verification of the following products, in manufacturer’s standard sizes,
showing the full range of color, texture, and pattern variations expected. Prepare Samples from the same material to be used for the Work. Label each sample with manufacturer’s name, material type, color, pattern, and designation indicated on Drawings and carpet schedule. Submit the following:

1. 12-inch- (300-mm-) square Samples of each type of carpet material required.
2. 12-inch (300-mm) Samples of each type of exposed edge stripping and accessory item.
3. 6-inch (150-mm) Samples of each type of carpet cushion.

E. Schedule of carpet using same room designations indicated on Drawings.

F. Maintenance data for carpet and cushion. Include the following:

1. Methods for maintaining carpet and carpet cushion, including manufacturer’s recommended frequency for maintaining carpet.
2. Precautions for cleaning materials and methods that could be detrimental to finishes and performance. Include cleaning and stain-removal products and procedures.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who is certified by the Floor Covering Installation Board (FCIB) or who can demonstrate compliance with FCIB certification program requirements.

B. Single-Source Responsibility: Obtain each type of carpet from one source and by a single manufacturer. Each roll of carpet and/or box of carpet tile shall be from the same dye lot.

C. Carpet Fire-Test-Response Characteristics: Provide carpet with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify carpet with appropriate markings of applicable testing and inspecting agency.

2. Flame Spread: Class 1, 25 or less per ASTM E 84.
3. Smoke Developed: 450 or less per ASTM E 84.

D. Carpet Cushion Fire-Test-Response Characteristics: Provide carpet cushion with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify carpet cushion with appropriate markings of applicable testing and inspecting agency.

2. Flame Spread: Class 1, 25 or less per ASTM E 84.
3. Smoke Developed: 450 or less per ASTM E 84.
E. Carpet shall be soil resistant, dense and durable to give optimum performance in highly trafficked areas. Carpet shall be static resistant and shall comprise materials for superior stability.

F. The Contractor shall adhere to NYC Administrative Code Title 6, Chapter 3, Subchapter 5, §6-313 “Volatile organic compounds and other airborne hazards” for all materials used in conjunction with Section 3.7 of 096816 Carpeting.

1.4 DELIVERY, STORAGE, AND HANDLING

A. General: Comply with the Carpet and Rug Institute’s CRI 104, Section 5: “Storage and Handling.”

B. Deliver materials to Project site in original factory wrappings and containers, labeled with identification of manufacturer, brand name, and lot number.

C. Store materials on-site in original undamaged packages, inside well-ventilated area protected from weather, moisture, soilage, extreme temperatures, and humidity. Lay flat, with continuous blocking off ground.

1.5 PROJECT CONDITIONS

A. General: Comply with CRI 104, Section 6: “Site Conditions.”

B. Space Enclosure and Environmental Limitations: Do not install carpet until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are and will be continuously maintained at values near those indicated for final occupancy.

C. Subfloor Moisture Conditions: Moisture emission rate of not more than 3 lb/1000 sq. ft./24 hours (14.6 kg/1000 sq. m/24 hours) when tested by calcium chloride moisture test in compliance with CRI 104, 6.2.1, with subfloor temperatures not less than 55 deg F (12.7 deg C).

D. Subfloor Alkalinity Conditions: A pH range of 5 to 9 when subfloor is wetted with potable water and pHdrion paper is applied.

1.6 GUARANTEES

A. General Guarantee: The special guarantee specified in this Article shall not deprive DOHMH of other rights DOHMH may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other guarantees made by the Contractor under requirements of the Contract Documents.

B. Special Carpet Guarantee: Submit a written guarantee executed by carpet manufacturer and Installer agreeing to repair or replace carpet that does not meet requirements or that fails in materials or workmanship within the specified guarantee period. Failures include, but are not limited to, more than 10 percent loss of face fiber, edge raveling, snags, runs, and delamination. The Guarantee Period is five (5) years, and shall commence upon final acceptance of the Work.
C. Special Carpet Cushion Guarantee: Submit a written guarantee executed by carpet cushion manufacturer and Installer agreeing to repair or replace carpet cushion that does not meet requirements or that fails in materials or workmanship within the specified guarantee period. Failures include, but are not limited to, permanent indentation or compression. The Guarantee Period is five (5) years, and shall commence upon final acceptance of the Work.

D. The contractor shall guarantee in writing to relay or restretch any carpet that does not provide an attractive, wrinkle-free appearance and to correct any condition due to faulty installation which may appear within one year of acceptance of the completed installation including loss of adhesive to the subfloor, frayed open or raveled seams.

1.7 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels clearly describing contents.

1. Carpet: Before installation begins, furnish quantity of full-width units equal to 5 percent of amount installed.

2. Carpet Tile: Before installation begins, furnish quantity of full-size units equal to 5 percent of the amount installed.

B. All carpet remnants 1 square yard or larger should be left at the job site or packaged in appropriate wrapping, labeled and delivered to the building custodian.

PART 2 – PRODUCTS

2.1 CARPET

A. Type Face Yarn
   100% “Commercial on” Soil-hiding Nylon “3700”

Yarn Size
   3.55/2 Heat-Set

Ply Twist
   6.0 TPI as tested under ASTM D 1222-82

Construction
   Dense Cut Pile

Special Treatments
   “Scotch Guard”

Pile Height
   .375 Inch

Stitches Per Inch
   12

Tufts Per Sq. In.
   120

Tufts Per Sq. Yd.
   155,520

Gauge
   1/10 (270 Pitch)

Static Resistance
   Below 3.5 Kilovolts as tested under SSTCC-134

Density Factor
   4,800

Weight Density Factor
   240,000

Pile Weight
   40 oz./Sq. Yd. (1695 Gms./Sq.M.)

Width
   12’ (3.66 M)

Primary Backing
   Polypropylene

Secondary backing
   Jute or Synthetic (Mill Option Only)

Total Weight (Jute)
   93.3 oz./Sq. Yd. (3,164 Grms./Sq.M.)

Total Width (Synthetic)
   91.0 oz./Sq. Yd. (3,086 Grms./Sq.M.)
B. Carpet shall be factory treated with a product such as “Scotch Guard” as manufactured by 3M Company, or approved equal and shall be so stated on the Manufacturer’s warranty card.

2.2 CARPET CUSHION
A. Available Products: 40 oz. padding as selected by the RE/PM.

2.3 CARPET TILE
A. Manufacturing Specifications - Interface Flooring Systems, Inc. or approved equal.

2.4 INSTALLATION ACCESSORIES
A. Concrete-Slab Primer: Nonstaining, VOC compliant type as recommended by the following:
   1. Carpet manufacturer.
   2. Carpet cushion manufacturer.
   3. “Floorstone,” or approved equal.
B. Trowelable Underlayments and Patching Compounds: VOC compliant as recommended by the following:
   1. Carpet manufacturer.
   2. Carpet cushion manufacturer.
C. Adhesives: Water-resistant, mildew-resistant, VOC compliant, nonstaining type to suit products and subfloor conditions indicated and to comply with flammability requirements for installed carpet as recommended by the following:
   1. Carpet manufacturer.
   2. Carpet cushion manufacturer.
D. Tackless Carpet Stripping: Water-resistant plywood in strips as required to match cushion thickness and in compliance with CRI 104, 11.3.
E. Seaming Cement: Hot-melt adhesive tape or similar product recommended by carpet manufacturer for taping seams and butting cut edges at backing to form secure seams and to prevent pile loss at seams.

PART 3–EXECUTION

3.1 EXAMINATION
A. Examine subfloors and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting performance of carpet. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Verify that subfloors and conditions are satisfactory for carpet installation and comply with requirements specified in this Section.

C. The Contractor shall notify the RE/PM in writing of any conditions which will prevent him from producing satisfactory finish work.

3.2 PREPARATION

A. General: Comply with carpet manufacturer’s installation recommendations to prepare substrates indicated to receive carpet installation.

B. Level subfloor within 1/4 inch in 10 feet (6 mm in 3 m), noncumulative, in all directions. Sand or grind protrusions, bumps, and ridges. Patch and repair cracks and rough areas. Fill depressions.
   1. Use leveling and patching compounds to fill cracks, holes, and depressions in subfloor as required.

C. Remove subfloor coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone.

D. Broom or vacuum clean subfloors to be covered with carpet. Following cleaning, examine subfloors for moisture, alkaline salts, carbonation, or dust.

E. Concrete-Subfloor Preparation: Apply concrete-slab primer, according to manufacturer’s directions.

F. Wood-Subfloor Preparation: Apply wood-floor sealer, according to manufacturer’s directions.

G. Resilient-Flooring Substrate Preparation: Replace missing pieces of existing resilient flooring or patch to level. Cut out peaked seams and fill with latex underlayment as recommended by manufacturer. Repair depressions with filler material.

H. The Contractor shall remove all furniture, equipment and moveable obstructions to allow installation of wall to wall carpeting and place back in original location and position upon completion of work.

3.3 INSTALLATION

A. Direct Glue-Down Installation: Comply with CRI 104, Section 8: “Direct Glue-Down.”

B. Carpet with Attached-Cushion Installation: Comply with CRI 104, Section 10: “Attached Cushion.”
C. Stretch-in Installation: Comply with CRI 104, Section 11: “Stretch-in Utilizing Tackless Strip.”

D. Stair Installation: Comply with CRI 104, Section 12: “Carpet on Stairs.”

E. Comply with carpet manufacturer’s recommendations for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams under door in closed position. Do not bridge building expansion joints with continuous carpet.

F. Where demountable partitions or other items are indicated for installation on top of finished carpet floor, install carpet before installation of these items.

G. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet manufacturer. Coordinate installation with installation of wall base to establish sequences and details of overlapping work.

H. Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.

I. Unless otherwise directed, install pattern parallel to walls and borders.

J. Install carpet cushion seams at 90-degree angle with carpet seams.

K. The carpet shall be installed by direct glue down, carpet tiles installed on vinyloc as specified or as directed by the Architect or RE/PM based upon the condition of the existing floor.

L. Carpet mouldings or metal binder bars shall be installed at all areas where floor covering material changes or a carpet edge does not abut a vertical surface. Open doorways to be finished with anodized tap down metal.

M. Carpets shall be installed wall to wall using continuous lengths and as broad widths as possible. Cut edges shall be true and appropriately treated to form nonraveling joints where exposed. Carpet shall be installed in accordance with Carpet Manufacturer’s recommendations for seaming techniques and seaming cement where required.

N. Seams, if absolutely necessary, shall be as few as possible and as nearly invisible as possible. Seaming diagram showing location of all seams shall be submitted for approval before installation is started.

O. Doors must be undercut where required to prevent abrasion of newly installed carpet.

P. The Contractor shall neatly cut new wall to wall carpeting for any electrical and/or telephone floor system.

Q. Installed carpeting shall be properly stretched and upon completion shall show no signs of bilges, spots, dirt, soiling, tears, frays or pulls.
R. All expansion joints, cracks, gaps and indents shall be filled with a quality floor patching compound on latex base filler. All high spots or ridges shall be leveled by sanding. All low or shallow places shall be filled or built up with latex base underlayment.

S. All edges cut for seaming must be treated with a seam sealer. Any excess sealer getting to the face of the pile should be removed with the solvent recommended for that purpose.

T. All carpet adhered to the floor with adhesive should have 100 percent contact with the adhesive.

3.4 CARPET MOULDING INSTALLATION

A. The edges of carpet ending at doorways or connecting with resilient or hard surface flooring should be anchored with metal binders (“Z” bars).

B. Provide metal or vinyl edge moulding as binder bar, stair nosing, reducer strips, etc. as needed with the Architect’s approval.

3.5 CLEANING

A. Perform the following operations immediately after completing installation.

1. Remove visible adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet manufacturer.
2. Remove protruding yarns from carpet surface.
4. After completion of the installation, all dirt, carpet scraps, packaging and rubbish shall be removed.
5. Soiled spots will be removed with Manufacturer’s recommended spot remover.
6. Excessive adhesive on carpet may be removed with sharp scissors.
7. Any damaged carpet caused during clean up will be replaced by the Contractor at no additional cost.

3.6 PROTECTION

A. General: Comply with CRI 104, Section 15: “Protection of Indoor Installation.”

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure carpet is without damage or deterioration at the time of Substantial Completion.

3.7 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>096816-1</td>
<td>Furnish and install carpet with padding.</td>
<td>Sq. Yd.</td>
</tr>
</tbody>
</table>
096816-1A  Install carpet with padding.  

Sq. Yd.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>096816-2</td>
<td>Furnish and install carpet without padding</td>
<td>Sq. Yd.</td>
</tr>
<tr>
<td>096816-2A</td>
<td>Install carpet without padding.</td>
<td>Sq. Yd.</td>
</tr>
<tr>
<td>096816-3</td>
<td>Furnish and install carpet tile.</td>
<td>Sq. Yd.</td>
</tr>
<tr>
<td>096816-3A</td>
<td>Install carpet tile.</td>
<td>Sq. Yd.</td>
</tr>
</tbody>
</table>

B. For carpet and/or carpet tile installations, the surface preparation of the floors, carpet mouldings and/or metal binder bars shall be included in the cost of carpet work.

C. DOHMH reserves the right to provide materials for installation purposes only as pertains to 096816-1A, 096816-2A, 096816-3A.

[END OF SECTION 09 68 16]
SECTION 09 75 00 - STONE FACING

PART 1 - GENERAL

1.1 SUMMARY
a. This Section includes the following interior applications of dimension stone:
   1) Wall paneling.
   2) Wainscot paneling.
   3) Column facing.
   4) Base.
   5) Trim.

b. Related Sections include the following:
   1) Division 03 Section "Cast-in-Place Concrete" for installing concrete inserts for anchoring interior stone facing.
   2) Division 04 Section "Unit Masonry" for installing masonry inserts for anchoring interior stone facing.
   3) Division 07 Section "Joint Sealants" for sealing expansion joints in interior stone facing.
   4) Division 09 Section "Stone Flooring" for stone flooring.

1.2 PERFORMANCE REQUIREMENTS
a. General: Design stone anchors and anchoring systems according to ASTM C 1242.

b. Seismic Performance: Provide interior stone facing system capable of withstanding the effects of earthquake motions determined according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures"

   1) Seismic Design Criteria: seismic coefficient

1.3 ACTION SUBMITTALS
a. Product Data: For the following:

   1) Stone installation materials and other manufactured products.

b. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

   1) For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
2) Include large-scale shaded drawings of decorative surfaces and inscriptions.

c. Samples for Initial Selection: For joint materials involving color selection.

d. Samples for Verification:

1) For each stone type indicated, in sets of Samples not less than 12 inches (300 mm) square. Include three or more Samples in each set and show the full range of variations in appearance characteristics expected in completed Work. Samples will establish the standard by which stone will be judged.

2) For each color of grout, pointing mortar and sealant required.

3) For carving and inscriptions.

1.4 INFORMATIONAL SUBMITTALS

a. Qualification Data: For Installer, fabricator.

b. Sealant Compatibility Test Report: From sealant manufacturer, complying with requirements in Division 07 Section "Joint Sealants" and indicating that sealants will not stain or damage stone.

1.5 CLOSEOUT SUBMITTALS

a. Maintenance Data: For interior stone facing to include in maintenance manuals. Include Product Data for stone-care products used or recommended by Installer and names, addresses, and telephone numbers of local sources for products.

1.6 QUALITY ASSURANCE

a. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate interior stone facing similar in scope, materials and extent to that indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

b. Installer Qualifications: Fabricator of interior stone facing.

c. Installer Qualifications: An installer who employs experienced stone setters who are skilled in installing interior stone facing similar in material, design, and extent to that indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

1) Installer's responsibilities include fabricating and installing interior stone facing, including anchoring system, and providing professional engineering services needed to assume engineering responsibility.

2) Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
d. Source Limitations for Stone: Obtain each variety of stone, regardless of finish, from a single quarry, whether specified in this Section or in another Section, with resources to provide materials of consistent quality in appearance and physical properties.

1) For stone types that include same list of varieties and sources, provide same variety from same source for each.
2) Make quarried blocks available for Architect to examine for appearance characteristics.
3) Make stone slabs available for Architect to examine for appearance characteristics.
   a) Architect will select aesthetically acceptable slabs and will indicate aesthetically unacceptable portions of slabs.
   b) Segregate slabs selected for use on Project and mark backs indicating approval.
   c) Mark and photograph aesthetically unacceptable portions of slabs as directed by Architect.

e. Source Limitations for Other Materials: Obtain each type of grout, stone accessory, sealant, and other material through one source from a single manufacturer.

f. Mockups: Build mockups to demonstrate aesthetic effects and set quality standards for materials and execution.

1) Build mockup of typical wall area as shown on Drawings.
2) Build mockups for the following kinds of interior stone facing:
   a) Typical interior stone wall paneling, about 72 inches (1800 mm) long by 96 inches (2400 mm) high.
   b) Typical interior stone wainscot paneling with wainscot cap, about 72 inches (1800 mm) long by full wainscot height.
   c) Stone base, about 72 inches (1800 mm) long.
   d) Typical column facing, one complete column.
   e) Grouting or pointing of joints.

3) Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved by Architect in writing.
4) Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

a. Lift stone with wide-belt slings; do not use wire rope or ropes that might cause staining. Move stone, if required, using dollies with cushioned wood supports.

b. Store stone on wood A-frames or pallets with nonstaining separators and nonstaining, waterproof covers. Ventilate under covers to prevent condensation.
c. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

1.8 PROJECT CONDITIONS

a. Maintain air and material temperatures to comply with requirements of installation material manufacturers, but not less than 50 deg F (10 deg C) during installation and for 7 days after completion.

b. Field Measurements: Verify dimensions of construction to receive interior stone facing by field measurements before fabrication and indicate measurements on Shop Drawings.

1) Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabrication without field measurements. Coordinate construction to ensure that actual dimensions correspond to established dimensions.

1.9 COORDINATION

a. Coordinate installation of inserts that are to be embedded in concrete or masonry and similar items to be used by interior stone facing Installer for anchoring and supporting interior stone facing. Furnish setting drawings, templates, and directions for installing such items and deliver to Project site in time for installation.

b. Time delivery and installation of interior stone facing to avoid extended on-site storage and to coordinate with work adjacent to interior stone facing.

PART 2 – PRODUCTS

2.1 STONE

a. Varieties and Sources: Subject to compliance with requirements, provide stone of varieties and from sources complying with Division 04.

2.2 GRANITE

a. Granite: Comply with ASTM C 615.

b. Description: Uniform, medium-grained, as per specification.

c. Available Varieties and Sources: Subject to compliance with requirements, stone varieties that may be incorporated into the Work include, but are not limited to, the following:

d. Variety and Source: Subject to compliance with requirements, provide the following:
1) as per approved producers, distributors or importers

2.3 Cut: Vein or Fleuri cut as indicated.
   1) Orientation of Veining As indicated.
      a. Cut stone from one block or contiguous, matched blocks in which natural markings occur.
      b. Finish As indicated.
      c. Match Architect’s samples for color, finish, and other stone characteristics relating to aesthetic effects.

2.4 MARBLE
   b. Description: Uniform, fine- to medium-grained, white stone with only slight veining.
   c. Available Varieties and Sources: Subject to compliance with requirements, stone varieties that may be incorporated into the Work include, but are not limited to, the following:
      d. Variety and Source: Subject to compliance with requirements, provide the following:
         1) as per approved producers, distributors or importers
      e. Cut: Vein or Fleuri cut as indicated.
         1) Orientation of Veining: As indicated.
      f. Cut stone from one block or contiguous, matched blocks in which natural markings occur.
      g. Finish: As indicated.
      h. Match Architect’s samples for color, finish, and other stone characteristics relating to aesthetic effects.

2.5 SETTING MATERIALS
   a. Molding Plaster: ASTM C 59/C 59M.
   b. Portland Cement: ASTM C 150, Type I or II.
      1) Low-Alkali Cement: Not more than 0.60 percent total alkali when tested according to ASTM C 114.
   c. Hydrated Lime: ASTM C 207, Type S.
d. Aggregate: ASTM C 144.

e. Water: Potable.

f. Adhesives, General: Use only adhesives formulated for stone and ceramic tile and recommended by their manufacturer for the application indicated.

g. Organic Adhesive: ANSI A136.1, Type I, with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24), that complies 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.”

1) Available Manufacturers: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

2) Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a) Boiardi Products Corporation.
   b) Bostik Findley Inc.
   c) C-Cure.
   d) Custom Building Products.
   e) DAP Inc.
   f) Laticrete International, Inc.
   g) MAPEI Corp.
   h) TEC Incorporated; H. B. Fuller Company.
   i) Or approved equal.

h. Water-Cleanable Epoxy Adhesive: ANSI A118.3., with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24), that complies 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.”

1) Available Manufacturers: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

2) Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a) Bonsal, W. R. Company.
   b) Bonstone Materials Corporation.
   c) C-Cure.
   d) Custom Building Products.
   e) Laticrete International, Inc.
   f) MAPEI Corp.
   g) Summitville Tiles, Inc.
   h) Or approved equal.

i. Stone Adhesive: 2-part, epoxy-resin or polyester-resin stone adhesive with an initial set time of not more than 2 hours at 70 deg F (21 deg C), and with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA
Method 24), that complies 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.”

1) Color: Match stone.
2) Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
3) Products: Subject to compliance with requirements, provide one of the following:

   a) Epoxy Adhesive: Akemi North America; Akepox.
   c) Epoxy Adhesive: Bonstone Materials Corporation; Touchstone Last Patch.
   d) Epoxy Adhesive: Bonstone Materials Corporation; Touchstone Ratio Pac Clear Gel Epoxy.
   e) Epoxy Adhesive: or approved equal.
   f) Polyester Adhesive: Akemi North America; Platinum Clear Polyester Adhesive.
   h) Polyester Adhesive: Bonstone Materials Corporation; Gripstone L-200KG.
   i) Polyester Adhesive: or approved equal.

2.6 GROUT

   a. Grout Colors: As selected by Architect from manufacturer’s full range.
   b. Sand-Portland Cement Grout: ANSI A108.10, composed of white or gray cement and white or colored aggregate as required to produce required color.
   e. Polymer-Modified Tile Grout: ANSI A118.7.

   1) Available Manufacturers: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
   2) Manufacturers: Subject to compliance with requirements, provide products by one of the following:

      a) Boiardi Products Corporation.
      b) Bonsal, W. R. Company.
      c) Bostik Findley Inc.
      d) C-Cure.
      e) Custom Building Products.
      f) DAP Inc.
      g) Laticrete International, Inc.
      h) MAPEI Corp.
      i) Summitville Tiles, Inc.
j) TEC Incorporated; H. B. Fuller Company.
k) Or approved equal.

3) Polymer Type: Ethylene vinyl acetate, in dry, redispersible form, prepackaged with other dry ingredients.
4) Polymer Type: Acrylic resin or styrene-butadiene rubber in liquid-latex form for addition to prepackaged dry-grout mix.
5) Polymer Type: Either ethylene vinyl acetate, in dry, redispersible form, prepackaged with other dry ingredients, or acrylic resin or styrene-butadiene rubber in liquid-latex form for addition to prepackaged dry-grout mix.
6) Grout Type: Unsanded.

   1) Available Manufacturers: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
   2) Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a) Boiardi Products Corporation.
      b) Bonsal, W. R. Company.
      c) Bostik Findley Inc.
      d) C-Cure.
      e) Custom Building Products.
      f) Laticrete International, Inc.
      g) MAPEI Corp.
      h) Summitville Tiles, Inc.
      i) TEC Incorporated; H. B. Fuller Company.
      j) Or approved equal.

2.7 POINTING MORTAR MATERIALS

a. Portland Cement: ASTM C 150, Type I or II. Provide natural color or white cement as required to produce mortar color indicated.
   1) Low-Alkali Cement: Not more than 0.60 percent total alkali when tested according to ASTM C 114.

b. Hydrated Lime: ASTM C 207, Type S.

c. Portland Cement-Lime Mix: Packaged blend of Portland cement complying with ASTM C 150, Type I or III, and hydrated lime complying with ASTM C 207, Type S.

d. Colored Portland Cement-Lime Mix: Packaged blend of Portland cement complying with ASTM C 150, Type I or Type III; hydrated lime complying with ASTM C 207, Type S; and mortar pigments. Use a mix of formulation required to produce color indicated or, if not indicated, as selected from manufacturer’s standard formulations. Pigments shall not exceed 10 percent of Portland cement by weight.
1) Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

2) Products: Subject to compliance with requirements, provide one of the following:

   a) Essroc, Italcementi Group; Capitol PCL Blend or Saylor’s Plus.
   b) Holcim (US) Inc.; Rainbow Mortamix Custom Color Cement/Lime.
   c) Lafarge North America Inc.; Eaglebond.
   d) Lehigh Cement Company; Lehigh Custom Color Portland/Lime Cement.
   e) Or approved equal.

   e. Aggregate: ASTM C 144, except with 100 percent passing No. 16 (1.18-mm) sieve.

   1) White Aggregates: Natural white sand or ground white stone.
   2) Colored Aggregates: Natural-colored sand or ground marble, granite, or other durable stone; of color necessary to produce required mortar color.

   f. Mortar Pigments: Natural and synthetic iron oxides, compounded for use in mortar mixes. Use only pigments with a record of satisfactory performance in mortar and containing no carbon black.

   1) Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
   2) Products: Subject to compliance with requirements, provide one of the following:

      a) Bayer, Industrial Chemicals Division; Bayferrox Iron Oxide Pigments.
      b) Davis Colors; True Tone Mortar Colors.
      c) Solomon Colors; SGS Mortar Colors.
      d) Or approved equal.

   g. Water: Potable.

2.8 SEALANTS

   a. Joint Sealants: Manufacturer’s standard sealants of characteristics indicated below that comply with applicable requirements in Division 07 Section “Joint Sealants” and will not stain the stone they are applied to.

      1) Single-component, mildew-resistant, neutral –curing silicone sealant.
      2) Single-component, nonsag urethane sealant.
      3) Latex Sealant LS-<#>.
      4) VOC Content: 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
      5) Colors: Provide colors of exposed sealants to match colors of grout in stone adjoining sealed joints, unless otherwise indicated.

   b. Sealant for Filling Kerfs: Same sealant used for joints in dimension stone Manufacturer’s standard chemically curing, elastomeric sealants of base polymer and characteristics indicated below that comply with applicable requirements in Division 07 Section “Joint Sealants” and that do not stain stone.
1) Single-component, nonsag, urethane sealant; Class 25, Use T (traffic), and Use M (masonry).
2) Single-component, nonsag, neutral-curing, medium to high modulus, silicone sealant; Class 25, Use NT (nontraffic), and Use M (masonry).
3) Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
4) Products: Subject to compliance with requirements, provide one of the following:
   a) Sika Corporation, Inc.; Sikaflex – 1a.
   b) Sonneborn, Division of ChemRex; NP 1.
   c) Sonneborn, Division of ChemRex; Ultra.
   d) Tremco Incorporated, Sealant/Waterproofing Division; Spectrem 2.
   e) Tremco Incorporated, Sealant/Waterproofing Division; Vulkem 116.
   f) Or approved equal.

2.9 STONE ANCHORS AND ATTACHMENTS

a. Fabricate anchors from stainless steel, ASTM A 240/A 240M, Type 304.
   1) Fasteners for Stainless-Steel Anchors: Annealed stainless-steel bolts, nuts, and washers; ASTM F 593 (ASTM F 738M) for bolts and ASTM F 594 (ASTM F 836M) for nuts, Alloy Group 1 (A1).

b. Fabricate dowels from stainless steel, ASTM A 276, Type 304.

c. Fabricate anchors from extruded aluminum, ASTM B 221 (ASTM B 221M), alloy and temper as required to support loads imposed without exceeding allowable design stresses, but not less than strength and durability properties of Alloy 6063-T6.

d. Anchor Support Grids: Roll-formed steel channels, of size and shape required for application indicated, formed from galvanized steel sheet not less than 0.108 inch (2.8 mm) thick and complying with ASTM A 653/A 653M, G90 (Z275).
   1) Fittings and Fasteners: System manufacturer’s standard components of design, size, and material required to securely attach grids to building structure and stone anchors to grids. Fabricate components in contact with stone from same material specified for anchors.

e. Wire Tiebacks: No. 9 AWG copper or copper-alloy or 0.120-inch- (3.0-mm-) diameter, stainless-steel wire.

f. Dovetail Slots: Furnish dovetail slots with filler strips of slot size required to receive anchors provided, fabricated from 0.0336-inch- (0.85-mm-) thick, galvanized steel sheet complying with ASTM A 653/A 653M, G90 (Z275).
g. Direct-Mount Anchoring Systems: Stainless-steel or aluminum stone anchors designed to be applied directly to wall surfaces or to metal grids. System is secured to wall framing, furring, or sheet-metal reinforcing strips built into wall with stainless-steel self-drilling screws. Anchors fit into kerfs or holes in edges of interior stone facing panels and do not need setting spots.

1) Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
2) Products: Subject to compliance with requirements, provide one of the following:

   a) Halfen Anchoring Systems; Meadow-Burke.
   b) Heckmann Building Products Inc.
   c) Hohmann & Barnard, Inc.
   d) Or approved equal.

2.10 STONE ACCESSORIES

a. Temporary Setting Shims: Rigid plastic shims, nonstaining to stone, sized to suit joint thickness.

b. Setting Shims for Direct-Mount Anchoring Systems: Strips of resilient plastic or neoprene, nonstaining to stone, of thickness needed to prevent point loading of stone on anchors and of depths to suit anchors without intruding into required depths of pointing materials.

c. Cleaner: Stone cleaner specifically formulated for stone types, finishes, and applications indicated, as recommended by stone producer. Do not use cleaning compounds containing acids, caustics, harsh fillers, or abrasives.

d. Stone Sealer: Colorless, stain-resistant sealer that does not affect color or physical properties of stone surfaces, as recommended by stone producer for application indicated.

1) Available Manufacturers: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
2) Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a) Bostik Findley Inc.
   b) Custom Building Products.
   c) Hillyard, Inc.
   d) HMK Stone Care System.
   e) Miracle Sealants Company.
   f) Stonecare International.
   g) Summitville Tiles, Inc.
   h) Or approved equal.
2.11 STONE FABRICATION, GENERAL

a. Select stone for intended use to prevent fabricated units from containing cracks, seams, and starts that could impair structural integrity or function.

1) Repairs that are characteristic of the varieties specified are acceptable provided they do not impair structural integrity or function and are not aesthetically unpleasing, as judged by Architect.

b. Fabricate interior stone facing in sizes and shapes required to comply with requirements indicated, including details on Drawings and Shop Drawings.

1) For granite, comply with recommendations in NBGQA’s “Specifications for Architectural Granite.”
2) For marble, comply with recommendations in MIA’s “Dimension Stone–Design Manual.”

c. Cut stone to produce pieces of thickness, size, and shape indicated and to comply with fabrication and construction tolerances recommended by applicable stone association.

1) Where items are installed with adhesive or where edges of stone is visible in the finished work, make items uniform in thickness and of identical thickness for each type of item; gage back of stone if necessary.
2) Clean sawed backs of stones to remove rust stains and iron particles.
3) Dress joints straight and at right angle to face, unless otherwise indicated.
4) Cut and drill sinkages and holes in stone for anchors, supports, and lifting devices as indicated or needed to set stone securely in place; shape beds to fit supports.
5) Provide openings, reveals, and similar features as needed to accommodate adjacent work.

d. Fabricate molded work to produce stone shapes with a uniform profile throughout entire unit length and with precisely formed arris slightly eased to prevent snapping, and matched at joints between units.

1) Produce moldings with machines having abrasive shaping wheels made to reverse contour of molding shape; do not sculpt moldings.
2) Miter moldings at corners, unless otherwise indicated, with edges of miters slightly eased at outside corners.

e. Finish exposed faces and edges of stone to comply with requirements indicated for finish of each type of stone required and to match approved Samples and mockups.

f. Carefully inspect finished stone units at fabrication plant for compliance with requirements for appearance, material, and fabrication. Replace defective units.

1) Grade and mark stone for overall uniform appearance when assembled in place. Natural variations in appearance are acceptable if installed stone units match range of colors and other appearance characteristics represented in approved Samples and mockups.
2.12 STONE PANELING AND COLUMN FACING

a. Arrange panels in shop or other suitable space in proposed orientation and sequence for examination by Architect. Mark units with temporary sequence numbers to indicate position in proposed layout.

1) Lay out one elevation at a time if approved by Architect.
2) Notify Architect seven days in advance of date and time when layout will be available for viewing.
3) Provide lighting of similar type and level as that of final installation for viewing layout, unless otherwise approved by Architect.
4) Rearrange panels as directed by Architect until layout is approved.
5) Do not trim nonmodular-size units to less than modular size until after Architect’s approval of layout, unless otherwise approved by Architect.
6) Mark backs of units and Shop Drawings with sequence numbers based on approved layout. Mark backs of units to indicate orientation of units in completed Work.

b. Nominal Thickness: up to 1-1/4 inches (32 mm), unless otherwise indicated.

c. Maintain minimum clearances of 3/4 inch (20 mm) 1 inch (25 mm) between backs of panels and structural members, fireproofing if any, backup walls, and other work behind stone. Do not back check stone less than 1 inch (25 mm) thick.

d. Joints: as indicated or as per design.

e. Quirk-miter corners, unless otherwise indicated. Install anchorage in top and bottom bed joints of corner units.

f. Carve and cut inscriptions and decorative surfaces according to Shop Drawings. Use skilled stone carvers experienced in the successful performance of work similar to that indicated.

g. Abrasively etch inscriptions and decorative surfaces according to Shop Drawings.

h. Laser etch inscriptions and decorative surfaces according to Shop Drawings.

i. Pattern Arrangement: Fabricate and arrange panels with veining and other natural markings to comply as designed.

2.12 STONE BASE AND TRIM

a. Base:

1) Nominal Thickness: up to 1-1/4 inches (32 mm), unless otherwise indicated.
2) Top-Edge Detail: Straight, slightly eased at corner As indicated.
3) Ends: Butt ends into casings Butt ends into opening frames Return ends to depth of adjacent finish with edge detail same as top edge, unless otherwise indicated.
4) Joints: as indicated, sealant-filled joints Bonded joints, 1/32 inch (0.8 mm) or less in width.
a) Locate joints at midpoints between adjacent paneling joints, unless otherwise indicated.

b. Flat Trim:
   1) Nominal Thickness: up to 1-1/4 inches (32 mm), unless otherwise indicated.
   2) Edge Detail: As indicated.
   3) Joints: as indicated, sealant-filled joints Bonded joints, 1/32 inch (0.8 mm) or less in width.

c. Molded Trim:
   1) Profile: Match profiles indicated on Drawings or to match existing as indicated.
   2) Joints: as indicated, sealant-filled joints Bonded joints, 1/32 inch (0.8 mm) or less in width.

2.13 MIXES

a. Spotting Plaster: Stiff mix of molding plaster and water.

b. Mortar: Comply with referenced standards and with manufacturers’ written instructions for mix proportions, mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures needed to produce mortar of uniform quality and with optimum performance characteristics.

   1) Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated. Do not use calcium chloride.
   2) Combine and thoroughly mix cementitious materials, water, and aggregates in a mechanical batch mixer, unless otherwise indicated. Discard mortar when it has reached initial set.


   1) Mix Proportions: 1 part Portland cement and 2-1/2 to 4 parts lime with aggregate ratio of 2-1/4 to 3 times volume of cement and lime.

d. Pointing Mortar: Comply with ASTM C 270, Proportion Specification, for types of mortar indicated. Provide pointing mortar mixed to match Architect's sample and complying with the following:

   1) Pigmented Pointing Mortar: Select and proportion pigments with other ingredients to produce color required. Do not exceed pigment-to-cement ratio of 1:10, by weight.
   3) Colored-Aggregate Pointing Mortar: Produce color required by combining colored aggregates with portland cement of selected color.
4) Mix Proportions: 1 part Portland cement and 2-1/2 to 4 parts lime with aggregate ratio of 2-1/4 to 3 times volume of cement and lime.

e. Grout: Comply with mixing requirements of referenced ANSI standards and with manufacturer's written instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

a. Examine surfaces indicated to receive interior stone facing and conditions under which interior stone facing will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

1) For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of interior stone facing.

2) Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

a. Clean dirty or stained stone surfaces by removing soil, stains, and foreign materials before setting. Clean stone by thoroughly scrubbing with fiber brushes and then drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh materials or abrasives.

3.3 SETTING OF STONE, GENERAL

a. Do necessary field cutting as stone is set. Use power saws with diamond blades to cut stone. Cut lines straight and true, with edges eased slightly to prevent snipping.

b. Contiguous Work: Provide reveals and openings as required to accommodate contiguous work.

c. Set stone to comply with requirements indicated on Drawings and Shop Drawings. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure stone in place. Shim and adjust anchors, supports, and accessories to set stone accurately in locations indicated, with edges and faces aligned according to established relationships and indicated tolerances.

d. Erect stone units level, plumb, and true with uniform joint widths. Use temporary shims to maintain joint width.

e. Provide expansion, control, and pressure-relieving joints of widths and at locations indicated.

1) Sealing of expansion, control, and pressure-relieving joints is specified in Division 07 Section "Joint Sealants."
2) Keep expansion, control, and pressure-relieving joints free of plaster, mortar, grout, and other rigid materials.

3.4 CONSTRUCTION TOLERANCES

a. Variation from Plumb: For vertical lines and surfaces, do not exceed 1/8 inch in 96 inches (3 mm in 2400 mm), 1/4 inch (6 mm) maximum.

b. Variation from Level: For lintels, sills, chair rails, horizontal bands, horizontal grooves, and other conspicuous lines, do not exceed 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), 3/8 inch (10 mm) maximum.

c. Variation of Linear Building Line: For position shown in plan and related portion of walls and partitions, do not exceed 1/8 inch in 96 inches (3 mm in 2400 mm), 1/4 inch in 20 feet (6 mm in 6 m), 3/8 inch (10 mm) maximum.

d. Variation in Cross-Sectional Dimensions: For thickness of walls from dimensions indicated, do not exceed plus or minus 1/8 inch (3 mm).

e. Variation in Joint Width: Do not vary joint thickness more than 1/16 inch (1.5 mm) or 1/4 of nominal joint width, whichever is less.

f. Variation in Plane between Adjacent Stone Units (Lipping): Do not exceed 1/32-inch (0.8-mm) difference between planes of adjacent units.

3.5 INSTALLATION OF STONE PANELING AND COLUMN FACING

a. Set units firmly against setting spots. Locate setting spots at anchors and spaced not more than 18 inches (450 mm) apart across back of unit, but provide no fewer than 1 setting spot per 2 sq. ft. (0.18 sq. m), unless otherwise indicated.

1) Moisture Exposure: Use portland cement mortar for setting spots where stone is applied to inside face of exterior walls and at other locations where stone or cavity will be exposed to moisture.

b. Set units on direct-mount anchoring system with anchors securely attached to stone and to backup surfaces. Comply with recommendations in ASTM C 1242.

1) Provide compressible filler in ends of dowel holes and bottoms of kerfs to prevent end bearing of dowels and anchor tabs on stone. Fill remainder of anchor holes and kerfs with sealant indicated for filling kerfs.

2) Set stone supported on clips or continuous angles on resilient setting shims. Use material of thickness required to maintain uniform joint widths and to prevent point loading of stone on anchors. Hold shims back from face of stone a distance at least equal to width of joint.

c. Minimum Anchors: Provide anchors at a maximum of 24 inches (600 mm) o.c. around perimeter of interior stone facing panels with a minimum of 4 anchors per panel.
d. Minimum Anchors: Provide a minimum of 4 anchors per panel up to 12 sq. ft. (1.1 sq. m) in face area, plus a minimum of 2 additional anchors for each additional 8 sq. ft. (0.7 sq. m).

e. Grout or Point joints after setting as indicated.

3.6 INSTALLATION OF STONE BASE AND TRIM

a. Stone Base and Trim at Walls with Stone Paneling: Set units by adhering to interior stone facing with water-cleanable epoxy adhesive. Hold adhesive back from exposed edges of joints to allow for grouting.

b. Stone Base and Trim at Walls with Stone Paneling: Set units firmly against setting spots. Located setting spots at anchors and spaced not more than 18 inches (450 mm) apart, unless otherwise indicated. Provide no fewer than 2 anchors per piece for stone trim up to 48 inches (1200 mm) in length, plus 1 additional anchor for each additional 24 inches (600 mm) of length.

c. Stone Base and Trim at Walls without Stone Paneling: Adhere units to plywood backing with full spread of water-cleanable epoxy adhesive. Hold adhesive back from exposed edges of joints to allow for grouting.

d. Stone Base and Trim at Walls without Stone Paneling: Adhere units to gypsum board with full spread of organic water-cleanable epoxy adhesive. Hold adhesive back from exposed edges of joints to allow for grouting.

e. Assemble stone base and trim by bonding joints with stone adhesive as units are set. Mask areas adjacent to joints to prevent adhesive smears. Clamp units in place to ensure that surfaces are properly aligned and joints are minimum width.

f. Grout or Point joints after setting.

3.7 GROUTING JOINTS

a. Grout stone to comply with ANSI A108.10.

1) Use sanded grout mixture for joints wider than 1/8 inch (3 mm).
2) Use unsanded grout mixture for joints 1/8 inch (3 mm) and narrower.

b. Remove temporary shims before grouting.

c. Tool joints uniformly and smoothly with plastic tool.

3.8 POINTING JOINTS WITH MORTAR

a. Prepare stone-joint surfaces for pointing with mortar by removing temporary shims, dust, and mortar particles. Where setting spots occur at joints, rake out excess setting mortar or plaster to a depth of not less than 1/2 inch (13 mm).
b. Point stone joints by placing pointing mortar in layers not more than 3/8 inch (10 mm). Compact each layer thoroughly and allow to become thumbprint hard before applying next layer. Apply mortar first to areas where depths are greater than surrounding areas until a uniform depth is formed.

c. Tool joints when pointing mortar is thumbprint hard. Use a round jointer having a diameter 1/8 inch (3 mm) larger than width of joint.

3.9 JOINT-SEALANT INSTALLATION

a. Prepare joints and apply sealants of type and at locations indicated to comply with applicable requirements in Division 07 Section "Joint Sealants." Remove temporary shims before applying sealants.

3.10 ADJUSTING AND CLEANING

a. In-Progress Cleaning: Clean interior stone facing as work progresses. Remove adhesive, grout, mortar, and sealant smears immediately.

b. Remove and replace interior stone facing of the following description:

1) Broken, chipped, stained, or otherwise damaged stone. Stone may be repaired if methods and results are approved by Architect.
2) Defective stone facing.
3) Defective joints, including misaligned joints.
4) Interior stone facing and joints not matching approved Samples and mockups.
5) Interior stone facing not complying with other requirements indicated.

c. Replace in a manner that results in interior stone facing's matching approved Samples and mockups, complying with other requirements, and showing no evidence of replacement.

d. Clean interior stone facing no fewer than six days after completion of grouting and pointing, using clean water and soft rags or stiff-bristle fiber brushes. Do not use wire brushes, acid-type cleaning agents, cleaning compounds with caustic or harsh fillers, or other materials or methods that could damage stone.

e. Sealer Application: Apply stone sealer to comply with stone producer's and sealer manufacturer's written instructions and recommendations.

3.11 PROTECTION

a. Protect stone surfaces, edges, and corners from construction damage. Use securely fastened untreated wood, plywood, or heavy cardboard to prevent damage.

b. Before inspection for Substantial Completion, remove protective coverings and clean surfaces.
3.12 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>09 75 00-1</td>
<td>Furnish &amp; Install granite stone facing up to 1 1/4” thick factory fabricated with all fasteners, cleaned and polished.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 75 00-2</td>
<td>Furnish &amp; Install marble stone facing up to 1 1/4” thick factory fabricated with all fasteners, cleaned and polished.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 09 75 00]
PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide painting in accordance with the Contract Documents. The Work of this Section shall include the furnishing of all labor, material and equipment to perform a complete painting and/or varnishing project as shown on the drawings provided during construction or as specified herein, but not limited to the following:

1. Exterior and exposed interior items, areas and surfaces.
2. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
3. Wood Stains and transparent finishes

B. Paint exposed surfaces, except where the paint schedules indicate that a surface or material is not to be painted or is to remain natural. If the paint schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the schedules do not indicate color or finish, the Resident Engineer will select from standard colors and finishes available.

1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.

C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1. Prefinished items include the following factory-finished components:

(a) Architectural woodwork and casework.
(b) Metal toilet enclosures.
(c) Finished mechanical and electrical equipment.
(d) Light fixtures and electrical outlets.
(e) Marble or stone surfaces.
(f) Unpainted wall coverings.

2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:

(a) Foundation spaces.
(b) Furred areas.
(c) Ceiling plenums.
(d) Utility tunnels.
(e) Pipe spaces.
(f) Duct shafts.
(g) Elevator shafts.

3. Finished metal surfaces (and hardware, unless factory primed) include the following:
   a. Anodized aluminum.
   b. Stainless steel.
   c. Chromium plate.
   d. Copper.
   e. Bronze and brass.

4. Operating parts include moving parts of operating equipment and the following:
   a. Valve and damper operators.
   b. Linkages.
   c. Sensing devices.
   d. Motor and fan shafts.
   e. Sprinkler heads.
   f. Operating systems controls.
   g. Slots and seams which require opening and functioning.

5. Labels: Do not paint over Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

6. Items of equipment furnished with complete factory finish, except for items specified to receive a finish coat as per this Section.

7. Do not re-prime any shop primed metal work unless specifically directed, or needed as barrier coat over incompatible primes.

D. Related Sections include the following:

1. Division 5 Section “Structural Steel” for shop priming structural steel.
2. Division 6 Section “Interior Architectural Woodwork” for shop priming interior architectural woodwork.
3. Division 9 Section “Gypsum Board Assemblies” for surface preparation for gypsum board.
4. Divisions 15, 16 and 17: Factory Painting of mechanical and electrical work is specified in Divisions 15, 16 and 17, respectively.

1.2 DEFINITIONS
A. General: Standard coating terms defined in ASTM D 16 apply to this Section.

1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
2. Eggshell refers to low-sheen finish with a gloss range between 5 and 20 when measured at a 60-degree meter.
3. Satin refers to low-sheen finish with a gloss range between 15 and 35 when measured at a 60-degree meter.
4. Semigloss refers to medium-sheen finish with a gloss range between 30 and 65 when measured at a 60-degree meter.
5. Full gloss refers to high-sheen finish with a gloss range more than 65 when measured at a 60-degree meter.

1.3 SUBMITTALS

A. Product Data: For each paint system specified. Include block fillers and primers.

1. Material List: Provide an inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer’s catalog number and general classification.

2. Manufacturer’s Information: Provide manufacturer’s technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.

3. Certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).

B. Samples for Initial Selection: Manufacturer’s color charts showing the full range of colors available for each type of finish-coat material indicated.

1. After color selection, the RE/PM will furnish color chips for surfaces to be coated.

C. Samples for Verification: Of each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate or on actual surfaces as directed by the RE/PM.

1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.

2. Provide a list of materials and applications for each coat of each sample. Label each sample for location and application.
1.4 QUALITY ASSURANCE

A. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in scope, material and extent to that indicated for this Project with a record of successful in-service performance. The Contractor shall use only qualified journey men painters for the mixing and application of paint on exposed surfaces.

B. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.

C. The Contractor shall be wholly responsible for the satisfactory quality and completion of his work. He is responsible for inspecting the work areas prior to application of paint or finished materials.

D. The Contractor shall adhere to NYC Administrative Code Title 6, Chapter 3, Subchapter 5, §6-313 “Volatile organic compounds and other airborne hazards” for all materials used in conjunction with Section 3.8 of 099100 Painting.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the Project Site in manufacturer’s original, unopened packages and containers bearing manufacturer’s name and label, and the following information:

   (1) Product name or title of material.
   (2) Product description (generic classification or binder type).
   (3) Manufacturer’s stock number and date of manufacture.
   (4) Contents by volume, for pigment and vehicle constituents.
   (5) Thinning instructions.
   (6) Application instructions.
   (7) Color name and number.
   (8) VOC content.

B. Any container showing evidence of manufacturer’s seal being broken before delivery or otherwise not suitable for this work shall not be used in this work and must be removed from the project site immediately.

C. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.

D. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

E. All materials used or stored on site, including all paints, rags, solvents and flammable
debris shall be carefully handled and shall be keep in suitable closed containers to avoid a fire hazard and shall be removed from the building as soon as possible.

1.6 PROJECT CONDITIONS

A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 and 90 deg F (10 and 32 deg C).

B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 and 95 deg F (7.2 and 35 deg C).

C. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

   (1) Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.7 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied in the quantities described below. Package paint materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to DOHMH.

   (1) Quantity: Furnish DOHMH with an additional 5 percent, but not less than 1 gal. (3.785 L) or 1 case, as appropriate, of each material and color applied.

1.8 SCAFFOLDING AND LADDERS

A. The Contractor shall furnish his own scaffolding and ladders and shall be responsible for its strength and sufficiency. The Contractor is responsible for furnishing any and all scaffolding and ladders, sufficient and appropriate, for the size and/or height of the painting project. All associated costs for scaffolding and ladders shall be deemed included.

1.9 SIGNAGE

A. The Contractor shall provide and post in conspicuous locations temporary signs for the direction and protection of the public and employees during the progress of the work.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in the paint
schedules.

B. Manufacturers Names: The following manufacturers are referred to in the paint schedules by use of shortened versions of their names, which are shown in parentheses:

1. Glidden Co. (The) (Glidden).
3. PPG Industries, Inc. (PPG).
4. Minwax. (Minwax)

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer’s best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer’s product identification will not be acceptable.

1. Proprietary Names: Use of manufacturer’s proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer’s material data and certificates of performance for proposed substitutions.

2. Approved Equivalents: Upon review and approval by the Architect, paint materials “approved as equals” may be incorporated into the work.

C. Colors: Provide color selections made by the RE/PM.

D. Casein, resin emulsion or other similar paint will not be approved for this work.

E. Provide undercoat paint produced by the same manufacturer as the finish coats. All primers and under coats are to be tinted to the approximate shade of the selected finish coat. All tinting and thinning of materials shall be as recommended by the manufacturer for the particular material tinted or thinned.

F. Any materials not specifically covered and specified in this Contract which are necessary to complete the project (or as directed by the RE/PM or AM representative) shall be furnished and provided by the Contractor.

G. Stains and Coatings – General

1. Unless otherwise indicated, provide factory-mixed materials. Mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials unless such procedure is specifically described in manufacturer's product instructions.
a. Supply each material in quantity required to complete entire project's work from a single production run.

H. Back Primer for Transparent-Finished Woodwork:

1. Same as finish coat.
2. 1 coat nitrocellulose lacquer sanding sealer; Minwax Lacquer Sanding Sealer (for use under lacquer).
3. 1 coat vinyl toluene copolymer; Minwax Sanding Sealer (for use under polyurethane).

I. Wood Filler: Use one of the following, as appropriate to repair required:

1. Shallow Nicks and Scratches: Minwax Blend-Fil Pencil.
5. Stain Touch-Up: Minwax Wood Finish Stain Marker
7. Application Accessories: Provide all primers, sealers, cleaning agents, tools, cleaning cloths, sanding materials, and clean-up materials required.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.

1. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
2. Start of painting will be construed as the Applicator’s acceptance of surfaces and conditions within a particular area.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify the RE/PM about anticipated problems using the materials specified over substrates primed by others.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-
applied protection before surface preparation and painting.

1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning.

1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer’s written instructions for each particular substrate condition and as specified. Clean all painted surfaces of calamine, oil, grease, wax, loose or peeling paint and other foreign matter that will prevent adhesion of the paint.

1. The Contractor shall carefully examine all wall and floor surfaces and shall perform corrective measures to surfaces not suitable for painting. All cracks, holes and blemishes should be filled, sanded flush and then spot primed to match adjacent surfaces. Damaged or defective surfaces should be repaired by spackling or other appropriate method.

2. The Contractor shall remove all peeling and scaling paint, nibs or projections by scraping and sanding. Surfaces that have been defaced with marking pens, crayons, etc. are to be solvent washed, then spot primed with “Benjamin Moore’s PSP” or approved equal, to control residual “bleeding.”

3. The Contractor shall remove all loose and blistered paint on all surfaces and shall make the surfaces smooth with the application of a satisfactory and appropriate material. All surfaces must be thoroughly dry and free from dust, and no paint shall be applied over a previous coat until same has thoroughly dried. All repaired surfaces shall be thoroughly dry before painting, and shall be properly prepared, sized and primed. No excuse will be entertained if defects develop upon completion. Any missing surface preparation and/or necessary materials (e.g. drywall, taping, lath or plaster, etc.) shall be repaired, plaster weld shall be used where required or as directed.

4. Repairs and patching performed by the Contractor shall be brought flush and even with the adjoining surfaces, so that the finished paint surfaces shall be smooth and uniform. All rough or alligatored surfaces of woodwork or plaster shall be sandpapered or otherwise made smooth.

5. Gloss surfaces shall be dulled by sanding lightly with # 00 sandpaper.

6. Ceiling or walls that exhibit water stains shall be sealed with “Benjamin Moore’s PSP” or approved equal.

7. Any paint spots, plaster, etc., both new and old, shall be thoroughly removed from all glass, metal, natural wood, flooring, etc., with dull finishing to be applied as
directed.

8. The Contractor shall consult the RE/PM in resolving any difficult conditions or in finishing any surface not otherwise covered by these requirements.

9. Provide barrier coats over incompatible primers or remove and reprime.

10. Cementitious Materials: Prepare concrete, concrete masonry block, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
   a. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
   b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturer’s written instructions.
   c. Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner. Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.

11. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
   a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried. Surface restoration compounds must be thoroughly cleaned with appropriate solvent.
   b. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and backsides of wood, including cabinets, counters, cases, and paneling.
   c. When transparent finish is required, backprime with spar varnish.
   d. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on backside.
   e. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.
   f. Natural wood surfaces shall be lightly sanded, spot sealed and stained as necessary and given two coats of semi-gloss polyurethane.
   g. Presently varnished wood shall be washed with mild detergent, then rinsed off with clean water and given one coat of semi-gloss varnish.

12. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign
substances. Use solvent or mechanical cleaning methods that comply with the Steel Structures Painting Council’s (SSPC) recommendations.

a. Rusting surfaces must be wire-brushed and sanded free of rust. Metal works, doors, radiators and window sills, etc., shall be thoroughly washed, sanded and primed if needed with rust inhibitive paint.

b. Fill dents, cracks, hollow places, open joints and other irregularities in metal work to be painted with an approved metal filler suitable for the purpose; after setting, sand to a smooth, hard finish, flush with adjoining surface.

c. Interior window frames, trim, doors and frames, ironwork and similar items presently painted in semi-gloss shall receive one coat semi-gloss enamel, finishing in smooth uniform surface sufficient to cover.

d. Exposed radiator cover, pipes and exposed unpainted air conditioning ducts shall be painted with one coat of heat resistant primer and one coat of heat resistant paint sufficient to cover, similar to existing work. All bare or peeled surfaces shall be touched up and sanded, if necessary, before applying finish coat.

13. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

14. Drywall Surfaces: Scrape off all peeling, scaling, projections and splatters. Spackle surfaces as needed, thoroughly sand to leather edges smooth with adjacent surfaces. Cracks, depressions and holes shall be filled, spackled and sanded smooth. Spackling shall be fully dry before primer sealer is applied.

15. Plaster: Plaster surfaces including the ceiling shall be spot prime with alkyd oil base primer sealer where surfaces are re-plastered or spackled. The finish coat for the walls shall be alkyd oil base flat or semi-gloss and the finish coat for the ceilings shall be alkyd oil base flat in addition to what is specified under preparation. If necessary, to secure a first class uniform finish, additional coats shall be applied at no additional cost to the City.

16. All existing surfaces finished in semi-gloss, gloss or baked enamel shall receive a primer sealer.

17. Materials Preparation: Mix and prepare paint materials according to manufacturer’s written instructions.

a. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.

b. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.

c. Use only thinners approved by paint manufacturer and only within recommended limits.
18. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply paint according to manufacturer’s written instructions. Use applicators (brushes and rollers) and techniques best suited for substrate and type of material being applied. All paints shall be evenly applied to secure a smooth finish and no excuse will be entertained upon completion.

1. Paint colors, surface treatments, and finishes are indicated in the schedules.
2. Do not paint over dirt, dust, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
3. Provide finish coats that are compatible with primers used.
4. The term “exposed surfaces” includes areas visible when permanent or built-in fixtures, convector covers, covers for finned-tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
8. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
9. Sand lightly between each succeeding enamel or varnish coat application with fine sandpaper or rub surfaces with pumice stone where required to produce an even, smooth surface in accordance with the coating manufacturer’s directions.
10. No “telegraphing” of lines, ridges, flakes, etc., through new surfacing is permitted.
11. All DOHMH air conditioning numbers on outlet boxes shall be replaced after painting.
12. Coverage and hide shall be complete.
13. All materials shall be applied under adequate illumination, evenly spread and flowed-on smoothly to avoid runs, sags, brush marks, air bubbles and excessive roller stipple.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer’s written instructions, sand
2. AM reserves the right to direct the Contractor to allow twenty-four (24) hours after applying the first coat and must receive AM approval before proceeding with the application of the second coat. The Contractor shall be responsible to provide sufficient number of coats to provide a uniform finish at no additional cost to the City. Allow sufficient time between successive coatings and final coats to permit thorough and proper drying.

3. Omit primer on metal surfaces that have been shop primed and touch up painted.

4. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

5. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.

C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer’s written instructions.

1. Brushes: Use brushes best suited for the type of material applied. Use brush of appropriate size for the surface or item being painted.
2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep’s wool as recommended by the manufacturer for the material and texture required.
3. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.

D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer’s recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.

E. Mechanical and Electrical Work: Painting of mechanical and electrical work which is not prefinished is limited to items exposed in equipment rooms and in occupied spaces.

F. Mechanical items to be painted include, but are not limited to, the following:

1. Piping, pipe hangers, and supports.
3. Tanks.
4. Ductwork, duct hangers and supports.
5. Insulation.
6. Motors and mechanical equipment.
7. Accessory items.

G. Electrical items to be painted include, but are not limited to, the following:

1. Conduit, distribution boxes and fittings.
2. Switchgear.
3. Panelboards, light and power panels.
4. Pipes, hangers and clamps.

H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.

I. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing. Apply additional coats of primer seal as required and/or directed at no additional cost to the City.

J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

K. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

L. Acoustic Tile: Great care shall be taken in applying the “Tesalite” Standard paint or approved equal to existing acoustic tile, to obtain a uniform job with one coat if possible, otherwise additional coats shall be applied to obtain a uniform finish at no additional cost to the City.

M. Lettering: The Contractor shall replace all lettering painted out with the same size, style and color lettering as existing per direction of the RE/PM.

3.4 CLEANING

A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.

1. After completing painting, clean any and all glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces. Remove all paint spots, plaster dust, films, etc. from all surfaces affected.

2. Upon completion of work in any individual project area or location, that area shall be made ready for occupancy by vacuum and cleaning any and all accumulated dust from horizontal and vertical surfaces of walls, partitions, furnishings, flooring and equipment, etc.

3.5 PROTECTION

A. Protect work of other trades, and existing construction, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved and directed by RE/PM. The Contractor shall take all necessary precautions to protect all furnishings, surfaces and materials from paint, plaster, impacts, etc. and shall be held responsible for any damage. The Contractor shall remedy all
damage caused by the work, or the work of any subcontractor, by repair, restoration and/or replacement at his own expense.

B. Remove or protect hardware, accessories, plates, lighting fixtures, factory finished work and similar items or provide ample in-place protection. Upon completion, these same items will be re-installed or re-placed at their respective locations and in their original positions.

C. The Contractor will be required to move portable furniture such as desks, lockers, filing cabinets, bookcases and other equipment easily removed to paint behind them and replace same. The Contractor will not be required to paint behind large heavy storage cabinets, high stationary bookcases or shelving unless the occupants of the rooms arrange for their removal away from the walls, or remove the materials and contents from the cabinets or shelves.

D. The Contractor will be required to remove, protect while painting and re-install on completion of painting, all pictures, shading devices, window treatments and louver blinds, etc. in the areas being painted.

E. All furnishings and equipment located in the area of the project shall be covered with polyethylene, fabric sheeting or drop clothes sufficient and appropriate for the size and scope of the work engaged.

F. Provide “Wet Paint” signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.

   1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.6 EXTERIOR PAINT SCHEDULE

A. Concrete, Stucco, and Masonry (Other than Concrete Masonry Units): Provide the following finish systems over exterior concrete, stucco, and brick masonry surfaces:

   1. Semigloss, Acrylic-Enamel Finish: 2 finish coats over a primer.

      a. Primer: Alkali-resistant, exterior, acrylic-latex primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).

         i. Glidden: Primer not required over this substrate.
         iii. PPG: 6-603 Speedhide Interior/Exterior Acrylic Latex Alkali Resistant Primer.

   2. First and Second Coats: Semigloss, exterior, acrylic-latex enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film
thickness of not less than 2.4 mils (0.061 mm).


ii. Moore: MoorGlo Latex House & Trim Paint #096.

iii. PPG: 78 Line Sun-Proof Semi-Gloss Acrylic Latex House/Trim Paint.

B. Smooth Wood: Provide the following finish systems over smooth wood siding and other smooth, exterior wood surfaces:

1. Full-Gloss, Acrylic-Enamel Finish: 2 finish coats over a primer.

   a. Primer: Exterior, alkyd or latex, wood primer, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).


      ii. Moore: Moorwhite Primer #100.

      iii. PPG: 72-1 Sun-Proof Exterior House & Trim Wood Primer Flat--Latex.

   b. First and Second Coats: Full-gloss, waterborne, exterior, acrylic-latex enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.4 mils (0.061 mm).

      i. Glidden: 6900 Series Lifemaster Pro Hi-Performance Acrylic Coating.

      ii. Moore: Impervex Enamel #309.


2. Exterior Wood - Natural Clear Finish: Including doors, trim, soffits, and as indicated in the drawings.

   a. Satin: 3 coats oil-modified polyurethane; Minwax Clear Shield.

   b. Satin: 3 coats clear urethane; Minwax Helmsman Spar Urethane.

   c. Semi-Gloss: 3 coats oil-modified polyurethane; Minwax Clear Shield.

   d. Semi-Gloss: 3 coats clear urethane; Minwax Helmsman Spar Urethane.

   e. Gloss: 3 coats clear urethane; Minwax Helmsman Spar Urethane.

3. Exterior Wood - Stained Finish: Including trim, doors, frames, and as indicated in the drawings.

   a. Minwax Gel Stain:

      1. 1 coat thixotropic soya alkyd non-drip stain and finish, Minwax Gel Stain.

      2. 2 coats thixotropic soya alkyd non-drip stain and finish, Minwax Gel Stain


      4. Colors: To be selected by Architect from manufacturer's full range
of available colors.

Color as follows:

a. Aged Oak
b. Antique Maple
c. Brazilian Rosewood
d. Cherrywood
e. Chestnut
f. Honey Maple
g. Mahogany
h. Walnut

b. Satin: 3 coats oil-modified polyurethane; Minwax Clear Shield.
c. Satin: 3 coats clear urethane; Minwax Helmsman Spar Urethane.
d. Semi-Gloss: 3 coats oil-modified polyurethane; Minwax Clear Shield.
e. Semi-Gloss: 3 coats clear urethane; Minwax Helmsman Spar Urethane.
f. Gloss: 3 coats clear urethane; Minwax Helmsman Spar Urethane.

4. Exterior Wood - Simulated Wood Grain Finish: Including trim, doors, frames, and as indicated in the drawings.

a. Minwax Gel Stain:

1. 1 coat thixotropic soya alkyd non-drip stain and finish.
2. 2 coats thixotropic soya alkyd non-drip stain and finish.
4. Colors: To be selected by Architect from manufacturer's full range of available colors.

Color as follows:

a. Aged Oak
b. Antique Maple
c. Brazilian Rosewood
d. Cherrywood
e. Chestnut
f. Honey Maple
g. Mahogany
h. Walnut

b. Satin: 3 coats oil-modified polyurethane; Minwax Clear Shield.
c. Satin: 3 coats clear urethane; Minwax Helmsman Spar Urethane.
d. Semi-Gloss: 3 coats oil-modified polyurethane; Minwax Clear Shield.
e. Semi-Gloss: 3 coats clear urethane; Minwax Helmsman Spar Urethane.
f. Gloss: 3 coats clear urethane; Minwax Helmsman Spar Urethane.

C. Ferrous Metal: Provide the following finish systems over exterior ferrous metal. Primer is not required on shop-primed items.

1. Full-Gloss, Alkyd-Enamel Finish: 2 finish coats over a rust-inhibitive primer.

   a. Primer: Rust-inhibitive metal primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.3 mils (0.033 mm).
i. Glidden: 5205 Glid-Guard Tank & Structural Primer, Red.
iii. PPG: 6-208 Speedhide Interior/Exterior Rust Inhibitive Steel Primer.

b. First and Second Coats: Full-gloss, exterior, alkyd enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 3.0 mils (0.076 mm).

i. Glidden: 4500 Series Glid-Guard Alkyd Industrial Enamel.
ii. Moore: Impervo Enamel #133.

D. Zinc-Coated Metal: Provide the following finish systems over exterior zinc-coated (galvanized) metal surfaces:

1. Full-Gloss, Alkyd-Enamel Finish: 2 finish coats over a galvanized metal primer.
   a. Primer: Galvanized metal primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).
      i. Glidden: 5205 Glid-Guard Tank & Structural Primer, Red.
      ii. Moore: IronClad Galvanized Metal Latex Primer #155.
   b. First and Second Coats: Full-gloss, exterior, alkyd enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils (0.066 mm)
      i. Glidden: 4500 Series Glid-Guard Alkyd Industrial Enamel.
      ii. Moore: Impervo Enamel #133.

E. Aluminum: Provide the following finish systems over exterior aluminum surfaces:

1. Full-Gloss, Alkyd-Enamel Finish: 2 finish coats over a primer.
   a. Primer: Rust-inhibitive, acrylic- or alkyd-based, metal primer, as recommended by the manufacturer for use over aluminum, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).
      i. Glidden: 5205 Glid-Guard Tank & Structural Primer, Red.
      iii. PPG: 90-709 Pitt-Tech Primer.
   b. First and Second Coats: Full-gloss, alkyd enamel applied at spreading rate
recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils (0.066 mm).

i. Glidden: 4500 Series Glid-Guard Alkyd Industrial Enamel.
ii. Moore: Impervo Enamel #133.
iii. PPG: 6-282 Speedhide Interior/Exterior Gloss Oil Enamel.

3.7 INTERIOR PAINT SCHEDULE

A. Concrete and Masonry (Other than Concrete Masonry Units): Provide the following paint systems over interior concrete and brick masonry surfaces:

1. Flat Acrylic Finish: 2 finish coats over a primer.
   a. Primer: Alkali-resistant, acrylic-latex, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.0 mil (0.025 mm).
      i. Glidden: 5111 Spred Ultra Latex Primer-Sealer.
      ii. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
      iii. PPG: 6-2 Speedhide Interior Quick-Drying latex Sealer.
   b. First and Second Coats: Flat, latex-based, interior paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.5 mils (0.064 mm).
      i. Glidden: 4000 Series Spred Ultra Flat Latex Wall and Trim Paint.
      iii. PPG: 80 Line Wallhide Interior Wall Flat Latex Paint.

2. Low-Luster, Acrylic-Enamel Finish: 2 finish coats over a primer.
   a. Primer: Alkali-resistant, acrylic-latex, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.0 mil (0.025 mm).
      i. Glidden: 5111 Spred Ultra Latex Primer-Sealer.
      ii. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
      iii. PPG: 6-603 Speedhide Interior/Exterior Acrylic Latex Alkali Resistant Primer.
   b. First and Second Coats: Low-luster (eggshell or satin), acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.8 mils (0.071 mm).
      i. Glidden: 4100 Series Spred Ultra Eggshell Latex Wall & Trim Paint.
      ii. Moore: Moore’s Regal Aquavelvet #319.
      iii. PPG: 89 Line Manor Hall Eggshell Latex Wall and Trim Enamel.
   a. Primer: Alkali-resistant, acrylic-latex, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.0 mil (0.025 mm).
      i. Glidden: Primer not required over this substrate.
      ii. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
      iii. PPG: 6-603 Speedhide Interior/Exterior Acrylic Latex Alkali Resistant Primer on highly alkaline surfaces.
   b. First and Second Coats: Semigloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils (0.066 mm).

B. Concrete Masonry Units: Provide the following finish systems over interior concrete masonry block units:

1. Low-Luster, Acrylic-Enamel Finish: 2 finish coats over a block filler.
   a. Block Filler: High-performance, latex-based, block filler applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 5.0 mils (0.13 mm).
      ii. Moore: Moorcraft Interior & Exterior Block Filler #173.
      iii. PPG: 6-7 Speedhide Interior/Exterior Masonry Latex Block Filler.
   b. First and Second Coats: Low-luster (eggshell or satin), acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.8 mils (0.071 mm).
      i. Glidden: 4100 Series Spred Ultra Eggshell Latex Wall & Trim Paint.
      ii. Moore: Moore’s Regal AquaVelvet #319.
      iii. PPG: 89 Line Manor Hall Eggshell Latex Wall and Trim Enamel.

2. Semigloss, Acrylic-Enamel Finish: 2 finish coats over a block filler.
   a. Block Filler: High-performance, latex-based, block filler applied at spreading rate recommended by the manufacturer to achieve a total dry
film thickness of not less than 5.0 mils (0.13 mm).

ii. Moore: Moorcraft Interior & Exterior Block Filler #173.
iii. PPG: 6-7 Speedhide Interior/Exterior Masonry Latex Block Filler.

b. First and Second Coats: Semigloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils (0.066 mm).


C. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces:

1. Flat Acrylic Finish: 2 finish coats over a primer.
   a. Primer: Latex-based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).
      
      i. Glidden: 5111 Spred Ultra Latex Primer-Sealer.
      ii. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
      iii. PPG: 17-10 Quick-Drying Interior Latex Primer-Sealer.

   b. First and Second Coats: Flat, acrylic-latex-based, interior paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.5 mils (0.064 mm).
      
      i. Glidden: 4000 Series Spred Ultra Flat Latex Wall and Trim Paint.
      iii. PPG: 80 Line Wallhide Interior Wall Flat Latex Paint.

1. Low-Luster, Acrylic-Enamel Finish: 2 finish coats over a primer.
   a. Primer: Latex-based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).
      
      i. Glidden: 5111 Spred Ultra Latex Primer-Sealer.
      ii. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
      iii. PPG: 17-10 Quick-Drying Interior Latex Primer-Sealer.

   b. First and Second Coats: Low-luster (eggshell or satin), acrylic-latex, interior enamel applied at spreading rate recommended by the
manufacturer to achieve a total dry film thickness of not less than 2.8 mils (0.071 mm).

i. Glidden: 4100 Series Spred Ultra Eggshell Latex Wall & Trim Paint.
ii. Moore: Moore’s Regal AquaVelvet #319.
iii. PPG: 89 Line Manor Hall Eggshell Latex Wall and Trim Enamel.

2. Semigloss, Acrylic-Enamel Finish: 2 finish coats over a primer.

   a. Primer: Latex-based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).

      i. Glidden: 5111 Spred Ultra Latex Primer-Sealer.
      ii. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
      iii. PPG: 17-10 Quick-Drying Interior Latex Primer-Sealer.

   b. First and Second Coats: Semigloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils (0.066 mm).


D. Plaster: Provide the following finish systems over new, interior plaster surfaces:

1. Flat Acrylic Finish: 2 finish coats over a primer.

   a. Primer: Alkali-resistant, acrylic-latex, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).

      i. Glidden: 5111 Spred Ultra Latex Primer-Sealer.
      ii. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
      iii. PPG: 6-603 Speedhide Interior/Exterior Acrylic Latex Alkali Resistant Primer.

   b. First and Second Coats: Flat, acrylic-latex, interior paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.5 mils (0.064 mm).

      i. Glidden: 4000 Series Spred Ultra Flat Latex Wall and Trim Paint.
      iii. PPG: 80 Line Wallhide Interior Wall Flat Latex Paint.
2. **Low-Luster, Acrylic-Enamel Finish:** 2 finish coats over a primer.
   
   a. **Primer:** Alkali-resistant, alkyd- or latex-based, interior primer, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).
      
      i. Glidden: 5111 Spred Ultra Latex Primer-Sealer.
      ii. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
      iii. PPG: 6-603 Speedhide Interior/Exterior Acrylic Latex Alkali Resistant Primer.
   
   b. **First and Second Coats:** Low-luster (eggshell or satin), acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.8 mils (0.071 mm).
      
      i. Glidden: 4100 Series Spred Ultra Eggshell Latex Wall & Trim Paint.
      ii. Moore: Moore’s Regal AquaVelvet #319.
      iii. PPG: 89 Line Manor Hall Eggshell Latex Wall and Trim Enamel.

3. **Semigloss, Acrylic-Enamel Finish:** One finish coat over an undercoat and a primer.
   
   a. **Primer:** Alkali-resistant, alkyd- or latex-based, interior primer, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).
      
      i. Glidden: 5111 Spred Ultra Latex Primer-Sealer.
      ii. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
      iii. PPG: 6-603 Speedhide Interior/Exterior Acrylic Latex Alkali Resistant Primer.
   
   b. **First and Second Coats:** Semigloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils (0.066 mm).
      
E. Woodwork and Hardboard: Provide the following paint finish systems over new, interior wood surfaces:

1. Semigloss, Alkyd-Enamel Finish: 2 finish coats over a primer.
   a. Primer: Alkyd or latex-based, interior enamel undercoater applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).
      ii. Moore: Moore’s Alkyd Enamel Underbody #217.
      iii. PPG: 17-255 Quick-Drying Enamel Undercoater.

2. Interior Wood - Natural Oiled Finish: Including trim, molding, and as indicated in the drawings.
   a. Low Luster Finish: 2 coats tung oil, hand rubbed; Minwax Tung Oil Finish.
   b. Low Luster Finish: 3 coats tung oil, hand rubbed; Minwax Tung Oil Finish.

3. Interior Wood - Natural Clear Finish: Floors, Stairs and as indicated in the drawings:
   a. Satin: 3 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.
   b. Satin: 3 coats linseed oil-modified polyurethane; Minwax Super Fast-Drying Polyurethane for Floors.
   c. Satin, Minwax Water Based:
      1) 1 base coat, water dispersible oil-modified urethane; Minwax Water Based Base Coat.
      2) 3 finish coats, water dispersible oil-modified urethane; Minwax Water Based Polyurethane for Floors.
   d. Semi-Gloss: 3 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.
   e. Semi-Gloss: 3 coats linseed oil-modified polyurethane; Minwax Super Fast-Drying Polyurethane for Floors.
   f. Semi-Gloss, Minwax Water Based:
      1) 1 base coat, water dispersible oil-modified urethane; Minwax Water Based Base Coat.
      2) 3 finish coats, water dispersible oil-modified urethane; Minwax Water Based Polyurethane for Floors.
   g. Gloss: 3 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.
   h. Gloss: 3 coats linseed oil-modified polyurethane; Minwax Super Fast-Drying Polyurethane for Floors.
   i. Gloss, Minwax Water Based:
1) 1 base coat, water dispersible oil-modified urethane; Minwax Water Based Base Coat.

2) 3 finish coats, water dispersible oil-modified urethane; Minwax Water Based Polyurethane for Floors.

4. Interior Wood - Natural Clear Finish: Including trim, doors, frames, cabinets, paneling, and as indicated in the drawings, not for use on floors or stairs
   a. Satin: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.
   c. Gloss: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.

5. Interior Wood - Natural Clear Finish: Including trim, doors, frames, and as indicated in the drawings, not for use on floors or stairs.
   a. Preparation as specified by manufacturer.

6. Interior Wood Finish - Floors and Stairs:
      1) 1 coat modified linseed oil/hydrocarbon resin stain; Minwax Wood Finish.
      2) 2 coats modified linseed oil/hydrocarbon resin stain; Minwax Wood Finish.
      3) 1 coat modified linseed oil/hydrocarbon resin stain; Wood Finish Aerosol Spray.
      4) 2 coats modified linseed oil/hydrocarbon resin stain; Wood Finish Aerosol Spray.
      5) Colors: Indicated on drawings.
      6) Colors: To be selected by Architect from manufacturer's full range of available colors.

   b. Stain: Minwax Gel Stain.
      1) 1 coat thixotropic soya alkyd non-drip stain and finish; Minwax Gel Stain.
      2) 2 coats thixotropic soya alkyd non-drip stain and finish; Minwax Gel Stain.
      3) Colors: Indicated on drawings.
      4) Colors: To be selected by Architect from manufacturer's full range of available colors.

   c. Satin: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.
Polyurethane.

d. Satin: 2 coats linseed oil-modified polyurethane; Minwax Super Fast-Drying Polyurethane for Floors.

e. Semi-Gloss: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.


g. Gloss: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.

h. Gloss: 2 coats linseed oil-modified polyurethane; Minwax Super Fast-Drying Polyurethane for Floors.

7. Interior Wood - Stain with Clear Finish - Oil-Based Stain: Including trim, doors, frames, cabinets, paneling, and as indicated in the drawings, but not floors or stairs.
   a. On Softwoods: 1 coat Minwax Pre-Stain Wood Conditioner.
      1) 1 coat modified linseed oil/hydrocarbon resin stain; Minwax Wood Finish.
      2) 2 coats modified linseed oil/hydrocarbon resin stain; Minwax Wood Finish.
      3) Colors: Indicated on drawings.
      4) Colors: To be selected by Architect from manufacturer's full range of available colors.

   1) 1 coat modified linseed oil/hydrocarbon resin stain; Wood Finish Aerosol Spray.
   2) 2 coats modified linseed oil/hydrocarbon resin stain; Wood Finish Aerosol Spray.
   3) Colors: Indicated on drawings.
   4) Colors: To be selected by Architect from manufacturer's full range of available colors.

d. Stain: Minwax Pastels.
   1) 1 coat alkyd and oil-modified polyurethane stain; Minwax Pastels.
   2) 2 coats alkyd and oil-modified polyurethane stain; Minwax Pastels.
   3) Colors: Indicated on drawings.
   4) Colors: To be selected by Architect from manufacturer's full range of available colors.

e. Stain: Minwax Gel Stain.
   1) 1 coat thixotropic soya alkyd non-drip stain and finish; Minwax Gel Stain.
   2) 2 coats thixotropic soya alkyd non-drip stain and finish; Minwax Gel Stain.
   3) Colors: Indicated on drawings.
4) Colors: To be selected by Architect from manufacturer's full range of available colors.

f. Low Luster Finish: 2 coats paste wax, hand rubbed; Minwax Paste Finishing Wax.
g. Satin: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.
h. Satin: 2 coats polyurethane; Minwax Wipe-On Poly.
i. Semi-Gloss: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.
j. Gloss: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.

8. Interior Wood - Stain with Clear Finish: Including trim, doors, frames, cabinets, paneling, and as indicated in the drawings, not for use on floors or stairs.
a. On Softwoods: 1 coat Minwax Water Based Pre-Stain Wood Conditioner.
b. Stain: Minwax Water Based Wood Stain.
   1) 1 coat water-based stain; Minwax Water Based Wood Stain.
   2) 2 coats water-based stain; Minwax Water Based Wood Stain.
   3) Colors: Indicated on drawings.
   4) Colors: To be selected by Architect from manufacturer's full range of available colors.

c. Low Luster Finish: 2 coats paste wax, hand rubbed; Minwax Paste Finishing Wax.
d. Satin: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.
e. Semi-Gloss: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.
f. Gloss: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.

9. Interior Wood - Stain with Clear Finish - One-Step: Including trim, doors, frames, cabinets, paneling, and as indicated in the drawings, but not floors or stairs.
a. On Softwoods: 1 coat Minwax Pre-Stain Wood Conditioner.
b. Soft Luster: 2 coats thixotropic alkyd, soya oil-modified polyurethane stain and finish; Minwax Woodsheen Rubbing Oil Stain & Finish.
c. Colors: Indicated on drawings.
d. Colors: To be selected by Architect from manufacturer's full range of available colors.
e. Satin: 2 coats soya uralkyd stain and finish; Minwax Polyshades.
f. Gloss: 2 coats soya uralkyd stain and finish; Minwax Polyshades.
g. Colors: Indicated on drawings.
h. Colors: To be selected by Architect from manufacturer's full range of available colors.
10. Interior Wood - Simulated Wood Grain Finish: Including trim, doors, frames, cabinets, and as indicated in the drawings.
   b. Colors: To be selected by Architect from manufacturer's full range of available colors.
   d. Use Minwax Graining Tool, match Architect's sample of finish.
   e. Satin: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.
   g. Gloss: 2 coats linseed oil-modified polyurethane; Minwax Fast-Drying Polyurethane.

F. Ferrous Metal: Provide the following finish systems over ferrous metal:

1. Semigloss, Alkyd-Enamel Finish: One finish coat over an enamel undercoater and a primer.
   a. Primer: Quick-drying, rust-inhibitive, alkyd-based or epoxy-metal primer, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.5 mils (0.038 mm).
      iii. PPG: 6-208 Speedhide Interior/Exterior Rust Inhibitive Steel Primer.
   b. Undercoat: Alkyd, interior enamel undercoat or semigloss, interior, alkyd-enamel finish coat, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).
      iii. PPG: 6-6 Speedhide Interior Quick-Drying Enamel Undercoater.
   c. Finish Coat: Odorless, semigloss, alkyd, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).
      iii. PPG: 27 Line Wallhide Low Odor Interior Enamel Wall and Trim Semi-Gloss Oil.
G. Cotton or Canvas Covering over Insulation: Provide the following finish system on cotton or canvas insulation covering:

1. Flat Acrylic Finish: 2 finish coats. Add fungicidal agent to render fabric mildew proof.
   a. First and Second Coats: Flat, latex-based, interior paint applied at spreading rate recommended by the manufacturer.
      i. Glidden: 4000 Series Spred Ultra Flat Latex Wall and Trim Paint.
      iii. PPG: 6-700 Series Speedhide Ultra Interior Wall Flat Latex 100 Percent Acrylic.

3.8 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>09 91 00-1</td>
<td>Furnish and paint one (1) coat of primer seal and two (2) coats of finish (includes preparation).</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 91 00-2</td>
<td>Prepare and repaint existing surface, one (1) coat finish.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 91 00-3</td>
<td>Prepare and apply one (1) coat of stain and two (2) coats finish.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 91 00-4</td>
<td>Paint Door and Frame (Single).</td>
<td>Per Opening.</td>
</tr>
<tr>
<td>09 91 00-5</td>
<td>Paint Door and Frame (Double).</td>
<td>Per Opening.</td>
</tr>
<tr>
<td>09 91 00-6</td>
<td>Clean and Paint Existing Radiator Enclosures.</td>
<td>Per Leaf.</td>
</tr>
</tbody>
</table>

B. The Architect and/or RE/PM reserves the right to specify the finish coat within the range of flat, eggshell, satin, semi-gloss, full-gloss and/or high gloss, etc. without additional cost to the City.

[END OF SECTION 09 91 00]
SECTION 09 91 01 – PAINT REMOVAL

PART 1 – GENERAL

1.1 SUMMARY

A. Work included: Provide paint stripping work in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Remove paint and finishes from woodwork.
2. Remove paint from ironwork and provide one coat of primer.
3. Remove paint from masonry.
4. Comply with all Governmental regulations regarding removal of lead based paint.
5. Protect pedestrian and vehicular traffic, adjacent materials and buildings, workers, and building occupants and contents during paint stripping.

B. Related Work of Other Sections: The following related work is to be performed under the designated sections.

1. Painting - Section 09 91 00.

1.2 QUALITY ASSURANCE

A. The Contractor or subcontractor performing the Work of this Section, must during the last five (5) years prior to bid opening, as a prime contractor or subcontractor have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work in this Contract (i.e. paint removal work on buildings that are considered landmark, landmark quality or buildings of equivalent historical or architectural significance).


C. The Contractor shall comply with all applicable Federal, state, and local regulations for the containment, labeling, storage, transportation, and disposal of hazardous waste.

D. Field tests for chemical stripping: For chemical paint removal methods, prepare the following test panels prior to beginning work. Prepare a separate test panel of each product specified herein. Prepare a separate set of test panels for each different material to be stripped.

1. Preparation of test panels shall be done in the presence of the RE/PM. Provide minimum 48 hours’ notice prior to performing tests.
2. Provide 2’ x 2’ area using each type of paint stripper specified. Repeat testing as needed to achieve specified results and as directed by the RE/PM.
E. All Subcontractors are bound by the same requirements as the Contractor. Subcontractors shall not begin work unless approved by the RE/PM.

F. The Contractor shall maintain a steady work crew made up of qualified craftsmen and a full time foreman who reads and speaks fluent English. The Contractor shall confirm that all workmen understand the job’s requirements.

G. Metal Cleaning Standards: Cleaning of metals shall conform to the Requirements of the Steel Structures Painting Council (SSPC).

1.3 SUBMITTALS

A. Product Data: Submit manufacturer’s technical product data, material safety data sheets, and general recommendations for each specified product. Include test reports and certificates substantiating the product’s compliance with the specified requirements.

B. Program of Work:

1. Prior to the start-up of work, submit written description of protection to be employed during the course of the work. Do not begin work until submittal has been approved. Include description of materials and attachments and other information as needed to completely describe method of protection for workers, the general public, other building elements, vehicular traffic, and the sidewalk.

2. If alternate methods and materials to those specified are proposed for any phase of the work, provide written description. Provide evidence of successful use on comparable projects and demonstrate their effectiveness for use on this project.

C. Testing: Testing to be performed by accredited laboratory. Submit qualifications of laboratory and obtain written approval from the RE/PM prior to performing specified tests.

1.4 PROJECT CONDITIONS

A. The coatings on all elements to be stripped may contain lead based paint. Take all necessary precautions to protect all persons (whether engaged in the work of this Section or not) from all hazards of any kind associated with the work of this Section. Perform all work of this Section in accordance with all Federal, State, and local regulations regarding the containment, labeling, storage, transportation and disposal of the waste products involved.

1. The City shall test paint for the presence of lead and will notify the Contractor if lead is present. If the Contractor must disturb paint which has not been tested, and which the Contractor suspects may contain lead, the Contractor must inform the RE/PM who will arrange for the testing of the paint. The Contractor shall not proceed with the work until the presence or absence of lead in the paint has been confirmed.

B. The Contractor shall be responsible for confirming that employee exposure to lead released by work of this Section is below OSHA Permissible Exposure Limit.
C. Take all necessary precautions to prevent fire and spread of fire.

D. The exterior of the building is located on a heavily trafficked thoroughfare. Pedestrian and vehicular traffic shall be completely protected from damage caused by any part of the work of this Section. It is the Contractor’s responsibility to protect the work area in a safe and legal manner.

E. The interior of the building will be occupied and in use during the work of this contract. The Contractor shall take all necessary precautions to protect all people in the building from any hazards which may arise from the work of this section.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Follow manufacturer’s guidelines concerning temperature requirements for products specified herein.

B. Store all materials in spaces designated by the City. All such spaces shall meet pertinent City, State and Federal code and fire regulation standards and shall be locked and inaccessible to those not employed under this section, except the City’s Representatives. All storage spaces shall maintain the minimum storage temperatures recommended by the product manufacturers.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Provide the following alkaline based and non-methylene chloride solvent based chemical paint removal products:

1. “Heavy Duty Paint Stripper”, as manufactured by ProSoCo, Inc., or approved equal.
2. “EnviroStrip #2, and #3 as manufactured by ProSoCo, Inc., or approved equal.
3. “Peel Away 1” and “Peel Away 7” as manufactured by Dumond Chemicals, or approved equal.
4. “Back to Nature 1” and “Back to Nature 4” as manufactured by Dynacraft Industries.

B. Products for neutralizing alkaline paint removers:

1. “Heavy Duty Restoration Cleaner”, manufactured by ProSoCo, Inc., Kansas City, KS, or approved equal.

C. Hand tools with vacuum attachments. Acceptable manufacturers include:

D. Scrapers for removing paint residue

1. Scrapers shall be shaped to follow the profiles of the work to be stripped. It may be necessary to custom grind tools for this work, in order not to damage the profiles of the substrate.

E. Primers for Ferrous Metals

1. Primer for abrasive blast cleaned iron: Series 90-97 Tnemec-Zinc, manufactured by Tnemec Company, Inc. Provide 2.5 - 3.5 mil dry film thickness. Provide one (1) coat.

PART 3 – EXECUTION

3.1 STRIPPING: GENERAL

A. Coatings on all elements contain lead based paint. Protect workers and general public from hazards associated with lead based paint removal. Contain, store, transport, and dispose of waste in accordance with all applicable regulations.

B. Protect adjacent materials from damage by the paint stripping agents. Damage to adjacent materials shall be repaired by the Contractor to the satisfaction of the RE/PM at no additional cost to the City.

3.2 APPLICATIONS, GENERAL

A. Apply cleaning and stripping materials to comply with the manufacturer’s recommendations and to match the results obtained in the approved test applications.

B. Perform cleaning and stripping in a manner which results in uniform results on all surfaces, including corners and moldings, without streaking or damage. Do not gouge or disfigure the substrate.

C. Use the least aggressive method necessary to remove all paint from specified surfaces.

D. On completion of stripping, clean residue from treated surfaces and neutralize surface if necessary.

3.3 PAINT REMOVAL METHODS, GENERAL

A. At the Contractor’s option, prior to the start of wet chemical paint stripping methods, vacuum all surfaces to remove loose and flaking paint to the greatest extent possible without damaging the substrate. Use vacuums equipped with HEPA filters only.
B. Ensure that debris created by wet chemical methods does not come in contact with other building elements, the sidewalk, vehicular traffic, workers not performing work under this section, or the general public.

C. Ensure that methods used do not damage existing surfaces being stripped.

3.4 CHEMICAL PAINT REMOVAL METHODS

A. Remove all paint, corrosion, and scale from galvanized sheet metal using wet chemical methods.

B. Selection

1. Use solvent based paint strippers for stripping paint from wood elements.
2. Test both alkaline and solvent based strippers on masonry and metal.

C. Strip all coatings using the following procedure. Procedure is subject to modification during the mock-up phase.

1. Install protection to ensure that chemical paint stripper and waste products created do not come in contact with other building elements, the sidewalk, vehicular traffic, workers not performing work under this section, or the general public.
2. Apply chemical paint stripper as directed by the manufacturer. Allow to dwell for approved time, as determined by test panels and as approved by the RE/PM. Cover with plastic sheeting if necessary to ensure that stripper does not dry out.
3. Manually scrape off paint stripper and softened paint to the greatest extent possible.
4. Repeat process as needed to remove all traces of paint and other coatings.
5. Rinse exterior surfaces using pressurized water.

   a. Water pressure shall be maximum of 500 psi. Pressure rinser shall have a working pressure gauge.

6. Rinse all surfaces to be stripped on the interior of the building with solvents recommended by the manufacturer of the paint stripper.
7. Neutralize surfaces as directed and as required by paint stripper used.

   a. Rinse exterior surfaces using pressurized water. Water pressure shall be maximum of 500 psi. Pressure rinser shall have a working pressure gauge.

D. Peelable Paint Remover: For masonry surfaces containing lead-based paint, remove paint from masonry surfaces as follows:

1. Apply 1/4” layer of paste using corrosion resistant trowel or other suitable applicator. Apply paper backing and press it into the paste.
2. Allow 24-48 hour dwell time or time determined by the RE/PM.
3. If stripper becomes dry and is no longer flexible, mist the surface with water until the stripper is softened.
4. Remove the stripper and dissolved paint by inserting a corrosion resistant spatula, trowel, or other suitable scraping device through the paste and carefully lifting the paint and paste from the surface in one piece. Remove as much residue from the surface as possible.
5. If paint remains on the surface, repeat steps 1 through 4.
6. Rinse using pressurized water.
7. When all the paint is removed, neutralize the surface with an acidic afterwash if required by the Manufacturer. Dilute the afterwash according to the manufacturer’s recommendations. Brush apply the solution in a gentle scrubbing manner.
8. Allow the solution to remain on the surface according to the manufacturer’s recommendations.
9. Pressure rinse with water. Rinse from the bottom to the top, covering each section of the surface with a concentrated stream of water.
10. Verify the neutralization of the surface by testing for pH.

3.5 MECHANICAL PAINT REMOVAL METHODS

A. Use mechanical methods specified below to remove loose and deteriorated paint coatings from metal surfaces.
B. Ensure that all damaged coatings are removed. Provide sound, stable surface for the application of new paint coatings.
C. Clean metal surfaces to standards of Steel Structures Painting Council (SSPC) SP11.

3.6 PROCEDURES FOR REMOVABLE FERROUS METAL UNITS

A. Remove ferrous metal units from site.
B. Remove ferrous metal units to shop for removal of paint and corrosion by abrasive grit blasting.
C. Immediately following grit blasting procedure, wipe cleaned metal with solvent recommended by primer manufacturer and apply prime paint.

1. See Section 09900 for primer.

3.7 PROCEDURES: ABRASIVE GRIT BLASTING

A. Abrasive blasting shall be used for the removal of paint from all iron items to be removed from the site for restoration
B. Remove all paint and scale from all surfaces, both interior and exterior of all cast iron, by abrasive grit blasting to bare metal. Blasting procedures shall comply with the standards of the Steel Structures Painting Council (SSPC).
C. Blasting procedures shall comply with all Federal, State, and local regulations for the containment and disposal of blasting material and paint. Laborers shall be equipped with
proper protective clothing, equipment, and training according to OSHA and all other applicable regulations.

3.8 CLEAN-UP AND PROTECTION

A. Clean-up: Properly contain all run-off from stripping. Remove rubbish, rags and effluent from the site at the end of each work day, in appropriately marked containers.

B. Protection: Protect the work of other trades against damage by stripping work. Correct any damage by cleaning, repairing, or replacing, as acceptable to the RE/PM, at no additional cost to the City.

C. Removal and disposal of paint residue and stripping materials shall comply with all Federal, State, and local regulations. Workers shall be equipped with proper protective clothing, equipment, and training according to OSHA and all other applicable regulations.

3.9 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>09 91 01-1</td>
<td>Remove paint and finishes from woodwork.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 91 01-2</td>
<td>Remove paint from ironwork and provide one coat of primer.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>09 91 01-3</td>
<td>Remove paint from masonry.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 09 91 01]
SECTION 10 14 00 – SIGNAGE

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide interior signage in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:
   1. Interior and exterior etched metal dimensional plaque signs.
   2. Interior acrylic plaque signs with subsurface graphics.
   3. Interior photopolymer signs.

B. Related Sections

1. Section 04 20 00 - Unit Masonry.
2. Section 09 23 00 - Gypsum Plastering.
3. Section 09 29 00 - Gypsum Board Assemblies

1.2 SUBMITTALS

A. Product Data: Submit manufacturer’s construction details relative to materials, dimensions of individual components, profiles, and finishes for each type of sign required.

B. Shop Drawings: Provide shop drawings for fabrication and erection of signs. Include location plans, elevations, and large-scale sections of typical members and other components. Show anchors, grounds, reinforcement, accessories, layout, and installation details.
   1. Provide message list for each sign required, including full size layout of text, graphics and tactile elements. Provide layout with selected font styles.
   2. For signs supported by or anchored to permanent construction, provide setting drawings, templates, and directions for installation of anchor bolts and other anchors to be installed as a unit of Work in other Sections.

C. Samples: Submit samples of each sign component for initial selection of color, pattern and surface texture as required and for verification of compliance with requirements indicated.

1.3 PROJECT CONDITIONS

A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication to ensure proper fitting. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay.

1.4 QUALITY ASSURANCE

A. Compliance: Provide signs that comply with all ADA code requirements for
accessibility.

B. Single-Source Responsibility: For each separate type of sign required, obtain signs from one source from a single manufacturer.

1.5 PROJECT CONDITIONS

A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication to ensure proper fitting. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the Work include but are not limited to the following:

1. ASI Sign Systems Inc.
2. Diskey Sign Corporation.
4. Or approved equal.

2.2 MATERIALS

A. Cast Acrylic Sheet: Provide cast (not extruded or continuous cast) methyl methacrylate monomer plastic sheet, in sizes and thicknesses indicated, with a minimum flexural strength of 16,000 psi when tested in accordance with ASTM D 790, a minimum allowable continuous service temperature of 176 deg F (80 deg C).

B. Bronze Plate: Provide bronze plate, copper alloy UNS C28000, Muntz metal, 60 percent copper.

C. Stainless Steel Plate, Sheet, and Strip: Provide stainless steel plate, sheet, or strip, AISI Type 302, complying with requirements of ASTM A 167.

D. Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12 except containing no asbestos fibers.

E. Colored Coatings for Acrylic Plastic Sheet: Use colored coatings, including inks and paints for copy and background colors that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and are non-fading for the application intended.

F. Fasteners: Use concealed fasteners fabricated from metals that are not corrosive to the sign material and mounting surface.

G. Anchors and Inserts: Use nonferrous metal or hot-dipped galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed
steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.3 METAL PLAQUE SIGNS

A. Panel Signs: Comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.

   1. Produce smooth, even, level sign panel surfaces, constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally.

B. Unframed and Framed Panel Signs: Fabricate signs with edges mechanically and smoothly finished to conform with the requirements indicated on drawings.

C. Laminated Sign Panels: Permanently laminate face panels to backing sheets of material and thickness indicated using the manufacturer’s standard process.

D. Brackets: Fabricate brackets and fittings for bracket-mounted signs from extruded aluminum to suit sign panel construction and mounting conditions indicated. Factory-paint brackets in a color matching the background color of the sign panel.

E. Graphic Content and Style: Provide sign copy that complies with the requirements indicated for size, style, spacing, content, position, material, finishes, and colors of letters, numbers, and other graphic devices.

F. Metal Etched Copy: Photochemical copy, graphics and braille by the photochemical process, relief or incised. Precisely formed, uniformly opaque paint filled complying with requirements, size, style, spacing, content, position and colors.

G. Acrylic Subsurface Copy: Equal to SPG Laminated Plaques. Subsurface graphics applied to sign face second surface with precisely formed uniformly opaque graphics that complies with requirements indicated and of colors, size, style, spacing, content, position and colors selected. Laminate clear acrylic panel over base panel.

H. Photopolymer Copy: Tactile copy and braille raised 1/32 inch from plaque first surface by photochemical stratification process. Precisely formed, uniformly spaced opaque graphics to comply with ADA requirements and of size, style spacing, content, position and colors required.

2.4 FINISHES

A. Colors and Surface Textures: For exposed sign material that requires selection of materials with integral or applied colors, surface textures or other characteristics related to appearance, provide color matches indicated, or if not indicated, as selected by the RE/PM from the manufacturer’s standards.

B. Metal Finishes: Comply with NAAMM “Metal Finishes Manual” for finish designations and
applications recommendations.

C. Bronze Finishes: Finish designations prefixed by “CDA” conform to the system established by the Copper Development Association for designating finishes.

1. Natural Satin Finish: CDA-M31O6x (Mechanical Finish: Fine satin directional textured; Clear Organic Coating: Manufacturer’s standard air-dry clear organic coating as specified below).

2. Clear Organic Coating: Air-dried acrylic coating Incralac as developed by International Copper Research Corporation, 1.0-mil minimum dry thickness.

3. Stainless Steel Finishes: Finish designations prefixed by “AISI” conform to the system established by the American Iron and Steel Institute for designating finishes.

   a. Bright, Directional Polish Finish: AISI No. 4 finish with grain direction as selected by RE/PM.

PART 3 – EXECUTION

3.1 INSTALLATION

A. General: Locate sign units and accessories where indicated, using mounting methods of the type described and in compliance with the manufacturer’s instructions.

1. Install signs level, plumb, and at the height indicated, with sign surfaces free from distortion or other defects in appearance.

B. Wall Mounted Panel Signs: Attach panel signs to wall surfaces using the methods indicated below:

   1. Silicone-Adhesive Mounting: Use liquid silicone adhesive recommended by the sign manufacturer to attach sign units to irregular, porous, or vinyl-covered surfaces. Use double-sided vinyl tape where recommended by the sign manufacturer to hold the sign in place until the adhesive has fully cured.

   2. Shim Plate Mounting: Provide manufacturer’s recommended concealed mounting methods for secure attachment to the substrate.

3.2 CLEANING AND PROTECTION

A. At completion of the installation, clean soiled sign surfaces in accordance with the manufacturer’s instructions. Protect units from damage until acceptance by the Owner.

3.3 MEASUREMENT AND PAYMENT

A. Unit Prices

<p>| Item # | Description | Unit of Measure |</p>
<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 14 00-1</td>
<td>Furnish and install acrylic panel sign for accessibility up to &amp; including one (1) Sq. Ft.</td>
</tr>
<tr>
<td>10 14 00-1a</td>
<td>Furnish and install acrylic panel sign for accessibility bigger than one (1) Sq. Ft.</td>
</tr>
<tr>
<td>10 14 00-2</td>
<td>Furnish and install photopolymer sign for accessibility up to and including one (1) Sq. Ft.</td>
</tr>
<tr>
<td>10 14 00-2a</td>
<td>Furnish and install photopolymer sign for accessibility bigger than one (1) Sq. Ft.</td>
</tr>
<tr>
<td>10 14 00-3</td>
<td>Furnish and install stainless steel sign for accessibility up to and including one (1) Sq. Ft.</td>
</tr>
<tr>
<td>10 14 00-3a</td>
<td>Furnish and install stainless steel sign for accessibility bigger than one (1) sq. ft.</td>
</tr>
<tr>
<td>10 14 00-4</td>
<td>Furnish and install acrylic nameplate sign up to &amp; including 3” x 12” complete as specified.</td>
</tr>
<tr>
<td>10 14 00-4a</td>
<td>Furnish and install stainless steel nameplate sign up to &amp; including 3” x 12” complete as specified.</td>
</tr>
</tbody>
</table>

B. All signs furnished and installed per this Section shall include “Braille” writing, deemed included in the Unit Price, at no additional cost to the City.

[END OF SECTION 10 14 00]
SECTION 10 21 13 – TOILET COMPARTMENTS

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide toilet compartments in accordance with the Contract Documents. The Work of this Section shall include the furnishing of all labor, materials and equipment necessary and required to completely install all steel toilet partitions and screens as indicated on the drawings provided during construction and as specified herein, including but not be limited to the following:

1. Type: Steel, color-coated finish and stainless steel compartments.
2. Compartment Style: Overhead braced and floor anchored or ceiling hung
3. Toilet compartment hardware, brackets, anchoring and accessories
4. Urinal screens: Wall hung

B. Related Sections include the following:

1. Division 5 Section “Metal Fabrications” for supports that attach units to overhead structural system.

1.2 SUBMITTALS

A. Product Data: For each type and style of toilet compartment and screen specified. Include details of construction relative to materials, fabrication, and installation. Include details of anchors, hardware, and fastenings.

B. Shop Drawings: For fabrication and installation of toilet compartment and screen assemblies. Include plans, elevations, sections, details, and attachments to other work.

1. Show locations of reinforcement and cutouts for compartment-mounted toilet accessories.
2. Show detailed layout of work, fabrication, erection, anchoring, jointing, construction, etc., for Architect’s approval.

C. Samples for Initial Selection: Manufacturer’s color charts consisting of sections of actual units showing the full range of colors, textures, and patterns available for each type of compartment or screen indicated.

D. Samples for Verification: Of each compartment or screen color and finish required, prepared on 6-inch (150-mm) square Samples of same thickness and material indicated for Work.

1.3 PROJECT CONDITIONS

A. Field Measurements: Verify dimensions in areas of installation by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
B. Examination: Verify all ceiling conditions for ceiling hung installations and notify RE/PM immediately of any conditions that would cause delay in the Work.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Accurate Partitions Corporation.
2. All American Metal Corp.
3. American Sanitary Partition Corp.
4. Ampco Products, Inc.
5. Bobrick Washroom Equipment, Inc.
6. Flush - Metal Partition Corp.
8. Global Steel Products Corp.
10. Metpar Corp.
11. Sanymetal Products, Co.
12. Or approved equal.

2.2 MATERIALS

A. General: Provide materials that have been selected for surface flatness and smoothness. Exposed surfaces that exhibit pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections on finished units are unacceptable.

B. Steel Sheets for Color-Coated Finish: Provide mill-phosphatized steel sheet that is leveled to stretcher-leveled flatness complying with the requirements of standards indicated below:

1. Hot-Dip Galvanized or Galvannealed Steel Sheet: ASTM A 653 (ASTM A 653M), in manufacturer’s standard coating designation and of the following minimum thicknesses:

   (a) Pilasters (Overhead Braced): 0.040 inch (1.0 mm).
   (b) Panels and Screens: 0.040 inch (1.0 mm).
   (c) Doors: 0.034 inch (0.85 mm).
   (d) Tapping Reinforcement: 0.079 inch (2.0 mm).

C. Stainless-Steel Sheet: ASTM A 666, Type 302 or 304, that is leveled to stretcher-leveled flatness, finished on exposed faces as indicated in the “Stainless-Steel Sheet Finishes” Article, and of the following minimum thicknesses:

1. Pilasters (Overhead Braced): 0.0375 inch (0.95 mm).
2. Pilasters (Unbraced): 0.0500 inch (1.3 mm).
3. Panels and Screens: 0.0375 inch (0.95 mm).
4. Doors: 0.0312 inch (0.8 mm).
5. Tapping Reinforcement: 0.0781 inch (2.0 mm).

D. Core Material for Metal-Faced Units: Manufacturer’s standard sound-deadening honeycomb of resin-impregnated kraft paper in thickness required to provide finished thickness of 1 inch (25 mm) minimum for doors, panels, and screens and 1-1/4 inches (32 mm) minimum for pilasters.

E. Pilaster Shoes and Sleeves (Caps): ASTM A 666, Type 302 or 304 stainless steel, not less than 0.0312 inch (0.8 mm) thick and 3 inches (75 mm) high, finished to match hardware.

F. Stirrup Brackets: Manufacturer’s standard ear or U-brackets for attaching panels and screens to walls and pilasters of the following material:


G. Hardware and Accessories: Manufacturer’s standard design, heavy-duty operating hardware and accessories of the following material:

2. All hardware except hooks shall be through bolted. One way type theft and vandal proof screws and fasteners shall be provided.

H. Overhead Bracing: Manufacturer’s standard continuous, extruded-aluminum head rail with antigrip profile in manufacturer’s standard finish.

I. Anchorages and Fasteners: Manufacturer’s standard exposed fasteners of stainless steel or chrome-plated steel or brass, finished to match hardware, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use hot-dip galvanized or other rust-resistant, protective-coated steel.

J. Fittings for ceiling hung stainless steel toilet compartment:

1. Wall brackets shall be stainless steel. Door strikes and hinges shall be fastened by means of “one-way” head tamper proof stainless steel bolts.
2. All pilasters to have a 3” high stainless steel shoe, 14 gauge minimum. Hinge brackets and stops shall have clamp flanges to transmit the strain of door closing to the pilaster.

2.3 FABRICATION

A. General: Provide standard doors, panels, screens, and pilasters fabricated for compartment system. Provide units with cutouts and drilled holes to receive compartment-mounted hardware, accessories, and grab bars, as indicated.

1. Provide internal reinforcement in metal units for compartment-mounted hardware,
accessories, and grab bars, as indicated.

B. Stainless Steel Toilet Compartment:

1. Doors, panels and pilasters shall be constructed of 2 face plates, with formed edges, assembled over and cemented under pressure to the sound deadening core. The formed edges shall be bound, locked and sealed with die-drawn locking strips which shall hold the plates with a tension grip. The outer face of the locking strips shall be uniformly rounded, except the strip on the panel edge in contact with the pilaster, which shall be flat. Locking strips shall be mitered and welded corners with welds ground smooth, and doors shall be further strengthened by internally brazing or welding the locking strips to the formed edges halfway in elevation on each side.

2. Doors and panels shall finish uniformly one (1) inch thick and pilasters shall finish uniformly 1-1/4” thick, with a tolerance of 1/32” inches plus or minus in each case. Surfaces shall be smooth and free from wave, warp and buckle. Doors, panels and pilasters shall have concealed tapped reinforcement for the attachment of hardware. Variations in width of enclosures, where necessary, shall be made by varying the width of the doors, leaving width of pilasters uniform.

3. Doors, panels and pilasters shall be formed as if one piece, flush, rack-proof unit that will remain flat under torsional stress.

4. Panels shall be attached to pilasters by not less than 3 hooks. The hooks shall be built into the contact edge of the panel and shall be designed to draw the panel and pilaster together with a tension grip when inserted into vertical openings in the pilaster and forced downward.

5. Pilaster bases shall be stainless steel, with clamp flanges for attachment to panels and pilasters and shall be provided with 2 holes for bolting to the wall.

C. Metal-Faced Toilet Compartments and Screens: Pressure laminate seamless face sheets to core material and provide continuous, interlocking molding strip or lapped and formed edges. Seal corners by welding or clips. Grind exposed welds smooth.

D. Overhead-Braced-and-Floor-Anchored Compartments: Provide manufacturer’s standard corrosion-resistant supports, leveling mechanism, fasteners, and anchors at pilasters to suit floor conditions. Make provisions for setting and securing continuous head rail at top of each pilaster. Provide shoes at pilasters to conceal supports and leveling mechanism.

E. Floor-Anchored Compartments: Provide manufacturer’s standard corrosion-resistant anchoring assemblies complete with threaded rods, lock washers, and leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

F. Wall-Hung Screens: Provide units in sizes indicated of same construction and finish as compartment panels, unless otherwise indicated.

1. Provide metal-faced screens with integral full-height flanges for attachment to wall.

G. Floor-Anchored Screens: Provide pilasters and panels of same construction and finish as
toilet compartments. Provide manufacturer’s standard corrosion-resistant anchoring assemblies complete with threaded rods, lock washers, and leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

H. Doors: Unless otherwise indicated, provide 24-inch (610-mm) wide in-swinging doors for standard toilet compartments and 36-inch (914-mm) wide out-swinging doors with a minimum 32-inch (813-mm) wide clear opening for compartments indicated to be handicapped accessible. Doors shall be provided with gravity, spring-loaded hinges with stainless steel cam, and corrosion resistant pintles concealed within the door.

1. Hinges: Manufacturer’s standard self-closing type that can be adjusted to hold door open at any angle up to 90 degrees or closed when not latched. Upper hinge shall have a pivot pin of stainless steel, to be recessed and inset into edge of door approximately 2” below top of door, operating in a self-lubricating bushing, mounted, within the door structure, supported both above and below the pivot bracket. Hinge shall operate without raising or lowering the door on a fixed horizontal plane.

2. Latch and Keeper: Manufacturer’s standard surface-mounted latch unit with combination rubber-faced door strike and keeper designed for emergency access. Provide units that comply with accessibility requirements of authorities having jurisdiction at compartments indicated to be handicapped accessible.

3. Coat Hook: Manufacturer’s standard combination hook and rubber-tipped bumper, sized to prevent door from hitting compartment-mounted accessories. Combination coat hook and bumper shall be fitted with renewable rubber bumper, have a minimum projection of 3-5/8 inches with base not less than 1-1/2” x 2”, or 1-3/4” diameter. Mount in center of door with center of base 3 inches below the top edge, with 1/4” through bolt fastening of acorn cone unit.

4. Door Bumper: Manufacturer’s standard rubber-tipped bumpers at out-swinging doors or entrance screen doors.

5. Door Pull: Manufacturer’s standard unit that complies with accessibility requirements of authorities having jurisdiction at all doors. Provide units on both sides of doors at compartments indicated to be handicapped accessible. Door pulls shall be cast chrome plated brass.

6. Push Plate: Push plate shall be 2-3/4 x 10 inches, chrome plated brass and shall be mounted with the bottom of the plate 30 inches from the bottom edge of the door.

2.4 ZINC- OR ZINC-ALLOY-COATED STEEL SHEET FINISHES

A. General: Comply with NAAMM’s “Metal Finishes Manual for Architectural and Metal Products” for recommendations relative to applying finishes.

B. Color-Coated Finish: Provide manufacturer’s standard baked finish complying with coating manufacturer’s written instructions for pretreatment, application, baking, and minimum dry film thickness.

1. Color: One color in each room as selected by the Architect from manufacturer’s full range of colors.

2.5 STAINLESS-STEEL SHEET FINISHES
A. General: Comply with NAAMM’s “Metal Finishes Manual for Architectural and Metal Products” for recommendations relative to applying and designating finishes.

1. Remove or blend tool and die marks and stretch lines into finish.
2. Grind and polish surfaces to produce uniform, directional textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.
3. All corners shall be mitered, welded and ground smooth.

B. Finish: Satin Finish or Smooth and Textured # 304 Stainless Steel and as specified by the Architect or RE/PM.

C. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

D. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipment.

PART 3 – EXECUTION

3.1 INSTALLATION

A. General: Comply with manufacturer’s written installation instructions. Install units rigid, straight, plumb, and level. Provide clearances of not more than 1/2 inch (13 mm) between pilasters and panels and not more than 1 inch (25 mm) between panels and walls. Secure units in position with manufacturer’s recommended anchoring devices.

1. Secure panels to walls and panels with not less than 2 stirrup brackets attached near top and bottom of panel. Locate wall brackets so holes for wall anchors occur in masonry or tile joints. Align brackets at pilasters with brackets at walls.
2. Each wall bracket shall be through bolted to the panel with 1/4 inch bolts with spanner heads and attached to the wall with two 1/4 inch bolts of suitable type.

B. Overhead-Braced-and-Floor-Anchored Compartments: Secure pilasters to floor and level, plumb, and tighten. Secure continuous head rail to each pilaster with not less than 2 fasteners. Hang doors and adjust so tops of doors are parallel with overhead brace when doors are in closed position.

C. Floor-Anchored Compartments: Set pilaster units with anchors penetrating not less than 2 inches (50 mm) into structural floor, unless otherwise indicated in manufacturer’s written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.

D. Screens: Attach with anchoring devices according to manufacturer’s written instructions and to suit supporting structure. Set units level and plumb and to resist lateral impact.

E. Ceiling Hung Compartments:

1. Each pilaster shall be supported independent of the finished floor and fastened to
the structural slab above by means of a built-in, welded, anchoring device designed to transmit the strains of lateral thrust and pull to the structure through two, 3/8 inch diameter, cadmium-plated stub bolts secured in expansion shields having a penetration of not less than 2 inches into the structural concrete. The anchoring device shall be readily accessible for leveling, plumbing and tightening the installation, and shall be concealed by base fitting.

2. All evidence of drilling, cutting and fitting of wall and/or ceiling finish shall be concealed by the finished work. The clearance at vertical edges of doors shall be uniform from top to bottom and shall not exceed 3/16 inch.

3. The Contractor is responsible to cut and fit, accurately and neatly, all anchoring device components. The Contractor shall be responsible to repair any and all damage caused by the installation to the ceiling or suspended ceiling system at no additional cost to the City.

3.2 ADJUSTING AND CLEANING

A. Hardware Adjustment: Adjust and lubricate hardware according to manufacturer’s written instructions for proper operation. Set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and swing doors in entrance screens to return to fully closed position.

B. Brackets shall be adjusted to provide uniform clearances not exceeding:

| Pilaster and wall: 1 inch |
| Panels and wall: 1 inch |
| Pilasters and panels: 1/2 inch |
| Pilasters and doors: 3/16 inch |

C. Provide final protection and maintain conditions that ensure toilet compartments and screens are without damage or deterioration at the time of Substantial Completion.

D. Upon completion of the Work, the Contractor shall thoroughly clean all Work per manufacturer’s recommendations. Finished surfaces shall be cleaned and left free of imperfections.

3.3 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 21 13-1</td>
<td>Furnish and install stainless steel toilet partitions, floor anchored.</td>
<td>Per stall</td>
</tr>
<tr>
<td>10 21 13-2</td>
<td>Furnish and install stainless steel toilet partitions, ceiling hung.</td>
<td>Per stall</td>
</tr>
<tr>
<td>10 21 13-3</td>
<td>Furnish and install stainless steel wall hung screens.</td>
<td>Each</td>
</tr>
</tbody>
</table>
10 21 13-4  Furnish and install replacement sections of partitions.  Per panel
[END OF SECTION 10 21 13]

[REST OF PAGE INTENTIONALLY LEFT BLANK]
SECTION 10 26 00 – WALL AND DOOR PROTECTION

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide wall surface protection systems in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

   (1) Wall protection systems, including:
       (a) Wall guards.
       (b) Corner guards.

B. Related Sections:

   (1) Section 06 10 00 - Rough Carpentry.

1.2 SUBMITTALS

A. Product data for each wall surface protection system component and installation accessory required, including installation methods for each type of substrate. Provide written data on each required component including physical characteristics, such as durability, resistance to fading, and flame resistance.

B. Shop drawings showing locations, extent, and installation details of wall and corner guards, and other protection systems. Show methods of attachment to adjoining construction.

C. Samples for Initial Selection: For initial selection of color, pattern and surface texture, provide the manufacturer’s standard color chips consisting of actual sections of each vinyl plastic material required showing the full range of materials, colors, and textures available.

D. Samples for Verification Purposes: Submit the following samples, prepared from the same material to be used in the Work, for verification of color, pattern, and texture selected and for compliance with requirements indicated:

   (1) 12 inch (300 mm) long samples of each type of wall and corner guard required.
       Include examples of joinery, corners, and field splices.

E. Product test reports from a qualified independent testing laboratory showing compliance of wall surface protection system components with requirements indicated based on tests performed by the laboratory within the past five years.

F. Maintenance data for wall surface protection system components.
1.3 QUALITY ASSURANCE

A. Installer Qualifications: An experienced Installer who has previously installed wall surface protection systems similar in scope, material, and extent to the systems indicated for this Project.

B. Manufacturer Qualifications: Firm experienced in manufacturing wall surface protection system components that are similar to those required for this Project and that have a record of successful in-service performance.

C. Fire Performance Characteristics: Provide wall surface protection system components that are identical to those tested in accordance with ASTM E 84 for the fire performance characteristics indicated below. Identify wall surface protection system components with appropriate markings from the testing and inspection organization.

(1) Flame Spread: 25 or less.
(2) Smoke Developed: 450 or less.

D. Impact Strength: Provide wall surface protection system components with a minimum impact resistance of 25.4 ft. x lb/sq. ft. (370 J/sq. m) when tested in accordance with ASTM D 256 (Izod impact, ft. x lb/in. (J/m) notch).

E. Single Source Responsibility: Obtain each color, grade, finish, and type of wall surface protection system component from a single source with resources to provided products of consistent quality in appearance and physical properties without delaying progress of the Work.

F. Design Criteria: The drawings indicate the size, profile and dimensional requirements of wall surface protection system components required and are based on the specific types and models indicated. Wall surface protection system components by other manufacturers may be considered provided deviations in dimensions and profiles are minor and do not change the design concept as judged by the Architect. The burden of proof of equality is on the proposer.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original factory wrappings and containers, clearly labeled with identification of manufacturer, brand name, quality or grade, and fire hazard classification.

B. Store wall surface protection materials in original undamaged packages and containers inside a well-ventilated area protected from weather, moisture, soiling, extreme temperatures, and humidity.

(1) Maintain room temperature within the storage area at not less than 70 deg F (21 deg C) during the period plastic materials are stored. Keep sheet material out of direct sunlight to avoid surface distortion.
(2) Store rigid plastic corner guard covers in a vertical position, and rigid plastic wall guard and handrail covers in a horizontal position for a minimum of 72 hours, or until the plastic material attains the minimum room temperature of 70 deg F (21 deg
1.5 PROJECT CONDITIONS

A. Environmental Conditions: Do not install wall surface protection system components until the space is enclosed and weatherproof and until the ambient temperature within the building is maintained at not less than 70 deg F (21 deg C) for not less than 72 hours prior to beginning of the installation. Do not install rigid plastic wall surface protection systems until that temperature has been attained and is stabilized.

1.6 MAINTENANCE

A. Maintenance Instructions: Provide the manufacturer’s instructions for maintenance of installed work. Include recommended methods and frequency for maintaining optimum condition under anticipated traffic and use conditions. Include precautions against cleaning materials and methods that may be detrimental to finishes and performance.

B. Replacement Materials: After completion of work, deliver not less than 2 percent of each type, color, and pattern of wall surface protection materials and components. Include accessory components as required. Replacement materials shall be from the same production run as materials installed. Package replacement materials with protective covering, identified with appropriate labels.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products for wall surface protection which may be incorporated into the Work include, but are not limited to, the following:

(1) American Floor Products Co., Inc.
(2) Balco, Inc.
(3) Brown Manufacturing Co.
(4) Construction Specialties, Inc.
(5) K. J. Miller Corporation.
(6) A. R. Nelson Co., Inc.
(7) Pawling Corporation.
(8) Tepromark International, Inc.
(9) Tri-Guards, Inc.
(10) Tubular Specialties.
12. Or approved equal.

2.2 MATERIALS

A. Rigid Plastic Material: Extruded, textured, chemical- and stain-resistant, high-impact, polyvinyl chloride (PVC) or acrylic modified vinyl plastic, thickness as indicated. Comply with specified requirements of ASTM D 256 for impact resistance and
ASTM E 84 for flame spread and smoke developed characteristics.

1. Colors and Textures of Plastic Material: Provide extruded plastic material that matches colors and textures indicated by reference to the manufacturer’s standard color and texture designations.

B. Aluminum Extrusions: Provide alloy and temper recommended by the manufacturer for the type of use and finish indicated, but with not less than the strength and durability properties specified in ASTM B 221 (ASTM B 221M) for 6063-T5.

C. Stainless Steel: AISI Type 304, stainless steel plate, minimum 0.06 inch (1.5 mm), No. 4 satin finish.

D. Fasteners: Provide aluminum, nonmagnetic stainless steel, or other non-corrosive metal screws, bolts, and other fasteners compatible with aluminum components, hardware, anchors, and other items being fastened. Use theft-proof fasteners where exposed to view.

2.3 WALL GUARDS

A. Crash Rail Type Wall Guards: Provide nominal 8 inch (200 mm) high by 1 inch (25 mm) deep, heavy duty crash rail wall guard assembly consisting of a snap-on-type plastic cover installed over a continuous aluminum retainer mounted at height indicated.

   (1) Cover shall be extruded, rigid, impact-resistant plastic, minimum 0.110 inch (2.8 mm) thick, in profile indicated.

   (2) Retainer: Manufacturer’s standard continuous, one-piece, extruded aluminum retainer, minimum 0.0625 inch (1.6 mm) thick, with continuous rubber or vinyl bumper cushion centered in the extrusion.

   (a) Mounting Type: Surface-mounted flush on wall.

   (3) Accessories: Provide prefabricated, injection-molded end caps and inside and outside corners with concealed splices, cushions, mounting hardware, and other accessories as required.

   (a) End caps and inside and outside corners shall match plastic cover color and shall be field adjustable for close alignment with snap-on plastic covers.

2.4 CORNER GUARDS

A. Surface-Mounted, Resilient Plastic Corner Guards: Provide surface-mounted, resilient plastic corner guard assembly consisting of a snap-on-type plastic cover installed over a continuous aluminum retainer, height as indicated.

B. Stainless Steel Corner Guards: Provide manufacturer’s standard paper-covered satin finish, 0.059 inch (1.5 mm) minimum, stainless steel sheet corner guards, height as indicated. Provide 90-degree turn, unless otherwise indicated, and formed edges.
1. Wing Size: 2-1/2 x 2-1/2 inch (64 x 64 mm) wings, unless otherwise indicated.
2. Mounting Method: Countersunk screws with mounting holes 8 inches (200 mm) on center.
3. Corner Radius: 1/8 inch (3 mm), unless otherwise indicated.

2.5 FABRICATION

A. General: Fabricate wall and door protection systems to comply with requirements indicated for design, dimensions, details, finish, and member sizes, including wall thicknesses of components.

B. Preassemble components in the shop to the greatest extent possible to minimize field assembly. Disassemble only as necessary for shipping and handling.

C. Fabricate components with tight seams and joints with exposed edges rolled. Provide surfaces free of evidence of wrinkling, chipping, uneven coloration, dents, and other imperfections. Fabricate members and fittings to produce flush, smooth, and rigid hairline joints.

D. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors for interconnection of members to other construction.

E. Provide inserts and other anchorage devices for connecting components to concrete or masonry. Fabricate anchoring devices to be capable of withstanding imposed loads. Coordinate anchoring devices with the supporting structure.

2.6 FINISHES

A. General: Comply with NAAMM “Metal Finishes Manual” for recommendations relative to application and designations of finishes.

B. Finish designations prefixed by “AA” conform to the system established by the Aluminum Association for designating aluminum finishes.

C. Aluminum Mill Finish: AA-M10 (Mechanical Finish: as fabricated, unspecified).

D. Stainless Steel: Provide AISI No. 4 finish (bright directional polish).

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions in which wall surface protection components and wall protection systems will be installed.

(1) Complete all finishing operations, including painting, before beginning installation of wall surface protection system materials.

B. Do not proceed with installations until unsatisfactory conditions have been corrected.
3.2 PREPARATION

1. General: Prior to installation, clean substrate to remove dust, debris, and loose particles.

3.3 INSTALLATION

A. General: Install wall surface protection units plumb, level, and true to line without distortions.

   (1) Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished work.

B. Install aluminum retainers, mounting brackets, and other accessories in strict accordance with the manufacturer’s instructions.

   (1) Where splices occur in horizontal runs of over 20 feet (6 m), splice aluminum retainer and plastic cover at different locations along the run.

3.4 CLEANING

A. General: Immediately upon completion of installation, clean plastic covers and accessories using a standard ammonia based household cleaning agent. Clean metal components in accordance with the manufacturer’s recommendations.

B. Remove excess adhesive using methods and materials recommended by manufacturer.

C. Remove surplus materials, rubbish, and debris resulting from installation upon completion of work and leave areas of installation in neat, clean condition.

3.5 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 26 00-1</td>
<td>Furnish and install heavy-duty crash rail type wall guard with retainer as specified.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>10 26 00-2</td>
<td>Furnish and install corner guards with retainer as specified.</td>
<td>Per lin. ft.</td>
</tr>
<tr>
<td>10 26 00-3</td>
<td>Furnish and install stainless steel corner guards as specified.</td>
<td>Per lin. ft.</td>
</tr>
</tbody>
</table>
SECTION 10 28 00 – TOILET AND BATH ACCESSORIES

PART 1 – GENERAL

1.1  SUMMARY

A. Work included: Provide toilet and bath accessories in accordance with the Contract Documents. The Work of this Section shall include the furnishing and installation of toilet and bath accessories required as indicated on the plans/drawings and required by the job conditions. Work includes but is not limited to:

1. Stainless steel toilet issue dispensers.
2. Stainless steel paper towel dispenser and waste receptacle.
4. Warm air dryers.
5. Mirrors.
7. Underlavatory guards.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 2 Section 02 41 19 - Demolition and removal of selected portions of buildings and site elements.
2. Division 9 Section 09 30 00 - Tiling
3. Division 10 Section 10 21 13 - Toilet Compartments

1.2  SUBMITTALS

A. Product data for each type of product specified. Include construction details, material descriptions and thicknesses, dimensions, profiles, fastening and mounting methods, specified options, and finishes for each type of accessory.

B. Shop drawings: Verify dimensions and show location of accessories. Include plans, elevations, sections, details and attachments to other work.

C. Samples for Initial Selection: Manufacturer’s color charts showing full range of colors, textures and patterns available to each accessory: verify design operation and finish requirements.

D. Approved full-size samples will be returned and may be used in the Work.

E. Maintenance Data: For accessories to include in maintenance manuals specified in Division 1. Provide lists of replacement parts and service recommendations.

1.3  COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by disabled persons, proper installation, adjustment, operation, cleaning, and servicing of accessories.
B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.4 GUARANTEES

A. General Guarantee: Special guarantee specified in this Article shall not deprive DOHMH of other rights DOHMH may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other guarantees made by Contractor under requirements of the Contract Documents.

B. Manufacturer’s Mirror Guarantee: Written guarantee, executed by mirror manufacturer, agreeing to replace mirrors that develop visible silver spoilage defects within minimum guarantee period indicated.

C. The Guarantee Period is Fifteen (15) years, and shall commence upon final acceptance of the Work.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with requirements, manufacturers offering accessories that may be incorporated into the Work include, but are not limited to, the following:

1. American Specialties, Inc.
2. Bobrick Washroom Equipment, Inc.
3. A & J Washroom Accessories, Inc.
5. General Accessory Manufacturing Co. (GAMCO).
6. McKinney/Parker Washroom Accessories Corp.
8. American Dryer, Inc.
10. Brocar Products, Inc.
11. Truebro Inc.
12. Or approved equal.

2.2 MATERIALS

A. Stainless Steel: ASTM A 666, Type 304, with No. 4 finish (satin), in 0.0312-inch (0.8-mm) minimum nominal thickness, unless otherwise indicated.

B. Baked Enamel Finish: Factory-applied, gloss-white, baked acrylic-enamel coating.

C. Mirror Glass: ASTM C 1036, Type 1, Class 1, Quality q2, nominal 6.0 mm thick, with silvering, electroplated copper coating and protective organic coating complying with FS DD-M-411. Thickness of glass will be historic 1/4 inch (6 MM).

E. Fasteners: Screws, bolts, and other devices of same material as accessory unit, tamper and theft resistant when exposed, and of galvanized steel when concealed.

2.3 FABRICATION

A. General: Names or labels are not permitted on exposed faces of accessories. On interior surface not exposed to view or on back surface of each accessory, provide printed, waterproof label or stamped nameplate indicating manufacturer’s name and product model number.

B. Surface Mounted Toilet Accessories: Unless otherwise indicated, fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with continuous stainless-steel hinge. Provide concealed anchorage where possible.

C. Recessed Toilet Accessories: Unless otherwise indicated, fabricate units of all-welded construction, without mitered corners. Hang doors and access panels with full-length, stainless-steel hinge. Provide anchorage that is fully concealed when unit is closed.

D. Framed Glass-Mirror Units: Fabricate frames for glass-mirror units to accommodate glass edge protection material. Provide mirror backing and support system that permits rigid, tamper-resistant glass installation and prevents moisture accumulation.

E. Mirror-Unit Hangers: Provide mirror-unit mounting system that permits rigid, tamper- and theft-resistant installation, as follows: One piece galvanized steel, wall-hanger device with spring-action locking mechanism to hold mirror unit in position with no exposed screws or bolts.

F. Keys: Provide universal keys for internal access to accessories for servicing and re-supplying. Provide minimum of six keys to DOHMH.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturer’s written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Mirrors: Secure mirrors to walls in concealed tamper-resistant manner with special hangers, toggle bolts, or screws. Set units level, plumb and square at locations indicated, according to manufacturer’s written instructions for substrate indicated.

1. Adjustable Tilt Mirror type, frame 18 gauge stainless steel with corners welded and ground smooth. Tilts a full 6” (152mm), bottom mounted on full width stainless steel piano hinge. Size 48” x 36” (122 x 91cm).
2. Channel Frame Mirror 1/2" x 1/2" x 1/2" (13 x 13 x 13mm) 20 gauge, satin finish stainless steel channel with mitered corner. Install on two wall brackets with theft-resistant screws.

3. Stainless Steel Channel Frame Mirror with shelf, 1/2" x 1/2" x 1/2" (13 x 13 x 13mm) 18 gauge stainless steel shelf with satin finish.

C. Grab Bars: Install horizontal or vertical as indicated on drawings/plans and as specified.

1. Snap Flange-Type, 1-1/4" (32 mm) o.d. or 1-1/2" (38mm) o.d. Concealed mounting flange 3-1/8" (79mm) o.d. diameter with two screw holes and three locking dimples, 1/8" (3mm) thick, type 304 stainless steel. Stainless steel cover with satin finish, 22 gauge, 3-3/16" (81 mm) diameter.

2. Concealed Mounted: 1-1/4" (32mm) o.d. or 1-1/2" (38mm); flange 3" (76 mm) diameter, 1/2" (13mm) deep, 11 gauge step 304 stainless steel; tenon plate 13 gauge with slotted screw holes. Flange secured to concealed tenon plate with 3 stainless steel Allen head screws.

3. Exposed Mounted: 1-1/4" (32mm) o.d. or 1-1/2" (38mm) o.d.; flange 3" (76mm) diameter; 1/8" (3mm) thick type 304 stainless steel with a satin finish. Exposed mounting screw holes are drilled and countersunk.

4. Install grab bars to withstand a downward load of at least 250lbf (1112N), when tested according to method in ASTM F 446.

D. Roll Toilet Tissue and Paper Towel Dispenser and Waste Receptacle: Install stainless steel; dispenses rolls 8" or 9" (205 or 230mm) wide, 800 ft. long in preset lengths, 2-1/2", 4" or 5" (65, 100, 125mm) per stroke. Removable 10 gallon (37.8L) waste container. Wall opening 14-1/2" x 39 5/8" x 9-1/8" (370 x 1000 x 240mm). Mounting height 24" (610mm) from bottom of unit to floor suggested or as indicated on plans/drawings, Barrier-Free, 5" (130mm).

E. Surface Mounted Dual Roll Toilet Paper Dispenser: Overall size 6" x 12" x 6-1/2" (150 x 300 x 165mm). Install Type 304 stainless steel cabinet and mechanism with theft-resistant spindles. Holds two rolls up to 5-1/4" (135mm) diameter (1800) sheets; top roll to automatically drop in place when bottom roll used up.

F. Soap Dispensers:

1. Install horizontal soap dispenser for liquid, lotion and detergent type soap. Capacity 48 fluid ounces (1.2L). Unbreakable refill window, concealed fastening and hinged filler-top for vandal resistance.

2. Install recessed soap dispenser for liquid, lotion and detergent type soap. Capacity 48 fluid ounces (1.2L). Unbreakable refill window, concealed fastening, vandal resistant.

3. Install stainless steel, lavatory mounted all purpose soap dispenser, top filling with corrosion-resistant valve, vandal resistant with adjustable threaded shank allowing installation in countertops up to 3 1/2" (90mm) thick through 1/8" (22mm) diameter hole.

G. Warm Air Dryers (4” deep, ADA Compliant): Install surface mounted one piece stainless steel cover. Stainless steel cover shall be 18 gauge (1.3mm) and shall have satin or bright finish. Dryer shall not protrude more than 4” (102mm) from the wall and shall comply
with ADAAG requirements. The motor shall be a 1/4 HP 7500 RPM deal shaft brush type, with two blower housings, two fans, and two totally enclosed heating elements. The unit shall send 183 cubic feet per minute of warm air through two directional tamper-resistant air exits and be protected by automatic resetting thermal protection device. The unit shall have hands-free automatic stop/start infrared circuitry and self adjusting timeout and fail safe “off protection.” The entire unit shall be internally grounded and shall have universal voltage circuitry allowing it to operate at input voltages of 100 to 240 VAC-50/60 Hz. It shall be UL, CSA, EN, and CE listed.

H. Underlavatory Guards: Install stainless steel, 18 gauge (1.3mm) lavatory guards where indicated on plans/drawings and per specifications.

I. The Contractor is responsible to cut and fit, accurately and neatly, all devices and anchoring components. The contractor shall repair any and all damage, caused by his installation to adjacent surfaces or during the course of his installation damage the work of other contractors at no additional cost to the City of New York.

3.2 ADJUSTING AND CLEANING

A. Adjust accessories for unencumbered, smooth operation and verify that mechanisms are functioning properly. Replace damaged or defective items.

B. Remove temporary labels and protective coatings.

C. Upon completion of the Work, the Contractor shall thoroughly clean and polish exposed surfaces according to manufacturer’s written recommendations.

3.3. MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>102800-1</td>
<td>Furnish and install stainless steel dual roll toilet tissue dispenser.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-1A</td>
<td>Install stainless steel dual roll toilet tissue dispenser.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-2</td>
<td>Furnish and install stainless steel paper towel dispenser and waste receptacle.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-2A</td>
<td>Install stainless steel paper towel dispenser and waste receptacle.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-3</td>
<td>Furnish and install stainless steel grab bar, snap flange type, concealed mounted.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-4</td>
<td>Furnish and install stainless steel grab bar, concealed mounted.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-5</td>
<td>Furnish and install stainless steel grab bar, exposed mounted.</td>
<td>Each</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Unit</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>102800-6</td>
<td>Furnish and install stainless steel, ADA-compliant warm air dryer.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-6A</td>
<td>Install stainless steel, ADA-compliant warm air dryer.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-7</td>
<td>Furnish and install ADA-compliant framed glass mirror unit, adjustable tilt type, 18 ga. stainless steel.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-7A</td>
<td>Install ADA-compliant framed glass mirror unit, adjustable tilt type, 18 ga. stainless steel.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-8</td>
<td>Furnish and install framed glass mirror unit, channel frame type, 20 ga. stainless steel.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-8A</td>
<td>Install framed glass mirror unit, channel frame type, 20 ga. stainless steel.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-9</td>
<td>Furnish and install framed glass mirror unit, channel frame type with shelf, 18 ga. stainless steel.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-9A</td>
<td>Install framed glass mirror unit, channel frame type with shelf, 18 ga. stainless steel.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-10</td>
<td>Furnish and install stainless steel horizontal soap dispenser.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-10A</td>
<td>Install stainless steel horizontal soap dispenser.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-11</td>
<td>Furnish and install stainless steel recessed soap dispenser.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-11A</td>
<td>Install stainless steel recessed soap dispenser.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-12</td>
<td>Furnish and install stainless steel countertop soap dispenser, lavatory mounted, top filling with valve.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-12A</td>
<td>Install stainless steel countertop soap dispenser, lavatory mounted, top filling with valve.</td>
<td>Each</td>
</tr>
<tr>
<td>102800-13</td>
<td>Furnish and install stainless steel under lavatory guard.</td>
<td>Lin. Ft.</td>
</tr>
</tbody>
</table>

B. DOHMH reserves the right to provide materials for installation purposes only as pertains to 102800-1A, 102800-2A, 102800-6A, 102800-7A, 102800-8A, 102800-9A, 102800-10A, 102800-11A, 102800-12A.
SECTION 10 44 13 – FIRE EXTINGUISHER CABINETS

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide fire extinguisher cabinets in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Fire extinguisher cabinets.

B. Related Sections

1. Section 09 29 00 - Gypsum Board Assemblies.

1.2 QUALITY ASSURANCE

A. Single Source Responsibility: Obtain fire extinguisher cabinets from one source from a single manufacturer.

1.3 SUBMITTALS

A. Product Data: Submit product data for each type of product specified. For fire extinguisher cabinets include roughing-in dimensions and details showing mounting methods, relationships of box and trim to surrounding construction, door hardware, cabinet type and materials, trim style and door construction, and panel style and materials.

B. Samples: Submit samples of each required finish on metal of same gage as used for production. Where normal color variations are to be expected, include 2 or more units in each sample set showing limits of variation.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Manufacturer: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include but are not limited to the following:

1. Croker.
2. Allenco
3. Larsen’s Manufacturing Co.
4. Potter-Roemer, Inc.
5. J.L. Industries.
6. Or approved equal.

B. Products: Subject to compliance with requirements, provide 2600 Series - Model #2606 fire extinguisher cabinets as manufactured by Croker, or approved equal by specified...
manufacturers.

2.2 FIRE EXTINGUISHER CABINETS

A. General: Provide fire extinguisher cabinets where indicated, of suitable size for housing fire extinguishers of types and capacities indicated.

B. Construction: Manufacturer’s standard enameled steel box, with trim, frame, door and hardware to suit cabinet type, trim style, and door style indicated. Weld all joints and grind smooth. Miter and weld door frames.

C. Cabinet Type: Suitable for mounting conditions indicated, of the following types:

1. Trimless Cabinet Type: Cabinet box recessed in walls of sufficient depth to suit style, for trimless installation.

D. Trim Style: Fabricate trim in one piece with corners mitered, welded, and ground smooth.

   1. Trimless: Surface of surrounding wall finishes flush with exterior finished surface of frame and door of fire extinguisher cabinet, without any overlapping trim attached to cabinet.
   2. Trimless with hidden flange of same metal and finish as box that overlaps surrounding wall finish and is concealed from view by an overlapping door.

E. Door Material and Construction: Manufacturer’s standard door construction, of material indicated, coordinated with cabinet types and trim styles selected.

   1. Stainless Steel: Manufacturer’s standard door construction, fabricated from austenitic stainless steel type 304 with No. 4 finish complying with ASTM A 167, and clear bubble insert.

F. Door Style: Manufacturer’s standard design as indicated below, or equal from approved manufacturer.


G. Door Hardware: Provide manufacturer’s standard door operating hardware of proper type for cabinet and door indicated. Provide friction latch and continuous hinge permitting door to open 180 degrees.

2.4 FACTORY FINISH

A. General: Factory finish fire extinguisher cabinets to comply with NAAMM “Metal Finishes Manual” after products are assembled. Protect cabinets with plastic or paper covering, prior to shipment.

B. Stainless Steel Finish: AISI No. 4 finish, bright, directional polish finish.
PART 3 – EXECUTION

3.1 INSTALLATION

A. Install items of this section in locations and at mounting heights indicated, or if not indicated, at heights to comply with applicable regulations of governing authorities.

1. Prepare recesses in walls for fire extinguisher cabinets as required by type and size of cabinet and style of trim and to comply with manufacturer’s instructions. Report to RE/PM in writing any unsatisfactory conditions and do not proceed with installation until such conditions have been corrected.

   a. “Trimless” fire extinguisher cabinets must be installed before drywall is installed.

2. Securely fasten fire extinguisher cabinets to structure, square and plumb, to comply with manufacturer’s instructions.

3. Clean all exposed surfaces and repair any damage to products or finish to match original or replace.

3.2 MEASUREMENT AND PAYMENT

A. Unit Prices

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 44 13-1</td>
<td>Furnish and install fire extinguisher cabinet as specified.</td>
<td>Each</td>
</tr>
<tr>
<td>10 44 13-2</td>
<td>Remove and relocate existing fire extinguisher to ADA compliant height including all hardware.</td>
<td>Each</td>
</tr>
</tbody>
</table>

[END OF SECTION 10 44 13]
SECTION 12 20 00 – WINDOW TREATMENT

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: The Work of this Section shall include, but not be limited to, the following:

1. Custom size fabric-type roller shades, manually operated.
2. Custom size double-roller sun screen and room-darkening shades
3. Shade material as scheduled
4. Closures and trims.
5. Light-proof jamb and sill channels.

1.2 REFERENCES


PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include the following:

1. DFB Sales. (Specified)
2. MechoShade
3. Draper, Inc.

B. WT-01/WT-02: Products and Manufacturers: Refer to "Appendix A" Finish Schedule for all products and manufacturers.

2.2 SINGLE ROLLER SOLAR-TYPE SHADES, MANUALLY OPERATED

A. General: The shade system shall be a single roller-mesh fabric-type system with a smooth operating roller system which incorporates an adjustable slip clutch to control the rate of fall for a free running zero friction factor with infinite preset positions.

1. Provide the manufacturer's standard stainless steel or nickel plated steel bead-chain operator, as selected by the Architect.

2. Shade unit shall be of the sizes required to fit existing openings and as determined by field measurement.

B. Shade Roller: Extruded 6063-XT6 aluminum tube, 1-1/2" diameter with integral key ways as indicated, and extruded with two fabric mounting channels per roller.
C. Mounting Brackets: 1/8" thick sheet steel; wall jamb or ceiling mounted as indicated. Center support brackets as required to span or weight loads.

2.3 DUAL ROLLER TYPE SHADES MANUALLY OPERATED

A. General: The shade system shall be a dual roller, dual fabric-type system with a smooth operating chain-driven roller system which incorporates an adjustable slip clutch to control the rate of fall for a free running zero friction factor with infinite preset positions, as selected by the Architect. Shade unit shall be of the sizes required to fit existing openings and as determined by field measurement. Dual-shade system shall consist of two independent roller assemblies, each fashioned with one of the following separate shade fabrics:

1. Dual-fabric shades shall consist of a single roller assemblies, fashioned with two separate shade fabric

B. Shade Rollers: Extruded 6063-XT6 aluminum tubes, 1-1/2" diameter with integral keyways to receive tubular motors as indicated, and extruded with two fabric mounting channels per roller.

C. Mounting Brackets: 1/8" thick sheet steel; wall jamb or ceiling mounted as indicated. Center support brackets as required to span or weight loads.

D. Provide manufacturer's standard extruded aluminum 6063-T5 trim system of the sizes and configurations necessary. Provide a baked-on enamel finish in the colors selected by the Architect.

E. Black-Out Channels: Provide the manufacturer's standard extruded aluminum black-out channel system accessories. Provide single-, and double-channels complete with light seals as selected by the Architect.

1. Provide sill seal assemblies acceptable to the Architect. Assemblies shall be capable of preventing light leakage at the shade to sill condition.

2. Provide a baked-on enamel finish in the colors selected by the Architect.

F. Bead Chain: Metal, unless otherwise indicated.

2.4 SHADE CLOTH


1. Color and weave and openness: As scheduled.

B. Room darkening (PVC Free) Shade cloth with opaque acrylic backing: thick blackout material and weighing .94 lbs. per square yard, comprising of 53% fiberglass, 45% acrylic, 2% poly finish. as selected by Architect.

1. Color and weave and openness: As scheduled

2.5 ACCESSORIES
A. Roller Shade Pocket for recessed mounting in acoustical tile, or drywall ceilings as indicated on the Drawings

1. Provide either extruded aluminum and or formed steel shade pocket, sized to accommodate roller shades, with exposed extruded aluminum closure mount, tile support and removable closure panel to provide access to shades.

B. Room Darkening Side and / or Sill Channels.:

1. Manufacturer's light-proof jamb and sill channels designed to specifically eliminate light penetration about the shades; when in the closed position. Accessories shall be of the sizes, configurations and finish/color acceptable to the Architect.

2.6 METAL FINISHES

A. All exposed steel surfaces shall be finished in manufacturer's standard baked-enamel finish in color selected by Architect.

[END OF SECTION 12 20 00]
SECTION 32 12 16 – ASPHALT PAVING

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Hot-mix asphalt patching.
   2. Hot-mix asphalt paving.
   3. Hot-mix asphalt paving overlay.
   4. Asphalt surface treatments.
   5. Pavement-marking paint.
   7. Imprinted asphalt.

B. Related Sections:
   1. Division 31 Section "Earth Moving" for aggregate subbase and base courses and for aggregate pavement shoulders.
   2. Division 32 Sections for other paving installed as part of crosswalks in asphalt pavement areas.
   3. Division 7 Section "Joint Sealants" for joint sealants and fillers at paving terminations.

1.2 SYSTEM DESCRIPTION

A. Provide hot-mix asphalt pavement according to the materials, workmanship, and other applicable requirements of the standard specifications of the state or of authorities having jurisdiction.

   2. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section and are superseded by those contained within this Contract and Section.

1.3 SUBMITTALS

A. Product Data: For each product specified. Include technical data and tested physical and performance properties.

B. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.

C. Job-Mix Designs: For each job mix proposed for the Work.

D. Shop Drawings: Indicate pavement markings, lane separations, and defined parking spaces. Indicate dedicated handicapped spaces with international graphics symbol.

E. Samples: 12 by 12 inches minimum, of paving fabric.
F. Material Test Reports: Indicate and interpret test results for compliance of materials with requirements indicated.

G. Material Certificates: Certificates signed by manufacturers certifying that each material complies with requirements.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed hot-mix asphalt paving similar in scope, material, and extent to that indicated for this project, and whose work has resulted in construction with a record of successful in-service performance.

B. Manufacturer Qualifications: A firm experienced in manufacturing hot-mix asphalt paving similar to that indicated for this project and with a record of successful in-service performance.
   1. Firm shall be a registered and approved paving mix manufacturer with authorities having jurisdiction or with the DOT of the state in which Project is located.

C. Testing Agency Qualifications: Demonstrate to RE/PM’s satisfaction, based on Architect’s evaluation of criteria conforming to ASTM D 3666, that the independent testing agency has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.

D. Regulatory Requirements: Conform to applicable standards of authorities having jurisdiction for asphalt paving work on public property.

E. Asphalt-Paving Publication: Comply with AI’s “The Asphalt Handbook,” except where more stringent requirements are indicated.

F. Site Meeting: the Contractor shall meet with the RE/PM at the Project site prior to commencing the work of this Section to review methods and procedures related to asphalt paving including, but not limited to, the following:

1. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.
2. Review condition of substrate and preparatory work performed by other trades.
3. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.
4. Review and finalize, construction schedule for paving and related work. Verify availability of materials, paving Installer’s personnel, and equipment required to execute the Work without delays.
5. Review inspection and testing requirements, governing regulations, and proposed installation procedures.
6. Review forecasted weather conditions and procedures for coping with unfavorable conditions.

1.5 DELIVERY, STORAGE, AND HANDLING
A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer’s labels containing brand name and type of material, date of manufacture, and directions for storage.

B. Store pavement-marking materials in a clean, dry, protected location and within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if substrate is wet or excessively damp or if the following conditions are not met:

1. Prime and Tack Coats: Minimum surface temperature of 60 deg F (15.5 deg C).
2. Asphalt Base Course: Minimum surface temperature of 40 deg F (4 deg C) and rising at time of placement.
3. Asphalt Surface Course: Minimum surface temperature of 60 deg F (15.5 deg C) at time of placement.

B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F (4 deg C) for oil-based materials, 50 deg F (10 deg C) for water-based materials, and not exceeding 95 deg F (35 deg C).

PART 2 – PRODUCTS

2.1 AGGREGATES

A. General: Use materials and gradations that have performed satisfactorily in previous installations.

B. Coarse Aggregate: Sound: angular crushed stone; crushed gravel; or properly cured, crushed blast-furnace slag, complying with ASTM D 692.

C. Fine Aggregate: Sharp-edged natural sand or sand prepared from stone; gravel, properly cured blast-furnace slag, or combinations thereof; complying with ASTM D 1073.

1. For hot-mix asphalt limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.

D. Mineral Filler: Rock or slag dust, hydraulic cement, or other inert material complying with ASTM D 242.

2.2 ASPHALT MATERIALS

A. Asphalt Cement: ASTM D 3381 for viscosity-graded material: ASTM D 946 for penetration graded material.

B. Asphalt Cement: ASTM D 3381 for viscosity-graded material.
C. Undersealing Asphalt: ASTM D 3141, pumping consistency.

D. Prime Coat: ASTM D 2027; medium-curing cutback asphalt; MC-30, MC-70, or MC-250.

E. Prime Coat: Asphalt emulsion prime conforming to state DOT requirements.

F. Prime Coat: ASTM D 977, emulsified asphalt or ASTM D 2397, cationic emulsified asphalt, slow setting, factory diluted in water, of suitable grade and consistency for application.

G. Tack Coat: ASTM D 977, emulsified asphalt or ASTM D 2397, cationic emulsified asphalt, slow setting, factory diluted in water, of suitable grade and consistency for application.

H. Water: Potable.

2.3 AUXILIARY MATERIALS

A. Herbicide: Commercial chemical for weed control, registered by Environmental Protection Agency (EPA). Provide granular, liquid, or wet table powder form.

B. Sand: ASTM D 1073, grade Nos. 2 or 3.

C. Paving Geotextile: Nonwoven polypropylene, specifically designed for paving applications, resistant to chemical attack, rot, and mildew.

D. Pavement-Marking Paint: Alkyd-resin type, ready-mixed, complying with FS TT -P-115, Type I, or AASHTO M-248, Type N.

   1. Color: As indicated.

2.4 MIXES

A. Hot-Mix Asphalt: Provide dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction; designed according to procedures in AI’s "Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types;” and complying with the following requirements:

   1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.
   2. Base Course: As indicated.
   3. Surface Course: As indicated.

B. Hot-Mix Asphalt: Provide dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and designed according to procedures in AI’s “Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types.”
1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.
2. Provide mixes complying with the composition, grading, and tolerance requirement of ASTM D 3515 for the following nominal, maximum aggregate sizes:

   a. Base Course: 1 inch.
   b. Surface Course: 1/2 inch.

C. Emulsified-Asphalt Slurry: ASTM D 3910, consisting of emulsified asphalt, fine aggregates, and mineral fillers and as follows:

   1. Composition: Type 1.
   2. Composition: Type 2.
   3. Composition: Type 3.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.

B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.

C. Notify Architect in writing of any unsatisfactory conditions. Do not begin paving installation, until these conditions have been satisfactorily corrected.

3.2 PATCHING AND REPAIRS

A. Patching: Saw cut perimeter of patch and excavate existing pavement section to sound base. Recompress new subgrade. Excavate rectangular or trapezoidal patches, extending 12 inches into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically.

   1. Tack coat faces of excavation and allow to cure before paving.
   2. Fill excavation with dense-graded, hot-mix asphalt base mix and, while still hot, compact flush with adjacent surface.
   3. Partially fill excavation with dense-graded, hot-mix asphalt base mix and compact while still hot. Cover asphalt base course with compacted, hot-mix surface layer finished flush with adjacent surfaces.

B. Portland Cement Concrete Pavement: Break cracked slabs and roll as required to reseat concrete pieces firmly.

   1. Pump hot undersealing asphalt under rocking slabs until slab is stabilized or, if necessary, crack slab into pieces and roll to reseat pieces firmly.
2. Remove disintegrated or badly broken pavement. Prepare and patch with hot-mix asphalt.

C. Leveling Course: Install and compact leveling course consisting of dense-graded, hot-mix asphalt surface course to level sags and fill depressions deeper than 1 inch in existing pavements.

1. Install leveling wedges in compacted lifts not exceeding 3 inches thick.

D. Crack and Joint Filling: Remove existing filler material from cracks or joints to a depth of 1/4 inch. Refill with asphalt joint-filling material to restore watertight condition. Remove excess filler that has accumulated near cracks or joints.

E. Tack Coat: Apply uniformly to existing surfaces of previously constructed asphalt or Portland cement concrete paving and to surfaces abutting or projecting into new, hot-mix asphalt pavement. Apply at a uniform rate of 0.05 to 0.15 gal/sq. yd. (0.2 to 0.7 L/sq. m) of surface.

1. Allow tack coat to cure undisturbed before paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.3 SURFACE PREPARATION

A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.

1. Sweep loose granular panicles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.

B. Herbicide Treatment: Apply herbicide according to manufacturer’s recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.

1. Mix herbicide with prime coat when formulated by manufacturer for that purpose.

C. Prime Coat: Apply uniformly over surface of compacted-aggregate base at a rate of 0.15 to 0.50 gal/sq. yd. (0.7 to 23 L/sq. m). Apply enough material to penetrate and seal, but not flood, surface. Allow prime coat to cure for 72 hours minimum.

1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use just enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.
2. Protect primed substrate from damage until ready to receive paving.

3.4 GEOTEXTILE INSTALLATION
A. Apply bond coat, consisting of asphalt cement, uniformly to existing surfaces at a rate of 0.20 to 0.30 gal/sq. yd. (0.8 to 12 L/sq. m).

B. Place paving geotextile promptly according to manufacturer’s written instructions. Broom or roll geotextile smooth and free of wrinkles and folds. Overlap longitudinal joints 4 inches and transverse joints 6 inches.

1. Protect paving geotextile from traffic and other damage and place overlay paving the same day.

3.5 HOT-MIX ASPHALT PLACING

A. Machine place hot-mix asphalt mix on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness, when compacted.

1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
2. Place hot-mix asphalt surface course in single lift.
3. Spread mix at minimum temperature of 250 deg F (121 deg C) .
4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes, unless otherwise indicated.
5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

B. Place paving in consecutive strips not less than 10 feet wide, except where infill edge strips of a lesser width are required.

1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete asphalt base course for a section before placing asphalt surface course.

C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.6 JOINTS

A. Construct joints to ensure continuous bond between adjoining paving sections. Construct joints free of depressions with same texture and smoothness as other sections of hot-mix asphalt course.

1. Clean contact surfaces and apply tack coat.
2. Offset longitudinal joints in successive courses a minimum of 6 inches.
3. Offset transverse joints in successive courses a minimum of 24 inches.
4. Construct transverse joints by bulkhead method or sawed vertical face method as described in Al’s “The Asphalt Handbook.”
5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
6. Compact asphalt at joints to a density within 2 percent of specified course density.
3.7 COMPACATION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.

   1. Complete compaction before mix temperature cools to 185 deg F (85 deg C).

B. Breakdown Rolling: Accomplish breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Repair surfaces by loosening displaced material, filling with hot-mix asphalt, and rerolling to required elevations.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling, while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:

   1. Average Density: 96 percent of reference laboratory density according to ASTM D 1559, but not less than 94 percent nor greater than 100 percent.
   2. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 96 percent.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while still hot, with back of rake or smooth iron. Compact thoroughly using tamper or other satisfactory method.

F. Repairs: Remove paved areas that are defective or contaminated with foreign materials. Remove paving course over area affected and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.8 INSTALLATION TOLERANCES

A. Thickness: Compact each course to produce the thickness indicated within the following tolerances:

   1. Base Course: Plus or minus 1/2 inch.
   2. Surface Course: Plus 1/4 inch, no minus.
B. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to pages areas:

1. Base Course: 1/4 inch.
2. Surface Course: 1/8 inch.
3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

3.9 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.

B. Allow paving to cure for 30 days before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce pavement markings of dimensions indicated with uniform, straight edges. Apply at manufacturer’s recommended rates to provide a minimum wet film thickness of 15 mils 0.4 mm).

3.10 FIELD QUALITY CONTROL

A. Testing Agency: RE/PM will engage a qualified independent testing agency to perform field inspections and tests and to prepare test reports.

1. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from specified requirements.

B. Additional testing, at Contractor’s expense, will be performed to determine compliance of corrected Work with specified requirements.

C. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.

D. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.

E. In-Place Density: Samples of uncompacted paving mixtures and compacted pavement will be secured by testing agency according to ASTM D 979.

1. Reference laboratory density will be determined by averaging results from 4 samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 1559, and compacted according to job-mix specifications.

2. Reference maximum theoretical density will be determined by averaging results from 4 samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
3. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
   a. One core sample will be taken, for every 1000 sq. yd. (836 sq. m) or less of installed pavement, but in no case will fewer than 3 cores be taken.
   b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2150 and correlated with ASTM D 1188 or ASTM D 2726.

F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

G. All field Quality Control measures related to the Work of this Section including but not limited to inspection, testing and reporting to the AM shall be deemed included in the unit Prices, and at no additional cost to the City.

3.11 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 12 16-1</td>
<td>Hot-mix asphalt paving – 3” of thickness.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>32 12 16-1a</td>
<td>Hot-mix asphalt paving – 3” of thickness with up to 6&quot; base.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>32 12 16-2</td>
<td>Hot-mix asphalt paving – per additional 1” of thickness.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>32 12 16-3</td>
<td>Hot-mix asphalt patching.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 32 12 16]
SECTION 32 13 13 – CONCRETE PAVING

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide concrete paving in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:


B. Related Sections

1. Division 03 Section Cast-in-Place Concrete general building applications of concrete.

1.2 QUALITY ASSURANCE

A. Reference Standard: Comply with the requirements of the City of New York Department of Highways “Standard Specifications.”

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's product data, test reports and written recommendations for products specified.

B. Certification: Provide written certification which ascertains that concrete design mix meets all requirements and local codes, for strength, density and hardness.

C. Shop Drawings: Provide shop drawings indicating steel reinforcing.

1.4 JOB CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Concrete: Provide Class B-32, Type IA air-entrained concrete with a minimum compressive strength of 4,000 psi at 28 days, in accordance with “Section 3.05 Concrete” of the reference standard.

B. Base Course Aggregate: Comply with Section 4.13 of the reference standard.

C. Concrete Materials: Comply with Section 4.13 of the reference standard. Include mineral pigments to produce required color.
D. Steel Bar Reinforcement: Comply with Section 2.23 of the reference standard. Provide size and spacing of bars as shown.

E. Welded Steel Wire Fabric: Comply with Section 2.25 of the reference standard.

F. Curing Membrane: Type 1, Clear, in accordance with Section 2.14 of the reference standard.

PART 3 – EXECUTION

3.1 PREPARATION

A. Subgrade: Perform excavating, filling and compacting to provide a finished subgrade at the proper elevations. Comply with Section 4.13 of the reference standard.

3.2 INSTALLATION

A. Base Course: Provide a compacted base course in accordance with Section 4.13 of the reference standard, of compacted thickness as shown.

B. Concrete Pavement: Form, place, finish and protect concrete in accordance with Section 4.13 of the reference standard.

   1. Reinforcement: Reinforce concrete paving in accordance with Section 4.14 of the reference standard, and as shown on drawings.
   2. Joints and Markers: Provide joints in pavement where shown. Saw cut lines where indicated.
   3. Finish: After screening concrete, provide a broom finish on exposed surfaces to match approved sample.
   4. Curing: Cure concrete in accordance with Section 4.10 of the reference standard.

3.3 PROTECTION

A. Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least 14 days after placement. Maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

B. Sweep concrete pavement and wash free of stains, discolorations, dirt and other foreign material just prior to final inspection.

3.4 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Description</td>
<td>Unit</td>
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<tr>
<td>---------</td>
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</tr>
<tr>
<td>32 13 13-1</td>
<td>Concrete sidewalks (includes slab-on-grade) reinforced and finished as specified – up to and including 6” thickness.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>32 13 13-1a</td>
<td>Concrete slab on grade with Waterproofing membrane, reinforced and finished as specified, up to and including 6” thick.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>32 13 13-2</td>
<td>Concrete ramps (includes landings) reinforced and finished as specified – up to and including 6” thickness.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>32 13 13-3</td>
<td>Patching of concrete surfaces (includes paving, slabs, walks, ramps and landings with bonding/dowels and up to 3” topping to be paid for each 3” topping layer).</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 32 13 13]
SECTION 32 92 00 – TURF AND GRASSES

1.1 SUMMARY
   A. Seeded Sodded turf.
   B. Turf renovation.
   C. Erosion-control materials.
   D. Grass paving.

1.2 QUALITY ASSURANCE
   A. Installer's Personnel Certifications: Certified Landscape Technician, CLT-Exterior
   B. Soil analysis of each unamended soil type.

1.3 MAINTENANCE SERVICE
   A. Turf: 60 days from date of planting completion.
   B. Meadows: 40 days from date of planting completion.

1.4 MATERIALS
   A. Seed: Contractors Mix – Rye (60%) / Fescu (40%), or as approved by DOHMH.
   B. Turfgrass Sod: Carpetgrass, Kentucky bluegrass, Perennial ryegrass
   C. Planting Soils: ASTM D 5268 topsoil Existing, native surface topsoil with duff layer retained amended with inorganic and organic soil amendments and fertilizers in specified quantities.
   D. Lightweight On-Structure Planting Soil: Modified planting soil.
   E. Mulches: Straw or muck peat compost for hydroseeded areas.
   F. Pesticides. all pesticides shall comply with all laws, rules and regulations.
   G. Erosion-Control Materials: Fiber mesh or Mats.
   H. Grass-Paving Materials: Cellular plastic mats, 1-3/4-inch nominal mat thickness; with base course.
1.5 INSTALLATION
   A. Planting Soil Depth for Newly Graded Subgrades: 6 inches.
   B. Surface Soil Enrichment Depth for Unchanged Subgrades: 6 inches.
   C. Seeding Method: Hydroseed.
   D. Protect seeded areas with peat mulch.

1.6 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
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</thead>
<tbody>
<tr>
<td>32 92 00-1</td>
<td>Seeding with Top Soil.</td>
<td>Per sq. ft.</td>
</tr>
<tr>
<td>32 92 00-2</td>
<td>Sod with Top Soil.</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 32 92 00]
SECTION 32 93 00 – PLANTS

PART 1 – GENERAL

1.1 SUMMARY

A. Work Included: Provide planting in accordance with the Contract Documents. The Work of this Section shall include but not be limited to the following:

1. Planting and maintenance of ground cover.
2. Lawn restoration.
3. Reseeding.

B. Related Sections

1. Division 31 Section "Excavation Support and Protection" for protection of existing trees and plantings, topsoil stripping and stockpiling, and site clearing.
2. Division 31 Section "Earth Moving" for excavation, filling, and rough grading and for subsurface aggregate drainage and drainage backfill materials.
3. Division 32 Section "Turf and Grasses" for turf (lawn) and meadow planting, hydroseeding, and erosion-control materials.

1.2 ABBREVIATIONS

A. The following abbreviations are used in this Section regarding plant material:

1. CY Cubic yard, not compacted.
2. Organizations referred to by abbreviation in these Specifications are as follows:
   ASA American Society of Agronomy.
   AAN American Association of Nurserymen.

1.3 SUBMITTALS

A. Before any work is commenced, all submittals shall be approved.

1. Project Schedule: Submit two (2) copies of the following:

   a. Within ten (10) calendar days after the date specified for the commencement of work, submit a proposed time schedule indicating dates for commencement and completion of the following operations:

      i. Tagging of plants in the nurseries.
      ii. Delivery of topsoil and other materials.
      iii. Digging and preparation of plant beds.
      iv. Delivery of groundcover to the site.
      v. Planting of groundcover.
      vi. Watering.
      vii. Completion of work for start of guarantee period.
B. Reports: The Contractor will provide mechanical and chemical analysis of topsoil used in preparation of soil mixtures.

1.4 HANDLING AND STORAGE

A. Products shall be delivered stored and otherwise handled and protected in a manner to prevent damage.

B. Preparation and Storage of Materials

1. Cover potted plants which cannot be planted immediately upon delivery with moist mulch to protect from drying. Water plants as often as necessary to prevent drying until planted.

2. After chemical and mechanical analysis and fertilizer recommendations report for topsoil and soil conditioners is received, prepare soil mixtures for planting area by thoroughly mixing approved topsoil with soil conditioner materials, fertilizer and lime. THOROUGHLY mix in the specified proportions prior to delivery of soil mixtures to site.

3. Planting soil shall have an acidity range between pH 6.5 and 7 neutral. Acidity range shall be raised by adding limestone and lowered by adding aluminum sulphate in quantities as required by analysis. Soluble salt content shall not exceed ECE of 2.0.

4. Store and protect soil mixture and other materials at designated area of the site. Protect topsoil mixture from excessive leaching by covering with tarpaulin.

5. Conduct planting operations under favorable weather conditions. Ground covers shall be planted in the spring only between April 1st and June 1st.

1.5 GUARANTEE

A. In accordance with the Article on GUARANTEES in the General Conditions, the Contractor hereby guarantees that all work specified in this Section will be free from detects of materials and workmanship for a period of two (2) years.

B. Furnish a guarantee in the form specified in the Article on Guarantees in the General Conditions.

C. The following types of failure will be adjudged as defective work:

1. Remove unsatisfactory plants and replace with plants of the same kind, quality, and size as specified in the Schedule of Plant Materials.
PART 2 – PRODUCTS

2.1 SOIL MIXTURE

<table>
<thead>
<tr>
<th>Classification by Clay Content</th>
<th>Top Soil</th>
<th>Sand</th>
<th>Peat</th>
<th>Fertilizer*</th>
<th>Lime*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay 5-10%</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>(1/2) lb/cy</td>
<td>(1) lb/cy</td>
</tr>
<tr>
<td>Clay 10-15%</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>(1/2) lb/cy</td>
<td>(1) lb/cy</td>
</tr>
<tr>
<td>Clay 15-25%</td>
<td>2</td>
<td>3</td>
<td>1 to 1-1/2</td>
<td>(1/2) lb/cy</td>
<td>(1) lb/cy</td>
</tr>
</tbody>
</table>

*Adjust in accordance with Chemical Analysis Report.
**Adjust in accordance with Mechanical Analysis Report.

A. Topsoil: Natural, fertile, friable soil, representative of local productive soil, and 90% free of clay lumps, subsoil or other foreign matter larger than one inch diameter; not frozen or muddy. Acidity range pH 6 to 7, not less than 3% organic matter as determined by loss on ignition of moisture free samples dried at 105 degrees Centigrade: not more than 60% by volume passing the No. 200 sieve.

B. Sand: Clean, coarse, graded 1-2 mm, meeting the requirements of ASA for fine aggregate.

C. Peat: A natural residue formed by decomposition of reeds, sedges or mosses from a fresh water site, free from lumps, roots and stones, absorbing at least 4 times its dry weight of water, organic matter not less than 90% on a dry weight basis. The maximum moisture content at the time of delivery shall be 6.5% by weight.

D. Lime: Ground dolomitic limestone not less than 85% total carbonates and magnesium, ground so that 50% passes 100 mesh sieve and 90% 20 mesh sieve. Coarser material will be acceptable provided the specified rates of application are increased proportionately on the basis of quantities passing the 100 mesh sieve.

E. Fertilizer: A commercial fertilizer containing 5% nitrogen, 10% available phosphoric acid and 5%, potash unless soil tests indicate need for different composition. Conform to applicable state fertilizer laws and standards of AOAC, uniform in composition, dry, free flowing and delivered in original, unopened containers bearing manufacturer’s guaranteed analysis.

F. Root Enhancer: Root growth enhancer as manufactured by Roots. Inc. 25 Science Park, New Haven, CT 06511; Tel. (203) 786-5295; Fax (203) 786-5297.

2.2 ORGANIC MULCH

A. Shredded Pine ark mulch as approved by the Resident Engineer.
2.3 CHEMICAL INHIBITORS

A. Anti-desiccant: Shall be an emulsion which will produce a protective film over plant surfaces, permeable enough to permit transpiration such as “Wilt-Pruf”, manufactured by Nursery Products Specialties Co. Croton Falls, New York, or an approved equal. It shall be delivered in the containers of the manufacturer and mixed on site.

B. Selective Herbicide: A municipality approved medium developed specifically to kill herbaceous weeds and seedlings. Herbicides shall be applied strictly in accordance with manufacturer’s recommendations and application instruction.

C. Pre-emergent Herbicide: A municipality approved medium developed specifically for pre-emergent control of herbaceous weeds and seedlings. Herbicide shall be applied strictly in accordance with manufacturer’s recommendations.

D. Fungicides: Municipality approved medium specifically developed to combat the growth of fungi on plant materials and in planting soil media. Fungicide shall be applied strictly in accordance with manufacturer’s recommendations and application rates.

2.4 PLANT MATERIALS

A. Nomenclature: Names of plants required under this Contract conform to those given in Hortus Third 1976 or Hortus Second 1972 by L.H. Bailey. Names of varieties not included there conform with names generally accepted in the nursery trade.

B. Plant schedule: Refer to drawings.

C. Quality and Size: Nursery grown, habit of growth that is normal for the species, sound, healthy, vigorous and free from insects, diseases, and injuries. Equal to or exceeding measurements specified in plant list. Plants measured before pruning with branches in normal position; necessary pruning done at time of planting. Sizes and methods of handling according to the code of standards recommended by the AAN.

2.5 MINOR MATERIALS

A. Accessories or other materials not described but required for completed work shall conform to commonly accepted industry standards and shall be of types and sizes best suited for the intended purpose and related conditions.

2.6 GRASS SEED

A. All grass seed shall be fresh, recleaned grass seed of the latest crop mixed in the following proportions by weight and meeting the following standards of pure live seed (P.L.S.) content, purity and germination.

<table>
<thead>
<tr>
<th>Grass</th>
<th>P.L.S.</th>
<th>Max. Weed Seed</th>
</tr>
</thead>
<tbody>
<tr>
<td>40% Creeping Red Fescue (Illahee Strain)</td>
<td>90%</td>
<td>0.50%</td>
</tr>
<tr>
<td>30% Kentucky Bluegrass</td>
<td>80%</td>
<td>0.50%</td>
</tr>
<tr>
<td>10% Red Top (Fancy recleaned)</td>
<td>85%</td>
<td>1.00%</td>
</tr>
<tr>
<td>20% Blue Tag Perennial Rye</td>
<td>88%</td>
<td>0.50%</td>
</tr>
</tbody>
</table>
B. Present a certificate of P.L.S. test of the grass seed intended for use, obtained from a well recognized seed test laboratory that is not engaged in the business of selling seeds. This certificate shall state the true quality of the seeds which the Contractor proposes to furnish.

C. Samples of the seed taken from the stock proposed to be supplied may be subjected to tests for purity, viability and seed content and acceptance or rejection will be made on the basis of such tests.

D. Grass seed shall meet the tolerance for germination and purity according to the standards tabulated on pages 22 and 23 of U.S. Department of Agriculture, Service and Regulatory Announcements No. 156. Deliver all grass seed in sealed bags of the vendor showing the weight, analysis and vendor’s name.

2.7 SOD

A. Cultivated, from a farm growing sod for commercial application; a mixture of Merion bluegrass and Fescue creeping grass, with at least 50% merion present; square cut for uniform laying, and 1” minimum depth of soil around the roots. Sod that is dried out or overheated shall not be used.

PART 3 – EXECUTION

3.1 SUBGRADE PREPARATION

A. Do not construct when the subgrade is frozen or when it is soft or unstable. Do not construct during rainy or freezing weather or with frozen material.

B. Compact and grade subgrade to within + 1/2 inch of the sections and grades shown on the drawings.

C. Compact subgrade to not less than 95% of the maximum density as determined by the Modified Proctor Compaction Test. ASTM D 1557-70.

D. Should the subgrade material become contaminated or for any reason become unsuitable prior to placement of the pavement, correct or replace the subgrade material with satisfactory subgrade material at no additional expense.

3.2 GROUNDCOVER

A. Install mulch prior to planting.

B. Install groundcover and add water as necessary to allow settling of backfill mixture. If settling occurs add mixture to level to finish grade.

C. Dilute 50 parts to 1 part root enhancer in water and apply 6 oz. concentrate per 1,000 sq. ft. to soil surface before plant installations or foliar spray after plant installation.

3.3 SEEDING
A. After topsoil has been placed, rake all areas indicated on the Drawings or specified to be seeded to true lines, free from all unsightly variations, bumps, ridges and depressions. Remove all sticks, stones, roots, and other objectionable material which might interfere with the formation of a finely pulverized seed-bed from the soil.

B. Thoroughly roll the prepared lawn area with an approved lawn roller and level all low spots.

C. Apply ground limestone at the rate of 46 pounds per thousand square feet and evenly distribute and work lightly into the top of the soil to a depth of 3” either by hand or by machine at least 5 days before applying commercial fertilizer.

D. Apply acceptable Commercial Fertilizer at a rate of 25 pounds per thousand square feet and work lightly in to the top 3” of topsoil.

E. The rate of seeding shall be 5 pounds per thousand square feet. Sew the grass seep by approved machine in such a manner that a uniform stand shall result. After seeding, evenly rake the surface with a fine-toothed rake and roll with approved roller weighing at least 200 pounds.

F. Sew grass seed only in periods that will guaranty growth or at such other times as are approved by the Resident Engineer. All seeding is to be done in dry or moderately dry soil and at times when the wind does not exceed a velocity of 5 miles per hour.

3.4 SODDING

A. Place topsoil to the required depth so that the sod may be laid to finished grade. Lay sod to provide close joints. Thoroughly tamp sod to a true even surface at the required finished grade. Water and mow and maintain sod in first class condition as hereinafter specified until final payment. Remove any unsatisfactory sod and replace with acceptable material at the Contractor’s expense.

B. Sod shall be laid only in periods that will guaranty growth, providing the ground is not frozen. No sod shall be laid without the approval of the RE/PM.

3.5 MAINTENANCE

A. Begin maintenance immediately after each plant is installed and continue to maintain for one (1) year until the end of the guarantee period.

B. Perform the following operations: Watering as often as required to maintain capillary water within 2” of the soil surface around plants; weeding of planting beds by hand; reset plants to proper grades or upright position; add backfill mixture to level to finish grade; seasonal spraying to control fungus, disease or insect pests that may impair plants’ vigor; replenish organic mulch; repair injuries to plants.

C. Replacement of plants required by the Plant Guarantee on a regular monthly basis except during the months of January, February, July and August.
D. Groundcover: Dilute 50 parts to 1 part root enhancer in water (2 oz./gal) and apply as a soil drench every 60 days.

3.6 INSPECTIONS FOR ACCEPTANCE OF WORK

A. Acceptance for Start of Maintenance: Within 15 days after completion of work an inspection for acceptance to start the maintenance period will be made. When the work is accepted, the maintenance period will begin and continue until final acceptance.

B. Final Acceptance: Before final acceptance, the terms of the Plant Guarantee must be met and the project site must be in the condition stipulated under Maintenance Operations.

3.7 MEASUREMENT

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 93 00-1</td>
<td>New or replacement hedges and shrubs (evergreen) up to 24” high (planting height).</td>
<td>Each</td>
</tr>
<tr>
<td>32 93 00-2</td>
<td>New or replacement hedges and shrubs (evergreen) greater than 24” high per additional 12” in height (planting height).</td>
<td>Each</td>
</tr>
<tr>
<td>32 93 00-3</td>
<td>New ground cover planting</td>
<td>Per sq. ft.</td>
</tr>
</tbody>
</table>

[END OF SECTION 32 93 00]