

IFB # 18-61

SOLICITATION FOR:
ADA Citywide Upgrades at Various Buildings



CITY OF SOMERVILLE, MASSACHUSETTS
Joseph A. Curtatone, Mayor

Purchasing Department
Angela M. Allen, Purchasing Director

RELEASE DATE: 4/4/2018
PRE-BID CONFERENCE: 4/9/2018 at 9AM EDT
FILED SUB QUESTIONS DUE: 4/10/2018 by 4PM EDT
FILED SUB BIDS DUE: 4/18/2018 at 11:00AM EDT
GENERAL CONTRACTOR QUESTIONS DUE: 4/24/2018 by 4PM EDT
GENERAL CONTRACTOR BIDS DUE: 5/2/2018 by 11AM EDT

DELIVER TO:
City of Somerville
Purchasing Department
Attn: Michael Richards
Assistant Purchasing Director
mrichards@somervillema.gov
93 Highland Avenue
Somerville, MA 02143

IFB # 18-61
ADA Citywide Upgrades at Various Buildings

Key Project Information

Project Address	Various Locations, Somerville, MA
Estimated Construction Cost	\$255,000.00
Anticipated Contract Award	5/9/2018
Date of Substantial Completion	8/3/2018
Date of Final Completion	8/24/2018
Est. Contract Commencement Date	5/10/2018
Est. Contract Completion Date	12/31/2018
Governing Bid Law	MGL C. 149 (Vertical Construction)
Wage Requirements	State Prevailing Wages
Payment Bond Requirements	100% of Contract Value
Performance Bond Requirements	100% of Contract Value
Actual Damages Assessed	See Section 1.5 for details

Managing Department Information

Managing City Department	Capital Planning and Projects
Project Manager	Debora Mitrano
Project Manager Email	DMitrano@somervillema.gov

Designer Information

Designer Name	CBI Consulting, LLC
Designer Address	250 Dorchester Avenue, Boston, MA 02127
Designer Specialty	Architecture
Designer Contact	Greg Christensen
Designer Contact Email	gchristensen@cbiconsultingllc.com

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	Somerville Living Wage Form
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	Certificate of Non-Collusion & Tax Compliance
	Certificate of Signature Authority
	Reference Form (or equivalent may be attached)
	5% Bid Deposit
	Prevailing Statement of Compliance Form
	DCAMM Certification
	OSHA Form
	Responsible Employer Ordinance
Acknowledgement of Addenda (if applicable)	
Signed W9	
3.2 <i>(required post bid)</i>	Certificate of Good Standing (will be required of awarded Vendor; please furnish with bid if available)
	Insurance Specifications (will be required of awarded Vendor; furnish sample certificate with bid, if possible)
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	Statement of Management
	Payment Bond - 100% of contract value

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DIVISION 01 -- GENERAL REQUIREMENTS

- 01 10 00 - Summary
- 01 20 00 - Price and Payment Procedures
- 01 25 00 - Substitution Procedures
- 01 30 00 - Administrative Requirements
- 01 32 16 - Construction Progress Schedule
- 01 60 00 - Product Requirements
- 01 70 00 - Execution and Closeout Requirements
- 01 74 19 - Construction Waste Management and Disposal
- 01 78 00 - Closeout Submittals

DIVISION 02 -- EXISTING CONDITIONS

- 02 41 00 - Selective Demolition
- 02 82 00 - Asbestos Abatement
- 02 83 00 - Lead-Containing Paint Considerations

DIVISION 04 -- MASONRY

- 04 20 00 - Unit Masonry

DIVISION 05 -- METALS

- 05 52 13 - Pipe and Tube Railings (**FILED SUB-BID REQUIRED**)

DIVISION 06 -- WOOD, PLASTICS, AND COMPOSITES

- 06 10 00 - Rough Carpentry
- 06 20 00 - Finish Carpentry

DIVISION 07 -- THERMAL AND MOISTURE PROTECTION

- 07 14 00 - Fluid-Applied Waterproofing
- 07 92 00 - Joint Sealants

DIVISION 08 -- OPENINGS

- 08 12 13 - Hollow Metal Frames
- 08 71 00 - Door Hardware

DIVISION 09 -- FINISHES

- 09 21 16 - Gypsum Board Assemblies
- 09 30 00 - Tiling
- 09 51 00 - Acoustical Ceilings
- 09 65 00 - Resilient Flooring
- 09 91 23 - Interior Painting (**FILED SUB-BID REQUIRED**)

DIVISION 10 -- SPECIALTIES

- 10 28 00 - Toilet, Bath, and Laundry Accessories

DIVISION 12 -- FURNISHINGS

- 12 36 00 - Countertops and Backsplashes
- 12 41 00 - Furniture

DIVISION 22 -- PLUMBING

- 22 00 00 - Plumbing (**FILED SUB-BID REQUIRED**)

DIVISION 26 -- ELECTRICAL

- 26 00 00 - Electrical

• PART 4: DRAWINGS

Due to the file sizes, the drawings have been uploaded to Google Drive found here

https://drive.google.com/drive/folders/1MAhebRzM_85drKiRVdMg_JD8pAYw77D?usp=sharing

DRAWINGS (ALL DRAWINGS ARE 24" X 36")

1.01 ARCHITECTURAL

G1-01 COVER SHEET

1. SOMERVILLE CENTRAL PUBLIC LIBRARY

A1-01 BASEMENT & FIRST FLOOR PLANS

A1-02 TOILET PLANS & ELEVATIONS

A1-03 TOILET ELEVATIONS & DRINKING FOUNTAIN DETAILS

2. SOMERVILLE EAST BRANCH PUBLIC LIBRARY

A2-01 FIRST FLOOR PLAN & CIRCULATION DESK DETAILS

3. (NOT USED)

4. (NOT USED)

5. JOHN F. KENNEDY ELEMENTARY SCHOOL

A5-01 SECOND FLOOR PLAN

A5-02 STAIR PLANS & HANDRAIL DETAILS

6. BENJAMIN G. BROWN SCHOOL

A6-01 REFERENCE PLANS

A6-02 STAIR #1 PLANS, SECTION & TYPICAL HANDRAIL DETAILS

A6-03 STAIR #2 PLANS, SECTION & TYPICAL HANDRAIL DETAILS

A6-04 DRINKING FOUNTAIN DETAILS

7. WINTER HILL COMMUNITY SCHOOL

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A7-02 DRINKING FOUNTAIN DEMOLITION PLANS

A7-03 PARTIAL ENLARGED PLANS AT DRINKING FOUNTAINS

A7-04 DRINKING FOUNTAIN ELEVATIONS, SECTIONS & DETAILS

1.02 MEP

PLUMBING

P0.01 PLUMBING LEGEND, SCHEDULES & NOTES

P1.01 SOMERVILLE CENTRAL PUBLIC LIBRARY - PLUMBING FLOOR PLANS

P1.02 BENJAMIN G. BROWN SCHOOL - DRINKING FOUNTAIN NEW & DEMOLITION PLANS

P1.03 WINTER HILL COMMUNITY SCHOOL - DRINKING FOUNTAIN DEMOLITION PLANS

P1.04 WINTER HILL COMMUNITY SCHOOL - DRINKING FOUNTAIN NEW WORK PLANS

ELECTRICAL

E0.01 ELECTRICAL LEGEND AND NOTES

E1.01 SOMERVILLE CENTRAL PUBLIC LIBRARY - BASEMENT & FIRST FLOOR PLANS

E1.02 WINTER HILL COMMUNITY SCHOOL - DRINKING FOUNTAIN DEMOLITION PLANS
E1.03 WINTER HILL COMMUNITY SCHOOL - DRINKING FOUNTAIN
NEW WORK PLANS

Part 1: Invitation for Bid Documents

IFB # 18-61
ADA Citywide Upgrades at Various Buildings

1.1 General Instructions

Copies of the solicitation may be obtained from the Purchasing Department on and after 4/4/2018 per the below-noted City Hall hours of operation.

Hall Hours of Operation:	
Monday – Wednesday	8:30 a.m. and 4:30 p.m.
Thursday	8:30 a.m. to 7:30 p.m.
Friday	8:30 a.m. to 12:30 p.m.

All Responses Must be Sealed and Delivered To:
Purchasing Department City of Somerville 93 Highland Avenue Somerville, MA 02143
<i>It is the sole responsibility of the Offeror to ensure that the bid arrives on time at the designated place. Late bids will not be considered and will be rejected and returned.</i>
Bid Format:
Submit one, original (1) sealed bid package; it must be marked with the solicitation title and number.
BIDS SUBMITTED MUST BE AN ORIGINAL. The completion of the following forms is necessary for consideration of a potential contract award. When submitting bid documents, please retain the order of documents as provided below:
<ol style="list-style-type: none">1) Form for General Bid2) Bid Form for Alternates (if applicable)3) Unit Price Form4) Somerville Living Wage Form5) Quality Requirements Form6) Certificate of Non-Collusion & Tax Compliance7) Certificate of Signature Authority8) Reference Form9) 5% Bid Deposit10) Prevailing / Davis Bacon Wages Statement of Compliance Form11) OSHA Form
If all required documents are not present, the bid may be deemed non-responsive and may result in disqualification of the bid unless the City determines that such failure(s) constitute(s) a minor informality, as defined in Chapter MGL 30B.
A complete Bid must also include a cover letter signed by an official authorized to bind the Offeror contractually and contain a statement that the proposal is firm for ninety (90) days. An unsigned letter, or one signed by an individual not authorized to bind the Offeror, may be disqualified.
The Offeror's authorized official(s) must sign all required bid forms.

1.2 Bid Schedule

Key dates for this Invitation for Bids:	
IFB Issued	4/4/2018
Optional Pre-Bid Site Visit	4/9/2018 at 9AM EDT
Deadline for Submitting Questions to IFB – Filed Subs	4/10/2018 by 4PM EDT
Filed Sub Bids Due	4/18/2018 by 11AM EDT
Deadline for Submitting Questions to IFB – GC	4/24/2018 by 12PM EDT
General Contractor Bids Due	5/2/2018 by 11AM EDT
Anticipated Contract Award	5/9/2018
Est. Contract Commencement Date	5/10/2018
Est. Contract Completion Date	12/31/2018

<p>Responses must be delivered by 5/2/2018 by 11AM EDT to:</p>	<p>City of Somerville Purchasing Department Attn: Michael Richards 93 Highland Avenue Somerville, MA 02143</p>
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1.3 Submission Instructions

Please submit *one sealed bid package* with the following contents and marked in the following manner:

Contents of Sealed Bid Package	Marked As
<p>Envelope 1: Sealed Bid: Shall Include (1) original and one (1) electronic copy. [Electronic copies are to be submitted on CD-ROM or thumb drives and are to be saved in Adobe Acrobat format. (“Read only” files are acceptable.)]</p>	<p>To Be Marked: IFB # 18-61 ADA Citywide Upgrades at Various Buildings</p>
<p>Please send the complete sealed package to the attention of :</p>	<p>Michael Richards Assistant Purchasing Director Purchasing Department Somerville City Hall 93 Highland Avenue Somerville, MA 02143</p>

Bid Format

Responses shall be prepared on standard 8.5 x 11 inch paper (charts may be landscaped but must be on 8.5 x 11 inch paper) and shall be in a legible font size (12). All pages of each response shall be appropriately numbered (and with consecutive page numbering across tabs). **In an effort to reduce waste, please DO NOT USE 3-RING BINDERS.**

Elaborate format and binding are neither necessary nor desirable.

Qualifications & Experience

The Offeror may include any additional literature and product brochures. The Quality Requirements Form (Section 2), or set of basic business standards, must be submitted with bid.

References

The Offeror shall list at least three relevant references, which the City may contact. The City of Somerville reserves the right to use ourselves as a reference. References shall include the following information:

●The name, address, telephone number, and email address of each client listed above.	
●A description of the work performed under each contract.	●The amount of the contract.
●A description of the nature of the relationship between Offeror and the customer.	
●The dates of performance.	●The volume of the work performed.

1.4 Questions

Questions for Filed Sub Bids due: 4/10/2018 by 4PM EDT

Questions for General Contractor due: 4/24/2018 by 12PM EDT

Questions concerning this solicitation must be delivered in writing to:

Michael Richards
Assistant Purchasing Director
Somerville City Hall
Purchasing Department
93 Highland Avenue
Somerville, MA 02143

Or emailed to:
mrichards@somervillema.gov

Or faxed to:

617-625-1344

Answers will be sent via an addendum to all Offerors who have registered as bid holders. Bidders are encouraged to contact the Purchasing Department to register as a bid document holder to automatically be alerted as to addenda as they are issued. It is the responsibility of the Offeror to also monitor the bid portal on the City's website for any updates, addenda, etc. regarding that specific solicitation. The web address is:

<http://www.somervillema.gov/departments/finance/purchasing/bids>.

Any bidders that contact City personnel outside of the Purchasing Department regarding this bid may be disqualified.

1.6 Pre-Bid Site Visit and Walkthrough

An optional pre-bid walkthrough will be conducted on 4/9/2018 beginning at 9am. Interested parties are instructed to meet outside of the main entrance at the Winter Hill Community School prior to 9am. The walkthrough will allow interested parties to ask questions regarding the individual buildings and overall project.

The site visit team will begin with the Winter Hill School, followed by the Kennedy and Brown Schools. The two libraries will be visited after the three schools.

Interested parties are asked to register their interest in attending the pre-bid site visits by contacting mrichards@somervillema.gov.

1.6 General Terms

Estimated Quantities

The City of Somerville has provided estimated quantities, which will be ordered/purchased over the course of the contract period. These estimates are estimates only and not guaranteed.

Bid Signature

A response must be signed as follows: 1) if the Offeror is an individual, by her/him personally; 2) if the Offeror is a partnership, by the name of the partnership, followed by the signature of each general partner; and 3) if the Offeror is a corporation, by the authorized officer, whose signature must be attested to by the clerk/secretary of the corporation (& with corporate seal).

Time for Bid Acceptance and City Contract Requirements

The contract will be awarded within 90 days after the bid opening. The time for award may be extended for up to 45 additional days by mutual agreement between the City of Somerville and the Offeror that is most advantageous and responsible. The Offeror's submission will remain in effect for a period of 90 days from the response deadline or until it is formally withdrawn, a contract is executed, or this solicitation is canceled, whichever occurs first. The Offeror will be required to sign a standard City contract per the City's general terms included herein as Appendix A.

Holidays are as follows:

New Year's Day	Martin Luther King Day	Presidents' Day	Patriots' Day
Memorial Day	Bunker Hill Day	Independence Day	Labor Day
Columbus Day	Veterans' Day	Thanksgiving Day	Thanksgiving Friday
Christmas Eve (half day)	Christmas Day		

Please visit <http://www.somervillema.gov/> for the City's most recent calendar. *Under State Law, all holidays falling on Sunday must be observed on Monday.

If the awarded Offeror for their convenience desires to perform work during other than normal working hours or on other than normal work days, or if the Offeror is required to perform work at such times, the Offeror shall reimburse the City for any additional expense occasioned the City, thereby, such as, but not limited to, overtime pay for City employees, utilities service, etc. UNLESS otherwise specified in these provisions, services will be performed during normal work hours. When required services occur on holidays, work will be performed on either the previous or following work day, unless specified otherwise.

Unforeseen Office Closure

If, at the time of the scheduled bid opening, the Purchasing Department is closed due to uncontrolled events such as fire, snow, ice, wind, or building evacuation, the bid due date will be postponed until 2:00 p.m. on the next normal business day. Bids will be accepted until that date and time. In the event of inclement weather, the Offeror is responsible for listening to the media to determine if the City has been closed due to weather.

Changes & Addenda

If any changes are made to this solicitation, an addendum will be issued. All proposers on record as having picked up the solicitation will be alerted via email as to the posting of all addenda. The City will also post addenda on its website (<http://www.somervillema.gov/departments/finance/purchasing/bids>). No changes may be made to the solicitation documents by the Offerors without written authorization and/or an addendum from the Purchasing Department.

Modification or Withdrawal of Bids, Mistakes, and Minor Informalities

An Offeror may correct, modify, or withdraw a bid by written notice received by the City of Somerville prior to the time and date set for the bid opening. Bid modifications must be submitted in a sealed envelope clearly labeled "Modification No. ___" to the address listed in Section 1. Each modification must be numbered in sequence and must reference the

original solicitation. After the bid opening, an Offeror may not change any provision of the bid in a manner prejudicial to the interests of the City or fair competition. Minor informalities will be waived or the proposer will be allowed to correct them. If a mistake and the intended bid are clearly evident on the face of the bid document, the mistake will be corrected to reflect the intended correct bid, and the proposer will be notified in writing; the proposer may not withdraw the bid. A proposer may withdraw a bid if a mistake is clearly evident on the face of the bid document, but the intended correct bid is not similarly evident.

Right to Cancel/Reject Bids

The City of Somerville may cancel this solicitation, or reject in whole or in part any and all bids, if the City determines that cancellation or rejection serves the best interests of the City.

Unbalanced Bids

The City reserves the right to reject unbalanced, front-loaded, and conditional bids.

Brand Name “or Equal”

Any references to any brand name or proprietary product in the specifications shall require the acceptance of an equal or better brand. The City has the right to make the final determination as to whether an alternate brand is equal to the brand specified.

Electronic Funds Transfer (EFT)

For EFT payment, the following shall be included with invoices to the point of contact:

- Contract/Order number; Contractor’s name & address as stated in the contract;
- The signature (manual or electronic, as appropriate) title, and telephone number of the Offeror’s representative authorized to provide sensitive information;
- Name of financial institution; Financial institution nine (9) digit routing transit number;
- Offeror’s account number; Type of account, i.e., checking or saving.

Project Schedule

Bidders are instructed to note the firmness of the dates of: Substantial Completion, and Final Completion. For the purpose of meeting these deadlines, the City may be prepared to authorize extended work hours beyond those prescribed by City ordinance, to include work on Sundays with the prior permission of the City.

Contractor submission of all paperwork required for the Construction Contract, including but not limited to insurance certificates, performance and payment bonds, a certificate of good standing from the Secretary of Corporations, and signature pages shall be submitted to the Purchasing Director no later than 5 working days from award of the contract.

The successful bidder shall be required to submit a preliminary construction schedule within 10 days of the established date of award of the Contract and a more detailed Gantt-type construction schedule within 15 days of the established award of the contract, which shows the dates of substantial and final completion.

Actual Damages Assessment

Back charges will be assessed for contractor’s schedule overruns including, but not limited to, any city costs, OT, OPM, Architect, or other consequential costs.

Sales Tax Exemption

Materials, equipment, and supplies for this project are exempt from sales tax in accordance with M.G.L. Chapter 64H, Section 6 (d). The city will furnish the successful bidder with its sales tax exemption number.

Permit Fees (Contractor responsible obtaining permits/City of Somerville permit fees waived)

DPW permits to obstruct or excavate the public streets and/or sidewalks; ISD building code permits; and Traffic and Parking permits; are waived by the City of Somerville. However, license fees are not waived by the City of Somerville. The Contractor shall pay all license fees (e.g., drain layer’s license fee). The City of Somerville Traffic and Parking

Department must be contacted directly for all required permits. The vendor must also provide the City of Somerville Traffic and Parking Department with a traffic management plan, prior to the start of all work.

If water usage is required in the commitment of this project, the Contractor needs to contact the DPW Water Dept., and make arrangements for a water meter. There will be a charge for the water meter and the water usage.

The Contractor is responsible for obtaining EVERSOURCE work orders and for all costs and fees associated with EVERSOURCE.

Permits to excavate the public way cannot be issued until the applicant has notified the appropriate utility companies, as required by Massachusetts General Laws, Chapter 370 of the Acts of 1963. The applicant must either: 1) obtain written receipts from the affected utilities, and provide copies of same to the owner; or 2) utilize the Dig-Safe System for the required notifications, and also submit written notifications for those utilities not participating in the Dig-Safe System. Written notifications must state that utility companies have been notified and the contractor cleared to begin work.

<i>The following utility companies must be notified in writing:</i>		
M.B.T.A. Engineering and Maintenance Division 617-722-5454 Attn: Chief Engineer 500 Arborway Jamaica Plain, MA 02130	M.W.R.A. Sewer Division 617-242-6000 100 First Avenue Charlestown Navy Yard Boston, MA 02129	M.W.R.A. Water Division 617-242-6000 100 First Avenue Charlestown Navy Yard Boston, MA 02129
<i>The following utility companies must be notified in writing or through Dig-Safe:</i>		
Algonquin Gas Transmission Corp. 617-254-4050 Manager of Land and Public Relations 1284 Soldiers Field Road Brighton, MA 02135	Verizon 781-290-5154 460 Totten Pond Road Waltham, MA 02154	Boston Edison 617-541-5730 Right of Way 1165 Massachusetts Avenue Dorchester, MA 02125
Boston Gas Company 617-323-9210 201 Rivermoor Street West Roxbury, MA 02132	EVERSOURCE 617-497-1236, x4195 46 Blackstone Street Somerville, MA 02139	EVERSOURCE Steam 617-225-4568 Attn: Supervisor of Maintenance 265 First Street Somerville, MA 02142
EVERSOURCE Gas 617-369-5591 303 Third Street Somerville, MA 02142	A T & T Broadband 981-658-0400 760 Main Street Malden, MA 01887	Somerville Public Works Dept. 617-625-6600, x5200 One Franey Road Somerville, MA 02145
Somerville Fire Department 617-625-6600, x8100 266 Broadway Somerville, MA 02143	Dig-Safe 1-800-322-4844	

The contractor shall have all utilities marked out along the course of this work by such means as the Engineer shall approve and shall preserve such marked locations until the work has progressed to the point where the encountered utility is fully exposed and protected as required. It shall be the contractor's responsibility to notify utilities at least 48 hours prior to the start of any excavation.

The contractor is responsible for contacting any other utilities that are not listed herein.

Schedule of Values

Bidders do NOT need to include a Schedule of Values with their bid package. The successful bidder will be required to submit a refined and detailed schedule of values for review and approval by the design professional prior to signing the construction contract.

5% Bid Guaranty

All bids shall be accompanied by a bid bond or bank certified check or bank treasurer's check in the amount of 5% of the bid price, which shall become the property of the City of Somerville if the bid is accepted and the bidder neglects or refuses to comply with the terms of the bid.

Prevailing Wage Rate Requirements

The contractor shall pay Mass. Prevailing Wage Rates. The applicable prevailing wage rates are attached as part of this bid package and will be included in the resulting contract. Notwithstanding anything to the contrary, the City may, in its sole discretion withhold payment unless the City has in its possession payroll records that are complete, accurate, and current as of the date of said application for payment. A signed Compliance Form must be included with the bid package (form included).

a) The Contractor shall:

- Pay wages at least once a week;
- Submit payroll information on a weekly basis in a format approved by the City, numbered in numerical sequence and signed by the Contractor (including forms for weeks when the Contractor is not on the Project Site, in which case there shall be a notation to the effect "no work this payroll period" and a date anticipated for resuming work).

b) The Contractor shall submit to the City within the first week of construction:

- A list of apprenticeship programs with which the Contractor is affiliated;
- The number of apprentices that will be employed by the Contractor on the Project;
- A list of the Contractor's employee fringe benefits;
- A copy of each project schedule, including the anticipated commencement date for each Subcontractor; and
- A list of each Subcontractor's suppliers and material men.

c) The Contractor shall include language similar to the above in all subcontracts.

DCAMM Certification

General bidders must provide documentation certifying that they are DCAMM certified in General Building Construction. Filed sub bidders must provide documentation certifying that they are DCAMM certified in Plumbing, Painting, and/or Miscellaneous and Ornamental Iron. In a separate envelope, include a DCAMM update statement.

Reservation of Rights

The City reserves the right to extend the deadline for submission of bids, to waive minor informalities, and to reject any and all bids, if in its sole judgment, the best interests of the City of Somerville would be served by doing so.

Police Details

Unless otherwise noted in the specifications, the Contractor will be responsible for requesting and paying for all necessary police details. These costs should be incorporated into the base bid amount.

Period of Performance

The period of performance for this contract begins on or about 5/10/2018 and ends on or about 12/31/2018. If applicable, optional renewal years may be exercised by the sole discretion of the City (see cover page for anticipated contract term).

Place of Performance

All services, delivery, and other required support shall be conducted in Somerville and other locations designated by the

Department point of contact. Meetings between the Vendor and City personnel shall be held at the City of Somerville, Massachusetts, unless otherwise specified.

Vendor Conduct

The Vendor's employees shall comply with all City regulations, policies, and procedures. The Vendor shall ensure that their employees present professional work attire at all times. The authorized contracting body of the City may, at his/her sole discretion, direct the Vendor to remove any Vendor employee from City facilities for misconduct or safety reasons. Such rule does not relieve the Vendor of their responsibility to provide sufficient and timely service. The City will provide the Vendor with immediate written notice for the removal of the employee. Vendors must be knowledgeable of the conflict of interest law found on the Commonwealth's website <http://www.mass.gov/ethics/laws-and-regulations-/conflict-of-interest-information/conflict-of-interest-law.html>. Vendors may be required to take the Conflict of Interest exam.

Vendor Personnel

The Vendor shall clearly state the name of the proposed project manager. All proposed staff must demonstrate the ability to carry out the specified requirements.

Confidentiality

The Vendor agrees that it will ensure that its employees and others performing services under this contract will not use or disclose any non-public information unless authorized by the City. That includes confidential reports, information, discussions, procedures, and any other data that are collected, generated or resulting from the performance of this scope of work. All documents, photocopies, computer data, and any other information of any kind collected or received by the Vendor in connection with the contract work shall be provided to the City upon request at the termination of the contract (i.e., the date on which final payment is made on the contract or at such other time as may be requested by the City or as otherwise agreed by City and the Vendor). The Vendor may not discuss the contract work in progress with any outside party, including responding to media and press inquiries, without the prior written permission of the City. In addition, the Vendor may not issue news releases or similar items regarding contract award, any subsequent contract modifications, or any other contract-related matter without the prior written approval of the City. Requests to make such disclosures should be addressed in writing to the Vendor's point of contact.

SECTION 2.0
RULE FOR AWARD /
PROJECT INFORMATION

2.1 Rule For Award

The contract shall be awarded to the responsible and responsive Bidder submitting the lowest total price. The contract will be awarded within ninety (90) days after the bid opening. The time for award may be extended for up to 45 additional days by mutual agreement between the City and the apparent lowest responsive and responsible bidder.

2.2 Background

Project Information	
Managing City Department:	Capital Planning and Projects
Project Manager:	Debora Mitrano
Project Manager Email:	DMitrano@somervillema.gov
Designer:	CBI Consulting, LLC
Designer Contact:	Greg Christensen
Project Address:	Various Locations, Somerville, MA
Brief Project Description:	In general, the Project consists of citywide ADA upgrades and renovations to bathrooms, water fountains, handrails, walls, doors, millwork, and furniture at various locations. The work to be done under this contract consists of executing and completing all work required for the ADA upgrade work and related work.
Estimated Project Cost:	\$255,000.00
Project Schedule	
Estimated Award Date:	5/9/2018
Estimated Start Date:	5/10/2018
Date of Substantial Completion:	8/3/2018
Date of Final Completion:	8/24/2018

Minimum Quality Requirements Form

Quality requirements, or basic business requirements, are the minimum set of standards that an entity must meet and certify to be considered responsible and responsive. **Please complete the Quality Requirements form, below, and submit it with your completed bid.** The City of Somerville will disqualify any response that does not meet the minimum quality requirements. A "No Response" to items 1 and 2 or a failure to respond to any of the following minimum standards may result in disqualification of your bid.

QUALITY REQUIREMENTS		YES	NO
1.	Are the General Contractor and Filed Sub-Bidder(s) DCAMM certified as a General Contractor in the category of General Building construction and sub-contractor(s) in Plumbing, Painting, and Miscellaneous and Ornamental Iron, respectively?		
2.	Can the contractor certify that all employees to be provided have successfully completed at least 10 hours of OSHA approved training in Construction Safety and Health?		
3.	Optional: Are you a Mass. Supplier Diversity Office MBE/WBE certified minority or woman owned business? Additional minority designations may be submitted by attaching supporting documentation.		

In order to provide verification of affirmative responses to items 1 and 2 under the quality requirements listed in the Quality Requirements Form, Offeror must submit written information that details the general background, experience, and qualifications of the organization. Subcontractors, if applicable, must be also included.

SECTION 3.0

ADA Citywide Upgrades at Various Buildings
**REQUIRE BID FORMS /
 BIDDERS' CHECKLIST**

Please ensure all documents listed on this checklist are included with your bid. Failure to do so may subject the proposer to disqualification.

Required with Sealed Bids

	Signed Cover Letter
	Form for General Bid
	Form for Filed Sub Bid
	Somerville Living Wage Form
	Quality Requirements Form
	Certificate of Non-Collusion & Tax Compliance
	Certificate of Signature Authority
	Reference Form (or equivalent may be attached)
	5% Bid Deposit
	Prevailing Wages Statement of Compliance Form
	OSHA Form
	DCAMM Certification and Update Statement – General Contractor for General Building Construction; Sub-Contractor for Plumbing, Painting, and Miscellaneous and Ornamental Iron
	Responsible Employer Ordinance
	Ordinance to Protect Vulnerable Road Users
	Acknowledgement of Addenda (if applicable)
	Signed W9

Required with Contract, *Post Award*

	Certificate of Good Standing (will be required of awarded Vendor; please furnish with bid if available)
	Insurance Specifications (will be required of awarded Vendor; furnish sample certificate with bid, if possible)
	Statement of Management
	Performance Bond – 100% of contract price
	Payment Bond – 100% of contract price

SECTION 3.0

ADA Citywide Upgrades at Various Buildings

REQUIRED BID FORMS FILED SUB-CONTRACTOR

Please ensure all documents listed on this checklist are included with your bid. Failure to do so may subject the proposer to disqualification.

Required with Sealed Filed Sub Bids

	Signed Cover Letter
	Form for Filed Sub Bidder
	Somerville Living Wage Form
	Certificate of Non-Collusion & Tax Compliance
	Reference Form (or equivalent may be attached)
	Prevailing Wages Statement of Compliance Form
	OSHA Form
	Ordinance to Protect Vulnerable Road Users
	DCAMM Certification and Update Statement - Sub Contractor for Plumbing, Painting, and/or Miscellaneous and Ornamental Iron



Certificate of Authority (Limited Liability Companies Only)

Instructions: Complete this form and sign and date where indicated below.

1. I, the undersigned, being a member or manager of

_____)
(Complete Name of Limited Liability Company)

a limited liability company (LLC) hereby certify as to the contents of this form for the purpose of contracting with the City of Somerville.

2. The LLC is organized under the laws of the state of: _____.

3. The LLC is managed by (**check one**) a Manager or by its Members.

4. I hereby certify that each of the following individual(s) is:

- a member/manager of the LLC;
- duly authorized to execute and deliver this contract, agreement, and/or other legally binding documents relating to any contract and/or agreement on behalf of the LLC;
- duly authorized to do and perform all acts and things necessary or appropriate to carry out the terms of this contract or agreement on behalf of the LLC; and
- that no resolution, vote, or other document or action is necessary to establish such authority.

<u>Name</u>	<u>Title</u>

5. **Signature:** _____

Printed Name: _____

Printed Title: _____

Date: _____



**Certificate of Authority
(Corporations Only)**

Instructions: Complete this form and sign and date where indicated below.

1. I hereby certify that I, the undersigned, am the duly elected Clerk/Secretary of

(Insert Full Name of Corporation)

2. I hereby certify that the following individual _____
(Insert the Name of Officer who Signed the Contract and Bonds)

is the duly elected _____ of said Corporation.
(Insert the Title of the Officer in Line 2)

3. I hereby certify that on _____
(Insert Date: Must be on or before Date Officer Signed Contract/Bonds)

at a duly authorized meeting of the Board of Directors of said corporation, at which a quorum was present, it was voted that

(Insert Name of Officer from Line 2) (Insert Title of Officer from Line 2)

of this corporation be and hereby is authorized to make, enter into, execute, and deliver contracts and bonds in the name and on behalf of said corporation, and affix its Corporate Seal thereto, and such execution of any contract of obligation in this corporation's name and on its behalf, with or without the Corporate Seal, shall be valid and binding upon this corporation; and that the above vote has not been amended or rescinded and remains in full force and effect as of the date set forth below.

4. **ATTEST:**

Signature: _____
(Clerk or Secretary)

AFFIX CORPORATE SEAL HERE

Printed Name: _____

Printed Title: _____

Date: _____

(Date Must Be on or after Date Officer Signed Contract/Bonds)



Non-Collusion Form and Tax Compliance Certification

Instructions: Complete each part of this two-part form and sign and date where indicated below.

A. NON-COLLUSION FORM

I, the undersigned, hereby certify under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person.

As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature: _____
(Individual Submitted Bid or Proposal)
Duly Authorized

Name of Business or Entity: _____

Date: _____

B. TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support, as well as paid all contributions and payments in lieu of contributions pursuant to MGL 151A, §19A(b).

Signature: _____
(Duly Authorized Representative of Vendor)

Name of Business or Entity: _____

Social Security Number or Federal Tax ID#: _____

Date: _____



SOMERVILLE LIVING WAGE ORDINANCE CERTIFICATION FORM
CITY OF SOMERVILLE CODE OF ORDINANCES SECTION 2-397 et seq.*

Instructions: This form shall be included in all Invitations for Bids and Requests for Proposals which involve the furnishing of labor, time or effort (with no end product other than reports) by vendors contracting or subcontracting with the City of Somerville, where the contract price meets or exceeds the following dollar threshold: \$10,000. If the undersigned is selected, this form will be attached to the contract or subcontract and the certifications made herein shall be incorporated as part of such contract or subcontract. **Complete this form and sign and date where indicated below on page 2.**

Purpose: The purpose of this form is to ensure that such vendors pay a “Living Wage” (defined below) to all covered employees (i.e., all employees except individuals in a city, state or federally funded youth program). In the case of bids, the City will award the contract to the lowest responsive and responsible bidder paying a Living Wage. In the case of RFP’s, the City will select the most advantageous proposal from a responsive and responsible offeror paying a Living Wage. In neither case, however, shall the City be under any obligation to select a bid or proposal that exceeds the funds available for the contract.

Definition of “Living Wage”: For this contract or subcontract, as of 7/1/2017 “Living Wage” shall be deemed to be an hourly wage of no less than \$12.49 per hour. From time to time, the Living Wage may be upwardly adjusted and amendments, if any, to the contract or subcontract may require the payment of a higher hourly rate if a higher rate is then in effect.

CERTIFICATIONS

1. The undersigned shall pay no less than the Living Wage to all covered employees who directly expend their time on the contract or subcontract with the City of Somerville.
2. The undersigned shall post a notice, (copy enclosed), to be furnished by the contracting City Department, informing covered employees of the protections and obligations provided for in the Somerville Living Wage Ordinance, and that for assistance and information, including copies of the Ordinance, employees should contact the contracting City Department. Such notice shall be posted in each location where services are performed by covered employees, in a conspicuous place where notices to employees are customarily posted.
3. The undersigned shall maintain payrolls for all covered employees and basic records relating hereto and shall preserve them for a period of three years. The records shall contain the name and address of each employee, the number of hours worked, the gross wages, a copy of the social

* Copies of the Ordinance are available upon request to the Purchasing Department.

Form: _____
Contract Number: _____

security returns, and evidence of payment thereof and such other data as may be required by the contracting City Department from time to time.

4. The undersigned shall submit payroll records to the City upon request and, if the City receives information of possible noncompliance with the provisions the Somerville Living Wage Ordinance, the undersigned shall permit City representatives to observe work being performed at the work site, to interview employees, and to examine the books and records relating to the payrolls being investigated to determine payment of wages.

5. The undersigned shall not fund wage increases required by the Somerville Living Wage Ordinance by reducing the health insurance benefits of any of its employees.

6. The undersigned agrees that the penalties and relief set forth in the Somerville Living Wage Ordinance shall be in addition to the rights and remedies set forth in the contract and/or subcontract.

CERTIFIED BY:

Signature: _____
(Duly Authorized Representative of Vendor)

Title: _____

Name of Vendor: _____

Date: _____

INSTRUCTIONS: PLEASE POST

**NOTICE TO ALL EMPLOYEES
REGARDING PAYMENT OF LIVING WAGE**

Under the Somerville, Massachusetts' Living Wage Ordinance (Ordinance No. 1999-1), any person or entity who has entered into a contract with the City of Somerville is required to pay its employees who are involved in providing services to the City of Somerville no less than a "Living Wage".

The Living Wage as of 7/1/2017 is **\$12.49** per hour. The only employees who are not covered by the Living Wage Ordinance are individuals in a Youth Program. "Youth Program" as defined in the Ordinance, "means any city, state or federally funded program which employs youth, as defined by city, state or federal guidelines, during the summer, or as part of a school to work program, or in any other related seasonal or part-time program."

For assistance and information regarding the protections and obligations provided for in the Living Wage Ordinance and/or a copy of the Living Wage Ordinance, all employees should contact the City of Somerville's Purchasing Department directly.

REFERENCE FORM

Bidder: _____

IFB Title: _____

Bidder must provide references for: Three other similar sized Municipalities provided the same services

Reference: _____ Contact: _____

Address: _____ Phone: _____

_____ Email: _____

Description and date(s) of supplies or services provided: _____

Reference: _____ Contact: _____

Address: _____ Phone: _____

_____ Email: _____

Description and date(s) of supplies or services provided: _____

Reference: _____ Contact: _____

Address: _____ Phone: _____

_____ Email: _____

Description and date(s) of supplies or services provided: _____



SOMERVILLE ORDINANCE TO SAFEGUARD VULNERABLE ROAD USERS
CITY OF SOMERVILLE CODE OF ORDINANCES ARTICLE VIII, SEC. 12-117 et seq.

Prospective contractors must familiarize themselves with the City of Somerville’s Ordinance to Protect Vulnerable Road Users. The full text of this local law can be found [here](#).

1. **Request for Inspection:** Inspections are conducted on Thursdays from 4pm-7pm at the Somerville Department of Public Works, located at 1 Franey Road. Each inspection takes approximately 20 minutes.
 - a. Any vendor covered by this Ordinance shall complete an inspection request form and email it to fleetinspections@somervillema.gov.
 - b. Please submit request form no later than 3pm on the Tuesday before the requested inspection date.
2. **Fee:** The fee for the initial inspection is \$100. The fee for a renewal inspection (every two years) is \$50.
 - a. Payment of the fee is due upon scheduling of the inspection. The fee can be paid via check or credit card. Checks should be made out to the City of Somerville and include the vendor’s phone number.
3. **Approval:** Vehicles inspected and approved by the Fleet Division will have an inspection approval sticker affixed to the windshield of the vehicle. A copy of the inspection report and certificate of inspection shall be issued to the vendor.
 - a. Inspection stickers are not transferable.
 - b. Any major overhaul of safe guard equipment shall be required to be re-inspected.
4. **Rejection:** If a vehicle is rejected for failing to comply with any of the technical specifications outlined in the ordinance, it shall be corrected and henceforth re-inspected within 30 days at no additional fee.
 - a. If a second inspection results in a rejection, a fee of \$50 will be required for any subsequent inspections.
 - b. Any vendor who fails to comply within 60 days of their first inspection may be subject to having their contract cancelled.
5. **Questions:** Please direct questions about vehicle inspections to Fleet Superintendent Ron Bonney at rbonney@somervillema.gov or at (617) 625-6600, ext. 5524.

Acknowledgement

In accordance with Sec. 12-119 “Requirements” in the Ordinance, bidders must sign the following:

Unless certified that the Ordinance is not applicable to this contract or otherwise waived by the City, I acknowledge that my company has installed (or will install prior to commencing work for the contract) side guards, cross-over mirrors or equivalent blind spot countermeasures, convex mirrors or equivalent blind spot countermeasures, side-visible turn signals, and appropriate warning signage, in accordance with SCO Chapter 12, Article VII on all large vehicles it uses or will use within the City of Somerville in connection with any contract.

Authorized Signatory’s Name

Date

Company Name

I certify that the Ordinance does not apply to this contract for the following:

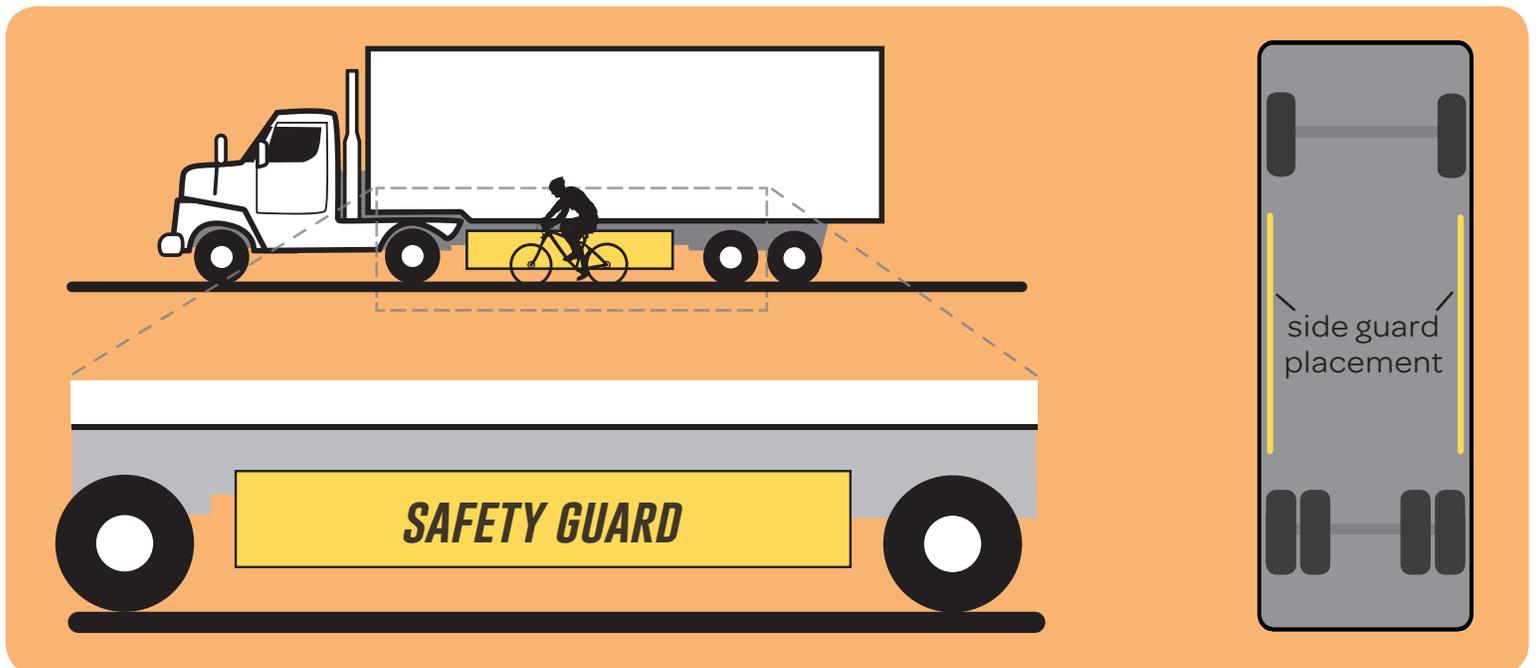
- Vehicles do not meet or exceed Class 3 GVWR Vehicles do not exceed 15 MPH No vehicles on project
 Other: _____



CITY OF SOMERVILLE TRUCK SIDE GUARD ORDINANCE

Collisions with large vehicles are disproportionately likely to result in cyclist and pedestrian fatalities. The City of Somerville's Ordinance to Safeguard Vulnerable Road Users aims to prevent cyclists and pedestrians from the risk of being struck by a large vehicle because of limited driver visibility and lack of side-visible turn signals, as well as falling under the sides of large vehicles and being caught under the wheels.

The ordinance applies to large motor vehicles that are Class 3 or above with a gross vehicle weight rating (GVWR) exceeding 10,000 pounds, except for an ambulance, fire apparatus, low-speed vehicle with a maximum speed under 15 mph, or an agricultural tractor.



Questions about inspections?

Please contact the Fleet Superintendent, Ron Bonney, at:
RBonney@SomervilleMA.gov or (617) 625-6600, ext. 5524.

ORDINANCE REQUIREMENTS

LATERAL PROTECTIVE DEVICES (SIDE GUARDS)

- Vehicles must have device installed between the front & rear wheels to help prevent injuries to vulnerable road users, particularly from falling underneath the vehicle.



SIDE-VISIBLE TURN SIGNALS

- Vehicles must have at least one turn signal lamp on each side of the vehicle that is visible from any point to the left and right side along the full length of the vehicle.



CONVEX MIRRORS

- Vehicles must have mirrors which enable the driver to see anything that is three feet above the road and one foot in front of or alongside of the vehicle.



CROSS-OVER MIRRORS

- Vehicles must have mirrors that enable the driver to see anything at least three feet tall passing one foot in front of the vehicle and the area in front of the bumper where direct vision is not possible.

SAFETY DECALS

- Vehicles must have a minimum of three reflective decals on the rear and sides.
- The decals must be "safety yellow" in color and include language or images that warn of blind spots.

COMMON QUESTIONS

WHAT TYPES OF VEHICLES DOES THIS ORDINANCE APPLY TO? This ordinance applies to Class 3 or above vehicles with a gross vehicle weight rating exceeding 10,000 lbs., except for an ambulance, fire apparatus, low-speed vehicle with max speed under 15 mph, or agricultural tractors.

CAN TOOL BOXES BE USED AS SIDE GUARDS? Yes, as long as the tool box meets all of the required measurements in the ordinance.

IF I RENT TRUCKS FOR A JOB, DO THOSE VEHICLES NEED TO BE INSPECTED AND PERMITTED? Yes.

DO SUBCONTRACTORS' TRUCKS WORKING ON A CITY CONTRACT NEED TO BE INSPECTED & PERMITTED? Yes.

WILL THE CITY DO AN OFF-SITE INSPECTION FOR LARGER FLEETS? Yes, depending on the availability of inspectors and the distance to the site.

REGISTER FOR AN INSPECTION

Email inspection forms to: FleetInspections@SomervilleMA.gov

Questions about inspections? Please contact the Fleet Superintendent, Ron Bonney, at: RBonney@SomervilleMA.gov or (617) 625-6600, ext. 5524

Form: _____
Contract Number: _____

CITY OF SOMERVILLE

Rev. 11/14/2014



OSHA GENERAL CONTRACTOR CERTIFICATION FORM

**Pursuant to Chapter 306 of the Acts of 2004
An Act Relative to the Health and Safety on Construction Projects**

GENERAL CONTRACTOR'S CERTIFICATION – BID FORM

I, the undersigned, hereby certify under penalties of perjury that I, and all subcontractors who are not filed sub-bidders, shall:

(1) certify that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is a least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee.

As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature: _____
(Individual Submitting Bid)
Duly Authorized

Name of Business or Entity: _____

Date: _____

RETURN THIS FORM WITH YOUR BID



OSHA FILED SUB-BIDDER CERTIFICATION FORM

**Pursuant to Chapter 306 of the Acts of 2004
An Act Relative to the Health and Safety on Construction Projects**

FILED SUB-BIDDER CERTIFICATION – BID FORM

I, the undersigned, hereby certify under penalties of perjury that:

(1) that I am able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature: _____
(Individual Submitting Filed Sub-Bid)
Duly Authorized

Name of Business or Entity: _____

Bid Number and Title: _____

Date: _____

RETURN THIS FORM WITH YOUR BID

**STATEMENT OF MANAGEMENT
For Contracts over \$100,000**

In accordance with M.G.L. Chapter 30, Section 39R, the undersigned successful bidder states that its system of internal accounting controls and that of its subsidiaries reasonably assure (1) that transactions are executed in accordance with management's general and specific authorization; (2) that transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles, and to maintain accountability for assets; (3) that access to assets is permitted only in accordance with management's general or specific authorization, and (4) that the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

Executed this _____ day of _____, _____

On behalf of _____
(Name of Successful Bidder)

(Address and telephone of Successful Bidder)

(Name and title of person signing statement)

By: _____
(Signature)

CERTIFIED PUBLIC ACCOUNTANT STATEMENT

In accordance with M.G.L. 30, Section 39R I, _____ a certified public accountant, state that I have examined the above Statement of Management on internal accounting controls, and that in my opinion (1) the representations of management are consistent with the result of management's evaluation of the system of internal accounting controls; and (2) that such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the above referenced successful bidder's financial statements.

(Signature)

(Business name, address and telephone number)

CITY OF SOMERVILLE
ORDINANCE NO. 2008-08
IN THE BOARD OF ALDERMEN: June 12, 2008

Be it ordained by the Board of Aldermen, in session assembled, that the Code of Ordinances of the City of Somerville, is hereby amended by adding a new Section 2-355 as follows:

Sec. 2-355. Responsible Employer Ordinance.

(a) The Board of Aldermen hereby finds and determines that the failure of certain construction firms awarded contracts funded by the City to include and enforce provisions requiring compliance with state laws governing the payment of prevailing wages, the provision of workers compensation coverage, and the proper classification of individuals as employees and not as independent contractors, as well as provisions concerning health insurance coverage and state-certified apprenticeship programs, is injurious to the life, health and happiness of individuals employed by such firms and is deleterious to the quality of life in the City where most of such individuals reside.

(b) Every contract awarded by the City under G. L. c. 149, § 44A (2) where the amount of the contract is more than one-hundred thousand dollars, and any subcontract awarded in connection with any such general contract where the amount of such subcontract is more than twenty-five thousand dollars, shall be deemed to incorporate by reference the provisions of sub-parts (1) through (5) of this subsection together with the provisions of subsections (c), (d) and (e) of this section.

1. The bidder and all subcontractors under the bidder shall comply with the requirements of G. L. c. 149 concerning the payment of prevailing wage rates to their employees;
2. The bidder and all subcontractors under the bidder must maintain and participate in a bona fide apprentice training program as defined by G. L. c. 23, §§ 11H & 11I for each apprenticeable trade or occupation represented in its workforce that is approved by the division of apprentice training of the department of labor and workforce development of the Commonwealth and must abide by the apprentice to journeymen ratio for each trade prescribed therein in the performance of the contract;
3. The bidder and all subcontractors under the bidder must offer, at its expense, hospitalization and medical benefits for all individuals employed on the project or coverage which is comparable to the hospitalization and medical benefits provided by the health and welfare plans in the applicable craft recognized by G. L. c. 149, § 26, in establishing minimum wage rates. All such plans shall meet or exceed state requirements for such plans.
4. The bidder and all subcontractors under the bidder must maintain appropriate industrial accident insurance coverage in accordance with G. L. c. 152 for all individuals employed on the project;
5. The bidder and all subcontractors under the bidder must properly classify individuals employed on the project as employees rather than independent contractors and comply with all laws concerning workers' compensation insurance coverage, unemployment taxes, social security taxes and income taxes as respects all such employees.

(c) All bidders and all subcontractors under such bidders who are awarded, or otherwise obtain, contracts from the city on projects governed by G. L. c. 149, § 44A (2), shall comply with the obligations described in sub-parts (1) through (5) of subsection (b) of this section for the entire duration of their work on the project, and an officer of each such bidder or subcontractor under the

bidder shall certify under oath and in writing on a weekly basis that they are in compliance with these obligations.

(d) Any bidder or subcontractor under the bidder who fails to comply with any of the obligations described in sub-parts (1) through (5) of subsection (b) of this section for any period of time, or fails to comply with the weekly certification obligations described in subsection (c) of this subsection shall be subject to any or all of the following sanctions:

1. temporary suspension of work on the project until compliance is obtained; or,
2. withholding by the City of payment due under the contract until compliance is obtained; or,
3. permanent removal from any further work on the project; or,
4. recovery by the city from the general contractor of 1/10 of 1% of the general contract or \$ 1,000.00, whichever sum is greater, in the nature of liquidated damages assessed for each week that the general contractor is in non-compliance or, if a subcontractor is in non-compliance, the recovery by the city from the general contractor as a back charge against the subcontractor of 1/10 of 1% of the subcontract price, or \$ 400.00, whichever sum is greater, in the nature of liquidated damages assessed for each week that the subcontractor is in non-compliance.

(e) In addition to these sanctions a general bidder or contractor shall be equally liable for any violation of the obligations described in sub-parts (1) through (5) of subsection (b) of this section committed by any of its subcontractors or sub bidders, excepting only those violations which arise from work performed by subcontractors with subcontracts governed by G. L. c. 149, § 44F. Any contractor or subcontractor who has been determined to have violated any of the provisions of subsections (b) or (c) of this section shall be barred from performing any work on any future contracts awarded by the City for six months for the first violation, three years for the second violation, and permanently for a third violation.

(f) The provisions of this section shall not apply to construction projects for which the low general bid was less than one-hundred thousand dollars, or to work performed pursuant to subcontracts governed by G. L. 149, § 44F where the bid for such subcontract was less than twenty-five thousand dollars.

Receipt Acknowledged _____ day of _____.

Name of Vendor

By: _____
Name

Its: _____
Title

Signature

CITY OF SOMERVILLE
Responsible Employer Ordinance

WEEKLY COMPLIANCE FORM

In accordance with the Code of Ordinances of the City of Somerville, Section 2-355, all general contractors and all subcontractors under such general contractors who are awarded, or otherwise obtain, contracts from the city on projects governed by G. L. c. 149, § 44A (2), shall comply with the obligations described in sub-parts (1) through (5) of subsection (b) of this section for the entire duration of their work on the project, and an officer of each such general contractor or subcontractor under the general contractor where the amount of such subcontract is more than \$25,000.00, shall certify under oath and in writing on a weekly basis that they are in compliance with these obligations.

STATEMENT OF COMPLIANCE

Date _____

Period _____

I, _____, _____
(Print Name) (Title)

Do hereby state that _____ is in compliance with all
(Contractor or Subcontractor)

requirements of the City of Somerville's Responsible Employer Ordinance, City Ordinance Section 2-355, for the duration of all work performed on the

_____ by this general contractor or
(Building or Project)

subcontractor.

(Signature)
Signed under the pains and penalties of perjury

Request for Taxpayer Identification Number and Certification

**Give Form to the
requester. Do not
send to the IRS.**

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification; check only one of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see instructions) ▶ _____	
	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>	
	5 Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number											
				-			-				
or											
Employer identification number											
				-							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶
------------------	----------------------------	--------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following persons must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

- 1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.
- 2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.
- 3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.
- 4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).
- 5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

*Note. Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

CERTIFICATE OF GOOD STANDING

TO: Vendor

FROM: Purchasing Department

RE: **CERTIFICATE OF GOOD STANDING**

The **Awarded Vendor** must comply with our request for a **CURRENT “Certificate of Good Standing”**.

If you require information on how to obtain the “Certificate of Good Standing” or Certificate of Registration (Foreign Corporations) from the Commonwealth of Massachusetts, please call the Secretary of State’s Office at (617) 727-2850 (Press #1) located at One (1) Ashburton Place, 17th Floor, Boston, MA 02133 or you may access their web site at:
<http://corp.sec.state.ma.us/CorpWeb/Certificates/CertificateOrderForm.aspx>

If your company is incorporated outside of Massachusetts and therefore is a “foreign corporation”, but is registered to do business in Massachusetts, please comply with our request for the Certificate of Registration from the Commonwealth of Massachusetts. If your company is a foreign corporation, but is not registered to do business in Massachusetts, please provide the Certificate of Good Standing from your state of incorporation.

Please note that without the above certificate (s), the City of Somerville cannot execute your contract.

IMPORTANT NOTICE

Requests for Certificates of Good Standing by mail may take a substantial amount of time. A certificate may be obtained immediately in person at the Secretary’s Office at the address above. Also, at this time, the Secretary of State’s Office may not have your current annual report recorded. If this is the case, and you are therefore unable to obtain the Certificate of Good Standing, please forward a copy of your annual report filing fee check with your signed contracts. Please forward your original Certificate of Good Standing to the Purchasing Department upon receipt.

Thank You,

Purchasing Director

INSURANCE SPECIFICATIONS

INSURANCE REQUIREMENTS FOR AWARDED VENDOR ONLY:

Prior to commencing performance of any work or supplying materials or equipment covered by these specifications, the contractor shall furnish to the Office of the Purchasing Director a Certificate of Insurance evidencing the following:

A. GENERAL LIABILITY - Comprehensive Form

Bodily Injury Liability.....\$ One Million

Property Damage Liability.....\$ One Million

B. COVERAGE FOR PAYMENT OF WORKER'S COMPENSATION BENEFIT PURSUANT TO CHAPTER 152 OF THE MASSACHUSETTS GENERAL LAWS IN THE AMOUNT AS LISTED BELOW:

WORKER'S COMPENSATION.....\$ Statutory

EMPLOYERS' LIABILITY.....\$ Statutory

C. AUTOMOBILE LIABILITY INSURANCE AS LISTED BELOW:

BODILY INJURY LIABILITY.....\$ STATUTORY

1. A contract will not be executed unless a certificate (s) of insurance evidencing above-described coverage is attached.
2. Failure to have the above-described coverage in effect during the entire period of the contract shall be deemed to be a breach of the contract.
3. All applicable insurance policies shall read:
"CITY OF SOMERVILLE" as a certificate holder and as an additional insured for general liability only along with a description of operation in the space provided on the certificate.

Certificate Should Be Made Out To:

**City Of Somerville
Purchasing Department
93 Highland Avenue
Somerville, Ma. 02143**

Note: If your insurance expires during the life of this contract, you shall be responsible to submit a new certificate(s) covering the period of the contract. No payment will be made on a contract with an expired insurance certificate.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
	PHONE (A/C, No. Ext):	FAX (A/C, No):
INSURED	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A :	NAIC #
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y/N If yes, describe under DESCRIPTION OF OPERATIONS below		N/A				WC STATUTORY LIMITS <input type="checkbox"/> OTH-ER <input type="checkbox"/> E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$

ADD "X" HERETO CERTIFY THAT THE CITY OF SOMERVILLE IS AN ADDITIONAL INSURED

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

DESCRIPTION OF PROJECT, SOLICITATION NUMBER AND THAT THE CITY OF SOMERVILLE IS A CERTIFICATE HOLDER AND ADDITIONAL INSURED

CERTIFICATE HOLDER

CERTIFICATES SHOULD BE MADE OUT TO:

CITY OF SOMERVILLE
c/o PURCHASING DEPARTMENT
93 HIGHLAND AVE
SOMERVILLE, MA 02143

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form is available from the Department of Labor Standards (DLS) at www.mass.gov/dols/pw and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

On a weekly basis, every contractor and subcontractor is required to submit a certified copy of their weekly payroll records to the awarding authority; this includes the payroll forms and the Statement of Compliance form. The certified payroll records must be submitted either by regular mail or by e-mail to the awarding authority. Once collected, the awarding authority is required to preserve those records for three years from the date of completion of the project.

Each such contractor and subcontractor shall furnish weekly **and** within 15 days after completion of its portion of the work, to the awarding authority directly by first-class mail or e-mail, a statement, executed by the contractor, subcontractor or by any authorized officer thereof who supervised the payment of wages, this form, accompanied by their payroll:

STATEMENT OF COMPLIANCE

_____, 20_____

I, _____, _____
(Name of signatory party) (Title)

do hereby state:

That I pay or supervise the payment of the persons employed by

_____ on the _____
(Contractor, subcontractor or public body) (Building or project)

and that all mechanics and apprentices, teamsters, chauffeurs and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty nine of the General Laws.

Signature _____

Title _____



CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Director under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

ROSALIN ACOSTA
Secretary
WILLIAM D MCKINNEY
Director

Awarding Authority: City of Somerville
Contract Number: IFB 18-61 **City/Town:** SOMERVILLE
Description of Work: Project consists of citywide ADA upgrades and renovations to bathrooms, water fountains, handrails, walls, doors, millwork, and furniture at various locations.
Job Location: Citywide, various locations

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards ("DLS") if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Department of Labor Standards, Division of Apprentice Standards (DLS/DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F "rental of equipment" contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and

Issue Date: 03/30/2018 **Wage Request Number:** 20180330-021

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$33.25	\$10.91	\$10.89	\$0.00	\$55.05
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$33.32	\$10.91	\$10.89	\$0.00	\$55.12
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$33.44	\$10.91	\$10.89	\$0.00	\$55.24
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2017	\$92.97	\$9.90	\$21.15	\$0.00	\$124.02
	08/01/2018	\$97.80	\$9.90	\$21.15	\$0.00	\$128.85
	08/01/2019	\$102.78	\$9.90	\$21.15	\$0.00	\$133.83
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2017	\$38.25	\$7.70	\$14.75	\$0.00	\$60.70
	06/01/2018	\$39.20	\$7.70	\$14.75	\$0.00	\$61.65
	12/01/2018	\$40.15	\$7.70	\$14.75	\$0.00	\$62.60
	06/01/2019	\$41.15	\$7.70	\$14.75	\$0.00	\$63.60
	12/01/2019	\$42.15	\$7.70	\$14.75	\$0.00	\$64.60
	06/01/2020	\$43.14	\$7.70	\$14.75	\$0.00	\$65.59
	12/01/2020	\$44.12	\$7.70	\$14.75	\$0.00	\$66.57
	06/01/2021	\$45.14	\$7.70	\$14.75	\$0.00	\$67.59
	12/01/2021	\$46.15	\$7.70	\$14.75	\$0.00	\$68.60
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2017	\$35.90	\$11.50	\$7.10	\$0.00	\$54.50
	06/01/2018	\$36.90	\$11.50	\$7.10	\$0.00	\$55.50
	12/01/2018	\$37.90	\$11.50	\$7.10	\$0.00	\$56.50
	06/01/2019	\$38.90	\$11.50	\$7.10	\$0.00	\$57.50
	12/01/2019	\$39.90	\$11.50	\$7.10	\$0.00	\$58.50
	06/01/2020	\$40.90	\$11.50	\$7.10	\$0.00	\$59.50
	12/01/2020	\$41.90	\$11.50	\$7.10	\$0.00	\$60.50
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.63	\$10.50	\$15.50	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.63	\$10.50	\$15.50	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Issue Date: 03/30/2018 **Wage Request Number:** 20180330-021

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10

For apprentice rates see "Apprentice- LABORER"

BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	12/01/2017	\$38.25	\$7.70	\$14.75	\$0.00	\$60.70
	06/01/2018	\$39.20	\$7.70	\$14.75	\$0.00	\$61.65
	12/01/2018	\$40.15	\$7.70	\$14.75	\$0.00	\$62.60
	06/01/2019	\$41.15	\$7.70	\$14.75	\$0.00	\$63.60
	12/01/2019	\$42.15	\$7.70	\$14.75	\$0.00	\$64.60
	06/01/2020	\$43.14	\$7.70	\$14.75	\$0.00	\$65.59
	12/01/2020	\$44.12	\$7.70	\$14.75	\$0.00	\$66.57
	06/01/2021	\$45.14	\$7.70	\$14.75	\$0.00	\$67.59
	12/01/2021	\$46.15	\$7.70	\$14.75	\$0.00	\$68.60

For apprentice rates see "Apprentice- LABORER"

BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2017	\$42.92	\$6.97	\$16.21	\$0.00	\$66.10
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Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2017		Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Step	percent					
1	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
2	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
3	70	\$30.04	\$6.97	\$11.35	\$0.00	\$48.36
4	75	\$32.19	\$6.97	\$12.16	\$0.00	\$51.32
5	80	\$34.34	\$6.97	\$12.97	\$0.00	\$54.28
6	85	\$36.48	\$6.97	\$13.78	\$0.00	\$57.23
7	90	\$38.63	\$6.97	\$14.59	\$0.00	\$60.19
8	95	\$40.77	\$6.97	\$15.40	\$0.00	\$63.14

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (BOSTON)</i>	02/01/2018	\$52.06	\$10.75	\$20.03	\$0.00	\$82.84
	08/01/2018	\$53.41	\$10.75	\$20.16	\$0.00	\$84.32
	02/01/2019	\$54.05	\$10.75	\$20.16	\$0.00	\$84.96
	08/01/2019	\$55.40	\$10.75	\$20.30	\$0.00	\$86.45
	02/01/2020	\$56.04	\$10.75	\$20.30	\$0.00	\$87.09
	08/01/2020	\$57.39	\$10.75	\$20.45	\$0.00	\$88.59
	02/01/2021	\$58.03	\$10.75	\$20.45	\$0.00	\$89.23
	08/01/2021	\$59.43	\$10.75	\$20.61	\$0.00	\$90.79
	02/01/2022	\$60.02	\$10.75	\$20.61	\$0.00	\$91.38

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Boston

Effective Date - 02/01/2018		Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Step	percent					
1	50	\$26.03	\$10.75	\$20.03	\$0.00	\$56.81
2	60	\$31.24	\$10.75	\$20.03	\$0.00	\$62.02
3	70	\$36.44	\$10.75	\$20.03	\$0.00	\$67.22
4	80	\$41.65	\$10.75	\$20.03	\$0.00	\$72.43
5	90	\$46.85	\$10.75	\$20.03	\$0.00	\$77.63

Effective Date - 08/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.71	\$10.75	\$20.16	\$0.00	\$57.62
2	60	\$32.05	\$10.75	\$20.16	\$0.00	\$62.96
3	70	\$37.39	\$10.75	\$20.16	\$0.00	\$68.30
4	80	\$42.73	\$10.75	\$20.16	\$0.00	\$73.64
5	90	\$48.07	\$10.75	\$20.16	\$0.00	\$78.98

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.17	\$10.50	\$15.50	\$0.00	\$72.17
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2017	\$38.60	\$7.70	\$14.95	\$0.00	\$61.25
	06/01/2018	\$39.55	\$7.70	\$14.95	\$0.00	\$62.20
	12/01/2018	\$40.50	\$7.70	\$14.95	\$0.00	\$63.15
	06/01/2019	\$41.50	\$7.70	\$14.95	\$0.00	\$64.15
	12/01/2019	\$42.50	\$7.70	\$14.95	\$0.00	\$65.15
	06/01/2020	\$43.49	\$7.70	\$14.95	\$0.00	\$66.14
	12/01/2020	\$44.47	\$7.70	\$14.95	\$0.00	\$67.12
	06/01/2021	\$45.49	\$7.70	\$14.95	\$0.00	\$68.14
	12/01/2021	\$46.50	\$7.70	\$14.95	\$0.00	\$69.15

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2017	\$37.45	\$7.70	\$14.95	\$0.00	\$60.10
	06/01/2018	\$38.40	\$7.70	\$14.95	\$0.00	\$61.05
	12/01/2018	\$39.35	\$7.70	\$14.95	\$0.00	\$62.00
	06/01/2019	\$40.35	\$7.70	\$14.95	\$0.00	\$63.00
	12/01/2019	\$41.35	\$7.70	\$14.95	\$0.00	\$64.00
	06/01/2020	\$42.34	\$7.70	\$14.95	\$0.00	\$64.99
	12/01/2020	\$43.32	\$7.70	\$14.95	\$0.00	\$65.97
	06/01/2021	\$44.34	\$7.70	\$14.95	\$0.00	\$66.99
	12/01/2021	\$45.35	\$7.70	\$14.95	\$0.00	\$68.00
	For apprentice rates see "Apprentice- LABORER"					
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2017	\$37.45	\$7.70	\$14.95	\$0.00	\$60.10
	06/01/2018	\$38.40	\$7.70	\$14.95	\$0.00	\$61.05
	12/01/2018	\$39.35	\$7.70	\$14.95	\$0.00	\$62.00
	06/01/2019	\$40.35	\$7.70	\$14.95	\$0.00	\$63.00
	12/01/2019	\$41.35	\$7.70	\$14.95	\$0.00	\$64.00
	06/01/2020	\$42.34	\$7.70	\$14.95	\$0.00	\$64.99
	12/01/2020	\$43.32	\$7.70	\$14.95	\$0.00	\$65.97
	06/01/2021	\$44.34	\$7.70	\$14.95	\$0.00	\$66.99
	12/01/2021	\$45.35	\$7.70	\$14.95	\$0.00	\$68.00
	For apprentice rates see "Apprentice- LABORER"					
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10
	For apprentice rates see "Apprentice- LABORER"					
CARPENTER <i>CARPENTERS - ZONE 1 (Metro Boston)</i>	03/01/2018	\$47.54	\$9.90	\$17.50	\$0.00	\$74.94
	09/01/2018	\$48.69	\$9.90	\$17.50	\$0.00	\$76.09
	03/01/2019	\$49.84	\$9.90	\$17.50	\$0.00	\$77.24

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Apprentice - CARPENTER - Zone 1 Metro Boston						
Effective Date - 03/01/2018						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.77	\$9.90	\$1.73	\$0.00	\$35.40
2	60	\$28.52	\$9.90	\$1.73	\$0.00	\$40.15
3	70	\$33.28	\$9.90	\$12.31	\$0.00	\$55.49
4	75	\$35.66	\$9.90	\$12.31	\$0.00	\$57.87
5	80	\$38.03	\$9.90	\$14.04	\$0.00	\$61.97
6	80	\$38.03	\$9.90	\$14.04	\$0.00	\$61.97
7	90	\$42.79	\$9.90	\$15.77	\$0.00	\$68.46
8	90	\$42.79	\$9.90	\$15.77	\$0.00	\$68.46
Effective Date - 09/01/2018						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.35	\$9.90	\$1.73	\$0.00	\$35.98
2	60	\$29.21	\$9.90	\$1.73	\$0.00	\$40.84
3	70	\$34.08	\$9.90	\$12.31	\$0.00	\$56.29
4	75	\$36.52	\$9.90	\$12.31	\$0.00	\$58.73
5	80	\$38.95	\$9.90	\$14.04	\$0.00	\$62.89
6	80	\$38.95	\$9.90	\$14.04	\$0.00	\$62.89
7	90	\$43.82	\$9.90	\$15.77	\$0.00	\$69.49
8	90	\$43.82	\$9.90	\$15.77	\$0.00	\$69.49
Notes:						
% Indentured After 10/1/17: 45/45/55/55/70/70/80/80						
Step 1&2 \$33.02/ 3&4 \$39.45/ 5&6 \$57.22/ 7&8 \$63.70						
Apprentice to Journeyworker Ratio:1:5						
CARPENTER WOOD FRAME <i>CARPENTERS - ZONE 1 (Wood Frame)</i>	10/01/2017	\$31.07	\$7.07	\$7.86	\$0.00	\$46.00
	04/01/2018	\$31.54	\$7.07	\$7.86	\$0.00	\$46.47
	10/01/2018	\$32.01	\$7.07	\$7.86	\$0.00	\$46.94
	04/01/2019	\$32.49	\$7.07	\$7.86	\$0.00	\$47.42
	10/01/2019	\$32.97	\$7.07	\$7.86	\$0.00	\$47.90

As of 9/1/09 Carpentry work on wood-frame WEATHERIZATION projects shall be paid the WOOD FRAME CARPENTER rate.

Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER (Wood Frame) - Zone 1

Effective Date - 10/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.64	\$7.07	\$0.00	\$0.00	\$25.71
2	60	\$18.64	\$7.07	\$0.00	\$0.00	\$25.71
3	65	\$20.20	\$7.07	\$7.86	\$0.00	\$35.13
4	70	\$21.75	\$7.07	\$7.86	\$0.00	\$36.68
5	75	\$23.30	\$7.07	\$7.86	\$0.00	\$38.23
6	80	\$24.86	\$7.07	\$7.86	\$0.00	\$39.79
7	85	\$26.41	\$7.07	\$7.86	\$0.00	\$41.34
8	90	\$27.96	\$7.07	\$7.86	\$0.00	\$42.89

Effective Date - 04/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.92	\$7.07	\$0.00	\$0.00	\$25.99
2	60	\$18.92	\$7.07	\$0.00	\$0.00	\$25.99
3	65	\$20.50	\$7.07	\$7.86	\$0.00	\$35.43
4	70	\$22.08	\$7.07	\$7.86	\$0.00	\$37.01
5	75	\$23.66	\$7.07	\$7.86	\$0.00	\$38.59
6	80	\$25.23	\$7.07	\$7.86	\$0.00	\$40.16
7	85	\$26.81	\$7.07	\$7.86	\$0.00	\$41.74
8	90	\$28.39	\$7.07	\$7.86	\$0.00	\$43.32

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$21.05/ 3&4 \$28.91/ 5&6 \$36.68/ 7&8 \$39.79

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME (All Other Work) <i>CARPENTERS-ZONE 1 (Wood Frame)</i>	06/01/2016	\$43.92	\$9.80	\$16.82	\$0.00	\$70.54
CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (BOSTON)</i>	01/01/2018	\$46.02	\$12.35	\$22.41	\$0.30	\$81.08
	07/01/2018	\$47.41	\$12.35	\$22.41	\$0.30	\$82.47
	01/01/2019	\$48.15	\$12.35	\$22.41	\$0.30	\$83.21
	07/01/2019	\$49.54	\$12.35	\$22.41	\$0.30	\$84.60
	01/01/2020	\$50.29	\$12.35	\$22.41	\$0.30	\$85.35

Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Boston)

Effective Date - 01/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.01	\$12.35	\$15.41	\$0.00	\$50.77
2	60	\$27.61	\$12.35	\$17.41	\$0.30	\$57.67
3	65	\$29.91	\$12.35	\$18.41	\$0.30	\$60.97
4	70	\$32.21	\$12.35	\$19.41	\$0.30	\$64.27
5	75	\$34.52	\$12.35	\$20.41	\$0.30	\$67.58
6	80	\$36.82	\$12.35	\$21.41	\$0.30	\$70.88
7	90	\$41.42	\$12.35	\$22.41	\$0.30	\$76.48

Effective Date - 07/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.71	\$12.35	\$15.41	\$0.00	\$51.47
2	60	\$28.45	\$12.35	\$17.41	\$0.30	\$58.51
3	65	\$30.82	\$12.35	\$18.41	\$0.30	\$61.88
4	70	\$33.19	\$12.35	\$19.41	\$0.30	\$65.25
5	75	\$35.56	\$12.35	\$20.41	\$0.30	\$68.62
6	80	\$37.93	\$12.35	\$21.41	\$0.30	\$71.99
7	90	\$42.67	\$12.35	\$22.41	\$0.30	\$77.73

Notes:

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$47.63	\$10.50	\$15.50	\$0.00	\$73.63
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$31.80	\$10.50	\$15.50	\$0.00	\$57.80
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 1</i>	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

For apprentice rates see "Apprentice-LABORER"

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.06	\$13.00	\$0.60	\$0.00	\$33.66
2	40	\$20.06	\$13.00	\$0.60	\$0.00	\$33.66
3	45	\$22.57	\$13.00	\$13.61	\$0.00	\$49.18
4	45	\$22.57	\$13.00	\$13.61	\$0.00	\$49.18
5	50	\$25.08	\$13.00	\$13.99	\$0.00	\$52.07
6	55	\$27.58	\$13.00	\$14.38	\$0.00	\$54.96
7	60	\$30.09	\$13.00	\$14.76	\$0.00	\$57.85
8	65	\$32.60	\$13.00	\$15.15	\$0.00	\$60.75
9	70	\$35.11	\$13.00	\$15.53	\$0.00	\$63.64
10	75	\$37.61	\$13.00	\$15.93	\$0.00	\$66.54

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.54	\$13.00	\$0.62	\$0.00	\$34.16
2	40	\$20.54	\$13.00	\$0.62	\$0.00	\$34.16
3	45	\$23.10	\$13.00	\$13.62	\$0.00	\$49.72
4	45	\$23.10	\$13.00	\$13.62	\$0.00	\$49.72
5	50	\$25.67	\$13.00	\$14.01	\$0.00	\$52.68
6	55	\$28.24	\$13.00	\$14.40	\$0.00	\$55.64
7	60	\$30.80	\$13.00	\$14.78	\$0.00	\$58.58
8	65	\$33.37	\$13.00	\$15.17	\$0.00	\$61.54
9	70	\$35.94	\$13.00	\$15.56	\$0.00	\$64.50
10	75	\$38.51	\$13.00	\$15.96	\$0.00	\$67.47

Notes :
App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85
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Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.93	\$15.28	\$0.00	\$0.00	\$43.21
2	55	\$30.72	\$15.28	\$15.71	\$0.00	\$61.71
3	65	\$36.31	\$15.28	\$15.71	\$0.00	\$67.30
4	70	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
5	80	\$44.69	\$15.28	\$15.71	\$0.00	\$75.68

Notes:
Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
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For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR LABORERS - ZONE 1	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10

For apprentice rates see "Apprentice- LABORER"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY OPERATING ENGINEERS LOCAL 4	11/01/2017	\$42.88	\$10.00	\$15.25	\$0.00	\$68.13
	05/01/2018	\$43.59	\$10.00	\$15.25	\$0.00	\$68.84

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY OPERATING ENGINEERS LOCAL 4	11/01/2017	\$44.34	\$10.00	\$15.25	\$0.00	\$69.59
	05/01/2018	\$45.06	\$10.00	\$15.25	\$0.00	\$70.31

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY OPERATING ENGINEERS LOCAL 4	11/01/2017	\$22.83	\$10.00	\$15.25	\$0.00	\$48.08
	05/01/2018	\$23.26	\$10.00	\$15.25	\$0.00	\$48.51

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIRE ALARM INSTALLER ELECTRICIANS LOCAL 103	03/01/2018	\$50.15	\$13.00	\$17.85	\$0.00	\$81.00
	09/01/2018	\$51.34	\$13.00	\$17.89	\$0.00	\$82.23
	03/01/2019	\$52.53	\$13.00	\$17.93	\$0.00	\$83.46

For apprentice rates see "Apprentice- ELECTRICIAN"

FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING ELECTRICIANS LOCAL 103	03/01/2018	\$37.61	\$13.00	\$15.93	\$0.00	\$66.54
	09/01/2018	\$38.51	\$13.00	\$15.96	\$0.00	\$67.47
	03/01/2019	\$39.40	\$13.00	\$15.98	\$0.00	\$68.38

For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"

FIREMAN (ASST. ENGINEER) OPERATING ENGINEERS LOCAL 4	12/01/2017	\$38.57	\$10.50	\$15.50	\$0.00	\$64.57
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FLAGGER & SIGNALER <i>LABORERS - ZONE 1</i>	12/01/2017	\$21.50	\$7.70	\$14.75	\$0.00	\$43.95
	06/01/2018	\$21.50	\$7.70	\$14.75	\$0.00	\$43.95
	12/01/2018	\$22.50	\$7.70	\$14.75	\$0.00	\$44.95
	06/01/2019	\$22.50	\$7.70	\$14.75	\$0.00	\$44.95
	12/01/2019	\$23.50	\$7.70	\$14.75	\$0.00	\$45.95
	06/01/2020	\$23.50	\$7.70	\$14.75	\$0.00	\$45.95
	12/01/2020	\$24.50	\$7.70	\$14.75	\$0.00	\$46.95
	06/01/2021	\$24.50	\$7.70	\$14.75	\$0.00	\$46.95
	12/01/2021	\$24.50	\$7.70	\$14.75	\$0.00	\$46.95

For apprentice rates see "Apprentice- LABORER"

FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	03/01/2016	\$42.13	\$9.80	\$17.62	\$0.00	\$69.55
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Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.07	\$9.80	\$1.79	\$0.00	\$32.66
2	55	\$23.17	\$9.80	\$1.79	\$0.00	\$34.76
3	60	\$25.28	\$9.80	\$12.25	\$0.00	\$47.33
4	65	\$27.38	\$9.80	\$12.25	\$0.00	\$49.43
5	70	\$29.49	\$9.80	\$14.04	\$0.00	\$53.33
6	75	\$31.60	\$9.80	\$14.04	\$0.00	\$55.44
7	80	\$33.70	\$9.80	\$15.83	\$0.00	\$59.33
8	85	\$35.81	\$9.80	\$15.83	\$0.00	\$61.44

Notes: Steps are 750 hrs.

% After 09/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)

Step 1&2 \$30.55/ 3&4 \$36.49/ 5&6 \$53.33/ 7&8 \$59.33

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.63	\$10.50	\$15.50	\$0.00	\$72.63
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$31.80	\$10.50	\$15.50	\$0.00	\$57.80
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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 1)</i>	01/01/2017	\$46.70	\$7.85	\$16.10	\$0.00	\$70.65
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - GLAZIER - Local 35 Zone 1

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.35	\$7.85	\$0.00	\$0.00	\$31.20
2	55	\$25.69	\$7.85	\$3.66	\$0.00	\$37.20
3	60	\$28.02	\$7.85	\$3.99	\$0.00	\$39.86
4	65	\$30.36	\$7.85	\$4.32	\$0.00	\$42.53
5	70	\$32.69	\$7.85	\$14.11	\$0.00	\$54.65
6	75	\$35.03	\$7.85	\$14.44	\$0.00	\$57.32
7	80	\$37.36	\$7.85	\$14.77	\$0.00	\$59.98
8	90	\$42.03	\$7.85	\$15.44	\$0.00	\$65.32

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.63	\$10.50	\$15.50	\$0.00	\$72.63
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Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$25.65	\$10.50	\$0.00	\$0.00	\$36.15
2	60	\$27.98	\$10.50	\$15.50	\$0.00	\$53.98
3	65	\$30.31	\$10.50	\$15.50	\$0.00	\$56.31
4	70	\$32.64	\$10.50	\$15.50	\$0.00	\$58.64
5	75	\$34.97	\$10.50	\$15.50	\$0.00	\$60.97
6	80	\$37.30	\$10.50	\$15.50	\$0.00	\$63.30
7	85	\$39.64	\$10.50	\$15.50	\$0.00	\$65.64
8	90	\$41.97	\$10.50	\$15.50	\$0.00	\$67.97

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2018	\$44.11	\$12.20	\$24.12	\$2.41	\$82.84
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For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i>	03/01/2018	\$50.15	\$13.00	\$17.85	\$0.00	\$81.00
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	09/01/2018	\$51.34	\$13.00	\$17.89	\$0.00	\$82.23
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	03/01/2019	\$52.53	\$13.00	\$17.93	\$0.00	\$83.46
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For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2018	\$44.11	\$12.20	\$24.12	\$2.41	\$82.84
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For apprentice rates see "Apprentice- SHEET METAL WORKER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i>	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	12/01/2017	\$38.25	\$7.70	\$14.75	\$0.00	\$60.70
	06/01/2018	\$39.20	\$7.70	\$14.75	\$0.00	\$61.65
	12/01/2018	\$40.15	\$7.70	\$14.75	\$0.00	\$62.60
	06/01/2019	\$41.15	\$7.70	\$14.75	\$0.00	\$63.60
	12/01/2019	\$42.15	\$7.70	\$14.75	\$0.00	\$64.60
	06/01/2020	\$43.14	\$7.70	\$14.75	\$0.00	\$65.59
	12/01/2020	\$44.12	\$7.70	\$14.75	\$0.00	\$66.57
	06/01/2021	\$45.14	\$7.70	\$14.75	\$0.00	\$67.59
	12/01/2021	\$46.15	\$7.70	\$14.75	\$0.00	\$68.60
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2017	\$47.09	\$11.75	\$14.20	\$0.00	\$73.04
	09/01/2018	\$49.34	\$11.75	\$14.20	\$0.00	\$75.29
	09/01/2019	\$51.84	\$11.75	\$14.20	\$0.00	\$77.79

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston

Effective Date - 09/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.55	\$11.75	\$10.45	\$0.00	\$45.75
2	60	\$28.25	\$11.75	\$11.20	\$0.00	\$51.20
3	70	\$32.96	\$11.75	\$11.95	\$0.00	\$56.66
4	80	\$37.67	\$11.75	\$12.70	\$0.00	\$62.12

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.67	\$11.75	\$10.45	\$0.00	\$46.87
2	60	\$29.60	\$11.75	\$11.20	\$0.00	\$52.55
3	70	\$34.54	\$11.75	\$11.95	\$0.00	\$58.24
4	80	\$39.47	\$11.75	\$12.70	\$0.00	\$63.92

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i>	03/16/2017	\$44.65	\$7.80	\$20.85	\$0.00	\$73.30
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Apprentice - IRONWORKER - Local 7 Boston						
Effective Date - 03/16/2017						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.79	\$7.80	\$20.85	\$0.00	\$55.44
2	70	\$31.26	\$7.80	\$20.85	\$0.00	\$59.91
3	75	\$33.49	\$7.80	\$20.85	\$0.00	\$62.14
4	80	\$35.72	\$7.80	\$20.85	\$0.00	\$64.37
5	85	\$37.95	\$7.80	\$20.85	\$0.00	\$66.60
6	90	\$40.19	\$7.80	\$20.85	\$0.00	\$68.84

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10

For apprentice rates see "Apprentice- LABORER"

LABORER <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.50	\$7.70	\$14.75	\$0.00	\$59.95
	06/01/2018	\$38.45	\$7.70	\$14.75	\$0.00	\$60.90
	12/01/2018	\$39.40	\$7.70	\$14.75	\$0.00	\$61.85
	06/01/2019	\$40.40	\$7.70	\$14.75	\$0.00	\$62.85
	12/01/2019	\$41.40	\$7.70	\$14.75	\$0.00	\$63.85
	06/01/2020	\$42.39	\$7.70	\$14.75	\$0.00	\$64.84
	12/01/2020	\$43.37	\$7.70	\$14.75	\$0.00	\$65.82
	06/01/2021	\$44.39	\$7.70	\$14.75	\$0.00	\$66.84
	12/01/2021	\$45.40	\$7.70	\$14.75	\$0.00	\$67.85

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - LABORER - Zone 1

Effective Date - 12/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.50	\$7.70	\$14.75	\$0.00	\$44.95
2	70	\$26.25	\$7.70	\$14.75	\$0.00	\$48.70
3	80	\$30.00	\$7.70	\$14.75	\$0.00	\$52.45
4	90	\$33.75	\$7.70	\$14.75	\$0.00	\$56.20

Effective Date - 06/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.07	\$7.70	\$14.75	\$0.00	\$45.52
2	70	\$26.92	\$7.70	\$14.75	\$0.00	\$49.37
3	80	\$30.76	\$7.70	\$14.75	\$0.00	\$53.21
4	90	\$34.61	\$7.70	\$14.75	\$0.00	\$57.06

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.50	\$7.70	\$14.75	\$0.00	\$59.95
	06/01/2018	\$38.45	\$7.70	\$14.75	\$0.00	\$60.90
	12/01/2018	\$39.40	\$7.70	\$14.75	\$0.00	\$61.85
	06/01/2019	\$40.40	\$7.70	\$14.75	\$0.00	\$62.85
	12/01/2019	\$41.40	\$7.70	\$14.75	\$0.00	\$63.85
	06/01/2020	\$42.39	\$7.70	\$14.75	\$0.00	\$64.84
	12/01/2020	\$43.37	\$7.70	\$14.75	\$0.00	\$65.82
	06/01/2021	\$44.39	\$7.70	\$14.75	\$0.00	\$66.84
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.50	\$7.70	\$14.75	\$0.00	\$59.95
	06/01/2018	\$38.45	\$7.70	\$14.75	\$0.00	\$60.90
	12/01/2018	\$39.40	\$7.70	\$14.75	\$0.00	\$61.85
	06/01/2019	\$40.40	\$7.70	\$14.75	\$0.00	\$62.85
	12/01/2019	\$41.40	\$7.70	\$14.75	\$0.00	\$63.85
	06/01/2020	\$42.39	\$7.70	\$14.75	\$0.00	\$64.84
	12/01/2020	\$43.37	\$7.70	\$14.75	\$0.00	\$65.82
	06/01/2021	\$44.39	\$7.70	\$14.75	\$0.00	\$66.84
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.65	\$7.70	\$14.75	\$0.00	\$60.10
	06/01/2018	\$38.60	\$7.70	\$14.75	\$0.00	\$61.05
	12/01/2018	\$39.55	\$7.70	\$14.75	\$0.00	\$62.00
	06/01/2019	\$40.55	\$7.70	\$14.75	\$0.00	\$63.00
	12/01/2019	\$41.55	\$7.70	\$14.75	\$0.00	\$64.00
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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LABORER: MASON TENDER <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
For apprentice rates see "Apprentice- LABORER"						

LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.50	\$7.70	\$14.75	\$0.00	\$59.95
	06/01/2018	\$38.45	\$7.70	\$14.75	\$0.00	\$60.90
	12/01/2018	\$39.40	\$7.70	\$14.75	\$0.00	\$61.85
	06/01/2019	\$40.40	\$7.70	\$14.75	\$0.00	\$62.85
	12/01/2019	\$41.40	\$7.70	\$14.75	\$0.00	\$63.85
	06/01/2020	\$42.39	\$7.70	\$14.75	\$0.00	\$64.84
	12/01/2020	\$43.37	\$7.70	\$14.75	\$0.00	\$65.82
	06/01/2021	\$44.39	\$7.70	\$14.75	\$0.00	\$66.84
For apprentice rates see "Apprentice- LABORER"						

LABORER: TREE REMOVER <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.50	\$7.70	\$14.75	\$0.00	\$59.95
	06/01/2018	\$38.45	\$7.70	\$14.75	\$0.00	\$60.90
	12/01/2018	\$39.40	\$7.70	\$14.75	\$0.00	\$61.85
	06/01/2019	\$40.40	\$7.70	\$14.75	\$0.00	\$62.85
	12/01/2019	\$41.40	\$7.70	\$14.75	\$0.00	\$63.85
	06/01/2020	\$42.39	\$7.70	\$14.75	\$0.00	\$64.84
	12/01/2020	\$43.37	\$7.70	\$14.75	\$0.00	\$65.82
	06/01/2021	\$44.39	\$7.70	\$14.75	\$0.00	\$66.84
This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"						

LASER BEAM OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2018	\$39.82	\$10.75	\$18.34	\$0.00	\$68.91
	08/01/2018	\$40.90	\$10.75	\$18.47	\$0.00	\$70.12
	02/01/2019	\$41.41	\$10.75	\$18.47	\$0.00	\$70.63
	08/01/2019	\$42.49	\$10.75	\$18.61	\$0.00	\$71.85
	02/01/2020	\$43.00	\$10.75	\$18.61	\$0.00	\$72.36
	08/01/2020	\$44.08	\$10.75	\$18.76	\$0.00	\$73.59
	02/01/2021	\$44.59	\$10.75	\$18.76	\$0.00	\$74.10
	08/01/2021	\$45.71	\$10.75	\$18.92	\$0.00	\$75.38
	02/01/2022	\$46.18	\$10.75	\$18.92	\$0.00	\$75.85

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2018						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.91	\$10.75	\$18.34	\$0.00	\$49.00
2	60	\$23.89	\$10.75	\$18.34	\$0.00	\$52.98
3	70	\$27.87	\$10.75	\$18.34	\$0.00	\$56.96
4	80	\$31.86	\$10.75	\$18.34	\$0.00	\$60.95
5	90	\$35.84	\$10.75	\$18.34	\$0.00	\$64.93

Effective Date - 08/01/2018						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.45	\$10.75	\$18.47	\$0.00	\$49.67
2	60	\$24.54	\$10.75	\$18.47	\$0.00	\$53.76
3	70	\$28.63	\$10.75	\$18.47	\$0.00	\$57.85
4	80	\$32.72	\$10.75	\$18.47	\$0.00	\$61.94
5	90	\$36.81	\$10.75	\$18.47	\$0.00	\$66.03

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2018	\$52.10	\$10.75	\$20.03	\$0.00	\$82.88
	08/01/2018	\$53.45	\$10.75	\$20.16	\$0.00	\$84.36
	02/01/2019	\$54.07	\$10.75	\$20.16	\$0.00	\$84.98
	08/01/2019	\$55.42	\$10.75	\$20.30	\$0.00	\$86.47
	02/01/2020	\$56.05	\$10.75	\$20.30	\$0.00	\$87.10
	08/01/2020	\$57.40	\$10.75	\$20.45	\$0.00	\$88.60
	02/01/2021	\$58.04	\$10.75	\$20.45	\$0.00	\$89.24
	08/01/2021	\$59.44	\$10.75	\$20.61	\$0.00	\$90.80
	02/01/2022	\$60.01	\$10.75	\$20.61	\$0.00	\$91.37

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 02/01/2018						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.05	\$10.75	\$20.03	\$0.00	\$56.83
2	60	\$31.26	\$10.75	\$20.03	\$0.00	\$62.04
3	70	\$36.47	\$10.75	\$20.03	\$0.00	\$67.25
4	80	\$41.68	\$10.75	\$20.03	\$0.00	\$72.46
5	90	\$46.89	\$10.75	\$20.03	\$0.00	\$77.67

Effective Date - 08/01/2018						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.73	\$10.75	\$20.16	\$0.00	\$57.64
2	60	\$32.07	\$10.75	\$20.16	\$0.00	\$62.98
3	70	\$37.42	\$10.75	\$20.16	\$0.00	\$68.33
4	80	\$42.76	\$10.75	\$20.16	\$0.00	\$73.67
5	90	\$48.11	\$10.75	\$20.16	\$0.00	\$79.02

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.17	\$10.50	\$15.50	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.17	\$10.50	\$15.50	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	10/01/2017	\$39.52	\$9.90	\$18.50	\$0.00	\$67.92
	04/01/2018	\$40.42	\$9.90	\$18.50	\$0.00	\$68.82
	10/01/2018	\$41.32	\$9.90	\$18.50	\$0.00	\$69.72
	04/01/2019	\$42.22	\$9.90	\$18.50	\$0.00	\$70.62

Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 10/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$21.74	\$9.90	\$5.31	\$0.00	\$36.95
2	65	\$25.69	\$9.90	\$15.13	\$0.00	\$50.72
3	75	\$29.64	\$9.90	\$16.10	\$0.00	\$55.64
4	85	\$33.59	\$9.90	\$17.06	\$0.00	\$60.55

Effective Date - 04/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$22.23	\$9.90	\$5.31	\$0.00	\$37.44
2	65	\$26.27	\$9.90	\$15.13	\$0.00	\$51.30
3	75	\$30.32	\$9.90	\$16.10	\$0.00	\$56.32
4	85	\$34.36	\$9.90	\$17.06	\$0.00	\$61.32

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER LABORERS - ZONE 1	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2017	\$23.24	\$10.50	\$15.50	\$0.00	\$49.24
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2017	\$27.40	\$10.50	\$15.50	\$0.00	\$53.40
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS II OPERATING ENGINEERS LOCAL 4	12/01/2017	\$46.17	\$10.50	\$15.50	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 - ZONE 1	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.71	\$7.85	\$0.00	\$0.00	\$33.56
2	55	\$28.28	\$7.85	\$3.66	\$0.00	\$39.79
3	60	\$30.85	\$7.85	\$3.99	\$0.00	\$42.69
4	65	\$33.42	\$7.85	\$4.32	\$0.00	\$45.59
5	70	\$35.99	\$7.85	\$14.11	\$0.00	\$57.95
6	75	\$38.56	\$7.85	\$14.44	\$0.00	\$60.85
7	80	\$41.13	\$7.85	\$14.77	\$0.00	\$63.75
8	90	\$46.27	\$7.85	\$15.44	\$0.00	\$69.56

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2017	\$48.10	\$7.85	\$16.10	\$0.00	\$72.05
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1						

Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - New

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.05	\$7.85	\$0.00	\$0.00	\$31.90
2	55	\$26.46	\$7.85	\$3.66	\$0.00	\$37.97
3	60	\$28.86	\$7.85	\$3.99	\$0.00	\$40.70
4	65	\$31.27	\$7.85	\$4.32	\$0.00	\$43.44
5	70	\$33.67	\$7.85	\$14.11	\$0.00	\$55.63
6	75	\$36.08	\$7.85	\$14.44	\$0.00	\$58.37
7	80	\$38.48	\$7.85	\$14.77	\$0.00	\$61.10
8	90	\$43.29	\$7.85	\$15.44	\$0.00	\$66.58

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) PAINTERS LOCAL 35 - ZONE 1	01/01/2017	\$46.16	\$7.85	\$16.10	\$0.00	\$70.11
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Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - Repaint

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.08	\$7.85	\$0.00	\$0.00	\$30.93
2	55	\$25.39	\$7.85	\$3.66	\$0.00	\$36.90
3	60	\$27.70	\$7.85	\$3.99	\$0.00	\$39.54
4	65	\$30.00	\$7.85	\$4.32	\$0.00	\$42.17
5	70	\$32.31	\$7.85	\$14.11	\$0.00	\$54.27
6	75	\$34.62	\$7.85	\$14.44	\$0.00	\$56.91
7	80	\$36.93	\$7.85	\$14.77	\$0.00	\$59.55
8	90	\$41.54	\$7.85	\$15.44	\$0.00	\$64.83

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS) LABORERS - ZONE 1	12/01/2017	\$37.50	\$7.70	\$14.75	\$0.00	\$59.95
	06/01/2018	\$38.45	\$7.70	\$14.75	\$0.00	\$60.90
	12/01/2018	\$39.40	\$7.70	\$14.75	\$0.00	\$61.85
	06/01/2019	\$40.40	\$7.70	\$14.75	\$0.00	\$62.85
	12/01/2019	\$41.40	\$7.70	\$14.75	\$0.00	\$63.85
	06/01/2020	\$42.39	\$7.70	\$14.75	\$0.00	\$64.84
	12/01/2020	\$43.37	\$7.70	\$14.75	\$0.00	\$65.82
	06/01/2021	\$44.39	\$7.70	\$14.75	\$0.00	\$66.84
	12/01/2021	\$45.40	\$7.70	\$14.75	\$0.00	\$67.85

For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) * 01/01/2017 \$46.70 \$7.85 \$16.10 \$0.00 \$70.65

* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1

Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.35	\$7.85	\$0.00	\$0.00	\$31.20
2	55	\$25.69	\$7.85	\$3.66	\$0.00	\$37.20
3	60	\$28.02	\$7.85	\$3.99	\$0.00	\$39.86
4	65	\$30.36	\$7.85	\$4.32	\$0.00	\$42.53
5	70	\$32.69	\$7.85	\$14.11	\$0.00	\$54.65
6	75	\$35.03	\$7.85	\$14.44	\$0.00	\$57.32
7	80	\$37.36	\$7.85	\$14.77	\$0.00	\$59.98
8	90	\$42.03	\$7.85	\$15.44	\$0.00	\$65.32

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT) PAINTERS LOCAL 35 - ZONE 1	01/01/2017	\$44.76	\$7.85	\$16.10	\$0.00	\$68.71
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Apprentice - PAINTER Local 35 Zone 1 - BRUSH REPAINT

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.38	\$7.85	\$0.00	\$0.00	\$30.23
2	55	\$24.62	\$7.85	\$3.66	\$0.00	\$36.13
3	60	\$26.86	\$7.85	\$3.99	\$0.00	\$38.70
4	65	\$29.09	\$7.85	\$4.32	\$0.00	\$41.26
5	70	\$31.33	\$7.85	\$14.11	\$0.00	\$53.29
6	75	\$33.57	\$7.85	\$14.44	\$0.00	\$55.86
7	80	\$35.81	\$7.85	\$14.77	\$0.00	\$58.43
8	90	\$40.28	\$7.85	\$15.44	\$0.00	\$63.57

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2016	\$33.08	\$10.91	\$10.89	\$0.00	\$54.88
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2017	\$44.27	\$9.90	\$21.15	\$0.00	\$75.32
	08/01/2018	\$46.57	\$9.90	\$21.15	\$0.00	\$77.62
	08/01/2019	\$48.94	\$9.90	\$21.15	\$0.00	\$79.99
For apprentice rates see "Apprentice- PILE DRIVER"						
PILE DRIVER PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2017	\$44.27	\$9.90	\$21.15	\$0.00	\$75.32
	08/01/2018	\$46.57	\$9.90	\$21.15	\$0.00	\$77.62
	08/01/2019	\$48.94	\$9.90	\$21.15	\$0.00	\$79.99

Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.14	\$9.90	\$21.15	\$0.00	\$53.19
2	60	\$26.56	\$9.90	\$21.15	\$0.00	\$57.61
3	70	\$30.99	\$9.90	\$21.15	\$0.00	\$62.04
4	75	\$33.20	\$9.90	\$21.15	\$0.00	\$64.25
5	80	\$35.42	\$9.90	\$21.15	\$0.00	\$66.47
6	80	\$35.42	\$9.90	\$21.15	\$0.00	\$66.47
7	90	\$39.84	\$9.90	\$21.15	\$0.00	\$70.89
8	90	\$39.84	\$9.90	\$21.15	\$0.00	\$70.89

Effective Date - 08/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.29	\$9.90	\$21.15	\$0.00	\$54.34
2	60	\$27.94	\$9.90	\$21.15	\$0.00	\$58.99
3	70	\$32.60	\$9.90	\$21.15	\$0.00	\$63.65
4	75	\$34.93	\$9.90	\$21.15	\$0.00	\$65.98
5	80	\$37.26	\$9.90	\$21.15	\$0.00	\$68.31
6	80	\$37.26	\$9.90	\$21.15	\$0.00	\$68.31
7	90	\$41.91	\$9.90	\$21.15	\$0.00	\$72.96
8	90	\$41.91	\$9.90	\$21.15	\$0.00	\$72.96

Notes:

Apprentice to Journeyworker Ratio:1:5

PIPEFITTER & STEAMFITTER 03/01/2017 \$51.19 \$9.70 \$18.14 \$0.00 \$79.03
 PIPEFITTERS LOCAL 337

Apprentice - PIPEFITTER - Local 537

Effective Date - 03/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.48	\$9.70	\$7.50	\$0.00	\$37.68
2	45	\$23.04	\$9.70	\$18.14	\$0.00	\$50.88
3	60	\$30.71	\$9.70	\$18.14	\$0.00	\$58.55
4	70	\$35.83	\$9.70	\$18.14	\$0.00	\$63.67
5	80	\$40.95	\$9.70	\$18.14	\$0.00	\$68.79

Notes:
 ** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.
 Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

Classification Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

PIPELAYER	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
LABORERS - ZONE 1	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10

For apprentice rates see "Apprentice- LABORER"

PLUMBERS & GASFITTERS	03/01/2018	\$54.69	\$11.57	\$15.76	\$0.00	\$82.02
PLUMBERS & GASFITTERS LOCAL 12	09/01/2018	\$56.19	\$11.57	\$15.76	\$0.00	\$83.52
	03/01/2019	\$57.69	\$11.57	\$15.76	\$0.00	\$85.02
	09/01/2019	\$59.19	\$11.57	\$15.76	\$0.00	\$86.52
	03/01/2020	\$60.69	\$11.57	\$15.76	\$0.00	\$88.02
	09/01/2020	\$62.19	\$11.57	\$15.76	\$0.00	\$89.52
	03/01/2021	\$63.69	\$11.57	\$15.76	\$0.00	\$91.02

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 03/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.14	\$11.57	\$5.72	\$0.00	\$36.43
2	40	\$21.88	\$11.57	\$6.49	\$0.00	\$39.94
3	55	\$30.08	\$11.57	\$8.81	\$0.00	\$50.46
4	65	\$35.55	\$11.57	\$10.36	\$0.00	\$57.48
5	75	\$41.02	\$11.57	\$11.90	\$0.00	\$64.49

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.67	\$11.57	\$5.72	\$0.00	\$36.96
2	40	\$22.48	\$11.57	\$6.49	\$0.00	\$40.54
3	55	\$30.90	\$11.57	\$8.82	\$0.00	\$51.29
4	65	\$36.52	\$11.57	\$10.36	\$0.00	\$58.45
5	75	\$42.14	\$11.57	\$11.90	\$0.00	\$65.61

Notes:
 ** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
 Step4 with lic\$61.00, Step5 with lic\$67.99

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.) 03/01/2017 \$51.19 \$9.70 \$18.14 \$0.00 \$79.03
 PIPEFITTERS LOCAL 537

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i>	12/01/2017	\$38.50	\$7.70	\$14.75	\$0.00	\$60.95
	06/01/2018	\$39.45	\$7.70	\$14.75	\$0.00	\$61.90
	12/01/2018	\$40.40	\$7.70	\$14.75	\$0.00	\$62.85
	06/01/2019	\$41.40	\$7.70	\$14.75	\$0.00	\$63.85
	12/01/2019	\$42.40	\$7.70	\$14.75	\$0.00	\$64.85
	06/01/2020	\$43.39	\$7.70	\$14.75	\$0.00	\$65.84
	12/01/2020	\$44.37	\$7.70	\$14.75	\$0.00	\$66.82
	06/01/2021	\$45.39	\$7.70	\$14.75	\$0.00	\$67.84
	12/01/2021	\$46.40	\$7.70	\$14.75	\$0.00	\$68.85
For apprentice rates see "Apprentice- LABORER"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.63	\$10.50	\$15.50	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.63	\$10.50	\$15.50	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$31.80	\$10.50	\$15.50	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY MIX CONCRETE DRIVERS after 4/30/10 (Drivers Hired After 4/30/2010) <i>TEAMSTERS LOCAL 25a</i>	07/01/2017	\$28.18	\$8.48	\$9.72	\$0.00	\$46.38
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 25a</i>	07/01/2017	\$31.44	\$8.48	\$9.72	\$0.00	\$49.64
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.17	\$10.50	\$15.50	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.17	\$10.50	\$15.50	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROOFER (Inc. Roofer Waterproofing & Roofer Damproofg) <i>ROOFERS LOCAL 33</i>	02/01/2018	\$42.36	\$11.35	\$14.80	\$0.00	\$68.51
	08/01/2018	\$43.46	\$11.35	\$14.80	\$0.00	\$69.61
	02/01/2019	\$44.61	\$11.35	\$14.80	\$0.00	\$70.76
Apprentice - ROOFER - Local 33						
Effective Date - 02/01/2018						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.18	\$11.35	\$3.44	\$0.00	\$35.97
2	60	\$25.42	\$11.35	\$14.80	\$0.00	\$51.57
3	65	\$27.53	\$11.35	\$14.80	\$0.00	\$53.68
4	75	\$31.77	\$11.35	\$14.80	\$0.00	\$57.92
5	85	\$36.01	\$11.35	\$14.80	\$0.00	\$62.16
Effective Date - 08/01/2018						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.73	\$11.35	\$3.44	\$0.00	\$36.52
2	60	\$26.08	\$11.35	\$14.80	\$0.00	\$52.23
3	65	\$28.25	\$11.35	\$14.80	\$0.00	\$54.40
4	75	\$32.60	\$11.35	\$14.80	\$0.00	\$58.75
5	85	\$36.94	\$11.35	\$14.80	\$0.00	\$63.09
<div style="border: 1px dashed black; padding: 5px;"> Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs. (Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER) </div>						
Apprentice to Journeyworker Ratio:**						
ROOFER SLATE / TILE / PRECAST CONCRETE <i>ROOFERS LOCAL 33</i>	02/01/2018	\$42.61	\$11.35	\$14.80	\$0.00	\$68.76
	08/01/2018	\$43.71	\$11.35	\$14.80	\$0.00	\$69.86
	02/01/2019	\$44.86	\$11.35	\$14.80	\$0.00	\$71.01
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2018	\$44.11	\$12.20	\$24.12	\$2.41	\$82.84

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2018	\$37.61	\$13.00	\$15.93	\$0.00	\$66.54
	09/01/2018	\$38.51	\$13.00	\$15.96	\$0.00	\$67.47
	03/01/2019	\$39.40	\$13.00	\$15.98	\$0.00	\$68.38

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$15.04	\$13.00	\$0.45	\$0.00	\$28.49
2	40	\$15.04	\$13.00	\$0.45	\$0.00	\$28.49
3	45	\$16.92	\$13.00	\$12.74	\$0.00	\$42.66
4	45	\$16.92	\$13.00	\$12.74	\$0.00	\$42.66
5	50	\$18.81	\$13.00	\$13.03	\$0.00	\$44.84
6	55	\$20.69	\$13.00	\$13.32	\$0.00	\$47.01
7	60	\$22.57	\$13.00	\$13.61	\$0.00	\$49.18
8	65	\$24.45	\$13.00	\$13.90	\$0.00	\$51.35
9	70	\$26.33	\$13.00	\$14.19	\$0.00	\$53.52
10	75	\$28.21	\$13.00	\$14.48	\$0.00	\$55.69

Effective Date - 09/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$15.40	\$13.00	\$0.46	\$0.00	\$28.86
2	40	\$15.40	\$13.00	\$0.46	\$0.00	\$28.86
3	45	\$17.33	\$13.00	\$12.75	\$0.00	\$43.08
4	45	\$17.33	\$13.00	\$12.75	\$0.00	\$43.08
5	50	\$19.26	\$13.00	\$13.05	\$0.00	\$45.31
6	55	\$21.18	\$13.00	\$13.34	\$0.00	\$47.52
7	60	\$23.11	\$13.00	\$13.62	\$0.00	\$49.73
8	65	\$25.03	\$13.00	\$13.92	\$0.00	\$51.95
9	70	\$26.96	\$13.00	\$14.21	\$0.00	\$54.17
10	75	\$28.88	\$13.00	\$14.50	\$0.00	\$56.38

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2018	\$51.00	\$10.75	\$20.03	\$0.00	\$81.78
	08/01/2018	\$52.35	\$10.75	\$20.16	\$0.00	\$83.26
	02/01/2019	\$52.99	\$10.75	\$20.16	\$0.00	\$83.90
	08/01/2019	\$54.34	\$10.75	\$20.30	\$0.00	\$85.39
	02/01/2020	\$54.98	\$10.75	\$20.30	\$0.00	\$86.03
	08/01/2020	\$56.33	\$10.75	\$20.45	\$0.00	\$87.53
	02/01/2021	\$56.97	\$10.75	\$20.45	\$0.00	\$88.17
	08/01/2021	\$58.37	\$10.75	\$20.61	\$0.00	\$89.73
	02/01/2022	\$58.96	\$10.75	\$20.61	\$0.00	\$90.32

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2018

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.50	\$10.75	\$20.03	\$0.00	\$56.28
2	60	\$30.60	\$10.75	\$20.03	\$0.00	\$61.38
3	70	\$35.70	\$10.75	\$20.03	\$0.00	\$66.48
4	80	\$40.80	\$10.75	\$20.03	\$0.00	\$71.58
5	90	\$45.90	\$10.75	\$20.03	\$0.00	\$76.68

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2017	\$38.85	\$7.70	\$14.95	\$0.00	\$61.50
	06/01/2018	\$39.80	\$7.70	\$14.95	\$0.00	\$62.45
	12/01/2018	\$40.75	\$7.70	\$14.95	\$0.00	\$63.40
	06/01/2019	\$41.75	\$7.70	\$14.95	\$0.00	\$64.40
	12/01/2019	\$42.75	\$7.70	\$14.95	\$0.00	\$65.40
	06/01/2020	\$43.74	\$7.70	\$14.95	\$0.00	\$66.39
	12/01/2020	\$44.72	\$7.70	\$14.95	\$0.00	\$67.37
	06/01/2021	\$45.74	\$7.70	\$14.95	\$0.00	\$68.39
	12/01/2021	\$46.75	\$7.70	\$14.95	\$0.00	\$69.40

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2017	\$37.57	\$7.70	\$14.95	\$0.00	\$60.22
	06/01/2018	\$38.52	\$7.70	\$14.95	\$0.00	\$61.17
	12/01/2018	\$39.47	\$7.70	\$14.95	\$0.00	\$62.12
	06/01/2019	\$40.47	\$7.70	\$14.95	\$0.00	\$63.12
	12/01/2019	\$41.47	\$7.70	\$14.95	\$0.00	\$64.12
	06/01/2020	\$42.46	\$7.70	\$14.95	\$0.00	\$65.11
	12/01/2020	\$43.44	\$7.70	\$14.95	\$0.00	\$66.09
	06/01/2021	\$44.46	\$7.70	\$14.95	\$0.00	\$67.11
	12/01/2021	\$45.47	\$7.70	\$14.95	\$0.00	\$68.12

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2017	\$37.45	\$7.70	\$14.95	\$0.00	\$60.10
	06/01/2018	\$38.40	\$7.70	\$14.95	\$0.00	\$61.05
	12/01/2018	\$39.35	\$7.70	\$14.95	\$0.00	\$62.00
	06/01/2019	\$40.35	\$7.70	\$14.95	\$0.00	\$63.00
	12/01/2019	\$41.35	\$7.70	\$14.95	\$0.00	\$64.00
	06/01/2020	\$42.34	\$7.70	\$14.95	\$0.00	\$64.99
	12/01/2020	\$43.32	\$7.70	\$14.95	\$0.00	\$65.97
	06/01/2021	\$44.34	\$7.70	\$14.95	\$0.00	\$66.99
	12/01/2021	\$45.35	\$7.70	\$14.95	\$0.00	\$68.00

For apprentice rates see "Apprentice- LABORER"

TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.17	\$10.50	\$15.50	\$0.00	\$72.17
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$34.12	\$10.91	\$10.89	\$0.00	\$55.92
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>						
	12/01/2017	\$49.73	\$7.70	\$15.35	\$0.00	\$72.78
	06/01/2018	\$50.68	\$7.70	\$15.35	\$0.00	\$73.73
	12/01/2018	\$51.63	\$7.70	\$15.35	\$0.00	\$74.68
	06/01/2019	\$52.63	\$7.70	\$15.35	\$0.00	\$75.68
	12/01/2019	\$53.63	\$7.70	\$15.35	\$0.00	\$76.68
	06/01/2020	\$54.62	\$7.70	\$15.35	\$0.00	\$77.67
	12/01/2020	\$55.60	\$7.70	\$15.35	\$0.00	\$78.65
	06/01/2021	\$56.62	\$7.70	\$15.35	\$0.00	\$79.67
	12/01/2021	\$57.63	\$7.70	\$15.35	\$0.00	\$80.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2017	\$51.73	\$7.70	\$15.35	\$0.00	\$74.78
	06/01/2018	\$52.68	\$7.70	\$15.35	\$0.00	\$75.73
	12/01/2018	\$53.63	\$7.70	\$15.35	\$0.00	\$76.68
	06/01/2019	\$54.63	\$7.70	\$15.35	\$0.00	\$77.68
	12/01/2019	\$55.63	\$7.70	\$15.35	\$0.00	\$78.68
	06/01/2020	\$56.62	\$7.70	\$15.35	\$0.00	\$79.67
	12/01/2020	\$57.60	\$7.70	\$15.35	\$0.00	\$80.65
	06/01/2021	\$58.62	\$7.70	\$15.35	\$0.00	\$81.67
	12/01/2021	\$59.63	\$7.70	\$15.35	\$0.00	\$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2017	\$41.80	\$7.70	\$15.35	\$0.00	\$64.85
	06/01/2018	\$42.75	\$7.70	\$15.35	\$0.00	\$65.80
	12/01/2018	\$43.70	\$7.70	\$15.35	\$0.00	\$66.75
	06/01/2019	\$44.70	\$7.70	\$15.35	\$0.00	\$67.75
	12/01/2019	\$45.70	\$7.70	\$15.35	\$0.00	\$68.75
	06/01/2020	\$46.69	\$7.70	\$15.35	\$0.00	\$69.74
	12/01/2020	\$47.67	\$7.70	\$15.35	\$0.00	\$70.72
	06/01/2021	\$48.69	\$7.70	\$15.35	\$0.00	\$71.74
	12/01/2021	\$49.70	\$7.70	\$15.35	\$0.00	\$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2017	\$43.80	\$7.70	\$15.35	\$0.00	\$66.85
	06/01/2018	\$44.75	\$7.70	\$15.35	\$0.00	\$67.80
	12/01/2018	\$45.70	\$7.70	\$15.35	\$0.00	\$68.75
	06/01/2019	\$46.70	\$7.70	\$15.35	\$0.00	\$69.75
	12/01/2019	\$47.70	\$7.70	\$15.35	\$0.00	\$70.75
	06/01/2020	\$48.69	\$7.70	\$15.35	\$0.00	\$71.74
	12/01/2020	\$49.67	\$7.70	\$15.35	\$0.00	\$72.72
	06/01/2021	\$50.69	\$7.70	\$15.35	\$0.00	\$73.74
	12/01/2021	\$51.70	\$7.70	\$15.35	\$0.00	\$74.75
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$33.54	\$10.91	\$10.89	\$0.00	\$55.34

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>						
	12/01/2017	\$37.75	\$7.70	\$14.75	\$0.00	\$60.20
	06/01/2018	\$38.70	\$7.70	\$14.75	\$0.00	\$61.15
	12/01/2018	\$39.65	\$7.70	\$14.75	\$0.00	\$62.10
	06/01/2019	\$40.65	\$7.70	\$14.75	\$0.00	\$63.10
	12/01/2019	\$41.65	\$7.70	\$14.75	\$0.00	\$64.10
	06/01/2020	\$42.64	\$7.70	\$14.75	\$0.00	\$65.09
	12/01/2020	\$43.62	\$7.70	\$14.75	\$0.00	\$66.07
	06/01/2021	\$44.64	\$7.70	\$14.75	\$0.00	\$67.09
	12/01/2021	\$45.65	\$7.70	\$14.75	\$0.00	\$68.10
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2017	\$46.63	\$10.50	\$15.50	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	03/01/2018	\$54.69	\$11.57	\$15.76	\$0.00	\$82.02
	09/01/2018	\$56.19	\$11.57	\$15.76	\$0.00	\$83.52
	03/01/2019	\$57.69	\$11.57	\$15.76	\$0.00	\$85.02
	09/01/2019	\$59.19	\$11.57	\$15.76	\$0.00	\$86.52
	03/01/2020	\$60.69	\$11.57	\$15.76	\$0.00	\$88.02
	09/01/2020	\$62.19	\$11.57	\$15.76	\$0.00	\$89.52
	03/01/2021	\$63.69	\$11.57	\$15.76	\$0.00	\$91.02
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER-GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$27.14	\$7.75	\$1.81	\$0.00	\$36.70
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$38.45	\$7.75	\$9.53	\$0.00	\$55.73
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$31.66	\$7.75	\$9.44	\$0.00	\$48.85
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$38.45	\$7.75	\$13.61	\$0.00	\$59.81
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$33.92	\$7.75	\$10.21	\$0.00	\$51.88
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$20.35	\$7.75	\$1.61	\$0.00	\$29.71
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/03/2017	\$45.23	\$7.75	\$16.61	\$0.00	\$69.59

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - LINEMAN (Outside Electrical) - East Local 104

Effective Date - 09/03/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$27.14	\$7.75	\$3.31	\$0.00	\$38.20
2	65	\$29.40	\$7.75	\$3.38	\$0.00	\$40.53
3	70	\$31.66	\$7.75	\$3.45	\$0.00	\$42.86
4	75	\$33.92	\$7.75	\$5.02	\$0.00	\$46.69
5	80	\$36.18	\$7.75	\$5.09	\$0.00	\$49.02
6	85	\$38.45	\$7.75	\$5.15	\$0.00	\$51.35
7	90	\$40.71	\$7.75	\$7.22	\$0.00	\$55.68

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$28.98	\$4.25	\$3.12	\$0.00	\$36.35
TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63
TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63
TREE TRIMMER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$18.51	\$3.55	\$0.00	\$0.00	\$22.06
This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.						
TREE TRIMMER GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$16.32	\$3.55	\$0.00	\$0.00	\$19.87
This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.						

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.

*** APP to JM: 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

**** APP to JM: 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

IFB # 18-61

SECTION 4.0

FORM FOR GENERAL BID

The undersigned proposes to furnish all labor and materials required for: ADA Citywide Upgrades at Various Buildings

In accordance with the accompanying plans and specifications prepared by CBI Consulting, LLC (250 Dorchester Avenue, Boston, MA 02127) and specified below, subject to additions and deductions according to the terms of the specifications.

The bidder certifies the following bulleted statements and offers to supply and deliver the materials and services specified below in full accordance with the Contract Documents supplied by the City of Somerville

- The bids will be received at the office of the Purchasing Director, Somerville City Hall, 93 Highland Avenue, Somerville, MA 02143 no later than **5/2/2018 by 11AM EDT**
- If the **awarded** vendor is a Corporation a "Certificate of Good Standing" (produced by the Mass. Sec. of State) must be furnished with the resulting contract (see Section 3.0.)
- **Awarded Vendor** must comply with Living Wage requirements (see Section 3.0; only for services)
- **Awarded Vendor** must comply with insurance requirements as stated in Section 3.0.
- The Purchasing Director reserves the right to accept or reject any or all bids and/or to waive any informalities if in her/his sole judgment it is deemed to be in the best interest of the City of Somerville.
- The following prices shall include delivery, the cost of fuel, the cost of labor, and all other charges.
- This form to be enclosed in sealed bid package.

See Section 00 31 00 of the Technical Specifications for the Form for Sub-Bid

See Section 00 41 00 of the Technical Specifications for the Form for General Bid

**PART 2: SAMPLE CONSTRUCTION CONTRACT / CITY'S
GENERAL TERMS AND CONDITIONS**

APPENDIX D
General Conditions

**GENERAL TERMS AND CONDITIONS OF THE CONTRACT
FOR CONSTRUCTION, RECONSTRUCTION, ALTERATIONS,
REMODELING, OR REPAIR OF ANY PUBLIC BUILDING OR PUBLIC WORKS
IN THE CITY OF SOMERVILLE**

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ARTICLE 1 DEFINITIONS

1.1. In General.

1.1.1. Well-known meanings. When words or phrases that have a well-known technical, or construction industry, or trade meaning are used in the Contract Documents, such words or phrases shall be interpreted in accordance with that meaning, unless otherwise stated.

1.1.2. Capitalization. The words and terms defined in this Article are capitalized in these General Terms and Conditions of the Contract. Other capitalized words may refer to a specific document found in the Contract Documents.

1.1.3. Persons. Whenever the word person or persons is used, it includes, unless otherwise stated, entity or entities, respectively, including, but not limited to, corporations, partnerships, and joint venturers.

1.1.4. Singular and Plural. The following terms have the meanings indicated which are applicable to both the singular and the plural thereof.

1.2. Definitions.

1.2.1. Agreement. The Agreement is the written document between the **City** and the **Contractor** which is titled: Owner-Contractor Public Construction Agreement, which is the executed portion of the Contract, and which forms a part of the Contract. The Agreement also includes all documents required to be attached thereto, including, but not limited to, these general conditions, the performance bond, the labor and materials or payment bonds, certificates of insurance, and all Modifications of the Agreement.

1.2.2. Change Order. A Change Order is a document which is signed by the **Contractor**, the **Design Professional**, and the **City**; which is directed to the **Contractor**; which authorizes the **Contractor** to make an addition to, a deletion from or a revision in the Work, or an adjustment in the Contract Sum or in the Contract Time; and which is issued on or after the date of the Agreement between the **Contractor** and the **City**.

1.2.3. City. The **City** refers to the City of Somerville, which is the owner of the Project and is the public awarding authority with whom the **Contractor** has entered into the Contract and for whom the Work is to be provided.

1.2.4. Claim. A Claim is a dispute, demand, or assertion by one of the parties arising out of or relating to the Contract for which such party is seeking relief.

1.2.5. Contract. The Contract consists of all the Contract Documents. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification to the Contract signed by both parties.

1.2.6. Contract Documents. The Contract Documents consist of the Agreement; the notice of award of the Contract; the Notice to Proceed; the entire Project Manual; Change Orders; Construction Change Directives; the **Contractor's** Bid and all accompanying documents; and the **Design Professional's** written interpretations and clarifications issued on or after the issuance of the Notice to Proceed. Shop Drawing submittals and reports or drawings utilized by the **Design Professional** in preparing the Contract Documents are not Contract Documents.

1.2.7. Contractor. The **Contractor** is the person who is awarded the Contract for the Project herein pursuant to M.G.L. c. 149, §44A or M.G.L. c. 39, §39M; and is identified in the Agreement as such. The term "**Contractor**" is intended to include the **Contractor** as well as its authorized representative(s).

1.2.8. Contract Sum. The Contract Sum is the total amount stated in the Agreement payable by the **City** to the **Contractor** for the completion of the Work in accordance with the Contract Documents.

1.2.9. Contract Time. Unless otherwise provided, the Contract Time is the number of days allotted in the Contract Documents or the dates stated in the Agreement, including authorized adjustments, for Substantial Completion.

1.2.10. Coordination Drawings. Coordination Drawings are those drawings, which are prepared by the **Contractor** or a Subcontractor that show the exact alignment, physical locations, and configuration of the mechanical, electrical, and fire protection installations.

1.2.11. Day. The term "day" shall mean calendar day unless otherwise stated.

1.2.12. Design Professional. The **Design Professional** is the person lawfully licensed to practice architecture, engineering, or landscape architecture and has been selected by the **City** to administer the Contract. The term "**Design Professional**," while referred to in the singular, means the **Design Professional** and/or the **Design Professional's** representative.

1.2.13. Field Order. A Field Order is a written order issued by the **Design Professional** which orders minor changes in the Work, but which does not involve a change in the Contract Sum or the Contract Time.

1.2.14. Final Completion. Final Completion is the point in time when the Design Professional finds that the Work has been fully completed in accordance with the Contract Documents. Final Completion shall be no later than thirty (30) days after Substantial Completion.

1.2.15. General Requirements. General Requirements refer to Sections of Division 1 of the Specifications.

1.2.16. Modification. A Modification is a written instrument that amends the Contract after execution of the Agreement.

1.2.17. Notice to Proceed. A Notice to Proceed is a written notice given by the **City**, or the **Design Professional**, to the **Contractor** fixing the date on which the Contract Time will begin to run and on which the **Contractor** shall start to perform its obligations under the Contract Documents.

1.2.18. Plans. The Plans are the drawings which are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location, dimensions, scope, extent, and character of the Work to be furnished and performed by the **Contractor** and which have been prepared or approved by the **Design Professional**.

1.2.19. Product Data. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the **Contractor** to illustrate materials or equipment for some portion of the Work. Product Data are not considered part of the Contract Documents.

1.2.20. Project. The Project is the total Work to be provided under the Contract Documents and may be the whole or a part as indicated elsewhere in the Contract Documents and may include construction by the **City** or by separate contractors. The Project is the Work described in the invitation to bid (advertisement) and Specifications and illustrated by the Plans, including any Modifications.

1.2.21. Project Manual. The Project Manual is the entire set of bidding documents which includes, but is not limited to, the invitation to bid (advertisement), the instructions to bidders, all of the forms, the wage rates, all City and state requirements, the General Terms and Conditions of the Contract, any supplementary conditions thereto, the Plans, the Specifications, and all addenda.

1.2.22. Proposed Change Order. A Proposed Change Order is a Change Order that has been submitted by the **Contractor** to the **Design Professional**, is under review, and has not been approved by the **City**.

1.2.23. Samples. Samples are physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged. Samples are not considered part of the Contract Documents.

1.2.24. Shop Drawings. Shop Drawings are all drawings, diagrams, illustrations, schedules, and other information that are specifically prepared or assembled by or for the **Contractor** and submitted by the **Contractor** to illustrate some portion of the Work. Shop Drawings are not considered part of the Contract Documents.

1.2.25. Site. The Site is the location of the Project and of the Work.

1.2.26. Specifications. Specifications are those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

1.2.27. Subcontractor. A Subcontractor is a person who contracts directly with the **Contractor**, unless otherwise stated.

1.2.28. Submittals. Submittals are those Shop Drawings, Product Data, Samples, or any other required document that are provided to the Design Professional for review and approval.

1.2.29. Substantial Completion. Substantial Completion means that the Work has been completed and the Site or the facility is opened for full and intended public use, except for minor incomplete or unsatisfactory items that do not materially impair the usefulness of the Work. The **Design Professional** shall decide what constitutes "minor," "incomplete," "unsatisfactory," and "materially" and the **Design Professional's** decision shall be final.

1.2.30. Sub-subcontractor. A Sub-subcontractor is a person who has contracted directly with a Subcontractor.

1.2.31. Supplier. A Supplier is a manufacturer, fabricator, distributor, material person, or vendor having a direct contract with the Contractor or with any Subcontractor to furnish materials or equipment to be incorporated into the Work by the Contractor or any Subcontractor.

1.2.32. Work. Work refers to the services and the entire completed construction or the various separately identifiable parts thereof required by the Contract Documents, including all labor, materials, and equipment furnished, furnished and incorporated into the Project, or to be provided by the **Contractor** to fulfill the **Contractor's** obligations. The Work may constitute the whole or a part of the Project.

1.2.33. Construction Change Directive. A **Construction Change Directive** is a written directive to the **Contractor** ordering an addition to, a deletion from, or a revision to the Work issued on or after the date of the Agreement, signed by the **City**, and recommended by the **Design Professional**.

ARTICLE 2

ABOUT THE CONTRACT DOCUMENTS

2.1. Priority;/Conflict.

2.1.1. Priority Among Contract Documents. In the event of conflict among the Contract Documents, the Contract Documents shall be construed according to the following priorities:

- Highest Priority: Modifications
- Second Priority: Agreement
- Third Priority: Addenda-later date to take precedence
- Fourth Priority: Supplementary General Conditions
- Fifth Priority: General Conditions
- Sixth Priority: Plans and Specifications

2.1.1.1. If there is a conflict between the Plans and Specifications, the figured dimensions shall govern over the scaled dimensions. Detailed Plans shall govern over the general Plans. Larger scale Plans shall take precedence over smaller scale Plans. Plans shall govern over Shop Drawings. Whenever notes, specifications, dimensions, details, or schedules in the Specifications or in the Plans, or between the Specifications and the Plans, or in all other instances not specifically noted above, the **Contractor** shall provide, unless otherwise directed by a Modification of the Contract, the better quality or greater quantity of Work at no increase in the Contract Sum or in the Contract Time.

2.1.1.2. Compliance with these priority conditions shall not justify any changes in the Work or any increase in the Contract Sum or Contract Time, unless any such compliance results in Work that may not be reasonably inferred from the Contract Documents as being required to produce the intended result as determined by the **Design Professional**.

2.1.2. Review of the Contract Documents and Field Conditions and Discovery of Conflict, Error, Ambiguity, or Discrepancy. Before starting the Work, and during the progress thereof, the **Contractor** shall carefully study and compare the Contract Documents with each other and with the information furnished by the **City** pursuant to Article 3 and shall at once report to the **Design Professional** any error, inconsistency, or omission the **Contractor** may discover. Any necessary change shall be ordered as provided in Article 11, subject to the requirements of any other provisions of the Contract Documents. The **Contractor** shall not proceed with the Work affected thereby (except in an emergency) until a Modification has been issued. If the **Contractor** proceeds with the Work having discovered such errors, inconsistencies, or omissions contrary to the provisions contained herein, or if by reasonable study of the Contract Documents the **Contractor** could have discovered such, the **Contractor** shall bear all costs arising therefrom. The **Contractor** shall be liable to the **City** for failure to report any conflict, error, ambiguity, or discrepancy of which it knew or should have known.

2.1.3. Field Measurements. The **Contractor** shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the **Contractor** with the Contract Documents before commencing activities. Errors, inconsistencies, or omissions discovered shall be reported to the **Design Professional** at once.

2.1.4. Statutory Provisions. The **City** and the **Contractor** recognize that other rights duties and obligations with respect to public construction contracts are provided for by statute, notwithstanding the fact that they may not be provided for in the Contract Documents. In case of conflict between the statutory provisions and other provisions of the Contract Documents and the provisions of any applicable statute, the statutory provisions shall govern.

2.1.5. Voided or Unlawful Provisions. In the event any provision in the Contract is voided or deemed unlawful, such provision shall be deleted without affecting the remainder of the Contract.

2.2. Execution.

2.2.1. Execution of the Agreement by the **Contractor** is a representation that the **Contractor** has visited the Site, become familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

2.3. Intent.

2.3.1. Entire Agreement. The Contract Documents comprise the entire agreement between the **City** and the **Contractor** concerning the Work. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the **Contractor**. The Contract Documents are complementary; what is required by one shall be as binding as if required by all. Performance by the **Contractor** shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. All Work mentioned or indicated in the Contract Documents shall be performed by the **Contractor** as part of this Contract unless it is specifically indicated in the Contract Documents that such Work is to be done by others.

2.3.2. Statutory Provisions. Each and every provision of law, code, and regulation, required by law to be inserted

in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon the application of either party, the Contract Documents shall forthwith be physically amended to make such insertion.

2.3.3. Functionally Complete Project. It is the intent of the Contract Documents to describe a functionally complete Project. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the **Contractor**. Any Work, materials, or equipment that may be reasonably inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed by the **Contractor** whether or not specifically called for in the Contract Documents.

2.3.4. Indications or Notations. All indications or notations which apply to one of a number of similar situations, materials, or processes shall be deemed to apply to all such situations, materials, or processes wherever they appear in the Work, except where a contrary result is clearly indicated by the Contract Documents.

2.3.5. Standards or Quality of Materials or Workmanship. Where no explicit quality or standards for materials or workmanship are established for Work, such Work is to be of good quality for the intended use and consistent with the quality of the surrounding Work and of the construction of the Project generally.

2.3.6. Manufactured Products. All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions unless otherwise indicated in the Contract Documents.

2.3.7. Mechanical, Electrical, and Fire Protection Plans. The mechanical, electrical, and fire protection Plans are diagrammatic only and are not intended to show the alignment, physical locations, or configurations of such Work. Such Work shall be installed without additional cost to the **City** to clear all obstructions, permit proper clearances for the Work of other trades, and present an orderly appearance where exposed. Prior to beginning such Work, the **Contractor** shall prepare Coordination Drawings and demonstrate to the **Design Professional's** satisfaction that the installations will comply with the preceding sentence. The **Contractor** shall be solely liable and responsible for any costs and/or delays resulting from the **Contractor's** failure to prepare such Coordination Drawings.

2.3.8. Locations of Fixtures and Outlets. Exact locations of fixtures and outlets shall be obtained from the **Design Professional** as provided in Article 5 before the Work is roughed in. Work installed without such information from the **Design Professional** shall be relocated at the **Contractor's** expense.

2.3.9. Tests. When test boring or soil test information are included with the Contract Documents or otherwise made available to the **Contractor** and such test boring or soil test information was obtained by the **City** for use by the **Design Professional** in the design of the Project or Work, the **City** does not hold out such information to the **Contractor** as an accurate or approximate indication of subsurface conditions, and no claim for extra cost of extension of time resulting from a reliance by the **Contractor** on such information shall be allowed except as otherwise provided herein. Any such reports are not part of the Contract Documents.

2.3.10. Joining Work. Where the Work is to fit with existing conditions or work to be performed by others, the **Contractor** shall fully and completely join the Work with such conditions or work, unless otherwise specified.

2.4. Organization.

2.4.1. Except as provided in M.G.L. c. 149, §44F, the organization of the Specifications into divisions, sections, and articles, and the arrangement of Plans shall not control the **Contractor** in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

2.5. References.

2.5.1. Where codes, manuals, specifications, standards, requirements and publications of public and private bodies are referred to in the Contract Documents whether specifically or by implication, references shall be understood to be to the latest revision prior to the date of receiving bids, except where otherwise indicated. Where statutes are referred to in the Contract Documents whether specifically or by implication, references shall be understood to be to the latest revision.

2.5.2. References herein to particular paragraphs or Articles are solely to facilitate finding additional information with regard to the specific matters and are not to be construed in any way as limiting the possible paragraphs and Articles in which such matters may be found elsewhere in this document.

2.6. Reuse of Design Professional's Written Instruments.

2.6.1. Neither the **Contractor** nor any Subcontractor or Supplier shall have or acquire any title to or ownership rights in any of the Plans, Specifications, or other documents prepared by the **Design Professional** and shall not reuse any of such Plans, Specifications, or other documents without prior written consent of the **City** and the **Design Professional**.

2.7. Written Material of the Contractor.

2.7.1. All written material prepared or collected by the **Contractor** in the course of completing the Work shall be the exclusive property of the **City** and shall not be used by the **Contractor** for any purpose other than the purpose of this Contract.

2.8. Modifying Words.

2.8.1. In the interest of simplicity, modifying words such as “all” and “any” may be omitted, but the fact that such words may be absent from one sentence and appear in another is not intended to affect the interpretation of either statement.

2.9. Use of Certain Words and Terms.

2.9.1. Whenever in the Contract Documents the terms “as ordered,” “as directed,” “as required,” “as allowed,” “as approved,” or terms of like effect or import are used, or the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe a requirement, direction, review, or judgment of the **City** or of the **Design Professional** as to the Work, it is intended that such requirement, direction, review, or judgment will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise).

2.9.2. The use of any such term or adjective shall not be effective to change the duties and responsibilities of the **City** or the **Design Professional** from those assigned in the Contract Documents or to assign any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of the Contract Documents.

2.9.3. When the words “Contractor,” “Subcontractor,” “Sub-subcontractor,” and “Supplier” are used, they are intended to include their employees and agents, unless otherwise specified.

2.10. Modification of the Contract Documents.

2.10.1. Major Modifications. Major Modifications may affect the Contract Sum or the Contract Time. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways, all of which must contain a written endorsement by the **City**:

- 2.10.1.1.** a formal written amendment;
- 2.10.1.2.** a Change Order;
- 2.10.1.3.** a **Construction Change Directive**; or
- 2.10.1.4.** the **Design Professional's** written interpretation, clarification, or decision.

2.10.2. Minor Modifications. Minor modifications do not affect the Contract Sum or the Contract Time. The requirements of the Contract Documents may be supplemented and minor variations and deviations of the Work may be authorized in one or more of the following ways:

- 2.10.2.1.** a Field Order; or
- 2.10.2.2.** the **Design Professional's** approval of a Shop Drawing or Sample.

**ARTICLE 3
THE CITY**

3.1. Signatory.

3.1.1. All documents which require a signature or an endorsement by the **City** must be signed by the Mayor in order to be deemed ratified by the **City**.

3.2. Requirements to Provide Documents.

3.2.1. To the extent they are available, the **City** shall furnish surveys describing physical characteristics, legal limitations, and utility locations for the site of the Project, and a legal description of the Site.

3.2.2. The **City** shall obtain and pay for necessary approvals, easements, assessments, and charges that are customarily secured prior to the execution of the Contract.

3.2.3. The **City** shall furnish information or services required of the **City** hereunder with reasonable promptness after receipt from the **Contractor** of a written request for such information or services.

3.2.4. The **City** shall provide the **Contractor**, at no charge, such copies of the Project Manual as are reasonably necessary for the execution of the Work.

3.3. Clerk of the Works.

3.3.1. The **City** may engage a Clerk of the Works for this Project, in which case the **City** shall, upon request of the **Contractor**, provide the **Contractor** with a written statement of the duties, responsibilities, and limitations of authority of such Clerk of the Works. Except as expressly set forth in such written statement, the Clerk of the Works shall have no authority to approve Work, to approve Change Orders, or to exercise any of the power and authority of the **City** or the **Design Professional**. The Clerk of the Works shall observe the **Contractor's** operations and construction activities for compliance with the Plans and Specifications. The Clerk of the Works shall have access to all areas of the Project at all times. The **Contractor** shall fully cooperate with the Clerk of the Works in the performance of the Clerk's duties.

3.4. City's Right to Perform Construction and to Award Separate Contracts.

3.4.1. The **City** reserves the right to perform construction or operations at the Site with its own forces or others. If the **Contractor** claims that a delay or additional cost is involved because of such action by the **City**, the **Contractor** shall make such Claim as provided elsewhere in the Contract Documents.

3.4.2. When the separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "**Contractor**" in the Contract Documents in each case shall mean the **Contractor** who executes each separate City-Contractor Agreement.

3.4.3. The **City** shall provide for coordination of the activities of the **City's** own forces and of each separate contractor with the Work of the **Contractor**, who shall cooperate with them. The **Contractor** shall afford each other person access to the Site and shall properly coordinate its Work with that of the persons performing other work. The **Contractor** shall participate with other separate contractors and the **City** in reviewing their construction schedules when directed to do so. The **Contractor** shall make any revisions to the construction schedules deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the **Contractor**, separate contractors, and the **City** until subsequently revised.

3.5. Limitations on the City's Responsibilities.

3.5.1. The **City** shall not supervise, direct, or have control or authority over, nor be responsible for the **Contractor's** means, methods, techniques, sequences, or procedures of construction or the safety precautions and programs incident thereto, or for any failure of the **Contractor** to comply with laws, codes and regulations applicable to the furnishing or performance of the Work. The **City** will not be responsible for the **Contractor's** failure to perform or furnish the Work in accordance with the Contract Documents. The **City** is not responsible for the acts or omissions of the **Contractor**, any Subcontractor, Supplier, or anyone for whose acts the **Contractor**, any Subcontractor or Suppliers may be liable.

3.5.2. The **City's** authority to review any of the **Contractor's** progress schedules, or its decision to raise or not to raise any objections about such schedules shall not impose on the **City** any responsibility for the timing, planning, scheduling, or execution of the Work, nor in any way give rise to any duty or responsibility on the part of the **City** to exercise this authority for the benefit of the **Contractor**, any Subcontractor or Supplier or any other party.

3.5.3. The **City's** decision to raise or not to raise objections with regard to any aspects of the **Contractor's** insurance shall in no way give rise to any duty or responsibility on the part of the **City** to or for the benefit of the **Contractor**, any Subcontractor, any Supplier, or any other party.

3.6. Reservation of Rights.

3.6.1. The **City** reserves the right to correct at any time any error in any progress payment that may have been made.

3.6.2. Should defective Work be discovered subsequent to final payment, the **City** reserves the right to make a claim and recover all costs and professional fees associated therewith, including the cost of removing and/or replacing the defective Work.

3.7. Waivers.

3.7.1. All waivers by the **City** are valid only to the extent that they are signed by the **City**. Any such waivers pertain only to the specific matter contained in the waiver and not to any similar, subsequent matters.

ARTICLE 4
THE DESIGN PROFESSIONAL

4.1. City's Representative.

4.1.1. The **Design Professional** is the **City's** representative (1) during construction, (2) until final payment is due, and (3) with the **City's** concurrence, from time to time during the correction period described in Article 10. The **Design Professional** will advise and consult with the **City**. The **Design Professional** will have authority to act on behalf of the **City** only to the extent provided in the Contract Documents, unless otherwise modified by a written instrument in accordance with other provisions of the Contract.

4.1.2. The duties, responsibilities, and the limitations of authority of the **Design Professional** as the **City's** representative during construction are set forth in the Contract Documents and shall not be extended without the written consent of the **City** and the **Design Professional**.

4.2. Administration of the Contract.

4.2.1. The **Design Professional** will provide administration of the Contract as described in the Contract Documents, unless the **City** has engaged a construction manager.

4.3. Visits to the Site.

4.3.1. The **Design Professional** will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine in general if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. However, the **Design Professional** will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of on-site observations as an architect, engineer, or landscape architect, the **Design Professional** will keep the **City** informed of progress of the Work in writing and will endeavor to guard the **City** against defects and deficiencies in the Work.

4.4. Communications Facilitating Contract Administration.

4.4.1. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the **City** and the **Contractor** shall endeavor to communicate through the **Design Professional**. Communications by and with the **Design Professional's** consultants shall be through the **Design Professional**. Communications by and with Subcontractors and Suppliers shall be through the **Contractor**. Communications by and with **City** employees and separate contractors shall be through the **City**.

4.4.2. When it deems it necessary or expedient, the **City** may communicate directly with the **Contractor**, any Subcontractors, Suppliers, or consultants.

4.5. Certification of Applications for Payment.

4.5.1. Based on the **Design Professional's** observations and evaluations of the **Contractor's** applications for payment, the **Design Professional** will review and certify the amounts due the **Contractor** and will issue certificates for payment in such amounts.

4.6. Rejection of Work.

4.6.1. The **Design Professional** will have authority to reject or disapprove Work (1) that does not conform to the Contract Documents; (2) that the **Design Professional** believes to be defective; and (3) that the **Design Professional** believes will not produce a completed Project conforming to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Whenever the **Design Professional** considers it necessary or advisable for implementation of the intent of the Contract Documents, the **Design Professional** will have authority to require additional inspection or testing of the Work in accordance with Article 9, whether or not such Work is fabricated, installed, or completed. However, neither this authority of the **Design Professional** nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the **Design Professional** to the **Contractor**, Subcontractors, Suppliers, or other persons performing portions of the Work.

4.7. Review of Submittals.

4.7.1. The **Design Professional** will review or take other appropriate action upon the **Contractor's** submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents and only to the extent that the **Design Professional** believes desirable to protect the **City's** interest. The **Design Professional's** action will be taken with reasonable promptness, while allowing sufficient time in the **Design Professional's** professional judgment to permit adequate review, taking into account the

time periods set forth in the latest schedule prepared by the **Contractor** and approved by the **Design Professional**. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the **Contractor** as required by the Contract Documents. The **Design Professional's** review of the **Contractor's** submittals shall not relieve the **Contractor** of the obligations under Article 5. The **Design Professional's** review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The **Design Professional's** approval of a specific item shall not indicate approval of an assembly of which the item is a component. After the rejection of the second resubmittal of any one Submittal, the **Contractor** shall bear the cost of the review of each subsequent resubmittal.

4.8. Preparation of Change Orders and Construction Change Directives.

4.8.1. The **Design Professional** will prepare Change Orders and **Construction Change** Directives and may authorize minor Modifications in the Work as provided in Article 11.

4.9. Inspections.

4.9.1. The **Design Professional** will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; will receive and forward to the **City** for the **City's** review and records written warranties and related documents required by the Contract and assembled by the **Contractor**; and will issue a final certificate for payment upon the **Contractor's** compliance with all of the requirements of the Contract Documents.

4.10. Interpretations, Clarifications, and Decisions.

4.10.1. The **Design Professional** will interpret and decide matters concerning performance under and requirements of the Contract Documents on written request of either the **City** or the **Contractor**. The **Design Professional's** response to such requests will be made with reasonable promptness and within the time set forth in the Agreement between the **City** and the **Design Professional**. Any such written interpretations, clarifications, and decisions shall be binding on the **Contractor**.

4.10.2. Interpretations, clarifications, and decisions of the **Design Professional** will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. The **Design Professional** will not be liable to the **Contractor**, any Subcontractor, or Supplier for results of interpretations, clarifications, or decisions so rendered in good faith.

4.10.3. The **Design Professional** may, as the **Design Professional** judges desirable, issue additional drawings or instructions indicating in greater detail the construction or design of the various parts of the Work; such drawings or instructions may be effected by a Field Order or other notice to the **Contractor**, and provided such drawings or instructions are reasonably consistent with the previously existing Contract Documents, the Work shall be executed in accordance with such additional drawings or instructions without any additional cost or an extension of the Contract Time.

4.10.4. The **Design Professional's** decisions on matters relating to aesthetic effect must be consistent with the **City's** and will be final.

4.11. Limitation on the Design Professional's Responsibilities.

4.11.1. Neither the **Design Professional's** authority to act under the provisions of the Contract Documents nor any decision made by the **Design Professional** in good faith to exercise or not to exercise such authority shall give rise to any duty or responsibility of the **Design Professional** to the **Contractor**, any Subcontractor, any Supplier, any surety for any of them or any other person.

4.11.2. The **Design Professional** will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the **Contractor's** responsibility as provided in Article 5. The **Design Professional** will not be responsible for the **Contractor's** failure to carry out the Work in accordance with the Contract Documents. The **Design Professional** will not have control over or charge of and will not be responsible for acts or omissions of the **Contractor**, Subcontractors, Suppliers, or of any other persons performing portions of the Work.

ARTICLE 5 THE CONTRACTOR

5.1. Relationship with the City.

5.1.1. The **Contractor** is an independent contractor and not an employee of the **City**. The **Contractor** is engaged by virtue of the Contract to perform only those services contained therein. The **Contractor** is not authorized to contract on behalf of the **City** or to incur any liability on the part of the **City**.

5.2. Code of Conduct.

5.2.1. M.G.L. c. 268A establishes standards of conduct for officials and employees of the **City**. The **Contractor** shall familiarize itself with the statute and act accordingly.

5.3. Quality Assurance.

5.3.1. The **Contractor** shall be responsible for ensuring that it, all Subcontractors, Suppliers, and all persons employed to do the Work under the Contract Documents perform in a professional manner, provide a high quality of service and Work, and perform in accordance with the Contract Documents.

5.4. Supervision.

5.4.1. Competence and Efficiency. The **Contractor** shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills, attention and expertise as may be necessary to perform the Work in accordance with the Contract Documents.

5.4.2. Construction Means, Methods, Techniques, Etc. The **Contractor** shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under the Contract. Where the Contract Documents refer to particular construction means, methods, techniques, sequences, or procedures or indicate or imply that such are to be used in the Work, such mention is intended only to indicate that the operations of the **Contractor** shall be such as to produce at least the quality of Work implied by the operations described. The actual determination of whether or not the described operations may be safely and suitably employed on the Work shall be the responsibility of the **Contractor**, who shall notify the **Design Professional** in writing, prior to implementation, of the actual means, methods, techniques, sequences, or procedures which will be employed on the Work, if these differ from those mentioned in the Contract Documents. All loss, damage, liability or cost of correcting defective work arising from the employment of any construction means, methods, techniques, sequences, or procedures shall be borne by the **Contractor**, notwithstanding that such construction means, methods, techniques, sequences, or procedures are referred to, indicated or implied by the Contract Documents, unless the **Contractor** has given timely notice to the **City** and the **Design Professional** in writing that such means, methods, techniques, sequences, or procedures are not safe or suitable, and the **City** has then instructed the **Contractor** in writing to proceed at the **City's** risk.

5.4.3. Variance between the Contract Documents and Statutes, Ordinances, Codes, Rules, and Regulations. The **Contractor** shall promptly notify the **Design Professional** and the **City** in writing of any variances between the Contract Documents and statutes, ordinances, codes, rules, and regulations. If the **Contractor**, without written notice to the **Design Professional** and the **City**, performs Work knowing that it is contrary to statutes, ordinances, codes, rules, and regulations, the **Contractor** shall assume full responsibility for such Work and shall bear the costs associated therewith, i.e., replacement, repairs, removal, and fines.

5.4.4. Acts and Omissions. The **Contractor** shall be responsible to the **City** for the acts and omissions of all persons performing or supplying the Work.

5.4.5. Inspections. The **Contractor** shall be responsible for inspection of portions of Work already performed under this Contract to determine whether such portions are in proper condition to receive subsequent Work.

5.5. Personnel.

5.5.1. Suitability. The **Contractor** shall provide competent, properly licensed and/or certified, suitably qualified, and reliable personnel to perform the Work required by the Contract Documents. The **Contractor** shall enforce strict discipline and maintain good order at the site at all times. The **Contractor** shall not employ any Subcontractor, Supplier, or other person, whether initially or as a substitute, against whom the **City** may have reasonable objection. Acceptance of any Subcontractor or other person by the **City** shall not constitute a waiver of any right of the **City** to reject defective Work.

5.5.2. Sexual Harassment. Sexual harassment is an unlawful practice under M.G.L. c. 151B. The **Contractor**, Subcontractors, and all other persons responsible for any portion of the Work shall refrain from engaging in sexual harassment. The **Contractor** shall be responsible for any acts of sexual harassment committed by any persons responsible for any portion of the Work. The **Contractor** shall take appropriate action against any such individuals.

5.5.3. Weapons and Illegal Drugs. No weapons or illegal drugs are permitted on the Site. It is the responsibility of the **Contractor** to ensure that no weapons or illegal drugs are brought to the Site.

5.5.4. Maximum Work Day and Work Week. (*Reference: M.G.L. c. 149, §§30 and 34;*) No laborer, worker, mechanic, foreperson or inspector working within this Commonwealth in the employ of the **Contractor**, Subcontractor or other person doing or contracting to do the whole or part of the work contemplated by the Contract, shall be required or permitted to work more than eight (8) hours in any one day or more than forty-eight (48) hours in any one week, or more than six (6) days in any one week, except in cases of emergency.

5.5.5. Lodging. (*Reference: M.G.L. c. 149, §25;*). Every employee under this Contract shall lodge, board and trade where and with whom he or she elects, and neither the **Contractor** nor its agents or employees shall, either directly or indirectly, require as a condition of the employment of any person that the employee shall lodge, board or trade at a particular place or with a particular person.

5.5.6. Wage Rates. (*Reference: M.G.L. c. 149, §27*). Mechanics and apprentices, teamsters, chauffeurs and laborers performing Work shall be paid no less than the minimum rate of wages included in the bid documents and the Project Manual and which are made part of the Contract. They shall continue to be the minimum rate of wages for said employees during the life of the Contract. The **Contractor** shall keep a legible copy of the wage rates posted in a conspicuous place at the site during the life of the Contract. These rates of wages shall include payments by employers to health and welfare plans, pension plans and supplementary unemployment benefit plans as provided in M.G.L. c. 149, §26;, and such payments shall be considered as payments to persons under M.G.L. c. 149, §27 performing work as therein provided. If the **Contractor** does not make payments to a health and welfare plan, a pension plan and a supplementary unemployment benefit plan, where such payments are included in the rates of wages, the **Contractor** shall pay the amount of said payments directly to each employee engaged in the Work. If the **Contractor** pays less than the rate of wages, including payments to health and welfare funds and pension funds, or the equivalent payments in wages to any person performing Work within the classifications as determined by the Commissioner of Labor and Industries, and if the **Contractor** takes or receives for its own use or the use of any other person, as a rebate, refund or gratuity, or in any other guise, any part or portion of the wages, including payments to health and welfare funds and pension funds, or the equivalent payment in wages, paid to such person for Work done or service rendered on the Project, the **Contractor** will be subject to the penalties set forth in M.G.L. c. 149, §27. Notwithstanding the foregoing and the requirements of 5.5.7.1 and 5.5.7.2 below, if the Contract is federally funded, federal labor standards apply, including Davis Bacon minimum wage rates and payroll reporting requirements. See the “Federal Requirements” section at the end of these contract documents.

5.5.7. Payroll Records of Employees. (*Reference: M.G.L. c. 149, §27B;*). The **Contractor** and all Subcontractors who are subject to M.G.L. c. 149, §§27 and 27A shall keep a true and accurate record of all mechanics and apprentices, teamsters, chauffeurs, and laborers performing Work showing the name, address and occupational classification of each such employee, the hours worked by and the wages paid to all such employees. The **Contractor** and the Subcontractors shall submit a copy of said record to the **City** on a weekly basis.

5.5.7.1. (*Reference: M.G.L. c. 149, §27B;*). The **Contractor** and all Subcontractors who are subject to M.G.L. c. 149, §§27 and 27A shall preserve their payroll records for a period of three (3) years from the date of completion of the Contract.

5.5.7.2. (*Reference: M.G.L. c. 149, §27B*). The **Contractor** and all Subcontractors who are subject to M.G.L. c. 149, §§27 and 27A shall furnish to the Commissioner of Labor and Industries and the **City** within fifteen (15) days after completion of their portion of the Work a statement executed by the **Contractor** or Subcontractor or by any authorized officer or employee of the **Contractor** or Subcontractor who supervises the payment of wages in the form found in M.G.L. c.149, §27B.

5.6. Superintendence.

5.6.1. Employment of a Superintendent. The **Contractor** shall employ a competent, properly licensed superintendent, reasonably acceptable to the **City**, and necessary assistants who shall be in attendance at the Site full time during the progress of the Work until the date of Substantial Completion and for such additional time thereafter as the **Design Professional** or the **City** may determine to be necessary for the expeditious completion of the Work, including final completion. If continually in the employ of the Contractor, the same Superintendent shall be assigned to this project.

5.6.2. Removal/Replacement of a Superintendent. The **Contractor** shall remove the superintendent if requested to do so in writing by the **City** and shall promptly replace such superintendent with a competent person reasonably acceptable to the **City**. The superintendent shall represent the **Contractor**, and communications given to the superintendent shall be as binding as if given to the **Contractor**. The **Contractor** shall not replace the superintendent without written notice to the **City** and the **Design Professional**.

5.6.3. Registered Professional Engineer or Registered Land Surveyor. The **Contractor** shall retain a competent Registered Professional Engineer or Registered Land Surveyor, acceptable to the **Engineer**, who shall establish the exterior lines and required elevations of all buildings and structures to be erected on the site and shall establish sufficient lines and grades for the construction of associated Work such as, but not limited to, roads, utilities, and site grading. The Engineer or Land Surveyor shall certify as to the actual location of the constructed facilities in relation to property lines, building lines, easements, and other restrictive boundaries.

5.6.4. Building Grades, Lines, Etc.; The **Contractor** shall establish the building grades; lines; levels; and column, wall and partition lines required by the various Subcontractors in laying out their Work.

5.6.5. Coordination and Supervision. The **Contractor** shall coordinate and supervise the Work performed by Subcontractors to the end that the Work is carried out without conflict between trades and so that no trade, at any time, causes delay to the general progress of the Work. The **Contractor** and all Subcontractors shall at all times afford each trade, any separate contractor, or the **City**, every reasonable opportunity for the installation of Work and the storage of materials.

5.6.6. Job Meetings. There shall be job meetings held on a weekly basis, or more often if required by the **City**. The **Contractor** shall arrange for and attend weekly job meetings with the **Design Professional** and such other persons as the **Design Professional** may from time to time wish to have present. The **Contractor** shall be represented by a principal, project manager, general superintendent or other authorized main office representative, as well as by the **Contractor's** own superintendent. An authorized representative of any Subcontractor or Sub-subcontractor shall attend such meetings if the representative's presence is requested by the **Design Professional**. Such representatives shall be empowered to make binding commitments on all matters to be discussed at such meetings, including costs, payments, Change Orders, time schedules and workforce power. Any notices required under the Contract may be served on such representatives.

5.7. Materials, Labor, Equipment, Etc.

5.7.1. Provision of. Unless otherwise provided in the Contract Documents, the **Contractor** shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up, and completion of the Work. The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this contract, within the time herein specified, in accordance with the provisions of this contract and said specifications and in accordance with the plans and drawings, and in accordance with the directions of the Design Professional or CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) as given from time to time during the progress of the work. He shall furnish, erect, maintain and remove such construction plant and such temporary works as may be required. The Contractor shall observe, comply with and be subject to all terms, conditions, requirements and limitations of the contract and specifications, and shall do, carry on and complete the entire work to the satisfaction of the Design Professional and CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT).

5.7.1.1. The Contractor shall furnish, install and/or maintain ample sanitary facilities for the workmen. As the needs arise, a sufficient number of enclosed temporary toilets shall be conveniently placed as required by the sanitary codes of the State and Local Government. Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing and governing health regulations. Nothing in this Section shall be construed as forbidding the use of facilities available in existing buildings on the job site if they meet the above requirements and the use of them will not interfere with the progress of the work.

5.7.2. Quality and Use of. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by the **Design Professional**, the **Contractor** shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

5.7.3. Discrepancies or Defects. If the **Contractor** is unable to perform its Work because of discrepancies or defects in the work of the **City's** own forces or of a separate contractor, the **Contractor** shall immediately notify the **Design Professional** and the **City** in writing of the conditions that render unable to so perform. Failure to notify the **Design Professional** constitutes an acknowledgment and acceptance of the other work as being fit and proper for integration with the **Contractor's** Work except for latent or non-apparent defects and deficiencies in the other work.

5.8. Contractor's Management and Financial Statement Requirements. (Reference: M.G.L. c. 30, §39R)

5.8.1. The words defined herein shall have the meaning stated below whenever they appear in this Paragraph:

5.8.1.1. "Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a contract pursuant to M.G.L. c.149, §44A-H or M.G.L. c. 30, §39M, inclusive.

5.8.1.2. "Contract" means any contract awarded or executed pursuant to M.G.L. c. 149, §44A-H or M.G.L. c. 30, §39M, which is for an amount or estimate amount that exceed the dollar amount set forth in M.G.L. c. 30, §39R.

5.8.1.3. "Records" means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.

5.8.1.4. "Independent Certified Public Accountant" means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of his/her residence or principal office and who is

in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant's independence shall not be confined to the relationships existing in connection with the filing of reports with the **City**.

5.8.1.5. "Audit," when used in regard to financial statement, means an examination of records by an independent certified public accountant in accordance with generally accepted accounting principles and auditing standards for the purpose of expressing a certified opinion thereon, or, in the alternative, a qualified opinion or a declination to express an opinion for stated reasons.

5.8.1.6. "Accountant's Report," when used in regard to financial statements, means a document in which an independent certified accountant indicates the scope of the audit which s/he has made and sets forth his/her opinion regarding the financial statements taken as a whole with listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed the reason therefor shall be stated. An accountant's report shall include as part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the audited financial statement is a true and complete statement of the financial condition of the contractor.

5.8.1.7. "Management," when used herein, means the chief executive officers, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the Contractor.

5.8.1.8. Accounting terms, unless otherwise defined herein shall have a meaning in accordance with generally accepted accounting principles and auditing standards.

5.8.2. The Contractor shall make, and keep for at least six (6) years after final payment, books, Records, and accounts that in reasonable detail accurately and fairly reflect the transactions and dispositions of the Contractor.

5.8.2.1 Federal Requirements: The Contractor shall permit the City, HUD and/or any other administering agency named herein, the Comptroller General of the United States, or any of their duly authorized representatives, to have access to any books, documents, papers, and records of the Contractor which are directly pertinent to a specific HUD program for the purpose of making audits, examinations, excerpts, and transcriptions.

5.8.3. Until the expiration of six (6) years after final payment, the Office of the Inspector General, and the Deputy Commissioner of the Division of Capital Asset Management shall have the right to examine any books, documents, papers or Records of the Contractor or of its Subcontractors that directly pertain to, and involve transactions relating to, the Contractor or its Subcontractors.

5.8.4. The Contractor shall describe any change in the method of maintaining Records or recording transactions which materially affect any statements filed with the **City**, including in its description the date of the change and reasons therefor, and shall accompany said description with a letter from the Contractor's Independent Certified Public Accountant approving or otherwise commenting on the changes.

5.8.5. The Contractor shall file a Statement of Management on internal accounting controls as set forth below prior to the execution of the Contract.

5.8.6. The Contractor shall file prior to the execution of the contract and shall continue to file annually, an Audited Financial Statement for the most recent completed fiscal year as set forth below.

5.8.7. The Contractor shall file with the **City** a Statement of Management as to whether the system of internal accounting controls of the Contractor and its subsidiaries reasonably assures that:

5.8.7.1. transactions are executed in accordance with Management's general and specific authorization;

5.8.7.2. transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles, and to maintain accountability for assets;

5.8.7.3. access to assets is permitted only in accordance with Management's general or specific authorization; and

5.8.7.4. the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any difference.

5.8.7.5. The Contractor shall also file with the **City** a statement prepared and signed by an Independent Certified Public Accountant stating that s/he has examined the Statement of Management on internal accounting controls, and expressing an opinion as to:

5.8.7.5.1. whether the representation of Management in response to this paragraph and paragraphs 5.8.2. through 5.8.6 above are consistent with the result of Management's evaluation of the system of internal accounting controls; and

5.8.7.5.2. whether such representations of Management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

5.8.8. The Contractor shall annually file with the Commissioner of the Division of Capital Asset Management during the term of the contract a financial statement prepared by an Independent Certified Public Accountant on the basis of an Audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report. Such statements shall be made available to the **City** upon request.

5.8.9. The City's Contracting Department, its authorized representative and agents and the HUD Representative for the Secretary shall, at all times have access to and be permitted to observe and review all work materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however, that all instructions and approval with respect to the work will be given to the Contractor only by **CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT)** through its authorized representatives or agents. Records and statements required to be made, kept or filed under the provisions of this section shall not be public records as defined in G.L. 4, §7 or equivalent federal legislation. They shall not be made available to the public, but shall be available only to the governmental authorities named herein.

5.9. Taxes.

5.9.1 The **Contractor** shall pay all sales, consumer, use, and other similar taxes for the Work or portions thereof which are provided by the **Contractor** which are legally enacted when bids are received, whether or not yet effective or merely scheduled to go into effect. However, the **Contractor** shall not pay, and the **City** shall not reimburse or pay the **Contractor** for, any sales taxes for building supplies or materials for which an exemption is provided in M.G.L. c. 64H, §6(f). The **City's** tax exemption number to be used by the **Contractor** in this regard is E04-600-1414.

5.10. Permits, Licenses, and Fees.

5.10.1 Unless otherwise provided, the **Contractor** shall obtain and pay the fees for all permits, licenses, and inspections that are necessary for the proper execution and completion of the Work and which are customarily secured after execution of the Contract and which are legally required. All fees for permits, licenses, and inspections required by any **City** department shall be waived. Unless otherwise agreed by the Awarding Authority in writing, the Contractor shall, prior to commencement of the work, (i) meet with the City of Somerville Inspectional Services Department to determine what permits are needed for the work; (ii) obtain all such permits; and (iii) provide copies of such permits to the Awarding Authority. Permits shall include, without limitation, demolition, foundation, digsafe, and building permits; permits for removal, sealing up, or installation of utilities, including gas, electrical, water and sewer; and permits for obstructing public streets and sidewalks.

5.11. Notices Required By Statutes, Ordinances, Codes, Rules, Regulations, and Orders of the City.

5.11.1 The **Contractor** shall give notices required by statutes, ordinances, codes, rules, regulations, and orders of the **City** bearing on performance of the Work.

5.12. Additional Information from Design Professional.

5.12.1. The **Contractor** shall perform the Work in accordance with the Contract Documents and submittals approved pursuant to Article 4.

5.12.2. The **Contractor** shall give the **Design Professional** timely notice of any additional Plans, Specifications, or instructions required to define the Work in greater detail, or to permit the proper progress of the Work.

5.12.3. The **Contractor** shall not proceed with any Work not clearly and consistently defined in detail in the Contract Documents, but shall request additional drawings or instructions from the **Design Professional** as provided in the previous Paragraph. If the **Contractor** proceeds with such Work without obtaining further drawings, Specifications, or instructions, the **Contractor** shall correct Work incorrectly done at the **Contractor's** own expense.

5.13. "Or equal."

5.13.1. Requirements for Substitutions. (*Reference:* M.G.L. c. 30, §39M(b).) Where products or materials are prescribed by manufacturer name, trade name, or catalog reference, the words "or approved equal" shall be understood to follow. An item shall be considered equal to the item so named or described if, in the opinion of the **Design Professional**:

5.13.1.1. it is at least equal in quality, durability, appearance, strength, and design;

5.13.1.2. it performs at least equally the function imposed by the general design for the Work;

5.13.1.3. it conforms substantially, even with deviations, to the detailed requirements for the items as indicated by the Specifications.

5.13.2. Net Savings. No proposed substitution will be permitted unless the **Contractor** certifies that the proposed substitution will yield a net savings to the **City** and will not extend the Contract Time.

5.13.3. Contractor's Expense. Any structural or mechanical changes made necessary to accommodate substituted

equipment under this paragraph (including but not limited to engineering fees) shall be at the expense of the **Contractor** or **Subcontractor** responsible for the Work item.

5.13.3.1. Any additional cost, or any loss or damage arising from the substitution of any material or any method for those originally specified shall be borne by the **Contractor**, notwithstanding approval or acceptance of such substitution by the **City** or the **Design Professional**, unless such substitution was made at the written request or direction of the **City** or the **Design Professional**.

5.13.3.2. All data to be provided by the **Contractor** in support of any proposed “or equal” or substitute item will be at the **Contractor's** expense.

5.13.4. Meeting Requirements. The **Contractor** shall be responsible for determining that all materials furnished for the Work meet all requirements of the Contract Documents. The **Design Professional** may require the **Contractor** to produce reasonable evidence that a material meets such requirements, such as certified reports of past tests by qualified testing laboratories, reports of studies by qualified experts, or other evidence which, in the opinion of the **Design Professional**, would lead to a reasonable certainty that any material used, or proposed to be used, in the Work meets the requirements of the Contract Documents. All such data shall be furnished at the **Contractor's** expense. This provision shall not require the **Contractor** to pay for periodic testing of different batches of the same material, unless such testing is specifically required by the Contract Documents to be performed at the **Contractor's** expense.

5.13.5. Named Manufacturer’s Product. In all cases in which a manufacturer’s name, trade name, or other proprietary designation is used in connection with materials or articles to be furnished under this Contract, whether or not the phrase “or equal” is used after such name, the **Contractor** shall furnish the product of the name manufacturer(s) without substitution, unless a written request for a substitute has been submitted by the **Contractor** and approved in writing by the **Design Professional** as provided in the following paragraph.

5.13.6. Deviations. If the **Contractor** proposes to use a material which while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, the **Contractor** shall inform the **Design Professional** in writing of the nature of such deviations at the time the material is submitted for approval and shall request written approval of the deviation from the requirements of the Contract Documents.

5.13.7. Rejection of Deviations. In requesting approval of deviations or substitutions, the **Contractor** shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality of result at least equal to that otherwise attainable. If, in the opinion of the **Design Professional**, the evidence presented by the **Contractor** does not provide a sufficient basis for such reasonable certainty, the **Design Professional** may reject such substitution or deviation without further investigation.

5.13.8. Consistent Character and Quality of Design. The Contract Documents are intended to produce a building of consistent character and quality of design. All components of the building including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance of the Project. The **Design Professional** shall judge the design and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the Project, as well as for their intrinsic merits. The **Design Professional** will not approve as equal to materials specified proposed substitutes that, in the **Design Professional's** opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the Project. In order to permit coordinated design of color and finishes the **Contractor** shall, if required by the **Design Professional**, furnish the substituted material in any color, finish, texture, or pattern which would have been available from the manufacturer originally specified, at no additional cost to the **City**.

5.13.9. Warranty. The warranties provided herein shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law.

5.13.10. Design Professional’s Approval. The **Design Professional** will be the sole judge of acceptability. No “or equal” or substitute will be ordered, installed, or utilized without the **Design Professional's** prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. The **City** may require the **Contractor** to furnish at the **Contractor's** expense a special performance guarantee or other surety with respect to any “or equal” or substitute. The **Design Professional** will record the time required by the **Design Professional** and its consultants in evaluating substitutes proposed or submitted by the **Contractor** and in making changes in the Contract Documents (or in the provisions of any other direct contract with the **City** for work on the Project) occasioned thereby. Whether or not the **Design Professional** accepts a substitute item so proposed or submitted by the **Contractor**, the **Contractor** shall reimburse the **City** for the charges of the **Design Professional** and its consultants for evaluating each such proposed substitute item.

5.14. Substitute Construction Methods or Procedures.

5.14.1 If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, the **Contractor** may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to the **Design Professional**. The **Contractor** shall submit sufficient information to allow the **Design Professional**, in the **Design Professional's** sole discretion, to determine whether the substitute

proposed is equivalent to that expressly called for by the Contract Documents.

5.15. Contractor's Progress Schedule.

5.15.1. Before Starting Construction. Within ten (10) days after the date of the Notice to Proceed, the **Contractor** shall submit to the **Design Professional** for review:

5.15.1.1. a preliminary progress schedule indicating the times (number of days or dates) for starting and completing the various stages of the Work;

5.15.1.2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

5.15.1.3. a refined schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Sum and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

5.15.2. Review of Progress Schedule. At least ten (10) days prior to the commencement of construction, the **Design Professional**, the **Contractor**, and any other appropriate persons will meet to review and discuss the acceptability to the **Design Professional** of the progress schedule. The **Contractor** will have an additional ten (10) days to make corrections and adjustments and to complete and resubmit the schedule. No progress payment shall be made to the **Contractor** until the schedule is submitted to and found acceptable by the **Design Professional** as provided below.

5.15.3. Acceptability of Progress Schedule. The progress schedule will be acceptable to the **Design Professional** if, according to the **Design Professional**, it provides an orderly progression of the Work to completion within any specified time frame, but such acceptance will neither impose on the **Design Professional** responsibility for the sequencing, scheduling, or progress of the Work nor interfere with or relieve the **Contractor** from the **Contractor's** full responsibility therefore. The **Contractor's** schedule of Submittals must be acceptable to the **Design Professional** in providing a workable arrangement for reviewing and processing the required Submittals. The **Contractor's** schedule of values must be acceptable to the **Design Professional** as to form and substance.

5.15.4. Sepia and Copies. After the **Design Professional** has approved the schedule, the **Contractor** shall submit to the **Design Professional** one (1) sepia and four (4) copies bearing the **Contractor's** stamp of approval as a representation to the **City** that the **Contractor** has determined or verified all data on that progress schedule and that the **Contractor**, the Subcontractors and Suppliers have reviewed and coordinated the sequences in that progress schedule with the requirements of the Work.

5.15.5. Adjustment of Schedule. The **Contractor** shall adhere to the established progress schedule which may be adjusted from time to time as follows: the **Contractor** shall submit to the **Design Professional** for acceptance proposed adjustments in the progress schedule that will not change the Contract Time. Such adjustments will conform generally to the progress schedule then in effect and will comply with any provisions of the requirements applicable thereto.

5.15.6. During Construction. The **Contractor** shall submit monthly progress schedules to the **Design Professional**. The schedules shall stay current with the **Contractor's** approach to the Work remaining.

5.15.7. Schedule of Submittals. The **Contractor** shall prepare and keep current, for the **Design Professional's** approval, a schedule of Submittals that is coordinated with the **Contractor's** construction schedule and allows the **Design Professional** reasonable time to review Submittals.

5.16. Project Coordination.

5.16.1. In General. The **Contractor** shall be responsible for the proper coordination of the Work of all of the trades.

5.16.2. Coordination with Subcontractors. The **Contractor** shall coordinate the work of each Subcontractor with the Work of every other Subcontractor whose Work affects the other.

5.16.3. Coordination with the City's Own Forces or Separate Contractors. The **Contractor** shall coordinate its operations with those of the **City's** own forces or separate contractors. The **Contractor** shall provide the **City's** own forces and separate contractors a reasonable opportunity for the handling, unloading and storage of their materials and equipment and execution of their work. The **Contractor** shall connect and coordinate its Work with theirs.

5.16.4. Coordination with Utility Companies. The **Contractor** shall coordinate its operations with all the appropriate utility companies to assure that the utilities required on the Project are available and functioning properly pursuant to the requirements of the Contract Documents.

5.17. Project Photographs.

5.17.1. In General. The **Contractor** shall take, at its own expense, interior and exterior photographs at the site, from different vantages as directed by the **Design Professional** or the **City**, before beginning any Work and thereafter, at a minimum, on the first work day of each month until final completion of the Work, including final Site photos. Photos shall be taken of any

Work that will be buried or concealed while the Work is still exposed. The photographs shall be taken by a skilled commercial photographer. The number of photographs required shall be at the discretion of the **City** or the **Design Professional**. One aerial photo shall be required a) prior to commencement of the work and b) at the completion of the work. See Section 01320 – Construction Progress Documentation.

5.17.2. Prints and Digital Media. Within fourteen (14) days after the photographs have been taken, the **Contractor** shall cause prints to be made and delivered to the **City** and the **Design Professional**. All photographs shall be 8" x 10". Each print shall state the date of the photograph, the name of the Project, the description of the view and the name and address of the photographer. The **City** shall receive one glossy print of each photo as well as all prints in digital form on compact disc. The **Design Professional** shall receive one glossy print.

5.17.3. Failure to Comply. Should the **Contractor** fail to adhere to any requirement set forth in the previous two paragraphs, the **City** may have the photographs taken at the **Contractor's** expense or receive a set-off against the **Contractor's** next application for payment.

5.18. Record Documents and Samples at the Site.

5.18.1 The **Contractor** shall maintain in a safe place at the site one record copy of all Plans, Specifications, Modifications, Change Orders, **Construction Change** Directives, Field Orders and written interpretations and clarifications in good order and annotated to show all changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to the **Design Professional** for reference. Upon completion of the Work, these record documents, Samples and Shop Drawings will be delivered by the **Contractor** to the **Design Professional** for the **City**.

5.19. Submittals.

5.19.1. Purpose. The purpose of Submittals is to demonstrate for those portions of the Work for which Submittals are required the way the **Contractor** proposes to conform to the information given and the design concept expressed in the Contract Documents.

5.19.2. Submittal Procedure. Within ten (10) days from the Notice to Proceed, the **Contractor** shall submit to the **Design Professional** a completed Submittals schedule. The **Contractor** shall review, approve, and submit to the **Design Professional** Submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the **City** or of separate contractors. Submittals made by the **Contractor** that are not required by the Contract Documents may be returned without action. The schedules shall be updated and resubmitted each month. All Submittals will be identified as the **Design Professional** may require and in the number specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show the **Design Professional** the materials and equipment that the **Contractor** proposes to provide and to enable the **Design Professional** to review the information for the limited purposes stated below.

5.19.3. Samples. The **Contractor** shall also submit Samples to the **Design Professional** for review and approval in accordance with said accepted schedule of Submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which it is intended and otherwise as the **Design Professional** may require to enable the **Design Professional** to review the Submittal for the limited purposed stated below. The numbers of each Sample to be submitted will be as specified in the Specifications. Unless otherwise specified in the Specifications, three (3) specimens of each Sample shall be submitted.

5.19.3.1. The Samples shall be of sufficient size to permit proper evaluation of material. Where variations in color or other characteristics are to be expected, samples showing the minimum range of variation shall be submitted. Materials exceeding the range of variation of the approved Samples will not be approved on the Work.

5.19.3.2. All costs associated with delivery of Samples will paid by the **Contractor**.

5.19.4. Contractor's Verifications. Before submitting each Submittal, the **Contractor** shall have determined and verified:

5.19.4.1. all field measurements, quantities, dimensions specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

5.19.4.2. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

5.19.4.3. all information relative to the **Contractor's** sole responsibilities in respect of means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto.

5.19.5. Contractor's Representations. By approving and providing Submittals, the **Contractor** thereby represents that the **Contractor** has determined and verified all dimensions, quantities, field dimensions, relations to existing Work, coordination with Work to be installed later, coordination with information on previously accepted Submittals and verification of

compliance with all the requirements of the Contract Documents. The accuracy of all such information is the responsibility of the **Contractor**. In reviewing Submittals, the **Design Professional** shall be entitled to rely upon the **Contractor's** representation that such information is correct and accurate.

5.19.6. Coordination. The **Contractor** shall also have reviewed and coordinated each Submittal with other Submittals and with the requirements of the Work and the Contract Documents.

5.19.7. Stamp or Specific Written Indication. Each Submittal will bear a stamp or specific written indication that the **Contractor** has satisfied the **Contractor's** obligations under the Contract Documents with respect to the **Contractor's** review and approval of that Submittal.

5.19.8. Written Notice of Variations. At the time of each Submittal, the **Contractor** shall give the **Design Professional** specific written notice of such variations, if any, that the Submittal may have from the requirements of the Contract Documents. Such notice is to be in a written communication separate from the Submittal. Moreover, the **Contractor** shall make a specific notation on each Submittal to the **Design Professional** for review and approval of each such variation.

5.19.9. Review and Approval by the Design Professional. The **Contractor** shall perform no portion of the Work requiring a Submittal until the respective Submittal has been approved by the **Design Professional**. Such Work shall be in accordance with approved Submittals.

5.19.9.1. The **Design Professional** will review and approve Submittals in accordance with the schedule of Submittals accepted by the **Design Professional** as required above. The **Design Professional's** review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated in the Contract Documents. The **Design Professional's** review and approval will not extend to means, method, technique, sequences, or procedures of construction (except where a particular means, method, technique, sequences or procedures of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

5.19.10. Deviations. The **Contractor** shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the **Design Professional's** approval of Submittals unless the **Contractor** has specifically informed the **Design Professional** in writing of such deviation at the time of Submittal and the **Design Professional** has given written approval to the specific deviation. The **Contractor** shall not be relieved of responsibility for errors or omissions in Submittals by the **Design Professional's** approval thereof.

5.19.11. Revisions. The **Contractor** shall make corrections required by the **Design Professional** and shall return the required number of corrected copies of Submittals and submit as required new Submittals for review and approval. The **Contractor** shall direct specific attention, in writing or on resubmitted Submittals, to revisions other than those requested by the **Design Professional** on previous Submittals. Unless such written notice has been given, the **Design Professional's** approval of a resubmitted Submittal shall not constitute approval of any changes not requested on the prior Submittal.

5.19.12. Related Work. Where a Submittal is required by the Contract Documents or the schedule of Submittals accepted by the **Design Professional**, any related Work performed prior to the **Design Professional's** review and approval of the pertinent Submittal will be at the sole expense and responsibility of the **Contractor**.

5.19.13. Informational Submittals. Informational Submittals upon which the **Design Professional** is not expected to take responsive action may be so identified in the Contract Documents.

5.19.14. Certification. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the **City** shall be entitled to rely upon such certifications, and neither the **City** nor the **Design Professional** shall be expected to make any independent examination with respect thereto.

5.20. Continuing the Work.

5.20.1. The **Contractor** shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with the **City**. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as otherwise provided herein or as the **City** and the **Contractor** may agree in writing.

5.21. Use of Site; Access to Work.

5.21.1. The right of possession of the premises and the improvements made thereon by the **Contractor** shall remain at all times in the **City**. The **Contractor's** right to entry and use thereof arises solely from the permission granted by the **City** under the Contract Documents. The **Contractor** shall confine the **Contractor's** apparatus, the storage of materials, and the operations of the **Contractor's** workers to limits indicated by law, ordinance, the Contract Documents and permits and/or directions of the **Design Professional** and shall not unreasonably encumber the premises with the **Contractor's** materials. The **City** shall not be liable to the **Contractor**, the Subcontractors, Suppliers, or anyone else with respect to the conditions of the premises, except for a condition caused directly and solely by the negligence of the **City**.

5.21.2. At all times, the **City** and the **Design Professional** shall have access to the Work.

5.22. Protection of Persons and Property.

5.22.1. **In General.** The **Contractor** shall be responsible for initiating, maintaining, and supervising all health and safety precautions and programs in connection with the performance of the Contract. The **Contractor** is responsible for the implementation of all Federal, State, and local health and safety requirements. The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance by CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT).

The Contractor shall provide sufficient competent watchmen, both day and night, including Saturdays, Sundays and holidays, as necessary, from the time the work is commenced until final completion and acceptance. Sufficient lighting shall be provided to aid in the prevention of injury to passersby or vandalism to the property or other illegal activities.

The Contractor shall avoid damage as a result of its operations to existing sidewalks, streets, curbs, pavements, utilities (except those which are to be replaced or removed), adjoining property, etc. and the Contractor shall at its own expense completely repair any damage thereto caused by its operations.

The Contractor shall shore up, brace, underpin, secure, and protect as may be necessary, all foundations and other parts of existing structure adjacent to, adjoining, and in the vicinity of the site, which may be in any way affected by the excavations or other operations connected with the construction of the improvements embraced in this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property owner or other party before the commencement of work. The Contractor shall indemnify and save harmless the City of Somerville and CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) from any liability for damages on account of settlement or the loss of lateral support of adjoining property resulting from the Contractor's failure to comply with this section.

5.22.1.1. If this contract is in excess of \$100,000 and is federally funded, the Contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401 et seq.) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq.)

5.22.1.2. If this contract is in excess of \$2,000 and is federally funded, the Contractor shall comply with Sections 103 and 107 of the Contract Work Hours Safety Standards Acts (40 U.S.C. 327-333), as supplemented by Department of Labor regulations at 29 CFR part 5. To that end, the Contractor shall compute the wages of every mechanic and laborer on the basis of a standard workweek of 40 hours. Work in excess of the standard workweek is permissible, provided that the worker is compensated at a rate of not less than 1-1/2 times the basic rate of pay for all hours worked in excess of 40 hours in the workweek. The Contractor shall ensure that no laborer or mechanic is required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous.

5.22.2. The **Contractor** shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to:

5.22.2.1. employees on the site and other persons who may be affected thereby;

5.22.2.2. the Work, materials, and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the **Contractor**, Subcontractors, or Sub-subcontractors;

5.22.2.3. other property at the site or adjacent or in close proximity thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and

5.22.2.4. any other property of the **City**, whether or not forming part of the Work, located at the site or adjacent thereto in areas to which the **Contractor** has access.

5.22.3. **Notices and Compliance.** The **Contractor** shall give notices and comply in all other respects with applicable laws, ordinances, rules, regulations, codes, and lawful orders of public authorities bearing on the safety of persons or property or their protection from damage, injury, or loss. The **Contractor** shall notify owners of adjacent and nearby properties of underground facilities and utility owners when prosecution of the Work may affect them and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

5.22.3.1. Should the Contractor in the execution of his work uncover or discover utility service lines not indicated on the relevant drawings, or that do not show signs of singular service to any existing structures being demolished, the Contractor shall cease work in that area immediately and promptly notify the Public Works Department. Within forty-eight hours, the Public Works Department will inspect the site and issue written instructions to the Contractor. The Contractor shall proceed

with only after such written instructions have been received and shall proceed in full compliance with such instructions. The above mentioned situation or similar circumstances and/or modification if any, shall not relieve the Contractor from his responsibilities in this Contract and also it is without prejudice to any and all rights of CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) covering this said contract and surety or bonds.

5.22.4. Erection and Maintenance of Safeguards. The **Contractor** shall erect and maintain, as required by existing conditions and the terms of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent and nearby sites and utilities.

5.22.5. Hazardous Materials and Equipment. When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the **Contractor** shall exercise utmost care and carry on such activities under the supervision of properly qualified personnel.

5.22.6. Damage to Property. The **Contractor** shall promptly remedy damage and loss to property referred to above. If the damage or loss is due in whole or in part to the **Contractor's** failure to take the precautions required herein, the **Contractor** shall bear the cost, subject to any reimbursement to which the **Contractor** is entitled under property insurance required by the Contract Documents. The **Contractor** shall be fully and solely responsible for all Work and other operations carried out on adjacent properties. The insurance required under Article 8 shall cover such Work or operations, and the **Contractor** shall indemnify and defend the **City**, the **Design Professional**, and the owners of such adjacent or nearby properties from and against all claims, suits, losses, or costs arising out of such Work or operations.

5.22.7. Fire Protection Equipment and Services. The **Contractor** shall provide and maintain in good operating condition suitable and adequate fire protection equipment and services and shall comply with all reasonable recommendations regarding fire protection made by the representatives of the fire insurance company carrying insurance on the Work or by the local fire chief or fire marshal. The area within the site limits shall be kept orderly and clean and all combustible rubbish shall be promptly removed from the site.

5.22.8. Protection of Excavations, Trenches, etc. The **Contractor** shall at all times protect excavations, trenches, buildings and materials from rain water, ground water, backup or leakage of sewers, drains and other piping, and from water of any other origin and shall remove promptly any accumulation of water. The **Contractor** shall provide and operate all pumps, piping, and other equipment necessary to this end.

5.22.9. Snow and Ice Removal. The **Contractor** shall remove snow and ice that might result in damage or delay.

5.22.10. Safety Representative. The **Contractor** shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

5.22.11. Weather Protection. (*Reference: M.G.L. c. 149, §44F(1).*) The **Contractor** shall install weather protection and furnish adequate heat in the protected area from November 1 through March 31. In the event of temporary suspension of work, during inclement weather, the Contractor will carefully protect and will cause his subcontractors to carefully protect all work and materials against damage or injury from the weather. If, in the opinion of the Design Professional or CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT), any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors so to protect the work, such work or materials shall be removed and replaced at the expense of the Contractor. These Specifications are not to be construed as requiring enclosures or heat for operations that are not economically feasible to protect in the judgment of CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT). Included in the preceding category, without limitation, are such items as site work, excavation, pile driving, steel erection, erection of certain "exterior" wall panels, roofing, and similar operation:

(1) "WEATHER PROTECTION" shall mean the temporary protection of that work adversely affected by moisture, wind and cold, by covering, enclosing and/or heating.

This protection shall provide adequate working areas during the months of November through March as determined by the Design Professional and consistent with the approved construction schedule to permit the continuous progress of all work necessary to maintain an orderly and efficient sequence of construction operations. The General Contractor shall furnish and install all "Weather Protection" material and be responsible for all costs, including heating required to maintain a minimum temperature of 40 degrees F, at the working surface. This provision does not supersede any specific requirements for methods of construction, curing of materials or the applicable General Conditions set forth in the Contract Articles with added regard to performance obligations of the Contractor.

(2) Within 30 calendar days after his award of contract, the General Contractor shall submit in writing to CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) for approval, three copies of his proposed methods for "Weather Protection".

(3) Installation of weather protection and heating devices shall comply with all safety regulations including provisions for

adequate ventilation and fire protection devices. Heating devices which may cause damage to finish surfaces shall not be used.

(4) The General Contractor shall furnish and install one accurate Fahrenheit thermometer at each work area as designated by the Designer. However, one additional accurate Fahrenheit thermometer shall be provided for every 2,000 square feet of floor space where the work areas exceed 2,000 square feet.

5.22.12. Security. The **Contractor** shall provide, within the Contract Sum, a sufficient number of security personnel at the Site at all times when the **Contractor's** personnel are not present, from commencement of the Work until Substantial Completion to assure that the Site, the facility, and the Work, and all materials and equipment stored at the Site are fully and completely protected against loss or damage due to vandalism, theft, or malicious mischief. If the **Contractor** elects, in addition, to use guard dogs for this purpose, each dog shall at all times be accompanied by an adult handler. If the **Contractor** fails to comply with the requirements of this paragraph, then the **City** may provide appropriate security and charge the cost thereof to the **Contractor**. The **City's** provision of such security, or failure to do so, shall not relieve the **Contractor** of its responsibility to pay for loss or damage due to vandalism, theft, or malicious mischief at the Site.

5.22.13. Hazard Communication Programs. The **Contractor** shall be responsible for coordinating any exchange of material safety data sheets or other hazard communications information required to be made available to or exchanged between or among employers at the site in accordance with laws, codes and regulations.

5.22.14. Noise Pollution Control. The **Contractor** shall comply with all applicable provisions of Somerville Municipal Code §9-109.

5.23. Cutting and Patching.

5.23.1. In General. Unless otherwise provided in the Contract Documents, the **Contractor** shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly, including the work of the City or of separate contractors.

5.23.2. Damage to Work of City or of Separate Contractor. The **Contractor** shall not damage or endanger a portion of the Work or fully or partially completed construction of the **City** or separate contractors by cutting, patching, or otherwise altering such construction, or by excavation. The **Contractor** shall not cut or otherwise alter such construction by the **City** or a separate contractor except with prior written consent of the **City** and of such separate contractor; such consent shall not be unreasonably withheld. The **Contractor** shall not unreasonably withhold from the **City** or a separate contractor the **Contractor's** consent to cutting or otherwise altering the Work.

5.23.3. Damage Caused by Contractor. Should the **Contractor** cause damage to the work or property of any separate contractor at the Site, or should any claim arising out of the **Contractor's** performance of Work at the Site be made by any separate contractor against the **Contractor**, the **City**, the **Design Professional**, or any of the **Design Professional's** consultants, the **Contractor** shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law. The **Contractor** shall, to the fullest extent permitted by laws and regulations, indemnify and hold harmless the **City**, the **Design Professional**, and the **Design Professional's** consultants from and against all claims, damages, losses and expenses (including, but not limited to, fees of the Design Professional, the Design Professional's consultants, attorneys, and other professionals, and court and arbitration or mediation costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against the **City**, the **Design Professional**, or any of the **Design Professional's** consultants, to the extent based on a claim arising out of the **Contractor's** performance of the Work. Should a separate contractor cause damage to the Work or property of the **Contractor** or should the performance of work by any separate contractor at the site give rise to any other claim, the **Contractor** shall not institute any action, legal or equitable, against the **City**, the **Design Professional**, or any of the **Design Professional's** consultants, or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from the **City**, the **Design Professional**, or any of the **Design Professional's** consultants, on account of any such damage or claim. If the **Contractor** delays at any time in performing or furnishing Work by any act or neglect of a separate contractor and the City and the Contractor are unable to agree as to the extent of any adjustment in the Contract Time attributable thereto, the **Contractor** may make a claim for an extension of time in accordance with Article 16. An extension of the Contract Time shall be the **Contractor's** exclusive remedy with respect to the **City**, the **Design Professional**, and the **Design Professional's** consultants, for any delay, disruption, interference, or hindrance caused by any separate contractor.

5.24. Cleaning Up.

5.24.1. During the progress of the Work, the **Contractor** shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract or other debris. At the completion of the Work, the **Contractor** shall remove from and about the Project all waste materials, rubbish, and debris, and the **Contractor's** tools, construction equipment, machinery, and surplus materials. Surplus materials to be provided to the **City** by specifications shall be stored in a clean, safe and secure area as directed by the **City**. The **Contractor** shall leave the site clean and ready for

occupancy by the **City** at Substantial Completion of the Work. Immediately prior to the **Design Professional's** inspection for Substantial Completion, the **Contractor** shall completely clean the premises. Concrete and ceramic surfaces shall be cleaned and washed. Resilient coverings shall be cleaned, waxed and buffed. Woodwork shall be dusted and cleaned. Sash, fixtures and equipment shall be thoroughly cleaned. Stains, spots, dust, marks and smears shall be removed from all surfaces. Hardware and all metal surfaces shall be cleaned and polished. Glass and plastic surfaces shall be thoroughly cleaned by professional window cleaners. All damaged, broken or scratched glass or plastic shall be replaced by the **Contractor** at the **Contractor's** expense. The **Contractor** shall restore to original condition all property not designated for alteration by the Contract Documents.

5.24.2. If the **Contractor** fails to clean up as provided herein, the **City** may do so and charge the cost thereof to the **Contractor**.

5.25. Royalties and Patents.

5.25.1 The **Contractor** shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. To the fullest extent permitted by law, the **Contractor** shall indemnify and hold harmless the **City** and the **Design Professional** from and against all claims, costs, losses, and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the work or resulting from the incorporation in the work of any invention, design, process, product, or device not specified in the Contract Documents.

5.26. Contractor's Obligation to Perform.

5.26.1. The **Contractor's** obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of the **Contractor's** obligation to perform the Work in accordance with the Contract Documents:

- 5.26.1.1.** observations by the **Design Professional**;
- 5.26.1.2.** recommendation of any progress or final payment by the **Design Professional**;
- 5.26.1.3.** the issuance of a certificate of Substantial Completion or any payment by the **City** to the **Contractor** under the Contract Documents;
- 5.26.1.4.** use or occupancy of the Work, Project, or Site, or any part thereof, by the **City**;
- 5.26.1.5.** any acceptance by the **City** or any failure to do so;
- 5.26.1.6.** any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptance by the **Design Professional**;
- 5.26.1.7.** any inspection, test, or approval by others; or
- 5.26.1.8.** any correction of defective Work by the **City**.

5.27. Indemnification; and Covenant Not To Sue.

5.27.1. To the fullest extent permitted by law, the **Contractor** shall assume the defense of, indemnify and hold harmless the **City**, the **Design Professional**, the **Design Professional's** consultants, and agents and employees of any of them, from and against claims, suits, causes of action, demands, liabilities, damages, losses, and expenses, including, but not limited, to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, caused in whole or in part by alleged negligent acts or omissions of the **Contractor**, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this paragraph.

5.27.2. In claims against any person or entity indemnified under the foregoing paragraph by an employee of the **Contractor**, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under the foregoing paragraph shall not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for the **Contractor** or a Subcontractor under Workers' Compensation laws, disability benefit acts or other employee benefit acts.

5.27.3. The obligations of the **Contractor** in this Article shall not extend to the liability of the **Design Professional**, the **Design Professional's** consultants, and agents or employees of any of them arising out of (1) the preparation of maps, Plans, opinions, reports, surveys, Change Orders, designs, or Specifications, or (2) directions or instructions given by the **Design Professional**, the **Design Professional's** consultants and agents or employees of any of them, provided such instructions or directions are the primary cause of the injury or damage.

5.27.4. The **Contractor**, or any successor, assign, or subrogee of the **Contractor** agrees not to bring any civil suit,

action, or other proceeding in law, equity or arbitration against the **Design Professional**, or the officers, employees, agents, or consultants of the **Design Professional**, for the enforcement of any action which the **Contractor** may have arising out of or in any manner connected with the Work. The **Contractor** shall assure that this covenant not to sue is contained in all subcontracts and sub-subcontracts of every tier and shall assure its enforcement. The **Design Professional**, its officers, employees, agents, and consultants are intended third-party beneficiaries of this covenant not to sue, and are entitled to enforce this covenant in law or equity.

5.28. Survival of Obligations.

5.28.1 All representations, indemnifications, warranties, and guarantees made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the Work and termination or completion of the Contract.

**ARTICLE 6
SUBCONTRACTORS**

6.1 Use of Subcontractors.

The **Contractor** shall use the Subcontractors named in the **Contractor's Bid**. The Contractor shall not award any work to any Subcontractor without prior written approval of the CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT). The Contractor shall not award any work to any subcontractor without prior written approval of CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT), which approval will not be given until the Contractor submits a written approval statement concerning the proposed award to the subcontractor, which statement shall contain such information as CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) may require. All subcontracts subject to Mass. General laws, Chapter 149, Sections 44A-J, shall comply with the filed sub-bid requirements of that statute. The Contractor shall be as fully responsible for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the Terms of the General Conditions and other contract documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) may exercise over the Contractor under any provision of the contract documents. Nothing contained in this contract shall create any contractual relation between any subcontractor and CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT).

6.2 Substitution of Subcontractors.

6.2.1 The **Contractor** shall not substitute another Subcontractor therefor without notice to the **City** and the **City's** prior written consent of such substitution.

6.3 Names of Subcontractors.

6.3.1 Upon execution of the Contract with the **City**, the **Contractor** shall provide in writing to the **City**, through the **Design Professional**, the names, addresses, telephone numbers, and fax numbers of all persons proposed for each principal portion of the Work.

6.4 Objections to Subcontractors.

6.4.1 The **Contractor** shall not use any Subcontractor against whom the **City** has a reasonable objection. The **Contractor** shall not be required to contract with any person or entity against whom it has a reasonable objection.

6.5 Form of the Subcontract.

6.5.1 All Work performed by a Subcontractor shall be through an appropriate subcontract. The form of subcontract shall be submitted to the **City for its** approval, which shall not be unreasonably withheld or delayed.

6.6 Content of the Subcontract.

6.6.1. In addition to all statutorily mandated provisions and provisions required elsewhere in the Contract Documents, each subcontract shall expressly provide that:

6.6.1.1. Each subcontract agreement for a portion of the Work is assigned by the **Contractor** to the **City** provided that:

6.6.1.1.1. the assignment is effective only after termination of the Contract by the **City** or the

Contractor and only for those subcontract agreements which the **City** accepts by notifying the Subcontractor in writing; and

6.6.1.1.2. the assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

6.6.1.2. Each Subcontractor is bound by the requirements of the Contract Documents for the express benefit of the **City**.

6.6.1.3. Each Subcontractor shall assume toward the **Contractor** all the obligations that the **Contractor** assumes toward the **City** and the **Design Professional**, unless otherwise provided by law.

ARTICLE 7 PERFORMANCE AND PAYMENT BONDS

7.1. **Form of Bonds.**

7.1.1 The performance and labor and material or payment bonds shall be in the form required by the **City**, copies of which are included in the Project Manual. The **City** reserves the right to reject any bond that does not conform to the **City's** requirements.

7.2. **Furnished by the Contractor.** (*Reference: M.G.L. c. 30, §39M(c);, M.G.L. c. 149, §29).*)

7.2.1 The **Contractor** shall furnish a performance bond and a labor and materials or payment bond, each with a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the **City** and each in the sum of the Contract Sum, the premiums for which are to be paid by the **Contractor** and are included in the Contract Sum. The bonds shall remain in effect until final payment is made. The sum of the bond(s) shall increase each time the Contract Sum is increased as a result of a Change Order.

7.3. **Submission to the City.**

7.3.1 The **Contractor** must submit the performance and a labor and materials or payment bonds to the **City** upon the **Contractor's** execution of the Agreement.

ARTICLE 8 INSURANCE REQUIREMENTS

8.1 **Insurance Certificates.**

8.1.1 Prior to starting work on this project, the contractor shall deposit with the **City**, certificates from insurers clearly stating that the required insurance policies have been issued to the **Contractor** and will remain in effect during the time period required to complete this contract. ACCORD forms will not be accepted. The certificates must be in a form satisfactory to the **City**. The insurance shall include all major divisions of coverage, and shall be on a comprehensive general basis including: Premises and Operations (including X-C-U), Owners and Contractors Protective, Products and Completed Operations, Owned, Non-owned or Hired and/or Leased Motor Vehicles. Such insurance shall be written for not less than any limits of liability, required by law or the following limits, whichever are greater.

8.2 **Minimum Coverages.** The **Contractor** shall possess and maintain throughout the contract period/project, insurance in the kinds and amounts as stated in the Specification included in Appendix C of this Agreement. The **Contractor** may purchase and maintain excess liability insurance in the in the umbrella form in order to satisfy the limits of liability required for the insurance to be purchased and maintained in accordance with the required requirements set forth above (in addition to the umbrella limits required). Evidence of such excess liability shall be delivered to the **City** in the form of a certificate and the certificate indicating the policy numbers and limits of liability of all underlying insurance.

8.3 **Additional Insured.** The **City** shall be named as an additional insured on each certificate, and the certificate must have the endorsement of the insurance agency.

8.4 **Notice.** Each certificate shall contain a notation that the insurer will give 30 days notice to the **City** prior to cancellation, change or non-renewal of policy.

8.5 **Carrier Rating.** Insurance carriers MUST have an A.M. Best rating of "A" or better.

8.6 **Material Breach.** Failure of the contractor to provide and continue in force such insurance shall be deemed a material breach of contract and shall operate as immediate termination thereof.

**ARTICLE 9
TESTS AND INSPECTIONS**

9.1. Access.

9.1.1 The **City**, the **Design Professional**, and all other persons designated by the **City** shall have access to the Work at reasonable times for observing, inspecting, and testing. The **Contractor** shall provide them with proper and safe conditions for such access and advise them of the **Contractor's** site safety procedures and programs so that they may comply therewith as applicable.

9.2. Tests and Inspections.

9.2.1. The **Contractor** shall give the **Design Professional** timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

9.2.2. Unless otherwise provided, the **Contractor** shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the **City**, or with the appropriate public authority and shall bear all related costs of tests, inspections, and approvals. If the laws or regulations of any public body having jurisdiction require any Work or part thereof specifically to be inspected, tested, or approved by an employee or other representative of such public body, the **Contractor** shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith and furnish the **Design Professional** with the required certificates of inspection, testing, or approval.

9.2.3. The **Contractor** shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for the **Design Professional's** acceptance of materials or equipment to be incorporated into the Work, or of materials, mix designs, or equipment submitted for approval prior to the **Contractor's** purchase thereof for incorporation into the Work.

9.2.4. If any Work that is to be inspected, tested, or approved is covered by the **Contractor**, Subcontractor, or Sub-subcontractor without the prior written consent of the **Design Professional**, it must be uncovered for observation, inspection, testing, or approval, if requested by the **Design Professional**. The **Contractor** must recover the Work at its own expense.

9.2.5. The **Contractor** shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the **Design Professional** in the **Design Professional's** administration of the Contract or by tests, inspections, or approvals required or performed by persons other than the **Contractor**.

**ARTICLE 10
UNCOVERING AND CORRECTING WORK**

10.1. Uncovering Work.

10.1.1. If a portion of the Work is covered contrary to the **Design Professional's** request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the **Design Professional**, be uncovered for the **Design Professional's** observation and be replaced, both at the **Contractor's** expense and without change in the Contract Time.

10.1.2. If a portion of the Work has been covered which the **Design Professional** has not specifically requested to observe prior to its being covered, the **Design Professional** may request to see such Work, and it shall be uncovered by the **Contractor**. If it is found that such Work is in accordance with the Contract Documents, costs of uncovering and replacing shall, by appropriate Change Order, be charged to the **City**. If it is found that such Work is defective or not in accordance with the Contract Documents, the **Contractor** shall pay all claims, costs, losses, and damages caused by, arising out of or resulting from such uncovering, exposure, observation, inspection, and testing and of satisfactory replacement of reconstruction (including, but not limited to, all costs of repair or replacement of work of others); and the **City** shall be entitled to an appropriate decrease in the Contract Sum. The **City** may take such decrease by reducing the then current application for payment accordingly or subsequent applications, if necessary, until the decrease is paid in full.

10.2. Correcting Work.

10.2.1. The **Contractor** shall promptly correct Work rejected by the **Design Professional** or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed, or completed. The **Contractor** shall bear all costs of correcting such rejected Work including additional testing and inspections and compensation for the **Design Professional's** services and expenses made necessary thereby and any cost, loss, or damages to the

City resulting from such failure or defect.

10.2.2. If, within one (1) year after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established in Article 15, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the **City** to do so, unless the **City** has previously given the **Contractor** a written acceptance of such condition. This period of one (1) year shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work. This obligation to correct under this paragraph shall survive acceptance of the Work under the Contract and termination of the Contract. The **City** shall give such notice promptly after discovery of the condition.

10.2.3. The **Contractor** shall correct, remove, or replace portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the **Contractor** nor accepted by the **City**.

10.2.4. If the **Contractor** fails within a reasonable time to correct nonconforming Work, or to remove and replace rejected Work, or fails to perform the Work in accordance with the Contract Documents, the **City** may correct it in accordance with the provisions herein. If the **Contractor** does not proceed with correction, removal, or replacement of such nonconforming Work within seven (7) days from the date of written notice from the **Design Professional**, the **City** may correct it and store any salvageable materials or equipment at the **Contractor's** expense. If the **Contractor** does not pay costs of any such removal and storage within ten (10) days after written notice, the **City** may upon ten (10) additional days' written notice sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the **Contractor**, including compensation for the **Design Professional's** services and expenses made necessary thereby. If such proceeds of sale do not cover all the costs that the **Contractor** should have born, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the **Contractor** are not sufficient to cover such amount, the **Contractor** shall pay the difference to the **City**.

10.2.5. The **Contractor** shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the **City** or separate contractors caused by the **Contractor's** correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

10.2.6. Nothing contained in this paragraph shall be construed to establish a period of limitation with respect to other obligations that the **Contractor** might have under the Contract Documents. Establishment of the time period of one (1) year as described in the above paragraph related only to the specific obligation of the **Contractor** to correct the Work and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced nor to the time within which proceedings may be commenced to establish the **Contractor's** liability with respect to the **Contractor's** obligations other than specifically to correct the Work.

10.3. Acceptance of Nonconforming Work.

10.3.1 If, instead of requiring correction or removal and replacement of defective or nonconforming Work, the **City** prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the **City** may do so instead of requiring its removal and correction, in which case the **Contractor** shall pay all claims, costs, losses, and damages attributable to the **City's** evaluation of and determination to accept such defective or non-conforming Work. The Contract Sum will be reduced as appropriate. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 11 CHANGES IN THE WORK

11.1. In General.

11.1.1. The Contract Sum constitutes the total compensation (subject to authorized adjustments) payable to the **Contractor** for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the **Contractor** shall be at the **Contractor's** expense without any change in the Contract Sum.

11.1.2. Without invalidating the Contract and without notice to any surety, the **City** may, at any time or from time to time, order additions to, deletions from, or revisions in the Work. Such additions, deletions, or revisions will be authorized by a Change Order, a Modification or a **Construction Change Directive**. Upon receipt of any such document, the **Contractor** shall promptly proceed with the Work involved that will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

11.1.3. The **Contractor** shall not be entitled to an increase in the Contract Sum or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified, or supplemented, except as otherwise provided herein.

11.2. Change Orders.

11.2.1. (*Reference:* M.G.L. c. 30, §39I;). The **Contractor** shall perform all the Work required by this Contract in

conformity with the Plans and Specifications contained herein. No willful and substantial deviation from said Plans and Specifications shall be made unless authorized in writing by the **City** and the **Design Professional** in charge of the Work who is duly authorized by the **City** to approve such deviations. In order to avoid delays in the prosecution of the Work required by such Contract, such deviation from the Plans or Specifications may be authorized by a written order of the **City** or the **Design Professional** so authorized to approve such deviation. Within thirty (30) days thereafter, such written order shall be confirmed by a certificate of the **City**, using AIA Document G701 (or its equivalent), stating: (1) If such deviation involves any substitution or elimination of materials, fixtures or equipment, the reasons why such materials, fixtures, or equipment were included in the first instance and the reasons for substitution or elimination, and, if the deviation is of any other nature, the reasons for such deviation, giving justification therefor; (2) that the specified deviation does not materially injure the Project as a whole; (3) that either the work substituted for the Work specified is of the same cost and quality, or that an equitable adjustment has been agreed upon between the **City** and the **Contractor** and the amount in dollars of said adjustment; and (4) that the deviation is in the best interest of the **City**. The Change Order shall also indicate whether or not the date of substantial completion has been extended. The equitable adjustment in price shall be determined by the unit prices, if any, in the General Contractor's bid; otherwise, it shall be a number which is agreed to by both parties as a fair adjustment and which can be itemized and substantiated to the reasonable satisfaction of the Contracting Authority. Where increases and decreases to the Contract Sum are included in one Change Order, the negotiated allowance for overhead and profit shall be calculated on the basis of the net increase, if any.

11.3. Construction Change Directive.

11.3.1. A **Construction Change Directive** shall be used in the absence of total agreement on the terms of a Change Order.

11.3.2. Upon request of the **City** or the **Design Professional**, the **Contractor** shall without cost to the **City** submit to the **Design Professional** in such form as the **Design Professional** may require, an accurate written estimate of the cost of any proposed extra work or change. The estimate shall indicate the quantity and unit cost of each item of materials, and the number of hours of work and hourly rate for each class of labor, as well as the description and amounts of all other costs chargeable under the terms of this Article. Unit labor costs for the installation of each item of materials shall be shown if required by the **Design Professional**. If required by the **Design Professional**, in order to establish the exact cost of new Work added or of previously required Work omitted, the **Contractor** shall obtain and furnish to the **Design Professional** bona fide proposals from recognized Suppliers for furnishing any material included in such Work. Such estimates shall be furnished promptly so as to occasion no delay in the Work, and shall be furnished at the **Contractor's** expense.

11.3.3. The **Contractor** shall state in the estimate any extension of time required for the completion of the Work if the change or extra Work is ordered. The **Contractor** shall document, through a critical path analysis, or some other clearly delineated explanation, how the proposed change affects other aspects of the Work, and why it would require an extension of time. The **Contractor** shall promptly revise and resubmit such estimate if the **Design Professional** determines that it is not in compliance with the requirements of this Article, or that it contains errors of fact or mathematical errors.

11.3.4. If the **Construction Change Directive** provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods, as selected by the **City**, selection of which does not require the consent of the **Contractor**:

11.3.4.1. by unit prices stated in the Contract Documents or otherwise mutually agreed upon; or

11.3.4.2. by Cost and Percentages estimated by the **Contractor** as provided herein and accepted by the **City**, whereupon the **Contractor's** estimate shall become a fixed price which shall not be changed by any variation in the actual cost of executing the Work covered by the change; or

11.3.4.3. by actual Cost determined after the Work covered by the change is completed, plus Percentage; or

11.3.4.4. by submission to arbitration or a court, which shall determine the fair value of the Work covered by the change.

11.3.5. "Cost" shall mean the estimated or actual net increase or decrease in cost to the **Contractor**, Subcontractor, or Sub-subcontractor for performing the Work covered by the change, including actual payments for materials, equipment rentals, expendable items, wages, and associated benefits to the workers and to supervisors employed full time at the Site, insurance, bonds, and other provable direct costs, but not including any administrative, accounting or expediting costs, or other indirect or overhead costs, or any wages or benefits of supervisory personnel not assigned full time to the Site, or any amount for profit or fee to the **Contractor**, Subcontractor, or Sub-subcontractor.

11.3.6. "Percentage" shall mean an allowance to be added to or subtracted from the Cost in lieu of overhead and profit and of any other expense that is not included in the Cost of the Work covered by the change, as defined above. Percentage for a Sub-subcontractor shall be 8% of any net increase or decrease of Cost of any Work performed by the Sub-subcontractor's own forces plus 4% of any net increase or decrease in Cost of any Work performed for the Sub-subcontractor by lower tier Sub-subcontractors. Percentage for a Subcontractor shall be 12% of any net increase or decrease of Cost of any Work performed

by the Subcontractor's own forces plus 4% of the Cost of Work performed by Sub-subcontractors. Percentage for the **Contractor** shall be 15% of any net increase or decrease of Cost of any Work performed by the **Contractor's** own forces plus 5% of any net increase or decrease in the Cost for all other Work covered by the change. When the **Contractor** is also performing Work as a Subcontractor or Sub-subcontractor, the **Contractor** shall only be entitled to a total of no more than 15% of any net increase or decrease of Cost of any Work.

11.3.7. When in the reasonable judgment of the **Design Professional** a series of **Construction Change** Directives or Change Orders effect a single change, Percentage shall be calculated on the cumulative net increase or decrease in Cost, if any.

11.3.8. If unit prices are stated in the Contract Documents or are subsequently agreed upon, and if quantities originally contemplated are so changed in a Proposed Change Order or **Construction Change** Directive that the application of such unit prices to quantities of Work proposed will cause substantial inequity to the **City** or the **Contractor**, the applicable unit prices shall be equitably adjusted. Wherever the estimated quantities of work to be done and materials to be furnished under this contract are shown in any of the documents including the proposal, they are given for use in comparing bids and the right is especially reserved herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) to complete the work contemplated by the contract, nor shall any such increases or diminution shall in no way violate this contract, nor shall any such increase or diminution give cause for claims or liability for damages.

11.3.9. If the **City** elects to determine the Cost of the Work as provided in method (11.3.4.1) using unit prices stated in the Contract Documents or subsequently agreed upon, the unit prices shall be subject to the prior paragraph. Notwithstanding the inclusion of unit prices in the Contract Documents, it shall be the **City's** option to require the Cost of any given change to be determined by one of the other methods stated in 11.3.4. If the **City** elected to determine the Cost of the change by unit prices and the nature of the work is such that its extent cannot readily be measured after the completion of such work or any subsequent Work, the **Contractor** shall keep daily records, available at all times to the **Design Professional** for inspection, of the actual quantities of such Work put in place, and delivery receipts or other adequate evidence, acceptable to the **Design Professional**, indicating the quantities of materials delivered to the Site for use in such unit price Work, and distinguishing such from other similar material delivered for use in Work include in the base Contract Sum. If so required by the **Design Professional**, materials for use in unit price Work shall be stored apart from all other materials on the Project.

11.3.10. If the **City** elects to determine the Cost of the Work as provided in methods 11.3.4.3. or 11.3.4.4. or if the method of determining the Cost has not been established before the Work is begun, the **Contractor** shall keep detailed daily records of labor and material costs applicable to the Work.

11.3.11. Upon receipt of a **Construction Change** Directive, the **Contractor** shall promptly proceed with the change in the Work involved and advise the **Design Professional** in writing of the **Contractor's** agreement or disagreement with the method, if any, provided in the **Construction Change** Directive for determining the proposed adjustment in the Contract Time.

11.3.12. A **Construction Change** Directive signed by the **Contractor** indicates the agreement of the **Contractor** therewith, including adjustment in the Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

11.3.13. If the **Design Professional** and the **Contractor** do not agree with the adjustment in the Contract Time or the method for determining it, the adjustment or the method shall be referred to the **Design Professional** for determination.

11.4. Minor Changes in the Work.

11.4.1. The **Design Professional** has the authority to order minor changes in the Work. "Minor changes" as used in this paragraph mean changes which are so insignificant as to not affect the Contract Sum or the Contract Time and which are not inconsistent with the intent of the Contract Documents. Any minor change shall be committed to a written order which shall be binding on both the **City** and the **Contractor** and which shall be promptly carried out by the **Contractor**.

11.5. Certificate of Appropriations. (*Reference:* M.G.L. c. 44, §31C;). This Contract shall not be deemed to have been made until the **City's** auditor has certified thereon that an appropriation in the amount of this Contract is available therefor and that an officer or agent of the **City** has been authorized to execute said Contract and approve all requisitions and change orders. No order to the **Contractor** for a change in or addition to the Work, whether in the form of a drawing, plan, detail or any other written instruction, unless it is an order which the **Contractor** is willing to perform without any increase to the Contract price, shall be deemed to be given until the auditor has certified thereon that an appropriation in the amount of such order is available therefore; but such certificate shall not be construed as an admission by the **City** of its liability to pay for such work. The certificate of the auditor that an appropriation in the amount of this Contract or in the amount of such order is available shall bar any defense by the **City** on the grounds of insufficient appropriation.

ARTICLE 12 CHANGE IN THE CONTRACT TIME

12.1. Date of Commencement.

12.1.1 The date of commencement of the Work is the date established in the Notice to Proceed. The date shall not be postponed by the failure to act of the **Contractor** or persons or entities for whom the **Contractor** is responsible.

12.2. Progress and Completion.

12.2.1. Time is of the essence; all time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the **Contractor** confirms that the Contract Time is a reasonable period for performing the Work.

12.2.2. The **Contractor** shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

12.2.3. At least ten (10) working days after the Notice to Proceed or twenty (20) working days before the first application for payment, the **Contractor** shall submit to the **Design Professional** a progress schedule showing for each class of Work included in the schedule of values, the percentage of completion to be obtained and the total dollar value of Work to be completed as of the first of each month until Substantial Completion. All calculations shall be on the basis of Work in place, but may include, at the **Design Professional's** discretion, the value of materials delivered but not in place.

12.2.4. The progress schedule shall be based on an orderly progression of the Work, allowing adequate time for each operation (including adequate time for submission and review of submittals), and leading to a reasonable certainty of Substantial Completion by the date established in the Agreement. The progress schedule will be reviewed by the **Design Professional** for compliance with the requirements of this Article and will be accepted by the **Design Professional** or returned to the **Contractor** for revision and resubmittal. Unless specifically required by law, no payment under this Contract shall be due until the progress schedule has been approved by the **Design Professional**. The **Design Professional's** review of the progress schedule shall not impose any duty on the **Design Professional** or the **City** with respect to the timing, planning, scheduling, or execution of the Work. In particular, if the **Contractor** proposes a progress schedule indicating a date of Substantial Completion which is earlier than the Contract Time, the **Contractor** shall not be entitled to additional payment or compensation of any kind if, for any reason, the full Contract Time is required to achieve Substantial Completion of the Work.

12.2.5. If in any Application for Payment, the total value of the completed Work in place, as certified by the **Design Professional**, is less than 90% of the total value of the Work in place estimated in the progress schedule, the **City** may, at the **City's** option, require the **Contractor** to accelerate the progress of the Work without cost to the **City** by increasing the workforce or hours or Work or by other reasonable means approved by the **Design Professional**.

12.2.6. If each of three successive applications, as certified by the **Design Professional**, indicate that the actual Work completed is less than 90% of the values estimated in the progress schedule to be completed by the respective dates, the **City** may at the **City's** option, treat the **Contractor's** delinquency as a default justifying the action permitted under Article 18.

12.2.7. If the **Design Professional** has determined that the **Contractor** should be permitted to extend the time for completion as provided below, the calendar dates in the progress schedule shall be adjusted accordingly to retain their same relationship to the adjusted date of Substantial Completion, and the dollar value of the Work to be completed as of the first of each month shall be adjusted pro rata.

12.2.8. If the **Contractor** fails to submit any application for payment in any month, the **Design Professional** shall, for the purpose of this evaluation of progress, certify separately to the actual value of the Work in place completed as of the first of the month to the best of the **Design Professional's** knowledge.

12.2.9. Nothing herein shall limit the **City's** right to liquidated or other damages for delays by the **Contractor** or to any other remedy which the **City** may be entitled or may possess under other provisions of the Contract Documents or by law.

12.3. Delays and Extensions of Time.

12.3.1. If the **Contractor** is delayed at any time in the progress of the Work by an act or neglect of the **City** or the **Design Professional**, or of an employee of either, or of a separate contractor employed by the **City**, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, or other causes (except weather) beyond the **Contractor's** control, or by delay authorized by the **City**, or by other causes which the **Design Professional** determines may justify delay, then the Contract Time shall be extended by Change Order or **Construction Change Directive** for such reasonable time as the **Design Professional** may determine.

12.3.2. Claims relating to time shall be made in accordance with applicable provisions of Article 16.

12.3.3. No claim for extension of time shall be allowed on account of failure of the **Design Professional** to furnish Plans, Specifications or instructions or to return Shop Drawings or Samples until fifteen (15) days after receipt by the **Design Professional** by registered or certified mail of written demand for such instructions, Plans, Specifications, or Samples, and then not unless such claim is reasonable.

12.3.4. No extensions of time shall be granted because of seasonal or abnormal variations in temperature, humidity or precipitation, which conditions shall be wholly at the risk of the **Contractor**, whether occurring within the time originally scheduled for completion or within the period of any extension granted. There shall be no increase in the Contract Sum on

account of any additional costs of operations or conditions resulting therefrom.

12.3.5. The **Contractor** hereby agrees that the **Contractor** shall have no claim for damages of any kind against the **City** or the **Design Professional** on account of any delay in the commencement of the Work and/or any hindrance, delay, or suspension of any portion of the Work, whether such delay is caused by the **City**, the **Design Professional**, or otherwise, except as and to the extent expressly provided under M.G.L. c. 30, §390, in the case of written orders by the **City**. The **Contractor** acknowledges that the **Contractor's** sole remedy for any such delay and/or suspension will be an extension of time as provided in this Article.

12.3.6. (*Reference: M.G.L. c. 30, §390;*). (a) The **City** may order the **Contractor** in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as it may determine to be appropriate for the convenience of the **City**, provided however that if there is a suspension, delay, or interruption for fifteen (15) days or more due to a failure of the **City** to act within the time specified in this Contract, the **City** shall make an adjustment in the Contract prices for any increase in the cost of performance of this Contract under this provision for any suspension, delay, interruption, or failure to act to the extent that such is due to any cause for which this Contract provides for an equitable adjustment of the Contract price under any other Contract provisions.

(b) The **Contractor** must submit the amount of a claim under provision (a) to the **City** in writing as soon as practicable after the end of the suspension, delay, interruption, or failure to act and, in any event, not later than the date of final payment under this Contract and, except for costs due to a suspension order, the **City** shall not approve any costs in the claim incurred more than twenty (20) days before the **Contractor** notified the **City** in writing of the act or a failure to act involved in the Claim.

In the event a suspension, delay, interruption, or failure to act of the **City** increases the cost of performance to any Subcontractor, that Subcontractor shall have the same rights against the **Contractor** for payment for an increase in the cost of its performance as provisions (a) and (b) give the **Contractor** against the **City**, but nothing in provisions (a) and (b) shall in any way change, modify, or alter any other rights which the **Contractor** or the Subcontractor may have against each other.

12.4. Liquidated Damages.

12.4.1. If the **Contractor** shall fail to achieve Substantial Completion within the Contract Time, it shall be liable to pay the **City** the daily amount specified in the Agreement, not as a penalty, but as a fixed and agreed upon damages for breach of contract. The said amount is fixed and agreed upon because of the difficulty of ascertaining the **City's** actual damages. It is mutually understood that the said amount is a reasonable approximation or estimate thereof as of the date of the Agreement. The **City** may elect to withhold said amount from periodic or final payments due to the **Contractor**, in addition to retainage and other back charges.

12.5. Changes in the Contract Time.

12.5.1. In Writing. The Contract Time may only be changed by a Change Order or a Modification. Any claim for an adjustment of the Contract Time shall be based on a written notice delivered to the party making the claim to the other party and to the **Design Professional** promptly (but in no event later than seven (7) days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within thirty (30) days after such occurrence and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by the **Design Professional** in accordance with Article 16. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph.

12.5.2. Early Completion. The Contract Time shall not be changed due to a delay in the **Contractor's** early completion date.

ARTICLE 13 PAYMENTS

13.1. Schedule of Values.

13.1.1. The **Contractor** shall submit to the **Design Professional** a schedule of values which shall subdivide the Work into its component parts and shall include quantities, direct craft labor worker hours, labor cost and material/equipment cost. Labor cost shall include an appropriate amount of construction equipment costs, supplemental costs, administrative expenses, contingencies, and profit. The **Contractor** shall prepare the schedule of values in such form and supported by such data to substantiate its accuracy as the **Design Professional** may require and shall be revised if later found by the **Design Professional** to be inaccurate. This schedule, unless objected to by the **Design Professional**, shall be used as a basis for reviewing the **Contractor's** applications for payment.

13.2. Content and Submission of Applications for Payment.

13.2.1. At least ten (10) days before the date established for each progress payment, the **Contractor** shall submit to the **Design Professional** six (6) copies of an itemized application for payment for Work completed in accordance with the schedule of values. Such application shall be in a form or format established or approved by the **Design Professional** and shall be supported by documentation substantiating the **Contractor's** right to payment.

13.2.2. When **Construction Change** Directives have set forth an adjustment to the Contract Sum but have not yet been included in Change Orders, the value established by the **City** may be included in the application.

13.2.3. Applications covering Work of Subcontractors or Suppliers shall not include requests for payments of amounts the **Contractor** does not intend to pay to a Subcontractor or Supplier because of a dispute or other reason. The **Contractor** shall not be paid for any Work performed by a Subcontractor unless and until the **City** receives for that Subcontractor a certificate of insurance that conforms to the requirements of the Contract Documents .

13.2.4. Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the Site for subsequent incorporation in the Work. If approved in advance by the **City**, payment may similarly be made for materials and equipment suitably stored off the Site at a location agreed upon in writing. Payment for materials and equipment stored on or off the Site shall be conditioned upon the application for payment being accompanied by a bill of sale, an invoice, or other documentation warranting that the **City** has received the materials and equipment free and clear of all liens, claims, security interests, or encumbrances, hereinafter collectively referred to as "liens," and evidence that the materials and equipment are covered by appropriate insurance and other arrangements to protect the **City's** interest therein.

13.2.5. Each application for payment or periodic estimate requesting payment shall be accompanied by, at the **City's** option, a certificate from each Subcontractor stating that the Subcontractor has been paid all amounts due the Subcontractor on the basis of the previous periodic payment to the **Contractor**, or else stating the amount not so paid and the reason for the discrepancy. In the event of any such discrepancy, the **Contractor** shall furnish the **Contractor's** own written explanation to the **City** through the **Design Professional**. Such waiver or certificate shall be in a form acceptable to the **City**.

13.3. False Applications for Payment.

13.3.1. (*Reference:* M.G.L. c. 266, §§67B). Any person who makes or presents to any claim upon or against any employee or department of the **City**, knowing such claim to be false, fictitious, or fraudulent shall be punished by a fine or not more than ten thousand dollars (\$10,000) or by imprisonment in the state prison for not more than five (5) years, or in the house of correction for not more than two and one-half years, or both.

13.4. Review of Applications for Payment.

13.4.1. The **Design Professional** shall review each application for payment and will reject any application that (1) is not accompanied by the required documentation or (2) contains errors, mathematical or otherwise.

13.4.2. Within five (5) business days after receipt of an application for payment, the **Design Professional** will either (1) return the application to the **Contractor** with a written explanation as to why it was rejected or (2) issue to the **City** a certificate for payment, with a copy to the **Contractor**, for such amount as the **Design Professional** determines is properly due. In the event an application is returned to the **Contractor**, the date of receipt of the application shall be the date of receipt of the corrected application.

13.4.3. The **Design Professional** or the **City** may make changes to any application submitted by the **Contractor**.

13.4.4. By recommending any payment, the **Design Professional** will not thereby be deemed to have represented that: (1) exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to the **Design Professional** in the Contract Documents or (2) that there may not be other matters or issues between the parties that might entitle the **Contractor** to be paid additionally by the **City** or entitle the **City** to withhold payment to the **Contractor**. The **Design Professional's** approval of the application for payment and the accompanying documentation shall indicate that to the best of the **Design Professional's** knowledge, information, and belief, the Work has progressed to the point indicated by the **Contractor**, and that the quality of the Work is in accordance with the Contract Documents, subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests specified in the Contract Documents, final determination of quantities and classifications for unit price work and any other qualifications so stated.

13.4.5. The **Design Professional's** recommendation of any payment shall not mean that the **Design Professional** is responsible for the **Contractor's** means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the **Contractor** to comply with laws and regulations applicable to the furnishing or performance of Work, or for any failure of the **Contractor** to perform or furnish Work in accordance with the Contract Documents.

13.4.6. No certificate given or payment made shall be evidence of the performance of this Contract, either wholly or in part and no payment, whether made upon the final certificate or otherwise, shall be construed as an acceptance of defective work

or materials.

13.5. Decisions to Withhold Certification.

13.5.1. The **Design Professional** may refuse to recommend the whole or any part of any payment if, in the **Design Professional's** opinion, it would be incorrect to make the representations to the **City** referred to above.

13.5.2. If the **Contractor** and the **Design Professional** cannot agree on a revised amount, the **Design Professional** will promptly approve a certificate for payment for the amount for which the **Design Professional** is able to make such representations to the **City**. The **Design Professional** may also decide not to certify payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a certificate for payment previously issued, to such extent as may be necessary in the **Design Professional's** opinion to protect the **City** from loss because of:

13.5.2.1. defective Work not remedied;

13.5.2.2. third party claims filed or reasonable evidence indicating probable filing of such claims;

13.5.2.3. failure of the **Contractor** to make payments properly to Subcontractors or for labor, materials or equipment;

13.5.2.4. reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

13.5.2.5. damage to the **City** or another contractor;

13.5.2.6. reasonable evidence that the Work will not be completed within the Contract Time, and that retainage currently held by the **City** would not be adequate to cover actual or liquidated damage for the anticipated delay;

13.5.2.7. persistent failure to carry out the Work in accordance with the Contract Documents; or

13.5.2.8. failure of mechanical trade or electrical trade subcontractors to comply with mandatory requirements for maintaining record drawings. The **Contractor** shall check record drawings each month. Written confirmation that the record drawings are current will be required by the **Design Professional** before approval of the **Contractor's** monthly payment requisition.

13.5.3. When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

13.6. Progress Payments.

13.6.1. After the **Design Professional** has issued a certificate for payment, the **City** shall make payment in the manner and within the time provided in the Contract Documents.

13.6.2. (*Reference: M.G.L. c. 30, §39G, 39K;*). In the case of Contracts for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building when the amount is more than two thousand dollars, the following paragraph applies: Within fifteen days (30 days in the case of the commonwealth, including local housing authorities) after receipt from the contractor, at the place designated by the awarding authority if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the awarding authority will make a periodic payment to the contractor for the work performed during the preceding month and for the materials not incorporated in the work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority, upon certification by the contractor that he is the lawful owner and that the materials are free from all encumbrances, but less (1) a retention based on its estimate of the fair value of its claims against the contractor and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, and less (3) a retention not exceeding five per cent of the approved amount of the periodic payment. After the receipt of a periodic estimate requesting final payment and within sixty-five days after (a) the contractor fully completes the work or substantially completes the work so that the value of the work remaining to be done is, in the estimate of the awarding authority, less than one per cent of the original contract price, or (b) the contractor substantially completes the work and the awarding authority takes possession for occupancy, whichever occurs first, the awarding authority shall pay the contractor the entire balance due on the contract less (1) a retention based on its estimate of the fair value of its claims against the contractor and of the cost of completing the incomplete and unsatisfactory items of work and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, or based on the record of payments by the contractor to the subcontractors under this contract if such record of payment indicates that the contractor has not paid subcontractors as provided in section thirty-nine F. If the awarding authority fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate than charged by the Federal Reserve Bank of Boston commencing on the first day after said payment is due and continuing until the payment is delivered or mailed to the contractor; provided, that no interest shall be due, in any event, on the amount due on a periodic estimate for final payment until fifteen days (twenty-four days in the case of the commonwealth) after receipt of such a periodic estimate from the contractor, at the place designated by

the awarding authority if such a place is so designated. The contractor agrees to pay to each subcontractor a portion of any such interest paid in accordance with the amount due each subcontractor.

For all other construction contracts, progress payments are governed by chapter 30, §39G, and as follows: The **City** shall pay the amount due pursuant to any periodic, Substantial Completion or final estimate within thirty-five (35) days after receipt of written acceptance for such estimate from the **Contractor**. In the case of periodic payments, the **City** may deduct from its payment a retention based on its estimate of the fair value of its claims against the **Contractor**, a retention for direct payments to Subcontractors based on demands for same in accordance with M.G.L. c. 30, §39F; and a retention to secure satisfactory performance of the contractual work, not exceeding five percent (5%) of the approved amount of any periodic payment, and the same right to retention shall apply to bonded Subcontractors entitled to direct payment under M.G.L. c. 30, §39F; provided, that a five percent (5%) value of all items that are planted in the ground shall be deducted from the periodic payments until final acceptance.

Retainage prior to Substantial Completion. In all construction contracts, the City may hold back a retainage of up to five percent of each progress payment to ensure satisfactory completion of the work. In addition, the City may withhold any amounts in dispute, including disputed change orders and direct payments owed to subcontractors pursuant to Chapter 30, §39F of the General Laws.

Payment upon Substantial Completion. In the case of contracts for construction, reconstruction, alteration, repair, remodeling, or demolition of a public building, where the amount is more than \$2,000, Chapter 30, Section 39K, of the General Laws governs payment upon substantial completion. For all other contracts, Chapter 30, Section 39F of the General Laws governs payment upon substantial completion.

13.6.3. No periodic, Substantial Completion or final estimate or acceptance or payment thereof shall bar the **Contractor** from reserving all rights to dispute the quantity and amount of, or the failure of the **City** to approve a quantity and amount of, all or part of any Work item or extra Work item.

13.7. Final Payment.

13.7.1. After final inspection and after the **Contractor** has completed all the required corrections to the satisfaction of the **Design Professional** and the **City** and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, bonds, certificates, or other evidence of insurance, certificates of inspection, marked-up record documents, and all other documents called for in the Contract Documents, as well as any surplus materials requested by the **City**, the **Contractor** may make an application for final payment as provided below.

13.7.2. (*Reference:* M.G.L. c. 30, §39G;). Within thirty (30) days after receipt by the **City** of a notice from the **Contractor** stating that all of the Work required by the Contract has been completed, the **City** shall prepare and forthwith send to the **Contractor** for acceptance a final estimate for the quantity and price of the Work done and all retainage on the Work less all payments made to date, unless the **City's** inspection shows that Work required by the Contract remains incomplete or unsatisfactory, or that documentation required by the Contract has not been completed.

13.7.3. The making and acceptance of final payment will constitute a waiver of all claims by the **Contractor** against the **City** other than those previously made in writing and still unsettled.

13.7.4. Interest. If the City fails to pay the Contractor within the time periods mandated by statute, the City shall pay interest to the Contractor in accordance with Chapter 30, Sections 39G and 39K, whichever is applicable.

13.8. Payments to Subcontractors.

13.8.1. Neither the **City** nor the **Design Professional** shall have an obligation to pay or see to the payment of money to a Subcontractor, Sub-subcontractor, or Supplier except as may otherwise be required by law.

13.8.2. (*Reference:* M.G.L. c. 30, §39F;). (1) Every contract awarded pursuant to sections forty-four A to L, inclusive, of chapter one hundred and forty-nine shall contain the following subparagraphs (a) through (i) and every contract awarded pursuant to section thirty-nine M of chapter thirty shall contain the following subparagraphs (a) through (h) and in each case those subparagraphs shall be binding between the general contractor and each subcontractor.

(a) Forthwith after the **Contractor** receives payment on account of a periodic estimate, the **Contractor** shall pay to each Subcontractor the amount paid for the labor performed and the materials furnished by that Subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the **Contractor**.

(b) Not later than the sixty-fifth day after each Subcontractor substantially completes its Work in accordance with the Plans and Specifications, the entire balance due under the subcontract, less amounts retained by the **City** as the estimated cost of completing the incomplete and unsatisfactory items of Work, shall be due the Subcontractor; and the **City** shall pay that amount to the **Contractor**. The **Contractor** shall forthwith pay to the Subcontractor the full amount received from the **City** less any amount specified in any court proceeding barring such payment and also less any amount claimed due from the Subcontractor by the **Contractor**.

(c) Each payment made by the **City** to the **Contractor** pursuant to paragraphs (a) and (b) of M.G.L. c. 30, §39F(1);, for the labor performed and the materials furnished by a Subcontractor shall be made to the **Contractor** for the account of that Subcontractor; and the **City** shall take reasonable steps to compel the **Contractor** to make each such payment to each such Subcontractor. If the **City** has received a demand for direct payment from a Subcontractor for any amount which has already been included in a payment to the **Contractor** or which is to be included in a payment to the **Contractor** for payment to the Subcontractor as provided in paragraphs (a) and (b) of M.G.L. c. 30, §39F(1), the **City** shall act upon the demand as provided in M.G.L. c. 30, §39F.

(d) If, within seventy (70) days after the Subcontractor has substantially completed the subcontract Work, the Subcontractor has not received from the **Contractor** the balance due under the subcontract including any amount due for extra labor and materials furnished to the **Contractor**, less any amount retained by the **City** as the estimated cost of completing the incomplete and unsatisfactory items of Work, the Subcontractor may demand direct payment of that balance from the **City**. The demand shall be by a sworn statement delivered to or sent by certified mail to the **City**, and a copy shall be delivered to or sent by certified mail to the **Contractor** at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of completion of the subcontract Work. [The demand letter shall indicate the certified mail number assigned by the postal service or the date of delivery to the **Contractor**.] Any demand made after substantial completion of the subcontract Work shall be valid even if delivered or mailed prior to the seventieth day after the Subcontractor has substantially completed the subcontract Work. Within ten (10) days after the Subcontractor has delivered or so mailed the demand to the **City** and delivered or so mailed a copy to the **Contractor**, the **Contractor** may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the **City**, and a copy shall be delivered to or sent by certified mail to the Subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the **Contractor** and of the amount due for each claim made by the **Contractor** against the Subcontractor.

(e) Within fifteen (15) days after receipt of the demand by the **City**, but in no event prior to the seventieth day after substantial completion of the subcontract Work, the **City** shall make direct payment to the Subcontractor of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the **Contractor**, less any amount (i) retained by the **City** as the estimated cost of completing the incomplete or unsatisfactory items of Work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the **Contractor** in the sworn reply; provided that the **City** shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to or for which the sworn reply does not contain the detailed breakdown required by the previous paragraph. The **City** shall make further direct payments to the Subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this paragraph.

(f) The **City** shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of the previous paragraph in an interest-bearing joint account in the names of the **Contractor** and the Subcontractor in a bank in Massachusetts selected by the **City** or agreed upon by the **Contractor** and the Subcontractor and shall notify the **Contractor** and the Subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the **Contractor** and the Subcontractor or as determined by decree of a court of competent jurisdiction.

(g) All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to the previous paragraph shall be made out of amounts payable to the **Contractor** at the time of receipt of a demand for direct payment from a Subcontractor and out of amounts which later become payable to the **Contractor** and in the order of receipt of such demands from Subcontractors. All direct payments shall discharge the obligation of the **City** to the **Contractor** to the extent of such payment.

(h) The **City** shall deduct from payments to a **Contractor** amounts that, together with the deposits in interest-bearing accounts pursuant to paragraph (f), are sufficient to satisfy all unpaid balances of demands for direct payment received from Subcontractors. All such amounts shall be earmarked for such direct payments, and the Subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the **Contractor**.

(i) If the Subcontractor does not receive payment as provided in paragraph (a) or if the **Contractor** does not submit a periodic estimate for the value of the labor or materials performed or furnished by the Subcontractor and the Subcontractor does not receive payment for same when due less the deductions provided for in paragraph (a), the Subcontractor may demand direct payment by following the procedure in paragraph (d) and the **Contractor** may file a sworn reply as provided in that same paragraph. A demand made after the first day of the month following that for which the Subcontractor performed or furnished the labor and materials for which the Subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the **Contractor**. Thereafter the **City** shall proceed as provided in paragraphs (e), (f), (g), and (h). “Subcontractor” as used in this

paragraph (1)(i) shall mean a person approved by the **City** in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the **Contractor**.

(2) Any assignment by a Subcontractor of the rights under this section to a surety company furnishing a bond under the provisions of M.G.L. c. 149, §29; shall be invalid. The assignment and subrogation rights of the surety to amounts included in a demand for direct payment which are in the possession of the **City** or which are on deposit pursuant to paragraph (g) shall be subordinate to the rights of all Subcontractors who are entitled to be paid under this section and who have not been paid in full.

(3) A **Contractor** or a Subcontractor shall enforce a claim to any portion of the amount of a demand for direct payment deposited as provided in herein by a petition in equity in the superior court against the other and the bank shall not be a necessary party. A Subcontractor shall enforce a claim for direct payment or a right to require a deposit as provided in paragraph (f) by a petition in equity in the superior court against the **City** and the **Contractor** shall not be a necessary party. Upon motion of any party the court shall advance for speedy trial any petition filed as provided in this paragraph. M.G.L. c. 231, §§59 and 59B shall apply to such petitions. The court shall enter an interlocutory decree upon which execution shall issue for any part of a claim found due pursuant to §§59 and 59B and, upon motion of any party, shall advance for speedy trial the petition to collect the remainder of the claim. Any party aggrieved by such interlocutory decree shall have the right to appeal therefrom as from a final decree. The court shall not consolidate for trial the petition of any Subcontractor with the petition of one or more Subcontractors or the same general contract unless the court finds that a substantial portion of the evidence of the same events during the course of construction (other than the fact that the claims sought to be consolidated arise under the same general contract) is applicable to the petitions sought to be consolidated and that such consolidation will present unnecessary duplication of evidence. A decree in any such proceeding shall not include interest on the disputed amount deposited in excess of the interest earned for the period of any such deposit. No person except a Subcontractor filing a demand for direct payment for which no funds due the **Contractor** are available for direct payment shall have a right to file a petition in court of equity against the **City** claiming a demand for direct payment is premature, and such Subcontractor must file the petition before the **City** has made a direct payment to the Subcontractor and has made a deposit of the disputed portion as provided in part (iii) of paragraph (e) and in paragraph (f).

(4) In any petition to collect any claim for which a Subcontractor has filed a demand for direct payment the court shall, upon motion of the **Contractor**, reduce by the amount of any deposit of a disputed amount by the **City** as provided in part (iii) of paragraph (e) and in paragraph (f) any amount held under a trustee writ or pursuant to a restraining order or injunction.

ARTICLE 14 SUBSTANTIAL COMPLETION

14.1. Substantial Completion.

14.1.1. Upon Substantial Completion of the Work, the **Contractor** shall present in writing to the **City** its certification that the Work has been substantially completed and include in its certification (1) a list of items to be completed or corrected, (2) all special warranties required by the Contract Documents, endorsed by the **Contractor** and in a form reasonably acceptable to the **Design Professional** and (3) the permits and certificates referred to in 13.7.1., or elsewhere. The failure to include any item on the list mentioned in the preceding sentence does not alter the responsibility of the **Contractor** to complete all Work in accordance with the Contract Documents. When the **Design Professional** on the basis of an inspection determines that the Work or designed portion thereof is substantially complete and the other conditions have been met, the **Design Professional** will then prepare a certificate of Substantial Completion which shall establish the date of Substantial Completion, shall state the responsibilities of the **City** and the **Contractor** for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the **Contractor** shall complete the items listed therein. The certificate of Substantial Completion shall be submitted to the **City** and the **Contractor** for their written acceptance of the responsibilities assigned to them in such certificate.

14.1.2. Within twenty-one (21) days after receipt of the certification from the **Contractor**, the **City** shall present to the **Contractor** either a written declaration that the Work has been substantially completed or an itemized list of incomplete or unsatisfactory work items required by the Contract sufficient to demonstrate that the Work has not been substantially completed. The **City** may include with such list a notice setting forth a reasonable time within which the **Contractor** must achieve Substantial Completion of the Work. If the **City** fails to respond, by presentation of a written declaration or itemized list as aforesaid, to the **Contractor's** certification within the twenty-one (21) day period, the **Contractor's** certification shall take effect as the **City's** declaration that the Work has been substantially completed.

14.2. Partial Use or Occupancy of the Premises.

14.2.1. The **City** may occupy or use any completed or partially completed portion of the Work at any stage. Such

partial occupancy or use may begin whether or not the portion is substantially complete, provided that the respective responsibilities of the **City** and the **Contractor** with respect to payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work, insurance, correction of the Work, and warranties shall be established by agreement of the **City** and the **Contractor** or, absent such agreement, shall be determined by the **Design Professional** subject to the right of either party to contest such determination as provided in Article 16.

14.2.2. Immediately prior to such partial occupancy or use, the **City**, the **Contractor** and the **Design Professional** shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

14.2.3. Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

14.2.4. (*Reference:* M.G.L. c. 30, §39G;). Within sixty-five (65) days after the effective date of a declaration of Substantial Completion, the **City** shall prepare and send to the **Contractor** for acceptance a Substantial Completion estimate for the quantity and price of the Work done and all but one percent (1%) retainage on that Work, including the quantity, price and all but one percent (1%) retainage for the undisputed part of each item and extra work item in dispute, but excluding the disputed part thereof, less the estimated cost of completing all incomplete and unsatisfactory items and less the total periodic payments made to date for the Work. The **City** shall also deduct from the Substantial Completion estimate an amount equal to the sum of all demands for direct payment filed by Subcontractors and not yet paid to Subcontractors or deposited in joint accounts pursuant to M.G.L. c. 30, §39F.

14.2.5. (*Reference:* M.G.L. c. 30, §39G). If the **City** fails to prepare and send to the **Contractor** any Substantial Completion estimate required by the provisions herein on or before the date specified, the **City** shall pay to the **Contractor** interest on the amount which would have been due to the **Contractor** pursuant to such Substantial Completion estimate at the rate of three (3) percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston from such date to the date on which the **City** sends that Substantial Completion estimate to the **Contractor** for acceptance or to the date of payment therefor, whichever occurs first. The **City** shall include the amount of such interest in the Substantial Completion estimate.

14.2.6. (*Reference:* M.G.L. c. 30, §39G). Within fifteen (15) days after the effective date of the declaration of Substantial Completion, the **City** shall send to the **Contractor** by certified mail, return receipt requested, a complete list of all incomplete or unsatisfactory items, and unless delayed by causes beyond its control, the **Contractor** shall complete all such items within forty-five (45) days after the receipt of such list or before the date for final payment and acceptance, whichever is later. If the **Contractor** fails to complete such Work within such time, the **City** may, subsequent to seven (7) days' written notice to the **Contractor** by certified mail, return receipt requested, terminate the Contract and complete the incomplete or unsatisfactory items and charge the cost of same to the **Contractor**.

14.3. Final Inspection.

14.3.1. Upon written notice from the **Contractor** that the entire Work or an agreed portion thereof is complete, the **Design Professional** will make a final inspection with the **City** and the **Contractor** and will notify the **Contractor** in writing of all particulars which this inspection reveals that the Work is incomplete or defective. The **Contractor** shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

ARTICLE 15 GUARANTEES AND WARRANTIES

15.1. In General.

15.1.1. All guarantees and warranties specifically called for by the Specifications shall expressly run to the benefit of the **City**. Neither the final certificate of payment nor any provision in the Contract Documents, nor partial or entire occupancy of the premises by the City shall constitute any acceptance of work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final acceptance of the work unless a longer period is specified. CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) will give notice of observed defects with reasonable promptness.

15.2. Warranties.

15.2.1. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof, unless otherwise provided in the certificate of Substantial Completion.

15.2.2. The **Contractor** warrants that the materials and equipment furnished under the Contract will be new and of recent manufacture unless otherwise specified, and that all Work will be of good quality, free from faults and defects, and in

conformance with the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The **Contractor's** warranty excludes remedy for damage or defect caused by abuse, Modifications not executed by the **Contractor**, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. If required by the **Design Professional**, the **Contractor** shall furnish satisfactory evidence as to the kind and quality of material and equipment.

15.2.3. The **Contractor** warrants that title to all Work covered by an application for payment will pass to the **City** either by incorporation in the construction or upon the receipt of payment by the **Contractor**, whichever occurs first, free and clear of all liens. The **Contractor** further agrees that the submission of any application for payment shall conclusively be deemed to waive all liens with respect to said Work to which the **Contractor** may then be entitled, provided that such waiver of the lien rights shall not waive the **Contractor's** right to payment for such Work.

15.2.4. The **Contractor** warrants and guarantees that title to all Work, materials, and equipment covered by any application for payment, whether incorporated in the Project or not, will pass to the **City** no later than the time of payment free and clear of all liens.

15.2.5. No materials or supplies for the Work shall be purchased by the **Contractor** or Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The **Contractor** warrants that it has good title to all materials and supplies used by it in the Work, free from all liens.

15.2.6. The **Contractor** shall indemnify and hold the **City** harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workers, mechanics, material persons, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this Contract. The **Contractor** shall at the **City's** request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If the **Contractor** fails to do so, then the **City** may, after having served written notice on the **Contractor** either pay unpaid bills, of which the **City** has written notice, direct, or withhold from the **Contractor's** unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the **Contractor** shall be resumed, in accordance with the terms of this Contract, but in no event shall the provisions of this sentence be construed to impose any obligations on the **City** to either the **Contractor** or its surety. In paying any unpaid bills of the **Contractor**, the **City** shall be deemed the agent of the **Contractor** and any payment so made by the **City** shall be considered as payment made under the Contract by the **City** to the **Contractor** and the **City** shall not be liable to the **Contractor** for any such payment made in good faith.

15.3. Extended Warranties and Guarantees.

15.3.1. Any defective Work that is either corrected or replaced will be warranted and guaranteed for a period of three (3) years from the date of such correction or replacement.

ARTICLE 16 CLAIMS

16.1. In General.

16.1.1. Written Notice. A Claim must be made by written notice to the other party.

16.1.2. Content of Notice. The notice must include all written supporting data.

16.1.3. Burden of Proof. The party making the Claim must substantiate the Claim.

16.2. Time Limits on Claims.

16.2.1. Unless otherwise provided, all Claims must be made within twenty-one (21) days after the occurrence of the event giving rise to such Claim or within twenty-one (21) days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Any change or addition to a previously made Claim shall be made by a written notice within the twenty-one-day period in order to be valid.

16.3. Continuing Contract Performance.

16.3.1. Pending final resolution of a Claim including arbitration, unless otherwise agreed in writing, the **Contractor** shall proceed diligently with performance of the Contract and the **City** shall continue to make payments in accordance with the Contract Documents.

16.4. Types of Claims.

16.4.1. Claims for Differing Subsurface or Latent Physical Conditions. (*Reference: M.G.L. c. 30, §39N;*). If, during the progress of the Work, the **Contractor** or the **City** discovers that the actual subsurface or latent physical conditions encountered at the Site differ substantially or materially from those shown on the Plans or indicated in the Contract Documents, either the **Contractor** or the **City** may request an equitable adjustment in the Contract Sum of the Contract applying to Work

affected by the differing Site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a **Contractor**, or upon its own initiative, the **City** shall make an investigation of such physical conditions, and if they differ substantially or materially from those shown on the Plans or indicated in the Contract Documents or from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Plans and Contract Documents and are of such a nature as to cause an increase or decrease in the cost of performance of the Work or a change in the construction methods required for the performance of the Work which results in an increase or decrease in the cost of the Work, the **City** shall make an equitable adjustment in the Contract Sum and the Contract shall be modified in writing accordingly.

16.4.2. Claims for Additional Cost. If the **Contractor** claims that any acts or omissions of the **City** or the **Design Professional**, including any instructions or orders, whether oral, written, by drawings, or otherwise, involve extra cost or time, and the **Contractor** has not received a written acknowledgment by the **City** or the **Design Professional** that extra payment will be made or time extended on account thereof, the **Contractor** shall promptly so notify the **Design Professional** in writing of such Claim and shall proceed with the Work relating to such Claim and all rights of both parties with respect to such Claim shall be deemed to have been reserved. No Claim by the **Contractor** on account of such acts, omissions, instructions, or orders shall be valid unless the **Contractor** has so notified the **Design Professional** before proceeding.

16.4.2.1. Under no circumstances shall a Claim be made for additional cost where adverse weather conditions are the basis for the Claim.

16.4.3. Claims for Additional Time. If the **Contractor** wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The **Contractor** shall have the burden of demonstrating the effect of the claimed delay on the Contract Time and shall furnish the **Design Professional** with such documentation relating thereto as the **Design Professional** may reasonably require. Under no circumstances shall the **Contractor** make a Claim for an increase in the Contract Time due to a change in the **Contractor's** early completion date. If the increase in the Contract Time extends beyond the Contract Time established by the **City**, only the time that so extends beyond the Contract Time shall be reviewed and considered. In the case of a continuing delay, only one Claim is necessary.

16.4.3.1. Under no circumstances shall a Claim be made for additional time where adverse weather conditions are the basis for the Claim.

16.4.4. Claims for Injury to Person or Damage to Property. Should either party to the Contract suffer injury to person or damage to property because of any error, omission, or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, a Claim will be made in writing to the other party within twenty-one (21) days of the occurrence of the act giving rise to the injury or damage.

16.5. Review of Claims.

16.5.1. Initial Referral. All Claims, the bases of which arise prior to final payment or the earlier termination of the Contract, shall be referred initially to the **Design Professional** for action as provided herein.

16.5.2. Time Period and Action. The **Design Professional** shall review Claims and shall do one of the following within fourteen (14) days of receipt of the Claim:

16.5.2.1. defer any action with respect to all or any part of a Claim for the purpose of requesting and receiving additional information from either party;

16.5.2.2. decline in writing to render a decision for any reason which it deems appropriate (including, but not limited to, the fact that the Claim involves allegations of fault on the part of the **Design Professional**); or

16.5.2.3. render a decision on all or a part of the Claim.

16.5.3. If the **Design Professional** requests additional information, the **Design Professional** shall take action with respect to the Claim no later than fourteen (14) days after receipt of the additional information. The **Design Professional** shall notify the parties in writing of its disposition of such Claim. If the **Design Professional** renders a decision or declines to render a decision, either party may proceed in accordance with paragraph 16.7.

16.6. Decisions.

16.6.1. Decisions by the City or the Design Professional. (*Reference: M.G.L. c. 30, §39P*). In every case in which this Contract requires the **City**, any official, or its **Design Professional** to make a decision on interpretation of the Specifications, approval of equipment, material or any other approval, or progress of the Work, the decision shall be made promptly and, in any event, no later than fourteen (14) days after the written submission for decision; but if such decision requires extended investigation and study, the **City**, the official, or the **Design Professional** shall, within fourteen (14) days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty-day period and the date by which the decision will be made.

16.6.2. When Decision of the Design Professional is Final and Binding. The decision of the **Design Professional**

shall be final and binding on the parties, unless a party files suit or a demand for arbitration within thirty (30) days after the date of the decision.

16.6.3. When Decision of the Design Professional is Not Final and Binding. (*Reference: M.G.L. c. 30, §39J*). Notwithstanding any contrary provision of this Contract, no decision by the **City** or by the **Design Professional** on a dispute, whether of fact or of law, arising under said Contract shall be final or conclusive if such decision is made in bad faith, fraudulently, capriciously, arbitrarily, is unsupported by substantial evidence, or is based upon error of law.

16.6.4. Resolved Claims. If a Claim is resolved, the **Design Professional** shall obtain or prepare the appropriate documentation and provide the **City** and the **Contractor** with a copy of same.

16.7. Arbitration.

16.7.1. Controversies and Claims Subject to Arbitration. Any controversy or Claim arising out of or related to the Contract, or the breach thereof, shall be settled by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator or arbitrators may be entered in any court having jurisdiction thereof, except controversies or Claims relating to aesthetic effect, subject to the provisions of paragraph 16.7.7. In any such arbitration in which the amount stated in the demand is \$100,000 or less, the American Arbitration Association shall appoint a single arbitrator in accordance with such Rules, who shall be a lawyer. In any such arbitration in which the amount stated in the demand is in excess of \$100,000, the demand shall include the name of an arbitrator appointed by the claimant. The respondent shall appoint a second arbitrator and shall notify the claimant in writing of such appointment within thirty (30) days of receipt of the demand, failing which the matter shall be decided by the arbitrator named in the claimant's demand. Within thirty (30) days after the claimant's receipt of notice of the appointment of the second arbitrator, the two arbitrators shall appoint a neutral arbitrator and shall notify the parties in writing of such appointment, failing which either party may apply to the American Arbitration Association to appoint such neutral arbitrator. If such neutral arbitrator is appointed by the American Arbitration Association, he or she shall be a lawyer.

16.7.2. Rules for Arbitration. If the neutral arbitrator is appointed by the American Arbitration Association, the said Association shall administer the arbitration and its Construction Industry Arbitration Rules shall govern all aspects of the proceeding including the enforcement of any award. If the neutral arbitrator is not appointed by the American Arbitration Association, then the panel of arbitrators shall act as the administrator of the arbitration but the Construction Industry Arbitration Rules of the Association shall nonetheless govern all aspects of the proceeding, including the enforcement of any award, provided however that the arbitration panel shall have all of the powers and duties conferred on the Association pursuant to said rules. In addition, the following rules shall govern the selection of arbitrators and the proceedings:

16.7.2.1. Neither party may appoint as arbitrator an employee or an owner of that party, nor the parent, spouse, or child of an employee or owner of that party.

16.7.2.2. After the neutral arbitrator has been appointed, neither party may engage in *ex parte* communication with any arbitrator.

16.7.3. When Arbitration May Be Demanded. Demand for arbitration of any Claim, the basis of which arises prior to final payment or the earlier termination of the Contract may not be made before the earlier of (1) the date on which the **Design Professional** has rendered a written decision on the Claim or has notified the parties in writing that such decision will not be rendered or (2) forty-five (45) days following receipt by the **Design Professional** of a written request for a decision sent by registered or certified mail to both the **Design Professional** and the other party to this Contract.

16.7.3.1. In no event shall a demand for arbitration be made after the date when the institution of legal or equitable proceedings based on such Claim would be barred by the applicable statute of limitations.

16.7.4. Limitation on Consolidation or Joinder. No arbitration arising out of or relating to the Contract Documents shall include, by consolidation or joinder or in any other manner, the **Design Professional**, the **Design Professional's** employees or consultants, except by written consent containing specific reference to the Contract and signed by the **Design Professional**, the **City**, the **Contractor**, and any other person or entity sought to be joined. No arbitration shall include, by consolidation or joinder or in any other manner, parties other than the **City**, the **Contractor**, a separate contractor, and other persons substantially involved in a common question of fact or law whose presence is required if complete relief is to be accorded in arbitration. No person or entity other than the **City**, the **Contractor**, or a separate contractor shall be included as an original third party or additional third party to an arbitration whose interest or responsibility is insubstantial. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a dispute not described therein or with a person or entity so named or described herein. The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Contract shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

16.7.5. Claims and Timely Assertion of Claims. A party who files a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded. When a party fails to include a Claim through oversight, inadvertence, or excusable neglect, or when a Claim has matured or been acquired subsequently, the

arbitrator or arbitrators may permit amendment.

16.7.6. Award Final. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

16.7.7. The City's Reservation of Rights. Notwithstanding any provision contained in this Article 16 or elsewhere in the Contract Documents, the **City** reserves the following rights in connection with Claims between the **City** and the **Contractor**, which rights may be exercised by the **City** unilaterally, in the **City's** sole discretion, and without the consent of the **Contractor**:

16.7.7.1. the right to institute legal action against the **Contractor** in any court of competent jurisdiction in lieu of demanding arbitration, in which case the dispute or disputes which are the subject of such action shall be decided by such court, and not by arbitration;

16.7.7.2. the right to obtain from any court of competent jurisdiction a stay of any arbitration instituted by the **Contractor**, provided that the application for such stay is made before the appointment of the neutral arbitrator in such arbitration, in which case the dispute or disputes which are the subject of such arbitration shall be decided by such court and not by arbitration;

16.7.7.3. the right to require the **Contractor** to join as a party in any arbitration between the **City** and the **Design Professional** relating to the Project, in which case the **Contractor** agrees to be bound by the decision of the arbitrator or arbitrators in such arbitration.

16.7.8. In case the **City** elects to proceed in accordance with 16.7.7.1. or 16.7.7.2. above, the word "litigation" shall be deemed to replace the word "arbitration" wherever the latter word appears in the Contract Documents.

ARTICLE 17 EMERGENCIES

17.1. In an emergency affecting the health and safety of persons or property, the **Contractor** shall act to prevent threatened damage, injury, or loss.

17.2. In emergencies affecting the health, safety, or protection of persons, the Work or property at the Site or adjacent thereto, the **Contractor**, without special instruction or authorization from the **City** or the **Design Professional**, is obligated to act to prevent threatened damage, injury, or loss. The **Contractor** shall give the **Design Professional** prompt written notice if the **Contractor** believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If the **Design Professional** determines that a change in the Contract Documents is required because of the action taken by the **Contractor** in response to such an emergency, a **Construction Change** Directive or Change Order will be issued to document the consequences of such action.

ARTICLE 18 TERMINATION OR SUSPENSION OF THE CONTRACT

18.1. Suspension by the City.

18.1.1. At any time and without cause, the **City** may suspend the Work or any portion thereof for a period of not more than ninety (90) days by notice in writing to the **Contractor** and the **Design Professional** that will fix the date on which Work will be resumed. The **Contractor** shall resume Work on the date so fixed. The **Contractor** shall be allowed an adjustment in the Contract Sum or an extension of the Contract Time, or both, directly attributable to any such suspension if the **Contractor** makes an approved Claim therefor, provided, however, that if there is a suspension, delay or interruption for fifteen days or more or due to a failure of the Awarding Authority to act within the time specified in this contract, the Awarding Authority shall make an adjustment in the contract price for any increase in the cost of performance of this contract but shall not include any profit to the General Contractor on such increase; and provided further, that the Awarding Authority shall not make any adjustment in the contract price under this provision for any suspension, delay, interruption, or failure to act to the extent that such is due to any cause for which this contract provides for an equitable adjustment of the contract price under any other contract provisions. The General Contractor must submit the amount of a claim under provision (1) to the Awarding Authority in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and, except for costs due to a suspension order, the Awarding Authority shall not approve any costs in the claim incurred more than twenty days before the General Contractor notified the Awarding Authority in writing of the act or failure to act involved in the claim. The General Contractor must submit the amount of a claim under provision (1) to the Awarding Authority in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and, except for costs due to a suspension order, the Awarding Authority shall not approve any costs in the claim incurred more than twenty days before the General Contractor notified the Awarding Authority in writing of the act or failure to act involved in the claim.

18.1.1.1 Notwithstanding the above, if the City is required to suspend the work as a result of a request from the Office of the Attorney General in connection with a bid protest or an injunction, the Contractor shall not have a claim for

damages, but the City shall extend the date of substantial completion for a period of time commensurate with the period of the suspension, and the liquidated damages clause shall not take effect until the extended date of substantial completion. If any of the following occurrences causes a delay in the work, the Contractor shall immediately notify CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) in writing. If, upon investigation, the City finds that the delay is excusable, the City shall extend the date of substantial completion for a period of time commensurate with the period of the excusable delay, and the liquidated damages clause shall not take effect until the extended date of substantial completion: (1) any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, National Defense, or any other national emergency; (2) delays which are caused by the City and which are not occasioned by the Contractor's failure to supply CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) or its design professional with progress schedules, documents, samples, and the like, in a timely manner; (3) causes not reasonably foreseeable by the parties to this Contract, which are beyond the reasonable control of the Contractor, such as blizzards, floods, hurricanes, tornadoes, and strikes; (4) any delay of any subcontractor resulting from paragraphs (1), (2), or (3).

18.1.2. If the Work is defective, if the **Contractor** fails to provide a sufficient number of skilled workers or suitable materials or equipment, or if the **Contractor** defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the **City** to begin and prosecute correction of such default or neglect with diligence and promptness, the **City** may correct such deficiencies, without prejudice to other remedies the **City** may have. In such case, an appropriate **Construction Change** Directive shall be issued deducting from payments then or thereafter due to the **Contractor** the cost of correcting such deficiencies including compensation for the **Design Professional's** additional services and expenses made necessary by such default, neglect, or failure and any and all direct, indirect, or consequential costs associated with the order to stop the Work. If such payments then or thereafter due the **Contractor** are not sufficient to cover such amounts, the **Contractor** shall immediately pay the difference to the **City**. The **Contractor** shall remain responsible for maintaining progress and shall not be entitled to any increase in the Contract Time or the Contract Sum.

18.2. Termination by the Contractor.

18.2.1. If, through no act or fault of the **Contractor**, a Subcontractor, or a Sub-subcontractor, the Work is suspended for a period of more than ninety (90) days by the **City**, or under an order of court or other public authority, or the **Design Professional** fails to act on any application for payment within thirty (30) days after it is submitted in proper form and content or the **City** fails for thirty (30) days to pay the **Contractor** any sum finally determined to be due, then the **Contractor** may terminate the Contract upon seven (7) days' written notice to the **City**, provided that the **City** does not remedy such suspension or failure within that time.

18.3. Termination by the City.

18.3.1. If the **Contractor** is adjudged a bankrupt, or if the **Contractor** makes a general assignment for the benefit of the **Contractor's** creditors, or if a receiver is appointed on account of the **Contractor's** insolvency, or if the Contractor makes a written admission of the Contractor's inability to pay debts, or if the Contractor becomes a debtor or defendant in (i) a voluntary or involuntary petition in bankruptcy, (ii) a petition for appointment of a receiver, (iii) a levy of an attachment or execution, (iv) a winding up or dissolution of a partnership or corporation, (v) or any other proceeding under which a court of competent jurisdiction assumes custody or control over the Contractor, or if the **Contractor** persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or fails to prosecute the work with such diligence as will, in the reasonable estimation of the City, ensure substantial completion within the time specified in the Contract Documents, or if the **Contractor** fails to make prompt payment to Subcontractors or for materials or labor, or persistently disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction or disregards an instruction, order, or decision of the **Design Professional**, or otherwise is in breach of any provision of the Contract and has failed to cure such breach after written notice from the City specifying 1) the breach, 2) what must be done to cure the breach, and 3) the time within which the breach must be cured, or otherwise is guilty of substantial violation of any provision of the Contract, then the **Contractor** shall be in default, and the **City** may, without prejudice to any other right or remedy and upon written notice to the **Contractor**, temporarily withhold cash payments pending correction of the deficiency, hold the Contractor and its sureties liable in damages, require the Contractor's sureties to complete the Contract, take possession of all materials, tools, appliances, equipment, construction equipment and machinery and vehicles, offices and other facilities on the Project Site, and all materials intended for the Work, wherever stored, without liability for loss or damage, following which use, the Contractor shall be liable for their removal from the site; and, seven (7) days after such notice, may terminate the employment of the **Contractor**, accept assignment of any or all subcontracts pursuant to Paragraph 6.6.1.1, and finish the Work by whatever method the **City** may deem expedient (including but not limited to using the services of another contractor (in which case the City shall have no obligation to use a competitive process to obtain the lowest contract prices) and look to the

Contractor and the Contractor's sureties for the difference between the cost to complete the work and the contract sum hereunder.

The **City** shall be entitled to collect from the **Contractor** all direct, indirect, and consequential damages suffered by the **City** on account of the **Contractor's** default, including without limitation additional services and expenses of the **Design Professional** made necessary thereby. The **City** shall be entitled to hold all amounts due to the **Contractor** at the date of termination until all of the **City's** damages have been established, and to apply such amounts to such damages.

18.3.1.1. HUD Action. If the Contractor is in default, HUD and/or any other administering agency named herein may, with or without the consent of the City, cancel, suspend, or terminate this Contract in whole or in part; require the withholding or disallowance all or part of the funding for the project; declare the contractor ineligible for further Government contracts or avail itself of any other remedies available under the law.

18.3.2. (*Reference:* Somerville Municipal Code Chapter 2.117, Section 2.117.110C). In the event the **Contractor** or any of its agents or employees violates any provision of Somerville Municipal Code Chapter 2.117 that is applicable to **City** contractors in connection with the awarding, administration, or performance of the Contract, the **City** may terminate the Contract.

18.3.3. (a) The City may terminate this Contract without cause, at any time, effective upon the date of termination specified by written notice to the Contractor, in which case, the Contractor shall be compensated for: (1) sums due under this Contract incurred up to the date of termination for all Work performed and accepted by the City up to the termination date, calculated on a percentage completion basis covering the period of time between the last approved application for payment and the date of termination using the progress schedule and schedule of values. The Contractor shall use its best efforts to mitigate any expenses and shall in no event incur any new obligations after the date of termination.

(1) Payment by the City as provided in this section shall be deemed to fully compensate the Contractor for all expenses and those of any consultants, subcontractors and suppliers, directly or indirectly attributable to the termination. Lost profits shall not be payable. Any such termination shall not give rise to any cause of action for damages against the City.

(b) Contractor's Duties Upon Termination For Convenience. Upon termination of this Contract without cause, the Contractor shall: (1) immediately stop the Work; (2) stop placing orders and Subcontracts in connection with this Contract; (3) cancel all existing orders and Subcontracts (subject to the City providing notice that it accepts assignment of any or all subcontracts pursuant to Paragraph 6.6.1.1); (4) surrender the site to City in a safe condition; and (5) promptly transfer to City all materials, supplies, work in process, appliances, facilities, equipment and machinery of this Contract, and all work product, plans, drawings, specifications and other information and documents used in connection with Services performed under this Contract. Failure by the Contractor to comply with said duties shall relieve the City of its obligation to compensate the Contractor, as provided for under this section.

ARTICLE 19

AMERICANS WITH DISABILITIES ACT (42 U.S. 12131)

19.1. On July 26, 1994, the Americans with Disabilities Act ("the Act") became effective for employers of fifteen or more employees.

19.2. The Act protects against discrimination on the basis of "disability," which is defined as a physical or mental impairment that substantially limits at least one "major life activity;" or discrimination against an individual who has a record of such impairment; or discrimination against an individual being regarded - even if inaccurately - as having such impairment. The Act also expressly prohibits job discrimination that is based on any individual's relationship or association with a disabled person.

19.3. If the **Contractor** is subject to the Act, it must comply with its provisions.

ARTICLE 20

WRITTEN NOTICE TO THE PARTIES

20.1. In General.

20.1.1. All written communications from the **Design Professional** to the **Contractor** shall be copied to the **City**. All written communications from the **Contractor** to the **Design Professional** shall be copied to the **City**. All written communications from the **Contractor** to the **City** shall be copied to the **Design Professional**.

20.2. Addresses.

20.2.1. To the City. Written notice to the **City** shall be sent or hand-delivered to:

Mayor
City of Somerville
93 Highland Avenue

Somerville, MA 02143

City Solicitor
Law Department
93 Highland Avenue
Somerville, MA 02143

Director of Contracting Department (as stated on first page of this Agreement)
City Hall
93 Highland Avenue
Somerville, MA 02143

20.2.2. To the Contractor. Both the address given on the bid form upon which the Agreement is founded and the **Contractor's** office at or near the Site of the Work are hereby designated as places to either of which notices, letters, and other communications to the **Contractor** shall be certified, mailed, or delivered. Delivery of any notice, letter, or other communication to the **Contractor** at or depositing same in a postpaid wrapper directed to either place shall be deemed sufficient service thereof upon the **Contractor**. Written notice shall be deemed to have been duly served on the **Contractor** if it is sent or hand-delivered to any member or officer of the **Contractor**. The date of said service shall be the date of such delivery or mailing. The address may be changed at any time by an instrument in writing, executed and acknowledged by the **Contractor** and delivered to the **City** and to the **Design Professional**. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon the **Contractor** personally. Moreover, any notice, letter, or other communication required under the Contract may be served on the **Contractor's** representative at job meetings. The **Contractor** shall provide the **City** with its change of address seven (7) days prior to its effective date.

20.2.3. To the Design Professional. Written notice to the **Design Professional** shall be sent or hand-delivered to the address appearing on the Project Manual. Written notice shall be deemed to have been duly served on the **Design Professional** if it is sent or hand-delivered to any member or officer of the **Design Professional**.

ARTICLE 21 MISCELLANEOUS PROVISIONS

21.1. Governing Law.

21.1.1. This Contract shall be governed by the laws of the Commonwealth of Massachusetts and the United States of America.

21.2. Venue.

21.2.1. Venue for any court action or proceeding shall be Middlesex County in the Commonwealth of Massachusetts only. The **Contractor**, all Subcontractors, and Suppliers waive any and all jurisdictional and venue defenses.

21.3. Successors and Assigns.

21.3.1. The **Contractor** shall not assign, in whole or in part, its rights and obligations under the Contract Documents without prior written consent of the **City**. An assignment without the prior written consent of the **City** shall not relieve the **Contractor** of its obligations thereunder.

21.3.2. The **City** and the **Contractor** respectively bind themselves, their partners, successors, assigns, and legal representatives to the other party hereto and to partners, successors, assigns, and legal representatives of such other party in respect to covenants, agreements, and obligations contained in the Contract Documents.

21.4. Statutory Limitation Period.

21.4.1. It is expressly agreed that the obligations of the **Contractor** hereunder arise out of contractual duties, and that the failure of the **Contractor** to comply with the requirements of the Contract Documents shall constitute a breach of contract, not a tort, for the purpose of applicable statutes of limitations and repose. Any cause of action which the **City** may have on account of such failure shall be deemed to accrue only when the **City** has obtained actual knowledge of such failure, not before.

21.5. Rights and Remedies.

21.5.1. Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

21.5.2. No action or failure to act by the **City**, the **Design Professional**, or the **Contractor** shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a

breach thereunder, except as may be specifically agreed in writing.

21.6 Severability. In the event that any provision of this Agreement is found to be legally unenforceable, the remainder of the Agreement shall remain in full force and effect.

21.7 Conflict of Interest Laws. The City and the Contractor shall comply with all applicable conflict of interest statutes and regulations.

21.8 If this contract is in excess of \$2,000 and is federally funded, the Contractor shall comply with the Copeland “Anti-Kickback Act” (18 U.S.C. 874 and 29 CFR Part 3), and shall not induce any person employed in the construction, completion, or repair of a public building or public work, to give up any part of the compensation to which he would otherwise be entitled.

21.9. EQUAL EMPLOYMENT OPPORTUNITY/NONDISCRIMINATION

a) the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, marital status, sexual orientation, national origin, age, disability, Vietnam Era veteran status or because an employee or applicant is a recipient of federal, state, or local public assistance or housing subsidies; and

b) the Contractor shall not discriminate, in any stage of the contract from award to completion, in the selection or retention of subcontractors, suppliers, and materialmen, or in the procurement of materials or supplies, or the rental of equipment, on the basis of race, religion, sex, marital status, sexual orientation, national origin, age, disability, Vietnam Era veteran status, or because an individual is a recipient of federal, state, or local public assistance or housing subsidies; and

c) the Contractor shall post an equal employment opportunity notice in conspicuous places at the worksite, shall make copies of such notice available to employees and job applicants, and shall send such notice to each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding; and

d) the Contractor shall, to the greatest extent feasible, give employment and on-site training opportunities, to lower-income, minority, women, and disabled members of the local community and shall award subcontracts, when possible, to Minority Business Enterprises (MBE) and Women Business Enterprises (WBE).

e) the contractor shall include language similar to the above in all subcontracts.

END

PART 3: TECHNICAL SPECIFICATIONS

PROJECT MANUAL

FOR

**ADA CITYWIDE
UPGRADES
AT
VARIOUS BUILDINGS
SOMERVILLE, MASSACHUSETTS**

CITY OF SOMERVILLE

Capital Projects and Planning Department
1 Franey Road
Somerville, MA, 02145

Bid Documents

March 6, 2018

Prepared by:

CBI Consulting, LLC

250 Dorchester Avenue

Boston, Massachusetts 02127

(617) 268-8977

Fax (617) 464-2971

CBI PROJECT NUMBER 15036-A.2

CONTRACT REQUIREMENTS

SECTION 00 01 10

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07 14 00 - Fluid-Applied Waterproofing

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END OF SECTION 00 01 10

SECTION 00 85 10

DRAWING LIST

DRAWINGS (ALL DRAWINGS ARE 24" X 36")

1.01 ARCHITECTURAL

G1-01 COVER SHEET

1. SOMERVILLE CENTRAL PUBLIC LIBRARY

A1-01 BASEMENT & FIRST FLOOR PLANS

A1-02 TOILET PLANS & ELEVATIONS

A1-03 TOILET ELEVATIONS & DRINKING FOUNTAIN DETAILS

2. SOMERVILLE EAST BRANCH PUBLIC LIBRARY

A2-01 FIRST FLOOR PLAN & CIRCULATION DESK DETAILS

3. (NOT USED)

4. (NOT USED)

5. JOHN F. KENNEDY ELEMENTARY SCHOOL

A5-01 SECOND FLOOR PLAN

A5-02 STAIR PLANS & HANDRAIL DETAILS

6. BENJAMIN G. BROWN SCHOOL

A6-01 REFERENCE PLANS

A6-02 STAIR #1 PLANS, SECTION & TYPICAL HANDRAIL DETAILS

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A6-04 DRINKING FOUNTAIN DETAILS

7. WINTER HILL COMMUNITY SCHOOL

A7-01 REFERENCE PLANS

A7-02 DRINKING FOUNTAIN DEMOLITION PLANS

A7-03 PARTIAL ENLARGED PLANS AT DRINKING FOUNTAINS

A7-04 DRINKING FOUNTAIN ELEVATIONS, SECTIONS & DETAILS

1.02 MEP

PLUMBING

P0.01 PLUMBING LEGEND, SCHEDULES & NOTES

P1.01 SOMERVILLE CENTRAL PUBLIC LIBRARY - PLUMBING FLOOR
PLANS

P1.02 BENJAMIN G. BROWN SCHOOL - DRINKING FOUNTAIN NEW &
DEMOLITION PLANS

P1.03 WINTER HILL COMMUNITY SCHOOL - DRINKING FOUNTAIN
DEMOLITION PLANS

P1.04 WINTER HILL COMMUNITY SCHOOL - DRINKING FOUNTAIN
NEW WORK PLANS

ELECTRICAL

E0.01 ELECTRICAL LEGEND AND NOTES

E1.01 SOMERVILLE CENTRAL PUBLIC LIBRARY - BASEMENT & FIRST
FLOOR PLANS

E1.02 WINTER HILL COMMUNITY SCHOOL - DRINKING FOUNTAIN
DEMOLITION PLANS

E1.03 WINTER HILL COMMUNITY SCHOOL - DRINKING FOUNTAIN
NEW WORK PLANS

END OF SECTION 00 85 10

SECTION 00 31 00
FORM FOR FILE SUB-BID

INSERT TRADE

ADA CITYWIDE UPGRADES,
SOMERVILLE, MASSACHUSETTS

To all General Bidders except those hereinafter expressly excluded:

A. The undersigned proposes to furnish all labor and materials required for completing, in accordance with the hereinafter described plans, specifications and addenda, all the work specified in Section Nos. _____ of the specifications and in any plans specified in such section, prepared by CBI Consulting for ADA Citywide Upgrades, Somerville, Massachusetts, for the contract sum of _____ dollars (\$_____).

B. This sub-bid includes addenda number _____

C. This sub-bid

May be used by any general bidder except:

May only be used by the following general bidders:

(To exclude general bidders, insert "X" in one box only and fill in blank following that box. Do not answer if no general bidders are excluded.)

D. The undersigned agrees that, if he is selected as sub-bidder, he will, within five days, Saturdays, Sundays and legal holidays excluded, after presentation of a subcontract by the general bidder selected as the General Contractor, execute with such general bidder a subcontract in accordance with the terms of this sub-bid and contingent upon the execution of the general contract, and, if requested to do so in the general bid by such general bidder, who shall pay the premiums therefore, furnish a performance and payment bond of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority, in the full sum of the subcontract price.

- E. The names of all persons, firms and corporations performing such class of work or part thereof for which the section of the specifications for the sub-trade require a listing in this paragraph (including the undersigned if customarily furnished by persons on his own payroll and in the absence of a contrary provision in the specifications), the name of each such class of work, or part thereof, and the bid price for each such class of work or part thereof are:

<u>NAME</u>	<u>CLASS OF WORK</u>	<u>BID PRICE</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

(Do not give bid price for any class or part thereof furnished by undersigned.)

- F. The undersigned agrees that the above list of bids to the undersigned represents a bona fide bid based on hereinbefore described plans, specifications, and addenda, and that, if the undersigned is awarded the contract, they will be used for the work indicated at the amounts stated, if satisfactory to the Awarding Authority.
- G. The undersigned further agrees to be bound to the General Contractor by the terms of the hereinbefore described plans, specifications (including all general conditions stated therein), and addenda, and to assume toward him all the obligations and responsibilities that he, by those documents, assumes toward the Owner.
- H. The undersigned offers the following information as evidence for his qualifications to perform the work as bid upon according to all requirements of the plans and specifications:
1. Have been in business under present business name _____ years.
 2. Have ever failed to complete any work awarded? _____

3. List three or more recent buildings with names of General Contractor and Architect on which you served as subcontractor for work of similar character as required for the above named buildings:

<u>BUILDING</u>	<u>ARCHITECT</u>	<u>GENERAL CONTRACTOR</u>	<u>AMOUNT OF CONTRACT</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. Bank Reference: _____

- I. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work and that he will comply fully with the laws and regulations applicable to awards of subcontractors subject to section fourth-four F.
- J. The undersigned further agrees that, if the undersigned fails to perform his agreement to execute a subcontract with the General Contractor and furnish a performance and payment bond if requested to do so in the general bid by the general bidder, the bid deposit accompanying the copy of this bid filed with the Award Authority shall become and be the property of the Awarding Authority as liquidated damages. The undersigned understands that, if he so executes a subcontract with the General Contractor and furnishes a performance and payment bond, if requested to do so, the bid deposit will be returned within five (5) days after execution of the general contract.
- K. The undersigned represents that this proposal is made in good faith without fraud, collusion or connection of any kind with other bidder for the same work, that the undersigned is competing solely in his own behalf without connection with, or obligation to, any undisclosed person or corporation, that no other person or corporation has any interest in the profits of the contract, that the undersigned has read the form of contract attached hereto and is fully informed in regard to all provisions thereof and to the plans and specifications therein referred to, and that the undersigned has visited the premises described in said form of contract and made his own examination of the place where the work is to be done and of all conditions pertaining to the work had has made his own estimates and from such examination and estimate makes this proposal.

- L. The Federal Social Security Identification Number of the sub-bidder (the number used on Employer's Quarterly Federal Tax Return, US Treasury Department Form 941) is:

DATE _____

Sub Bidder _____
(Company Name)

By: _____
Signature of Authorized Representative

Title: _____
(Affix Seal)

Business Address: _____

City and State: _____

Telephone No. _____

M. BIDDER'S CERTIFICATION REGARDING PAYMENT OF PREVAILING WAGES

The undersigned bidder hereby certifies, under the pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less than the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Industries. The undersigned bidder agrees to indemnify the Awarding Authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work, arising out of or as a result of (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the Contractor, to pay laborers employed on the project the said applicable prevailing wage rates.

DATED: _____

NAME OF BIDDER: _____

BY: _____

NAME: _____

TITLE: _____

CITY OF SOMERVILLE
ADA CITYWIDE UPGRADES
SOMERVILLE, MA
CBI JOB NO.: 15036-A.2

CBI Consulting, LLC
Boston, Massachusetts
Tel: (617) 268-8977
Fax: (617) 464-2971

SECTION 00 41 00
FORM FOR GENERAL BID

ADA CITYWIDE UPGRADES,
SOMERVILLE, MASSACHUSETTS

April 18, 2018

Robert King, Director of Capital Projects and Planning
City of Somerville
1 Franey Road
Somerville, Massachusetts 02145

Mr. King:

A. Basic Price

The undersigned, having visited the site of the above project and having familiarized myself with the local conditions affecting the cost of the work and with the contract documents, including Amendments and Addenda Nos. _____, hereby proposes to furnish all labor, materials, tools, equipment, insurance, permits, taxes, and to do and lawfully perform all things as provided in the specifications, all in accordance with the contract documents, for the sum of:

_____ Dollars, \$ _____

B. The subdivision of the proposed contract price is as follows:

Item 1. The work of the General Contractor, being all work other than that covered by Item 2. \$ _____

Item 2. Sub Bids as follows:

Sub-Trade	Number of Sub-Bidder	Amount	Bonds required indicated by "Yes" or "No"
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
	Total of Item 2	\$ _____	

- C. The undersigned agree that each of the above the named sub-bidders will be used for the work indicated at the amount stated, unless a substitution is made. The undersigned further agrees to pay the premiums for the performance and payment bonds furnished by sub-bidders as requested herein and that all of the cost of all such premiums is included in the amount set forth in item 1 of this bid.
- D. The undersigned agrees that if he is selected as general contractor, he will promptly confer with the awarding authority on the question of sub-bidders; and that the awarding authority may substitute for any sub-bid listed above a sub-bid filed with the awarding authority by another sub-bidder for the sub-trade against whose standing and ability the undersigned makes no objection; and that the undersigned will use all such finally selected sub-bidders at the amounts named in their respective sub-bids and be in every way as responsible for them and their work as if they had been originally names in this general bid. , the total contract price being adjusted to confirm thereto.
- E. The undersigned agrees that, if s/he is selected as general contractor, he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the Awarding Authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price; provided however, that if there is more than 1 surety company, the surety companies shall be jointly and severally liable.
- F. The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employees; and the he will comply with all laws and regulations applicable to awards made subject to section 44A.
- G. The undersigned as Bidder certifies that if this proposal is accepted, s/he will furnish to the City of Somerville with the invoice for the material or equipment supplied two copies of any and all Material Safety Data Sheets applicable to such material or equipment, as required by M.G.L. Chapter 111F, so called "Right to Know Law".
- H. The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As

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under in this section, the work "person" shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.

I. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule of regulation promulgated thereunder.

J. Substantial Completion

Substantial completion in all School Buildings to be by August 3, 2018.

Sincerely,

(Bidder)

(Address of Bidder)

By: _____
(Title - Owner*, Partner*)

(Seal, if Corporation)

By: _____
(If Corporation - Name and Office)

* If the business owned by the individual or partnership is conducted under a trade or assumed name, a certified copy of doing business under an assumed name should be annexed.

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K. BIDDER'S CERTIFICATION REGARDING PAYMENT OF PREVAILING WAGE RATES

The undersigned bidder hereby certifies, under the pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less than the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Industries. The undersigned bidder agrees to indemnify the Awarding Authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work, arising out of or as a result of (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the contractor, to pay laborers employed on the project the said applicable prevailing wage rates.

DATED: _____ NAME OF BIDDER: _____

BY: _____

NAME: _____

TITLE: _____

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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 herein and which executed the foregoing instrument; that he/she 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/she signed his/her name thereto by like order.

(Notary Public)

Acknowledgment of Principal, if a Partnership

State of _____)

:SS:

County of _____)

On this _____ day of _____ 20____

before me personally came _____ to me known, and known to me to be one of the members of the firm of

_____ who executed the foregoing instrument and he/she acknowledged to me that he/she executed the same as and for the act of said firm.

(Notary Public)

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ADA CITYWIDE UPGRADES
SOMERVILLE, MA
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Boston, Massachusetts
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Fax: (617) 464-2971

Acknowledgment of Principal, if an Individual

State of _____)

:SS:

County of _____)

On this _____ day of _____ 20____

before me personally came _____ to me known, and known to me to be the person described herein and who executed the foregoing instrument and he/she acknowledged to me that he/she executed the same.

(Notary Public)

(If bidder is a partnership, state here the name and residence of each member thereof)

Name of Partners

Residence Address

_____	_____
_____	_____
_____	_____

(If bidder is a corporation, state here the title, name, and residence of each member thereof)

Title

Name

Residence Address

_____	_____	_____
_____	_____	_____
_____	_____	_____

Organized under the laws of the state of _____

Date: _____

END OF SECTION

SECTION 01 10 00

SUMMARY OF WORK

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 PROJECT

- A. Project Name: City of Somerville ADA Citywide Upgrades.
- B. Project Location
 - 1. Various Locations, See 1.03.G.1.a
Somerville, MA 02145
- C. Owner's Name: City of Somerville.
- D. Architect's Name: CBI Consulting, LLC
- E. In general, the Project consists of renovations to bathrooms, water fountains, handrails, walls, doors, millwork, and furniture.

1.03 WORK UNDER THIS CONTRACT

- A. The work to be done under this contract consists of executing and completing all work required for the ADA upgrade work and related work.
- B. In general, the Contractor shall supply all material, labor, equipment, insurance, supervision, temporary protection, tools and appliances necessary for the proper completion of the Work as described in the Plans and Specifications, in

accordance with good construction practice, and as required by the materials manufacturers.

- C. Supply all protection necessary to protect the occupants, building site, building systems, and landscape areas. All means and methods are the responsibility of the Contractor. The Contractor is solely responsible for safety on the job site.

- D. All materials shall be new and of the best quality.
- E. General Information
 - 1. If there is a conflict between or within any part of the plans and the specifications, the more stringent requirement shall apply at the sole discretion of the Architect.
 - 2. This document describes (but is not exclusive of) the ADA upgrade work. The work shall be constructed so as to meet all requirements of the Massachusetts State Building Code, current edition, the Massachusetts Architectural Access Board, the ADA Standards for Accessible Design, in addition to all other applicable codes and regulations, and as shown on the plans.
 - 3. The school buildings will be occupied for the duration of the project by the School Administration, but there will be no classes in the buildings over Summer recess.
 - 4. The libraries will be occupied for the duration of the project by the public and the staff.
- F. The work will include all operations necessary to deliver the buildings in a fully installed and operable condition including obtaining all necessary licenses, permits, and certificates.
- G. The following is the scope of work. All work required without limiting the generality thereof includes all labor, materials, equipment, and services required to perform the work fully in the drawings and specifications and includes, but is not limited to, the following:
 - 1. General:
 - a. Implement ADA upgrades at the following locations:
 - 1) Somerville Central Public Library, 79 Highland Avenue, Somerville, MA
 - (a) Renovation of two toilet rooms.
 - (b) Renovation of one drinking fountain.
 - 2) Somerville East Branch Public Library, 115 Broadway, Somerville, MA
 - (a) Modifications to a service counter.
 - (b) Supply one pre-manufactured work station.
 - 3) (NOT USED)
 - 4) (NOT USED)
 - 5) Kennedy School, 7 Cherry Street, Somerville, MA
 - (a) Installation of interior steel pipe handrails.
 - 6) Brown School, 201 Willow Avenue, Somerville, MA
 - (a) Installation of interior steel pipe handrails.
 - (b) Renovation of one drinking fountain.

- 7) Winter Hill School, 115 Sycamore Street, Somerville, MA
 - (a) Renovation of four drinking fountains.
 - (b) Construction of interior partitions.
2. All Contractor lay-down, storage, etc. shall be limited to areas designated by The Owner.

1.04 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price as described in the contract documents portion of the project manual.
- B. The project will be bid with a General Contractor as the general bidder.

1.05 OWNER OCCUPANCY

- A. Owner intends to occupy the Project during construction.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.06 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
- B. Arrange use of site and premises to allow:
 1. Owner occupancy.
 2. Work by Others.
 3. Work by Owner.
 - a. Repair work will be ongoing in the buildings throughout the summer. None of the work is expected to impact the work of this contract.
 - b. Cooperate with Owner's staff and separate contractors in all work that is to be performed.
 4. Use of site and premises by the public at each library.
- C. Provide access to and from site as required by law and by Owner:
 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 2. Do not obstruct roadways, sidewalks, or other public ways without permit.
- D. Existing building spaces may not be used for storage unless approved by The Owner.
- E. Time Restrictions:
 1. Limit conduct of especially noisy work at the Central Library to hours when the building is closed to the public. The building is open to the public 9:00 a.m. to 9:00 p.m. Monday through Thursday, 9:00 a.m. to 6:00 p.m. Friday,

9:00 a.m. to 5:00 p.m. Saturday and 1:00 p.m. to 5:00 p.m. Sunday. The building is closed on holidays and on Sundays during the Summer..

2. Limit conduct of especially noisy work at the East Branch Library to hours when the building is closed to the public. The building is open to the public 10:00 a.m. to 9:00 p.m. Monday, 2:00 p.m. to 6:00 p.m. Tuesday, 10:00 a.m. to 6:00 p.m. Wednesday, 10:00 a.m. to 9:00 p.m. Thursday, 10:00 a.m. to 6:00 p.m. Friday, 9:00 a.m. to 1:00 p.m. Saturday and closed on Sunday.

-
3. Limit conduct of the work at all School buildings to the hours of 7:30 a.m. to 4:00 p.m. Monday through Friday. The school buildings will be accessible during the school year for field measuring and varification. All abatement, demolition and new work is to be performed over Summer break during July and August.

F. Utility Outages and Shutdown:

1. Limit disruption of utility services to hours the building is unoccupied.
2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
3. Prevent accidental disruption of utility services to other facilities.

1.07 EXAMINATION OF SITE AND DOCUMENTS

- A. A pre-bid conference will be held at the location, date and at the time indicated in the Invitation to Bid.
- B. The bidders are expected to examine and to be thoroughly familiar with all contract documents and with the conditions under which the work is to be carried out. The Owner will not be responsible for errors, omissions, and/or charges for extra work arising from the General Contractors or Subcontractors failure to familiarize themselves with the contract documents, that they are familiar with the conditions and requirements of both where they require, in any part of the work a given result to be produced, that the contract documents are adequate and they will produce the required results

1.08 SUPERVISION OF WORK

- A. The Contractor shall be held directly responsible for the correct installation of all work performed under this Contract. The Contractor must make good repair, without expense to the Owner, of any part of the new work, or existing work to remain, which may become damaged on account of leaving the work unprotected or unsupervised during construction, or which may break or give out in any manner by reason of poor workmanship, defective materials or any lack of space to allow for expansion and contraction of the work during the Contractor's warranty period, from the date of final acceptance of the work by the Owner.

- B. The Contractor shall furnish a competent Massachusetts licensed superintendent approved by the Owner and Architect. The licensed superintendent shall supervise all work under this contract and who shall remain on duty at the site throughout the Contract period while work is in progress.

1.09 FIELD MEASUREMENTS

- A. Although care has been taken to ensure their accuracy, the dimensions shown for existing items and structures are not guaranteed. It is the responsibility of the Contractor to verify these dimensions in the field before fabricating any construction component. No claims for extra payment due to incorrect dimensions will be considered by the Owner.

1.10 DAMAGE RESPONSIBILITY

- A. The Contractor shall repair, at no cost to the Owner, any damage to building elements, site appurtenances, landscaping, utilities, etc. caused during demolition operation and work of this Contract.
- B. The Contractor shall secure the work area and equipment at the end of each workday.

1.11 INTENT OF THE PROJECT MANUAL

- A. Words in the singular shall also mean and include the plural, wherever the context so indicates, and words in the plural shall mean the singular, wherever the context so indicates.
- B. Wherever the terms "shown on drawings" are used in the specifications, they shall mean "noted", "indicated", "scheduled", "detailed", or shall refer to any other diagrammatic or written reference made on the drawings.
- C. Wherever the terms "furnish", "install" or "provide" are used in the contract documents, it shall mean to "connect", "apply", "erect", "construct", or similar terms in order to make operative, and to supply all labor and materials, including miscellaneous fittings, hardware, and accessories necessary to complete the installation of the specified item.
- D. All the work of the project is "related" in some fashion either by direct contract, sequencing, or coordination. It is the Contractor's responsibility to perform all the work and coordinate all the various trades and types of "related" work in order to meet the schedule and quality standards of the Project.
- E. Means and methods of construction as well as compliance with OSHA and all other safety laws and regulations is the exclusive responsibility of the Contractor, his Subcontractors, suppliers, consultants, and servants. The Architect does not have control of the job site.
- F. Wherever the term "material" is used in the specifications it will mean any "product", "equipment", "device", "assembly", or "item" required under the

Contract, as indicated by trade or brand name, manufacturer's name, standard specifications reference or to other description.

- G. The terms "approved" or "approval" shall mean the written approval of the Owner or Architect.
- H. The term "specifications" shall mean all information contained in the bound or unbound volume, including all "Contract Documents" defined herein, except for the drawings
- I. The terms "directed", "required", "permitted", "ordered", "designated", "prescribed", and similar words shall mean the direction, requirement, permission, order, designation or prescription of the Owner or Architect; the terms "approved", "acceptable", "satisfactory", and similar words shall mean approved by, acceptable or satisfactory to the Owner or Architect; and the terms "necessary", "responsible", "proper", "correct", and similar words shall mean necessary, reasonable, proper or correct in the judgment of the Owner or Architect.
- J. "Concealed" means hidden from sight in chases, furred spaces, shafts, hung ceilings, embedded in construction or in crawl spaces.
- K. "Exposed" means not installed underground or "concealed" as defined above.
- L. "Removed" means complete removal of item, and complete disposal in an approved manner.

1.12 ERRORS, OMISSIONS, AND CONFLICTS IN THE PROJECT MANUAL

- A. In the case of conflicts in the Drawings and the Specifications noticed by the Contractor, the Architect shall be notified immediately in writing of such errors and/or omissions. In no case shall the Contractor proceed without written authorization from the Architect.
- B. If there is a conflict between or within any part of the plans and the specifications, the more stringent requirement shall apply at the sole discretion of the Architect.

1.13 UNFORESEEN FIELD CONDITIONS

- A. In the case of unforeseen field conditions, the Contractor shall notify the Owner and Architect immediately in writing of such conditions. In no case shall the Contractor proceed without written authorization from the Architect. If such unforeseen conditions result in additional expense, the Contractor shall not proceed without the written approval of the Owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 10 00

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Documentation of changes in Contract Sum and Contract Time.
- C. Change procedures.
- D. Correlation of Contractor submittals based on changes.
- E. Procedures for preparation and submittal of application for final payment.

1.03 SCHEDULE OF VALUES

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
- B. Forms filled out by hand will not be accepted.
- C. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- D. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization.
- E. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement. Submit Pencil Requisition for Owner and Architect's approval prior to submitting Application for Payment.
- B. Forms filled out by hand will not be accepted.
- C. For each item, provide a column for listing each of the following:
 - 1. Item Number.
 - 2. Description of work.
 - 3. Scheduled Values.
 - 4. Previous Applications.
 - 5. Work in Place and Stored Materials under this Application.
 - 6. Authorized Change Orders.
 - 7. Total Completed and Stored to Date of Application.
 - 8. Percentage of Completion.
 - 9. Balance to Finish.
 - 10. Retainage.
- D. Execute certification by signature of authorized officer.
- E. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
- F. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.
- G. Submit one electronic and three hard-copies of each Application for Payment.
- H. Include the following with the application:
 - 1. Transmittal letter as specified for submittals in Section 01 30 00.
 - 2. Certified Payrolls.
 - 3. Partial release of liens from major subcontractors and vendors.
 - 4. Project record documents as specified in Section 01 78 00, for review by Owner which will be returned to the Contractor.
 - 5. Affidavits attesting to off-site stored products.
- I. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

- A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to the Contract Documents.
- B. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.
- C. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
 - 1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
 - 2. Promptly execute the change.
- D. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 5 days.
- E. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 60 00.
- F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
 - 1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
 - 2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
 - 3. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.
- G. Substantiation of Costs: Provide full information required for evaluation.
 - 1. On request, provide the following data:
 - a. Quantities of products, labor, and equipment.
 - b. Taxes, insurance, and bonds.
 - c. Overhead and profit.
 - d. Justification for any change in Contract Time.

- e. Credit for deletions from Contract, similarly documented.
 2. Support each claim for additional costs with additional information:
 - a. Origin and date of claim.
 - b. Dates and times work was performed, and by whom.
 - c. Time records and wage rates paid.
 - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
 3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- H. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- J. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- K. Promptly enter changes in Project Record Documents.
- 1.06 APPLICATION FOR FINAL PAYMENT
- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Price, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
1. All closeout procedures specified in Section 01 70 00.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 20 00

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

- A. Section 00 21 13 - Instructions to Bidders: Restrictions on timing of substitution requests.
- B. Section 01 30 00 - Administrative Requirements: Submittal procedures, coordination.
- C. Section 01 60 00 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling.

1.03 DEFINITIONS

- A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
 - 1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
 - a. Unavailability.
 - b. Regulatory changes.
 - 2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
 - a. Substitution requests offering advantages solely to the Contractor will not be considered.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

- A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
 - 2. Agrees to provide the same warranty for the substitution as for the specified product.
 - 3. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.

4. Waives claims for additional costs or time extension that may subsequently become apparent.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
1. Note explicitly any non-compliant characteristics.
- C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
1. No specific form is required. Contractor's Substitution Request documentation must include the following:
 - a. Project Information:
 - 1) Official project name and number.
 - 2) Owner's, Architect's, and Contractor's names.
 - b. Substitution Request Information:
 - 1) Discrete and consecutive Substitution Request number, and descriptive subject/title.
 - 2) Indication of whether the substitution is for cause or convenience.
 - 3) Issue date.
 - 4) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).
 - 5) Description of Substitution.
 - 6) Reason why the specified item cannot be provided.
 - 7) Differences between proposed substitution and specified item.
 - 8) Description of how proposed substitution affects other parts of work.
 - c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:
 - 1) Physical characteristics.
 - 2) In-service performance.
 - 3) Expected durability.
 - 4) Visual effect.
 - 5) Warranties.
 - 6) Include, as appropriate or requested, the following types of documentation:
 - (a) Product Data:
 - (b) Samples.
 - (c) Certificates, test, reports or similar qualification data.
 - (d) Drawings, when required to show impact on adjacent construction elements.
 - d. Impact of Substitution:

- 1) Savings to Owner for accepting substitution.
 - 2) Change to Contract Time due to accepting substitution.
- D. Limit each request to a single proposed substitution item.
1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

- A. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
- B. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
 2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
 3. Bear the costs engendered by proposed substitution of:
 - a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.
- C. Substitutions will not be considered under one or more of the following circumstances:
1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
 2. Without a separate written request.
 3. When acceptance will require revisions to the Contract Documents.

3.03 RESOLUTION

- A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.
- B. Architect will notify Contractor in writing of decision to accept or reject request.
1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.04 ACCEPTANCE

- A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change

Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.05 CLOSEOUT ACTIVITIES

- A. See Section 01 78 00 - Closeout Submittals, for closeout submittals.
- B. Include completed Substitution Request Forms as part of the Project record.
Include both approved and rejected Requests.

END OF SECTION 01 25 00

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Preconstruction meeting.
- B. Progress meetings.
- C. Construction progress schedule.
- D. Daily Reports
- E. Progress photographs.
- F. Submittals for review, information, and project closeout.
- G. Number of copies of submittals.
- H. Requests for Interpretation (RFI) procedures.
- I. Submittal procedures.
- J. General Notes
- K. Insurance
- L. Owner's Cooperation.

1.03 CORI REQUEST FORM

- A. All personnel working at the sites will be required to fill out a Somerville Public Schools CORI request form, which will be provided by the Owner.
 - 1. All forms shall be submitted to The City of Somerville one week prior to the applicant being on site.
 - 2. The General Contractor will update the list as required to reflect current workers on site.
 - 3. All workers must pass the CORI background check in order to work on these sites.
- B. The General Bidder, Filed Sub-Bidders, and all the sub-contractors are hereby notified that CORI checks are required for all personnel that will be working on site at any of the City of Somerville properties. It is each individual contractor's responsibility to submit the required paperwork to the State, in advance of the work, so as not to delay the schedule for any possible employee that will access any of the sites. Approval by the state for each worker must be delivered to the Owner in advance of the work. Payments will be withheld to the contractor if he/she fails to submit the proper CORI certifications in advance of the work.

1.04 RELATED REQUIREMENTS

- A. Section 01 32 16 - Construction Progress Schedule: Form, content, and administration of schedules.
- B. Section 01 60 00 - Product Requirements: General product requirements.
- C. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.
- D. Section 01 78 00 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.05 PROJECT MANAGEMENT

- A. Cooperate with the Owner and the School Department's authorized representative in allocation of mobilization areas of site; for site access, traffic, and parking facilities and enclosures and protection of building and site areas.
- B. During construction, coordinate use of site and facilities through the Owner.
- C. Comply with Owner's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- D. Coordination with Building Procedures
 - 1. The safety and welfare of the public and employees of the City of Somerville are the utmost concern of the project. All work by the Contractor, his Sub-Contractors, suppliers, and employees shall be performed in a way that

will safeguard this concern. Safety is the sole responsibility of the Contractor on the jobsite. Extraordinary care must be taken throughout the project to coordinate work activities with the School and Library schedules, procedures, and activities.

2. All construction activities and deliveries to the site are to be coordinated with the Owner and the School Department's and Library Department's authorized representative.
3. Pre-construction meeting shall be held with the Owner, the Contractor and Architect, to coordinate locations of deliveries, worker parking, material storage, as well as to discuss safety, scheduling, and procedures.
4. Contractor shall restrict hazardous items and activities to locations that will have the least impact on the daily operations. All material storage, locations dumpsters, workers access, etc. will be only in areas approved by the Owner and the School Department's and Library Department's authorized representatives.
5. Contractor shall provide signage and other safety barriers at the site and within the building adequate to support their safety program.
6. Contractor shall update the Construction schedule weekly. Requisitions for payment must be accompanied by an updated schedule. The on-site superintendent shall meet with the Owner's Authorized Representative to inform them of the daily progress and review the schedule for the next three (3) days.

E. Subcontractors

1. Subcontractors are subject to approval by the Owner.

F. Construction Review

1. All materials and workmanship shall be subject to review by the Architect and all designated representatives of the Owner. Such review may take place at any time during the construction, and wherever work relating to this project is underway. The Contractor shall notify the Architect of any approaching stage of the work likely to require his/her attention, and the Architect shall have the right to reject all defective or non-conforming workmanship and material, and to require its replacement.
 - a. If any unreviewed work is covered up without approval, the Contractor shall bear the costs of uncovering it upon request.

G. Codes

1. Codes, standards, and publications of private and public bodies mentioned in these specifications, and other such standards and specifications, refer to the latest edition thereof at the time of taking bids unless a specific edition is designated, and shall be considered and integral part of the Contract Documents.

- H. Coordination of Work
 - 1. Contractor shall coordinate all construction work.
 - a. Contractor is responsible for all building and sidewalk permits, police details as required as well as any other requirements that may be imposed by the City of Somerville.
- I. Specification
 - 1. A complete copy of the project manual, including plans and specifications shall be kept at the construction site at all times.
 - a. At the direction of the Architect, the Contractor shall photocopy various parts of pertinent Sections of the Project Manual to be handed out to each tradesman.
- J. Field Measurements
 - 1. Before ordering any materials or performing any work, the Contractor or his/her subcontractors shall inspect all existing conditions and perform all measurements at the building. No extra charge or compensation will be allowed because of differences between the drawings and the actual dimensions. Any differences between the Project Manual and the actual conditions found shall be submitted to the Architect for direction before proceeding with the work.
- K. Cutting and Patching
 - 1. The work to be performed under this Contract shall include all cutting and patching necessary to accommodate new work.
- L. Permits
 - 1. Procurement of building permits shall be the responsibility of the Contractor. Requests for inspections by the Building Inspector and the obtaining of required signatures by Inspection on permits is the responsibility of the Contractor. Permit fees will be waived.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Owner will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. General Contractor.
 - 4. All Filed Sub-Bid Contractors.

ADMINISTRATIVE REQUIREMENTS

- C. Agenda:
1. Execution of Owner-Contractor Agreement.
 2. Distribution of Contract Documents.
 3. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 4. Submission of initial Submittal schedule.
 5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures
 6. Designation of personnel representing the parties to Contract, Owner and Architect.
 7. Distribution of Contact Information
 8. Site Utilization Plan, for Owner approval, including review of all dumpster, lay-down/ storage areas, trailers and staging area locations.
 9. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 10. Scheduling.
 11. Project Scope.
- D. Architect to record minutes and distribute to Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. Architect will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- B. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Architect, as appropriate to agenda topics for each meeting.
- C. Agenda:
1. Review of Work progress from the last meeting.
 2. Review of Work anticipated to occur by the next meeting.
 3. Field observations, problems, and decisions.
 4. Identification of problems that impede, or will impede, planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review of RFIs log and status of responses.
 7. Review of off-site fabrication and delivery schedules.
 8. Maintenance of progress schedule.

9. Corrective measures to regain projected schedules.
 10. Planned progress during succeeding work period.
 11. Coordination of projected progress.
 12. Maintenance of quality and work standards.
 13. Effect of proposed changes on progress schedule and coordination.
 14. Other business relating to work.
- D. Architect to record minutes and distribute to Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

- A. Within 7 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 7 days.
- C. Within 5 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- D. Within 5 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.

3.04 PROGRESS PHOTOGRAPHS

- A. Submit new photographs at least once a week, within 3 days after exposure.
- B. Photography Type: Digital; electronic files.
- C. Provide photographs of site and construction throughout progress of Work produced by an experienced photographer, acceptable to Architect.
- D. In addition to periodic, recurring views, take photographs of each of the following events:
 1. Final completion, minimum of ten (10) photos per building.
- E. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
 1. Delivery Medium: Via email with project record photo CD.
 2. File Naming: Include project identification, date and time of view, and view identification.

3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.
4. Photo CD(s): Provide 1 copy including all photos cumulative to date and PDF file(s), with files organized in separate folders by submittal date.

3.05 REQUESTS FOR INTERPRETATION (RFI)

- A. Definition: A request seeking one of the following:
 1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in the Contract Documents.
 2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
- C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of the Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
 1. Prepare a separate RFI for each specific item.
 - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
 - b. Do not forward requests which solely require internal coordination between subcontractors.
 2. Combine RFI and its attachments into a single electronic file. PDF format is preferred.
- D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
 1. Include in each request Contractor's signature attesting to good faith effort to determine from the Contract Documents information requiring interpretation.
 2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
 - a. Approval of submittals (use procedures specified elsewhere in this section).
 - b. Approval of substitutions (see Section - 01 60 00 - Product Requirements)

- c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
 - d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
 3. Improper RFIs: Requests not prepared in conformance to requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
 4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, the Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
 - a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.
- E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
 1. Official Project name and number, and any additional required identifiers established in Contract Documents.
 2. Owner's, Architect's, and Contractor's names.
 3. Discrete and consecutive RFI number, and descriptive subject/title.
 4. Issue date, and requested reply date.
 5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
 6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
 7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.
- F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
- G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.

1. Indicate current status of every RFI. Update log promptly and on a regular basis.
 2. Note dates of when each request is made, and when a response is received.
 3. Highlight items requiring priority or expedited response.
 4. Highlight items for which a timely response has not been received to date.
 5. Identify and include improper or frivolous RFIs.
- H. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.
- I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
 2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
 3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
 4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.06 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
1. Product data.
 2. Shop drawings.
 3. Samples for selection.
 4. Samples for verification.
- B. Provide submittals as indicated in Section 01 30 00; 3.10.

- C. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- D. Samples will be reviewed for aesthetic, color, or finish selection.
- E. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.
- F. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

3.07 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. Certificates.
 - 3. Test reports.
 - 4. Inspection reports.
 - 5. Manufacturer's instructions.
 - 6. Manufacturer's field reports.
 - 7. Other types indicated.
- B. Submit for Architect's knowledge as contract administrator or for Owner.

3.08 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout in conformance to requirements of Section 01 78 00 - Closeout Submittals:
 - 1. Project record documents.
 - 2. Operation and maintenance data.
 - 3. Warranties.
 - 4. Bonds.
 - 5. Other types as indicated.

3.09 PRE-CONSTRUCTION PHOTOS

- A. Contractor shall submit pre-construction photos on one CD that documents all pre-existing building and site conditions. All damages observed after construction shall be deemed the responsibility of the Contractor unless otherwise documented.
- B. Submit for Owner's benefit during and after project completion.

3.10 NUMBER OF COPIES OF SUBMITTALS

- A. Documents for Review. Provide electronically, digital copies of all submittals in addition to hard copies required:
 - 1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches: Submit the number of copies that Contractor requires, plus the number of copies that the sub-Contractors require, including one (1) copy to be filed on-site, plus one (1) copy that will be retained by the Owner's Project Manager, and two (2) copies that will be retained by Architect.
 - 2. Larger Sheets, Not Larger Than 36 x 48 inches: Submit the number of opaque reproductions that Contractor requires, plus two copies that will be retained by Architect.
- B. Documents for Information: Submit two copies.
- C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
 - 1. After review, produce duplicates.
 - 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.11 SUBMITTAL PROCEDURES

3.12 GENERAL NOTES

- A. Contractor shall be responsible for checking and coordinating all dimensions with Architectural drawings. In case of conflict, the Architect shall be notified and shall resolve the conflict
- B. In any case of conflict between the drawings and the project specifications, the more stringent requirements shall govern.
- C. The contractor shall make no deviation from design drawings without prior review by the Architect.
- D. Work not indicated on a part of the drawings but reasonably implied to be similar to that shown at corresponding places shall be repeated.
- E. All work shall comply with applicable codes and local laws and regulations.
- F. General Contractor shall coordinate locations of openings with Mechanical, Electrical and Plumbing trades.

- G. The Structural Design of the building is based on the full interaction of all it's component parts. No provisions have been made for conditions occurring during construction. It is the sole responsibility of the Contractor to make proper and adequate provisions for stability of, and all stresses to the structure due to any cause during construction.
- H. Contractor shall not scale drawings. Contractor shall request all dimensions or information required to perform the work from the Architect. Work completed by the Contractor without dimensions or information shall be done at their own risk and, if deemed incorrect by the Architect, shall be removed and reinstalled to the specifications of the Architect at no additional cost to the Owner.
- I. CODES: The project is based on the requirements of the Massachusetts State Building Code – Eighth Edition. Products and installation shall meet requirements of the Massachusetts Architectural Access Board Regulations (MAAB), the Americans With Disabilities Act Accessibility Guidelines (ADAAG), ANSI Requirements and local amendments and modifications.
- J. The plans were compiled from various sources. The Contractor is responsible for verifying all existing conditions and dimensions.

3.13 INSURANCE

- A. The contractor shall purchase and maintain, at his expense, such insurance as will protect him from claims under workmen's compensation acts and from claims for damages because of bodily injury, including death and all property damage including, without limitation, damage to buildings and adjoining the site of construction which might arise from and during operations under this contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them including:
 - 1. Statutory Worker's Compensation and Employer's Liability
The Contractor shall provide insurance for the payment of compensation and the furnishing of other benefits under Chapter 152 of the General Laws (so-called Worker's Compensation Act) to all persons to be employed under this contract and shall continue in force such insurance as aforesaid shall be deemed a material breach of this Contract and shall operate as an immediate termination thereof. The Contractor shall, without limiting the generality of the foregoing, conform to the provisions of Section 34A of Chapter 149 of the General Laws, which Section is incorporated herein by reference and made a part of hereof, and include Employers Liability Part B.
 - 2. Comprehensive General Liability Insurance
Minimum bodily injury limits of \$1,000,000 per person and \$1,000,000 per accident, and property damage limits of \$1,000,000 per accident and \$3,000,000 aggregate during any 12 month period, shall include the following:
 - a. Public liability (bodily injury and property damage)

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- b. X.C.U. (explosion, collapse, and underground utilities)
 - c. Independent contractor's protective liability.
 - d. Products and completed operations.
 - e. Save harmless agreement for Owner and Architects set forth in ARTICLE 10.11 of the GENERAL CONDITIONS.
 - f. Products and Completed Operations should be maintained for 3 years after the completion of the project.
3. Comprehensive All Risk Motor Vehicle Liability Insurance
Minimum bodily injury limits of \$1,000,000 per person, \$1,000,000 per accident, and property damage limit of \$1,000,000 per accident. The City of Somerville shall be named as "Additional Insured".
 4. All Risk Insurance
Covering all Contractor's equipment.
 5. Excess Liability Insurance in Umbrella Form with combined Bodily Injury and Property Damage Limit of \$5,000,000; combined bodily injury and property damage limit of \$5,000,000.
 6. The City of Somerville and CBI Consulting Inc. shall be listed as "Additional Insured" with a Waiver of Subrogation on the insurance policy for this project.

3.14 COORDINATION

- A. The Contractor shall submit for approval to the Owner a detailed operational plan showing the sequence of work prior to commencement of any work at the site. Any changes to this operational plan must be approved by the Owner.

3.15 OWNER'S COOPERATION

- A. The Owner shall assist the Contractor to perform the Work in accordance with the approved operational plan.
- B. The Contractor shall provide:
 1. Notification to the Owner two (2) weeks before any work is scheduled at the site/building.
 2. Notification to the Owner in writing forty-eight (48) hours before work is scheduled in any particular area.
 3. An updated schedule monthly with the application for payment. Payments will not be authorized until the updated schedule is received and approved and Certified Payroll records are up to date.
- C. The Contractor must supply to the Owner the cell phone number of a responsible person who may be contacted during non-work-hours for emergencies on the Project.

END OF SECTION 01 30 00

CITY OF SOMERVILLE
ADA CITYWIDE UPGRADES
SOMERVILLE, MA
CBI JOB NO. 15036-A.2

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ADMINISTRATIVE
REQUIREMENTS
01 30 00 - 14

SECTION 01 32 16

CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

1.03 RELATED SECTIONS

- A. Section 01 10 00 - Summary of Work: Work sequence.

1.04 SUBMITTALS

- A. Within seven (7) days after date of Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
- B. If preliminary schedule requires revision after review, submit revised schedule within seven (7) days.
- C. Within five (5) days after review of preliminary schedule, submit draft of proposed complete schedule for review.
- D. Within five (5) days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.

- F. Submit the number of opaque reproductions that Contractor requires, plus one copy that will be retained by Architect.

1.05 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.
- B. Diagram Sheet Size: Maximum 22 x 17 inches.
- C. Scale and Spacing: To allow for notations and revisions.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Provide sub-schedules for each stage of Work identified in Section 01 10 00 - Summary of Work.
- E. Provide sub-schedules to define critical portions of the entire schedule.
- F. Include conferences and meetings in schedule.
- G. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- H. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, products identified under Allowances, and dates reviewed submittals will be required from Architect. Indicate decision dates for selection of finishes.
- I. Coordinate content with schedule of values specified in Section 01 20 00 - Price and Payment Procedures.
- J. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

3.04 REVIEW AND EVALUATION OF SCHEDULE

- A. Participate in joint review and evaluation of schedule with Architect at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within 5 days.

3.05 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Annotate diagrams to graphically depict current status of Work.
- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Submit reports required to support recommended changes.
- G. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

3.06 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION 01 32 16

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Re-use of existing products.
- B. Transportation, handling, storage and protection.
- C. Product option requirements.
- D. Substitution limitations.
- E. Maintenance materials, including extra materials, spare parts, tools, and software.

1.03 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary of Work: Lists of products to be removed from existing building.
- B. Section 01 25 00 - Substitution Procedures: Substitutions made during and after the Bidding/Negotiation Phase.
- C. Section 01 74 19 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting packaging and substitutions.

1.04 SUBMITTALS

- A. Refer to Section 01 30 00 for additional requirements.

- B. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
 - 1. Submit within 15 days after date of Agreement.
 - 2. For products specified only by reference standards, list applicable reference standards.
- C. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project. The General Contractor shall include an electronic copy with all submittals.
- D. Shop Drawing Submittals: Prepared specifically for this Project.
- E. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.
- B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.
- C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.
- D. Reused Products: Reused products include materials and equipment previously used in this or other construction, salvaged and refurbished as specified.
- E. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.
 - 1. See Section 01 10 00 for list of items required to be salvaged for reuse and relocation.
 - 2. If reuse of other existing materials or equipment is desired, submit substitution request.

2.02 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. DO NOT USE products having any of the following characteristics:
 - 1. Made of wood from newly cut old growth timber.
 - 2. Containing lead, cadmium, asbestos.

2.03 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

- A. See Section 01 25 00 - Substitution Procedures.

3.02 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Provide off-site storage and protection when site does not permit on-site storage or protection.
- G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- H. Comply with manufacturer's warranty conditions, if any.
- I. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- J. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- K. Prevent contact with material that may cause corrosion, discoloration, or staining.
- L. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- M. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION 01 60 00

SECTION 01 70 00

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.
- C. Pre-installation meetings.
- D. Cutting and patching.
- E. Surveying for laying out the work.
- F. Cleaning and protection.
- G. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- H. General requirements for maintenance service.

1.03 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary of Work: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
- B. Section 01 30 00 - Administrative Requirements: Submittals procedures, Electronic document submittal service.
- C. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties and bonds.
- D. Section 02 41 00 - Selective Demolition: Demolition of whole structures and parts thereof; site utility demolition.
- E. Section 07 84 00 - Firestopping.

1.04 REFERENCE STANDARDS

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.
 - 6. Include in request:
 - a. Identification of Project.
 - b. Location and description of affected work.
 - c. Necessity for cutting or alteration.
 - d. Description of proposed work and products to be used.
 - e. Alternatives to cutting and patching.
 - f. Effect on work of Owner or separate Contractor.
 - g. Written permission of affected separate Contractor.
 - h. Date and time work will be executed.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.06 QUALIFICATIONS

- A. For demolition work, employ a firm specializing in the type of work required.
 - 1. Minimum of 5 years of documented experience.

1.07 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water.
- C. Protect site from puddling or running water.
- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
 - 1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
 - 2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.
- F. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
 - 1. At All Times: Excessively noisy tools and operations will not be tolerated inside the building while it is open to the public; excessively noisy includes jackhammers.
 - 2. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.
 - 3. Indoors: Limit conduct of especially noisy interior work to hours the building is not occupied by the public.
- G. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.08 COORDINATION

- A. See Section 01 10 00 for occupancy-related requirements.
- B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- C. Notify affected utility companies and comply with their requirements.

- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching.

After uncovering existing work, assess conditions affecting performance of work.
Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of examination, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

- A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.
- B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
 - 1. Provide, erect, and maintain temporary dustproof partitions of construction during demolition activities .
- C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
 - 1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
- D. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
 - 2. Remove items indicated on drawings.
 - 3. Relocate items indicated on drawings.
 - 4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, and Electrical): Remove, relocate, and extend existing systems to accommodate new construction.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 - 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.

3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. Provide temporary connections as required to maintain existing systems in service.
 4. Verify that abandoned services serve only abandoned facilities.
 5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
- G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
 2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
 3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
- H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- I. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

- J. Clean existing systems and equipment.
- K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- L. Do not begin new construction in alterations areas before demolition is complete.
- M. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
 - 1. Complete the work.
 - 2. Fit products together to integrate with other work.
 - 3. Provide openings for penetration of mechanical, electrical, and other services.
 - 4. Match work that has been cut to adjacent work.
 - 5. Repair areas adjacent to cuts to required condition.
 - 6. Repair new work damaged by subsequent work.
 - 7. Remove and replace defective and non-conforming work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- E. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material, to full thickness of the penetrated element.
- J. Patching:
 - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.

3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site daily and dispose off-site.

3.08 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.09 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Use cleaning materials that are nonhazardous.
- C. Clean exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances.
- D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- F. Clean filters of operating equipment, including faucets.
- G. Clean site; sweep paved areas, rake clean landscaped surfaces.

- H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.
- I. Clean Owner-occupied areas of work used for worker access or storage of materials.

3.11 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to Architect and Owner.
- B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
- E. Owner will occupy all of the building as specified in Section 01 10 00.
- F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.
- G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- H. Accompany Project Coordinator on Contractor's preliminary final inspection.
- I. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
- J. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

END OF SECTION 01 70 00

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 WASTE MANAGEMENT REQUIREMENTS

- A. Owner requires that this project generate the least amount of trash and waste possible.
- B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- D. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.
- E. Methods of trash/waste disposal that are not acceptable are:
 - 1. Burning on the project site.
 - 2. Burying on the project site.
 - 3. Dumping or burying on other property, public or private.
 - 4. Other illegal dumping or burying.

- F. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.03 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary of Work: List of items to be salvaged from the existing building for relocation in project or for Owner.
- B. Section 01 30 00 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.
- C. Section 01 50 00 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.
- D. Section 01 60 00 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.
- E. Section 01 70 00 - Execution and Closeout Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

1.04 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.
- D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.
- E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
- H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- I. Return: To give back reusable items or unused products to vendors for credit.

- J. Reuse: To reuse a construction waste material in some manner on the project site.
- K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.
- L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
- M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- N. Toxic: Poisonous to humans either immediately or after a long period of exposure.
- O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
- P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
 - 1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
 - 2. Submit Report on a form acceptable to Owner.
 - 3. Landfill Disposal: Include the following information:
 - a. Identification of material.
 - b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.
 - c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - 4. Incinerator Disposal: Include the following information:
 - a. Identification of material.
 - b. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
 - c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.

- d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
5. Recycled and Salvaged Materials: Include the following information for each:
 - a. Identification of material, including those retrieved by installer for use on other projects.
 - b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.
 - c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
6. Material Reused on Project: Include the following information for each:
 - a. Identification of material and how it was used in the project.
 - b. Amount, in tons or cubic yards.
 - c. Include weight tickets as evidence of quantity.
7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

- A. See Section 01 60 00 - Product Requirements for substitution submission procedures.

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

- A. See Section 01 10 00 for list of items to be salvaged from the existing building for relocation in project or for Owner.
- B. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.
- C. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.
- D. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.
- E. See Section 01 70 00 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.
- B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.
- C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.
- D. Meetings: Discuss trash/waste management goals and issues at project meetings.
 - 1. Pre-bid meeting.
 - 2. Pre-construction meeting.
 - 3. Regular job-site meetings.
- E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
 - 1. Provide containers as required.
 - 2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
 - 3. If an enclosed area is not provided, clearly lay out and label a specific area on-site.
 - 4. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.
- F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.
- G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.
- H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.
- I. Salvage: Set aside, sort, and protect products to be salvaged for reuse on or off-site.

END OF SECTION 01 74 19

SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.03 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.
- C. Individual Product Sections: Specific requirements for operation and maintenance data.
- D. Individual Product Sections: Warranties required for specific products or Work.

1.04 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment. All submittals shall also be submitted in digital format.
- B. Operation and Maintenance Data:

1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed shop drawings, product data, and samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.

- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 2. Field changes of dimension and detail.
 - 3. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 - 1. Product data, with catalog number, size, composition, and color and texture designations.
 - 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.

- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 - 1. Description of unit or system, and component parts.
 - 2. Identify function, normal operating characteristics, and limiting conditions.
 - 3. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Include manufacturer's printed operation and maintenance instructions.
- D. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- E. Additional Requirements: As specified in individual product specification sections.

END OF SECTION 01 78 00

TECHNICAL SPECIFICATIONS

SECTION 02 41 00

SELECTIVE DEMOLITION

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Selective demolition of building elements for alteration purposes.
- B. Refer to the Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Selective Demolition Work required to complete the work of the contract including all the Selective Demolition Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Selective Demolition Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Selective Demolition Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed.
- B. Demolition and removal of selected portions of buildings and structures required for the work includes but is not limited to:
 - 1. Central Public Library - Remove plumbing fixtures from toilet rooms, remove existing ceramic tile wainscoting and flooring at toilet rooms, demolish CMU

- walls, remove suspended ceiling tiles necessary to complete work, remove existing metal door frames to toilet rooms, remove existing drinking fountain. Remove toilet room doors and toilet accessories for reinstallation.
2. East Branch Public Library - Carefully cut and remove elements of the existing circulation desk as shown on the drawings to accommodate modifications.
 3. (NOT USED)
 4. (NOT USED)
 5. John F. Kennedy School - No selective demolition work.
 6. Benjamin Brown School - Remove existing handrails at stairwells, remove areas of lath and plater wall finish where blocking for hanrail brackets is to be installed, remove existing drinking fountain and associated piping back to existing stack.
 7. Winter Hill School - Remove existing drinking fountains and associated piping back to existing stacks.
- C. Salvage of existing items to be reused or turned over to the facility.
1. Central Public Library - Salvage existing toilet accessories including hand dryers, syringe deposit boxes, toilet paper holders, feminine hygiene box, mirrors, and soap dispensers for reinstallation. Salvage existing toilet rooms doors for reinstallation.
 2. East Branch Public Library - No salvage work.
 3. (NOT USED)
 4. (NOT USED)
 5. J. F. Kennedy School - No salvage work.
 6. Benjamin Brown School - No salvage work.
 7. Winter Hill School - No salvage work.
 8. Disconnecting, capping and otherwise making inactive existing mechanical services in areas where demolition and removal work is required. Mechanical tradesmen will disconnect, cap, inactivate and lower to floor such items where required to be removed under Sections 22 00 00 - Plumbing and 26 00 00 - Electrical. Removal and disposal of such materials shall be then done under this Section 024100 - Demolition.
- D. Disconnection and reinstallation of plumbing, HVAC, and electrical equipment temporarily interrupted during construction.
- E. Removal and legal disposal of demolished materials off site. Except those items specifically designated to be relocated, reused, or turned over the the Owner, all existing removed materials, items, trash and debris shall become property of the Contractor and shall be completely removed from the site and legally disposed of

at his/her expense. Salvage value belongs to the Contractor. On-site sale of materials is not permitted.

- F. Demolition and removal work shall properly prepare for alteration work and new construction to be provided under the contract.
- G. Scheduling and sequencing operations without interrupting utilities serving occupied areas. If interruption is required, obtain written permission from the Owner. Schedule interruption when the least amount of inconvenience will result.

1.04 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary of Work: Limitations on Contractor's use of site and premises.
- B. Section 01 70 00 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.
- C. Section 01 74 19 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.
- D. Section 04 20 00 - Masonry
- E. Section 05 52 13 - Metals
- F. Section 06 10 00 - Rough Carpentry
- G. Section 06 20 00 - Finish Carpentry
- H. Section 07 14 00 - Fluid Applied Waterproofing
- I. Section 07 92 00 - Joint Sealants
- J. Section 08 12 13 - Hollow Metal Frames
- K. Section 08 71 00 - Door Hardware
- L. Section 09 21 16 - Gypsum Board Assemblies
- M. Section 09 30 00 - Tiling
- N. Section 09 51 00 - Acoustical Ceilings
- O. Section 09 65 00 - Resilient Flooring
- P. Section 09 91 23 - Interior Painting
- Q. Section 10 28 00 - Specialties
- R. Section 12 36 00 - Countertops and Backsplashes
- S. Section 12 41 00 - Furniture
- T. Section 22 00 00 - Plumbing
- U. Section 26 00 00 - Electrical

1.05 REFERENCE STANDARDS

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
 - 1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
 - 2. Include a summary of safety procedures.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 3 EXECUTION

2.01 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with other requirements specified in Section 01 70 00.
- B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Comply with applicable requirements of NFPA 241.
 - 3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 4. Provide, erect, and maintain temporary barriers and security devices.
 - 5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 6. Do not close or obstruct roadways or sidewalks without permit.
 - 7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
 - 8. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- C. Do not begin removal until receipt of notification to proceed from Owner.
- D. Do not begin removal until built elements to be salvaged or relocated have been removed.

- E. Protect existing structures and other elements that are not to be removed.
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.
- F. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

2.02 EXISTING UTILITIES

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

2.03 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Separate areas in which demolition is being conducted from other areas that are still occupied.
- C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
- D. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
- E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, and Electrical): Remove existing systems and equipment as indicated.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.

2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 3. Verify that abandoned services serve only abandoned facilities before removal.
 4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
 4. Patch as specified for patching new work.

2.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Remove from site all materials not to be reused on site; comply with requirements of Section 01 74 19 - Waste Management.
- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION 02 41 00

SECTION 02.82.00

ASBESTOS ABATEMENT

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. The General Provisions of the contract, including General and Supplementary Conditions and applicable provisions of Division 1 - General Requirements, apply to the work specified within this Section.
- B. Examine all conditions as they exist at the project prior to submitting a bid for the work of this Section.
- C. All provisions of this Section relating to the health and safety of workers and the general public, as well as protection of the environment are minimum standards. The General Contractor and the Asbestos Abatement Subcontractor are responsible for determining whether any additional and/or more stringent protective measures are required by any legal requirements or prudent conservative work practices, and implementing such measures if deemed necessary. Nothing in this Section shall be deemed to relieve the General Contractor and the Asbestos Abatement Subcontractor from any liability with respect to any such legal requirements or requirement of prudent conservative practice.
- D. All work-site preparations and practices will be conducted in accordance with all Federal, Massachusetts and appropriate City and other local regulations, standards and codes pertaining to worker health protection, protection of the public health and the environment, including current US Environmental Protection Agency (EPA), Department of Labor Occupational Safety and Health Administration (OSHA), US Department of Transportation (DOT), Massachusetts Department of Labor Standards (DLS), Massachusetts Department of Environmental Protection (DEP), local and all other Federal, Commonwealth of Massachusetts and local regulations pertaining to asbestos removal, its transportation and disposal.
- E. The Consultant will render certain technical services during the Work, including without limitation, the services described at 453 CMR. 6.07 (5) and described within this Section. All services performed by such Representative shall be considered advisory to, and for the sole and exclusive benefit of the Owner. The Asbestos Abatement Subcontractor acknowledges that the Consultant is an independent contractor of the Owner and agrees that no act or omission by such Consultant, and

no communication by said "Consultant", shall be deemed in any manner to alter or modify the terms of this Contract, or to waive any provision hereof, or to bind Owner, unless specifically agreed upon by Owner in a signed written instrument.

- F. Prior to use of any design, device, material, method of operation, or process covered by letters patent or copyright, the right for such use shall be secured by suitable legal agreement with the patentee or owner of the letters patent or copyright. No arrangement involving letters patent or copyright is acceptable, if subsequent payment for permanent use following completion of the work is required or implied. The contractor shall be responsible for any liability on the part of the Consultant, which may result from violations by the contractor.
- G. The Owner and Architect has retained ATC as the Environmental Consultant for the purpose of Project Management during Asbestos Abatement.
- H. For the purpose of this Section, "*Consultant*" shall refer to ATC, who will act as designated, authorized representatives of the Owner for the purpose of inspecting, monitoring, and testing.

1.02 SUMMARY OF WORK

The following is the Scope of Work, at a minimum, required to be performed associated with the asbestos removal at the Benjamin G. Brown School, which is located at 201 Willow Avenue, in Somerville, Massachusetts and the Winter Hill Community School, which is located at 115 Sycamore Street, in Somerville, Massachusetts under the base bid.

All Asbestos Abatement work under this Section shall be performed by a contractor holding a current Massachusetts DLS Asbestos Abatement Contractor's license. The contractor shall furnish all labor, worker training, materials, equipment, and services for the complete and proper removal and disposal of asbestos-containing materials.

1. Removal and disposal of all specified asbestos-containing materials (ACM). This shall include approximately 50 sq ft of specified asbestos-containing 12" x 12" white floor tile and associated black mastic located at the Brown School and approximately 50 sq ft of specified asbestos-containing 12" x 12" tan with flecks floor tile and associated black mastic located at the Winter Hill School. The contractor is responsible for any demolition necessary to access asbestos-containing materials.
2. Work area preparations, including required pre-cleaning, installation of critical barriers and polyethylene sheeting, construction of decontamination facilities, work area enclosures, sealing, isolation, and other activities as directed by the Owner or Consultant.

3. Installation and operation of HEPA filtration units sufficient to achieve a minimum of four air changes per hour in each containment, and according to the provisions as set forth in this Section.
4. Protection on non-ACM materials and equipment inside of work areas with two layers of 6 mil polyethylene sheeting.
5. Removal and disposal of designated asbestos-containing 12" x 12" White floor tile and associated black mastic from the Brown School and designated 12" x 12" tan with fleck floor tile and associated black mastic from the Winter Hill School, will be completed as specified in accordance with Section 3.03.
6. Furnishing of all labor, materials, equipment, and services required for all work included under the provisions of this Section.
7. Compliance with all applicable federal, state, and local regulations, as well as all provisions set forth within this Section, and facility requirements.
8. Decontamination and clean up following removal activities in each designated work area. Clean up to include all visible debris from all surfaces present in the work areas.
9. Performance of any other work or activities required by this Section, applicable regulations, or as necessary to perform a complete job to the satisfaction of the Owner and Consultant.
10. Provide temporary electrical wiring and services as required for asbestos removal according to the Provisions as set forth in this Section.
11. Perform all selective demolition as needed to access any asbestos-containing materials. The contractor will perform all selective demolition as needed to the satisfaction of the consultant at any locations and items requested by the consultant during the project.
12. Removal and disposal of asbestos-containing materials, and specified non-ACM materials, uncovered during upgrades and not included in the base bid scope of work.
 - A. Base Bid: The following is the approximate location and quantities of asbestos-containing materials to be removed, under the Base Bid, in accordance with the provisions set forth in this Section:

Table 1: Summary of Identified ACM

Sample Location	Material	Estimated Quantity
Brown School, Stairwell Landing	12" x 12" White Floor Tile and Associated Black Mastic	50 sq ft
Winter Hill School, Basement Fountain Area	12" x 12" Tan with Flecks Floor Tile and Associated Black Mastic	50 sq ft

1.03 SEQUENCE OF WORK

The following is a typical sequence of work that the Contractor shall adhere to during the asbestos abatement project. The consultant may authorize deviations from this typical sequence based upon the specific conditions encountered during the project.

1. The Contractor shall post all required signage.
2. The Contractor shall secure area from unauthorized access.
3. The Owner/Contractor will remove all movable objects from the work area.
4. The Contractor shall pre-clean the work area and cover all immovable objects and objects not removed from the work area with two layers of 6-mil polyethylene sheeting, sealed airtight with duct tape. The contractor shall install critical barriers at all points of access required by regulations.
5. The Contractor shall seal all rooms that do not contain ACM with two layers of six-mil polyethylene sheeting sealed airtight with duct tape.
6. The Contractor shall install HEPA filtration units sufficient to achieve a minimum of four (4) air changes per hour. All units shall exhaust to the outside of the building through windows.
7. The Contractor shall prepare the specified Work Areas for total isolation/containment and perform removal of all identified ACM as described in this Section. Preparation shall include two (2) layers of six (6)-mil polyethylene sheeting, sealed with duct tape, on all floors (if applicable) and non-impervious surfaces, including all interior walls and ceilings.
8. The Contractor shall construct a decontamination unit, and any other construction needed to complete the work area to the satisfaction of Consultant.

9. The Consultant shall inspect and approve all work area preparations before permitting Contractor to begin removal work.
10. The Contractor shall construct demising barriers according to the Provisions as set forth in this Section, as deemed necessary and at the direction of the Consultant, if ceiling and wall voids are accessed during abatement activities.
11. The Contractor shall remove and dispose all asbestos-containing materials as required by these Sections.
12. The Contractor shall decontaminate and clean up each work area upon completion of removal. Clean up of the work area will include the removal of all visible dust and debris from all surfaces in the work area.
13. The Consultant shall perform a final visual inspection to assure that no visible debris exist in the work area. Contractor shall re-clean the work areas as needed until they pass a visual inspection by Consultant.
14. The Contractor shall encapsulate all surfaces in the work area from which ACM was removed.
15. The Consultant will perform final air clearance testing in each work area. Satisfactory results are required before containment may be removed.
16. The Contractor shall remove all work area barriers, equipment, polyethylene sheeting, etc. and clean any areas to the satisfaction of Consultant and Owner.

1.04 RELATED WORK SPECIFIED ELSEWHERE

- A. Related work specified elsewhere: Examine all Drawings and all other Sections of the Specifications for requirements of related sections affecting the work of this Section.
- B. The work of this section shall be performed as stated herein. In performing the work of this Section, the Contractor shall refer to other Divisions for additional procedures. The Contractor is responsible for the coordination of the work of this section with other related work.

1.05 ESTIMATES

- A. Section 1.02 represents a brief description of the estimated quantities of asbestos and asbestos-containing materials to be removed. This data is provided for informational purposes only, and is based on the best information available at the time of specification preparation. Nothing in this section may be interpreted as limiting the scope of work otherwise required by this contract and related documents.
- B. The quantities and location of ACM and the extent of work included in this section are only best estimates, which are limited by the physical constraints imposed by occupancy of the building. Accordingly, minor variations of plus or minus 15% of the estimated quantities of ACM within the limits of containment for each abatement stage are considered as having no impact on the price of this contract.

1.06 COORDINATION AND PHASING OF WORK

- A. The contractor shall coordinate all work in this Section with all other work of this Project. Where additional regulatory requirements apply to the work in this Section, the Contractor shall ensure compliance with all requirements.
- B. The contractors work schedule must be coordinated with and acceptable to the General Contractor and approved by the Owner. Contractor shall work continuously and diligently in each work area on the days and during the hours indicated on their work schedule.
- C. The Contractor shall cooperate fully with other Contractors at the facility.
- D. The Contractor shall subdivide work areas and/or otherwise provide additional containments and mobilization where and when necessary to accomplish asbestos abatement in accordance with the project phasing, as determined by the General Contractor, and as specified by the Owner.

1.07 SUBMITTALS

A. PRE-CONSTRUCTION MEETING

The Contractor shall meet with the Owner and the Consultant for a Pre-Construction meeting prior to commencing work on the project. The meeting shall be at the facility or at the offices of the Owner, at a mutually convenient time and date. At the meeting, the Contractor shall be represented by authorized representatives and the field supervisor who shall run the project on a daily basis, and who shall present evidence that all requirements for initiation of the work have been met. The minimum agenda for the meeting shall be:

1. Review of "Pre-Job Submittals".
2. Channels of communication.
3. Construction schedule, including sequence of critical work.
4. Designation of responsible personnel.
5. Procedures for safety, security, quality control, housekeeping, and related matters.
6. Use of premises, facilities, and utilities.

B. PRE - JOB SUBMITTALS

The Contractor is required to provide one copy of the following Pre-Job Submittals at the Pre-construction Conference:

1. Copies of all notifications, permits, applications, personnel licenses, asbestos abatement contractor license and like documents required by Federal, State, or local regulations obtained or submitted in proper fashion,
2. List of employees to be used on this project,
3. Copies of medical records as required by OSHA or a notarized statement by an examining medical doctor that such examinations took place within the previous 12 months and for each employee to be used on this project,
4. Record of successful respiratory fit test performed by a Competent person (as defined by OSHA) within the previous 6 months, as required elsewhere in the documents for each employee to be used on this project,
5. Certificate of Insurance,
6. Proposed respiratory program for employees throughout all phases of the job, including make, model and NIOSH approval numbers of respirators to be used,
7. Written description of all procedures, methods, or equipment to be utilized by the Contractor that differ from the Contract Sections, including manufacturers Sections on any equipment not specified for use by the Contract Sections,
8. Proposed electrical safeguards to be implemented, including but not limited to location of transformers, GFCI outlets, lighting, etc., necessary to safely perform the job, including a description of an electrical hazards safety plan for common practices in the work area,

9. A list of all equipment to be used on-site, by make and model, including negative pressure equipment, HEPA vacuums, water atomizing devices, etc.,
10. Chain of Command of responsibility at the work site including supervisors, foreman, and competent person, their names, resumes and certificates of training,
11. Proposed Emergency plan and route of egress from the work areas in case of fire or injury, including the name and phone number of nearest medical assistance center,
12. The contractor's testing lab, AIHA PAT proficiency, and Certification in the State where the work site is located,
13. Schedule of values breaking down the work in sufficient detail so as to serve as the basis for payment, with disposal costs listed as a separate item.

C. POST-CONSTRUCTION SUBMITTALS

The Contractor is required to submit the following to the Consultant within thirty days after completion of the project:

1. Manifests and waste receipts acknowledging disposal of all waste material from the project showing delivery date, quantity, and appropriate signature of landfill's authorized representative,
2. A copy of the entry-exit logbook required elsewhere in these Sections,
3. All personnel monitoring results as required by OSHA and elsewhere in these Sections,
4. Copy of licenses, medical, and fit tests of all workers and supervisors who performed work on the project,
5. All notifications as required elsewhere in these Sections.

1.08 REFERENCE STANDARDS, REGULATIONS AND CODES

- A. All work shall be performed strictly according to the Sections contained herein and with the regulations cited in this Article. The Contractor undertaking asbestos abatement work and persons they employ shall comply with and be bound to requirements of the following federal, state, and local standards, regulations and codes. These standards and codes shall be by reference made part of this Section and

shall be complied with. Whenever regulations are conflicting, the more stringent regulation will prevail.

1. US Department of Labor; Occupational Safety and Health Act of 1970. (Particular attention is drawn to the Asbestos Regulations: CFR Title 29, Part 1910, Sec. 1910.1001 and Part 1926, Sec. 1926.1101, and the Respirator Regulations; CFR Title 29, Part 1910, Sec. 1910.134 and the Hazard Communication Program, CFR Title 29, Part 1910.1200).
 2. US Environmental Protection Agency, CFR, Title 40, Part 61, Subparts A and M, National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision; Final Rule, Dated Tuesday, November 20, 1990.
 3. US Environmental Protection Agency; TSCA Title II, Asbestos Hazard and Emergency Response Act (AHERA), 40 CFR Part 763 Subpart E - "Asbestos-Containing Materials in Schools" and also 40 CFR, Part 763, Subpart G - "Worker Protection Rule".
 4. US Department of Transportation Regulations, 49 CFR Parts 172 and 173.
 5. All Commonwealth of Massachusetts laws, regulations and standards, including the regulations 453 CMR 6.00 "The Removal, Containment or Encapsulation of Asbestos" and 310 CMR 7.15 "Asbestos", 18.00 and 19.00 and MGL Chapter 21E.
 6. Other federal, state and local statutes, ordinances, regulations, or rules pertaining to this Section and the work described herein, including the storage, transportation and disposal of asbestos.
- B. All regulations by these and other governing agencies in their most recent version are applicable. These Sections refer to many requirements found in these references, but in no way intend to cite or reiterate all provisions therein or elsewhere. It is the contractor's responsibility to know, understand, and abide by all such regulations and common practices. Other provisions contained in these references may from time to time during the execution of this contract be enforced by the Owner at his own discretion.

1.09 REGULATORY SUBMITTALS

- A. The Contractor shall be responsible for securing all necessary permits for asbestos related work, including hauling, removal, and disposal, fire, and materials usage, or any other permits required to perform the specified work.

- B. The Contractor shall notify the following agencies in appropriate manner and place of impending work, and shall provide evidence of notifications at the pre-construction conference:
1. U.S. Environmental Protection Agency,
J. F. Kennedy Federal Building
Boston, Massachusetts 02203
(10 working days in advance)
 2. Massachusetts Department of Environmental Protection
Division of Air and Hazardous Materials
(10 working days in advance)
 3. Commonwealth of Massachusetts
Asbestos Program
P.O. Box 120087
Boston, Massachusetts 02112-0087
 4. Massachusetts Department of Labor Standards
Asbestos Control Unit
(10 working days in advance)
 5. City of Somerville Fire Department, City of Somerville Health Department, and any other state or city agencies as required by law or ordinance.

1.10 PROJECT CONDITIONS

- A. Take all measures and provide all material necessary for protecting fixed machinery, controls, instrumentation, equipment, and furniture from asbestos fiber, dust and debris and from water damage.
- B. Working space and space available for storing materials is restricted within the confines of the project and/or at locations to be designated by the Owner.
- C. Provide access and personal protective equipment, including half face air-purifying respirators, to the Consultants, who are licensed and certified, to visit the Work Areas to maintain and adjust building services.
- D. Schedule the use of existing utilities with the Owner. No utility service, fire protection system, or communication system may be interrupted without prior approval of the Owner.
- E. Water, electric power, lighting and other utilities, toilets, and other facilities, shall be provided by the Owner from existing sources where Contractor's use is not excessive and does not interfere with buildings normal use. Where existing utilities of the

facility are not adequate or cannot be used, the Contractor is responsible for providing alternative sources, the cost of which is to be included in bid price. The use of the Facility's utilities shall be coordinated through the Owner.

- F. Post and affix caution signs and labels as required by OSHA regulation, 29.CFR.1926.1101 (k) (1). Post safety signs outside the work project as may be required by the Owner. Obtain two copies of 29.CFR.1910.1001, 29.CFR.1926.1101, m 40.CFR.61, Subpart M, and Commonwealth of Massachusetts Regulations 453 CMR 6.00 and 310 CMR 7.00, and post one copy at the job site and retain one copy on file.
- G. Post at the job site, or at the entrance to each independent Work Area, one copy of all Safety Data Sheets (SDS's) of all chemicals and other substances to be used on this project. These SDS sheets shall be made available to the Consultant for review.
- H. No storage of waste will be permitted on-site. All ACM shall be removed off-site at the end of each shift except that limited storage space may be provided by the Owner at the facility. Contractor will supply any additional temporary storage as needed. All materials and equipment are to be kept in orderly fashion in designated areas, free and clear of halls and doorways, and in conformance with all regulations, codes, and in consideration of building usage.

1.11 RESPIRATORS AND PROTECTIVE CLOTHING

- A. Personal protection, in the form of disposable Tyvek suits, and NIOSH approved respirators, are required for mechanics, contractor supervision, Consultant and visitors at the work site during the set-up, removal, and cleaning operations. The contractor shall provide all this protective equipment for workers, Consultant, and authorized personnel to access this work site.
- B. Each worker shall be supplied with a minimum of two complete disposable uniforms every day. Abatement workers shall not be limited to two uniforms, and the Contractor will be required to supply additional uniforms as is necessary. Under no circumstances will anyone entering the removal area be allowed to reuse a contaminated uniform.
- C. Work clothes shall consist of disposable full body suits, head covers, gloves, footwear, and eye protection.
- D. The Contractor shall supply workers and supervisory personnel with NIOSH approved protective respirators and HEPA/filters. Appropriate respirator selection shall be determined by the daily personal air samples being taken and to strictly follow the guidelines set forth in the OSHA respiratory program 29 CFR 1910.134 and the Massachusetts DLS Regulations 453 CMR 6.00. The respirators shall be

sanitized and maintained according to the manufacturer's Sections. Appropriate respirators shall be selected using the information provided in OSHA Title 29 CFR Part 1910.1926 Final Rules. This determination has been made for this project. PAPR's shall be supplied by the contractor for all personnel associated with this work. Disposable respirators shall not be considered acceptable in any circumstance. The Contractor will maintain on-site a sufficient supply of disposable HEPA/filters to allow workers and supervisory personnel to change contaminated filters at least three (3) times daily. The Contractor is solely responsible for means and methods used and for compliance with applicable regulations.

- E. Respirators shall be individually assigned to abatement workers for their exclusive use. All respiratory protection shall be provided to workers in accordance with the written submitted respiratory protection program, which includes all items in OSHA 29 CFR 1910.134 (b) (1-11). A copy of this program shall be kept at the work-site, and shall be posted in the Clean Room of the Decontamination Unit.
- F. Workers must perform negative and positive pressure fit tests each time a respirator is put on, whenever the respirator design so permits. Powered air purifying respirators shall be tested for adequate flow as specified by the manufacturer.
- G. Workers shall be given a qualitative fit test in accordance with procedures detailed in the OSHA Lead Standard (29 CFR 1910.1025, Appendix D, Qualitative Fit Test Protocols) for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.
- H. Upon leaving the active work area, pre-filters shall be discarded, cartridges removed, and respirators cleaned in disinfectant solution with a clean water rinse. Clean respirators shall be stored in a plastic bag when not in use. The contractor shall inspect respirators daily for broken, missing, or damaged parts.
- I. The contractor shall provide daily personal air sampling to check personal exposure levels for the purpose of establishing respiratory protection needs. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal air samples need not be taken every day after the first day if working conditions remain invariant, but must be taken every time there is a change in the removal operation, either in terms of the location or the type of work. Personal air sampling will be to determine an eight-hour Time Weighted Average (TWA). The contractor is responsible for personal air sampling as outlined in OSHA Standard 1926.1001.
- J. Air sampling personnel shall be proficient in the taking of air samples under NIOSH 7400, and must be supervised by an individual who has completed the training course NIOSH 582 or equivalent.

- K. Air sampling results shall be made available at the job site in written form no more than twenty-four (24) hours after the completion of a sampling cycle. This document shall list each air sample result, sampling time, sampling date, flow rate, sample duration, sample type, number of fibers per fields counted, cassette size and analysts name and company. Air sample analysis results will be reported in fibers per cubic centimeter (f/cc).

1.12 WATER AND ELECTRICAL SERVICE

- A. The Contractor shall provide temporary connections to existing building utilities and provide temporary facilities as required and necessary to carry out the work.
- B. The Contractor shall provide temporary connections to building water service and provide all lines necessary for distribution of water.
- C. Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electrical service. All power connections and panel work is to be performed by a licensed electrician.
- D. The Contractor shall provide temporary service connections from power sources as required. All existing power service to the work area will be isolated and shut down for the duration of the project. The contractor shall provide service (sub-panel) with a minimum of 100 amp, two-pole circuit breaker or fused disconnect. Sub-panel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion. The contractor's electricians will make all the necessary connections to main power system.
- E. Provide I.D. warning signs at power outlets that are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets.
- F. Provide all receptacle outlets equipped with ground fault circuit interrupters (GFCI) and reset button for plug-in connection of equipment.
- G. The Contractor must supply temporary lighting for all lighting requirements within contained areas.

1.13 SPECIAL CONSIDERATIONS

- A. Final Air Clearance Tests
 - 1. All final air clearance tests will be performed in accordance with Massachusetts Department of Labor Standards (DLS) regulations at 453 CMR 6.00, this Section, and other applicable Rulings (i.e., AHERA). The first set of final air clearance

tests for each removal area will be paid for by the Owner. In the event that these final air clearance tests do not pass the clearance criteria, and any subsequent final air clearance tests that need to be performed shall be paid for by the contractor. All additional sampling costs will be automatically be deducted from the contract price until the areas in question pass the final air clearance criteria which is less than 0.010 fibers per cubic centimeter (f/cc) for PCM final air clearance testing or an average of 70 structures per square millimeter (s/mm²) for TEM clearance testing.

B. Exceptions to Work Area Preparation Requirements

1. In accordance with 453 CMR 6.14 (2) (a) (7), it will not be required to cover impervious surfaces of walls, floors or ceilings with two layers of 6-mil polyethylene sheeting. Examples of such surfaces that may be considered to be impervious include concrete floors without any cracks or fissures and glazed walls, i.e., painted brick walls. (Note: wooden surfaces and surfaces constructed of stone/cement are not considered impervious). If Contractor wishes to utilize this exception, Contractor shall be required to state on their DLS notification forms that they do not intend to use two layers of 6-mil polyethylene sheeting for these particular surfaces. If the DLS does not permit this exception, Contractor shall be required to use two layers of 6-mil polyethylene sheeting in full accordance with the work area preparation requirements of this Section, and will not be entitled to any additional monies of payment.

PART 2.0 - PRODUCTS

2.01 ASBESTOS ABATEMENT SUPPLIES

- A. Respirators: Respirators will be selected from those jointly approved by the National Institute for Occupational Safety and Health (NIOSH), US Department of Health and Human Services and the Mine Safety and Health Administration (MSHA), US Department of Labor.
- B. Surfactant (Amended Water): All water to be used for removal and wet wiping of asbestos-contaminated materials during clean-up operations shall be amended through the addition of a surfactant (a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent) mixed and supplied in accordance with manufacturer's instructions.
- C. Polyethylene Sheeting: All polyethylene sheeting used on the Project shall be fire resistant, and shall meet and be approved as called for in local, Fire Prevention Codes.
- D. Encapsulant: A bridging encapsulant such as Childer's Product Co., Chilcare CP215 bridging encasement/encapsulant; Barrier Systems Inc., Slaytex Asbestos Encasement System; CRSI/ISP Guardian Bridging encapsulant; IPC Serpiflex shield encapsulant; or equivalent shall be used. The proposed brand and product shall be submitted to the Consultant for approval.

PART 3 - EXECUTION

3.01 GENERAL

A. Approvals and Inspection

1. All temporary facilities, work procedures, equipment, materials, services, and agreements must strictly adhere to and meet these contract Sections along with EPA, OSHA, NIOSH, regulations and recommendations as well as any other federal, state, and local regulations. Where there exists overlap of these regulations, the most stringent one applies. All work performed by the Contractor is further subject to approval of the Owner.
2. Modifications to these isolation and sealing methods, procedures, and design may be considered if all elements of proper and safe procedures to prevent contamination and exposure can be demonstrated. Written modifications to these Sections must be made to the Owner for review before they can be used for work on this project.

B. HVAC Systems

1. All duct work, heating units and HVAC equipment shall be wrapped in two layers of six-mil polyethylene sheeting prior to any other work taking place, or excluded from the work area boundaries by airtight polyethylene sheeting.

C. Barriers and Isolation Areas

1. The Contractor shall construct and maintain suitable critical barriers within the building to separate work areas from spaces occupied by the Owner. Critical barriers shall be of sufficient size and strength to prevent staff, residents, the public and others from entering the work areas. Critical barriers shall be constructed at all hallways, doorways, grille openings, or other open entrances to the work area. Critical barriers shall be constructed with plywood and 2 x 4 lumber, reinforcing it, and placed in the locations specified and designated by the Owner's Representative. Any seams in the critical barriers shall be sealed airtight with caulking or an approved equal method. These barriers shall be removed by the Contractor at the completion of construction work.
2. Warning signs shall be posted on all critical barriers at the commencement of the work area preparation, as required in 1926.1101 of the Occupational Safety and Health Standards Federal Register, Volume 51, Number 119, June 20, 1986. The signs shall display the proper legend in the lower panel, with letter sizes and styles of a visibility at least equal to that specified in OSHA Standard 1926.1101. (k)(1)(ii).The asbestos signs will read as follows:

**DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATOR AND PROTECTIVE CLOTHING
REQUIRED IN THIS AREA**

3. The signs shall be posted at the perimeters of asbestos removal, demolition or construction areas where the asbestos-containing material to be removed exists.
4. The Contractor shall maintain all temporary and critical barriers, facilities and controls as long as needed for the safe and proper completion of the work. Any breeches in the containment will be corrected at the beginning of each shift and as necessary during the workday. Work will not be allowed to commence until all control systems are in place and operable.
5. No barriers shall be removed until the work areas are thoroughly cleaned and all debris has been properly bagged and removed from the work areas, and the air has passed final air clearance tests, in accordance with provisions detailed herein.

3.02 ACM LOCATION PREPARATION AND REMOVAL METHOD

A. Preparation

1. **Primary Barriers:** Prior to construction of the asbestos removal area, all primary barriers shall be sealed with a minimum of one layer of six-mil polyethylene sheeting and duct tape. Primary barriers consist of all windows, vents, closed and locked doors, and openings to adjacent spaces from the work area. HVAC systems shall be sealed, where applicable, as described previously with two layers of 6-mil polyethylene sheeting.
2. **Critical Barriers:** Critical barriers consist of the boundaries of the work area including floors, walls, ceilings, and any constructed barrier to restrict public access to the work area. Floors, if applicable, shall be sealed with a minimum of two layers of six-mil polyethylene sheeting. There shall be a minimum overlap of two feet (24") at the floor seams and the sheeting will run a minimum of two feet (24") up the walls.
3. The containment walls shall be constructed using a minimum of two layers of six-mil polyethylene sheeting after sealing the floors. This shall be done using a minimum of one layer of six-mil polyethylene sheeting. The overlaps between the walls, ceiling, and floors shall be interwoven.

4. The first floor layer shall be taped up the wall a minimum of two feet (24"). The first wall layer shall be sealed to the floor layer at the corner of the floor and wall. The second floor layer shall be sealed to the first wall layer at a minimum of a two foot (24") overlap. The second wall layer shall cover all overlaps and be sealed to the floor.
5. The enclosure shall be constructed so as to allow the removal of interior layers of plastic without damaging the exterior layer. The exterior layer shall stay intact for the duration of the project and be designated the critical barrier.

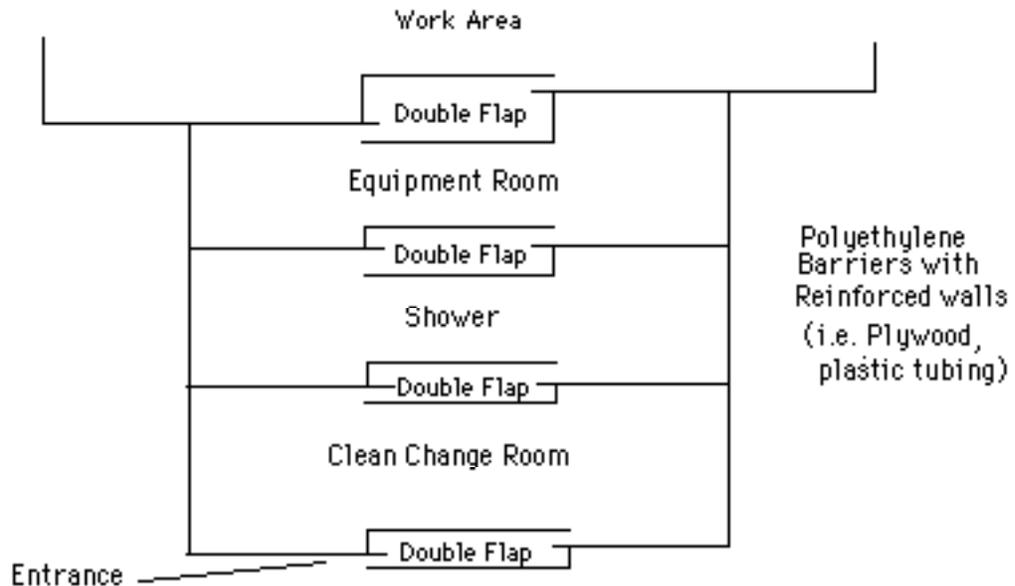
B. Decontamination Unit and Procedures

1. It is the Contractor's responsibility to provide decontamination chambers consisting of an Equipment Room, Shower, and Clean Room for personnel involved in asbestos removal. Each of the three rooms shall be of sufficient size to accommodate authorized personnel and related equipment. Each room shall be separate of other rooms by a double flap of six-mil polyethylene sheeting acting as an airlock. This shall be designed to minimize fiber migration and air flow between the decontamination unit rooms. The rooms shall be framed with 2"x 4" lumber, masked, sealed and attached to the entry/exit ways of asbestos work areas. The three rooms together shall be referred to as the Decontamination Unit. A Decontamination Unit will be required for each separate containment area, if work is to be divided into sections.
2. The Equipment Room shall serve as a transfer room and an intermediate area between the work area and any decontamination procedures to occur in the shower room. This room shall be HEPA-vacuumed and washed whenever necessary in order to prevent asbestos dust and debris accumulations or when required by the consultant. The Equipment Room will also serve as an access area to the shower for personnel leaving the work area. Workers leaving the containment shall remove and dispose of disposable protective suits and wear only respirators into the Shower. At the end of each day, bags of asbestos waste and contaminated materials shall be removed after a thorough decontamination procedure as described in the contract Sections. Workers performing this operation will wear respirators and disposable full-body protective suits.
3. The Shower Room shall have a continuous supply of cold and hot water, and be suitably arranged for complete showering during decontamination. The Shower Room with curtained doorways will comprise an airlock between contaminated and clean areas. All materials being passed from the equipment room to the clean room must pass through the shower and be thoroughly decontaminated. The shower floor will not be allowed to sit at ground level, but must be elevated a minimum of six inches off of the floor with a suitable catch basin for drainage into a filtration system. The shower will be equipped with a sump pump and an

in-line two stage filter. The first stage will efficiently filter fibers greater than twenty (20) microns in length and the second stage will filter bulk material and fibers greater than five (5) microns in length. Alternatively, shower water may be re-routed back into the work area to be bagged and disposed of as asbestos contaminated waste. The Contractor shall provide disposable towels and soap in the shower area.

4. The Clean Room shall store asbestos worker's clean protective clothing and clean respirator equipment. Contaminated clothing, respirators, tools, equipment, or other materials shall not be allowed into the Clean Room or beyond. The Clean Room will serve as an access for personnel entering the work area, and for the donning of respiratory protection and protective clothing. The contractor shall provide space in the clean room for the worker's personal clothing. This may be in the form of hangers or lockers.

TYPICAL DECONTAMINATION UNIT



5. The above decontamination enclosure is called a "three-stage" decontamination enclosure and shall be the type constructed and used for this project in specified areas. A "two stage" unit resembles the "three-stage" unit in construction detail, but it is built without a shower section.

C. HEPA Filtration: Adequate negative pressure shall be provided within the enclosure as specified below.

1. After the work area is totally isolated, and prior to commencement of work, the Consultant will perform a visual inspection of the work area. This will consist of

checking the integrity of barriers including smoke testing the containment if deemed necessary by the Consultant. This does not in any way relieve the Contractor's responsibilities to ensure the isolation of the work area. The volume of air within the contained work area shall be changed a minimum of four (4) times per hour. A pressure differential reading of -0.02 inches of water shall be maintained in the negative pressure work area relative to adjacent areas. Equipment used for producing a negative pressure work area shall have a filtering device that is at least 99.97% efficient at a 0.3 micron pore size. Filters meeting these standards are referred to as High Efficiency Particulate Air (HEPA) filters.

2. The HEPA filtration units shall be equipped with the following:
 - a. Magnehelic gauge to monitor the unit's air pressure difference across the filters and be able to interpret magnehelic reading to cubic feet per minute (CPM).
 - b. An affixed label, clearly marked and conspicuous, showing the most recent installation date and hour reading of the primary internal HEPA.
 - c. A clock to record the unit's operation time.
 - d. Automatic shut off for filter failure or absence.
 - e. Audible alarm for unit shutdown.
 - f. Amber flashing warning light for filter loading.
 - g. The unit must be equipped with a safety system which prevents it from being operated with the HEPA filter in an improper orientation.
 - h. All flexible ducting, vent tubing, adapter plates and other equipment used for the passage of filtered air shall be undamaged, uncontaminated, and free of air leaks at all points.
3. Pre-filters shall be changed frequently during the removal.
4. Air movement will flow uninterrupted from outside the work area through the Decontamination Unit into the work area. There shall be no other openings for air to enter the containment unless approved by the Consultant in writing.
5. HEPA filtration units shall be placed as far as possible from the air intake to the containment to prevent short-cycling of fresh air.

6. This containment, along with the decontamination chamber, shall constitute the critical containment of the work area from the surrounding areas. All openings to this critical containment are to be sealed except where air must enter the work-site due to the use of exhaust equipment. Unless approved by the Owner, air shall enter the critical containment only through the Decontamination Unit.
7. Modifications to these isolation and sealing methods, procedures, and design may be considered if all elements of proper and safe procedures to prevent contamination and exposure can be demonstrated. Written modifications to these Sections must be made to the Owner for review before they can be used for work on this project.

D. ACM Removal

1. Asbestos removal will not begin until the Consultant has given authorization to proceed. This authorization will be given after the removal area has passed a visual inspection by the Consultant based on the criteria presented herein.
2. All asbestos-containing materials must be soaked with amended water before removal. The materials shall be sufficiently saturated to reduce fiber release so that the airborne fiber concentration does not exceed the established OSHA Permissible Exposure Limits, (PEL's). The amended water shall not be applied in amounts that will cause leakage or runoff of contaminated water from the removal area. Dry removal will not be permitted during this project.
3. Asbestos-containing materials shall be carefully removed and placed immediately into bags. Bags must be filled with water to the point where all asbestos is adequately wetted as defined by Federal Regulations 40 CFR 61 Subpart M. Asbestos will not be permitted to let fall or sit on the ground before being bagged.
4. Fine cleaning of residual asbestos-containing materials shall consist of carefully scraping or brushing the material from surfaces. The recommended method for brushing a substrate after gross removal has taken place is to use a nylon brush. Wetting of the substrate shall also occur while this brushing is performed, since the chance of airborne fiber generation during fine cleaning still exists.
5. Water Atomizing Devices, commonly termed "mistifiers," shall be utilized by the contractor during asbestos removal and fine cleaning phases to provide further dust control protection in the work area. The mistifiers shall be supplied with amended water and in operation continuously during these phases.
6. Asbestos waste must be double bagged before it is removed from the contained area. The inner bag will be HEPA vacuumed and showered before being placed

in the outer bag. Vacuuming must take place in the Equipment Room of the Decontamination Unit. Washing must take place in the Shower Room of the Decontamination Unit. Bags will normally be removed at the end of each working day and transported from the job site.

7. Any materials considered contaminated by the Owner or the Owner's representative that cannot be double bagged shall be wetted and containerized in disposal drums. Oversized contaminated materials (e.g., plywood subfloor, hardwood floors) shall be wrapped airtight in two layers of six-mil polyethylene sheeting.
8. All bags, containers or wrapped materials transported out of the work area shall be labeled with preprinted labels required by Federal EPA, OSHA and the Department of Transportation regulations. Any carts used to transport asbestos waste to the on-site holding dumpster should be HEPA vacuumed and wet wiped each day, and may be inspected by the Owner or Consultant every day.
9. Carts that are not made of an impermeable material shall be lined with a minimum of one layer of six-mil polyethylene sheeting to be removed after each shift and disposed of as contaminated waste. The transport route and the transport of waste out of the work area shall be coordinated with the on-site Owner's representative.
10. The work area shall be cleaned of residual asbestos debris on a daily basis. The Decontamination Unit floor (top layer) shall be picked up and replaced on a daily basis, if required by the Consultant.
11. Air testing will be performed continuously outside the enclosed area. If fiber concentrations meet or exceed 0.010 f/cc or background levels, work shall be halted and the Contractor shall perform cleanup activities in the affected areas and check the integrity of the critical barriers. Clean up activities shall include but not be limited to wet wiping and vacuuming surfaces with a HEPA equipped vacuum. Work may continue only after the source of contamination is identified, corrected and proper cleaning activities are implemented. Air testing will be performed by the Consultant on-site in the affected areas. If the results of these air tests are not below 0.010 f/cc, the Contractor shall perform a thorough decontamination of the affected areas.
12. After brushing and scraping, surfaces shall be free of all visible debris and fibers. A final wipe down of the substrate with wet, lint-free rags shall take place in order to ensure proper cleaning. All surfaces including floors, walls, and ceilings shall also be HEPA vacuumed. All visible asbestos-containing material is to be removed by the Contractor before encapsulation procedures are allowed to begin. The Consultant will perform an inspection of the work area prior to giving approval to begin encapsulation of the work area. Removal substrate must be

clean and bare, and the entire work area must be free and clear of any suspect material for the contractor to pass this visual inspection and begin encapsulation.

13. Where insulated substrates penetrate walls or other demising structures, remove asbestos through to the opposite side of the demising structure. After the removal of the asbestos materials at the demising structures, any resulting spaces or breeches shall be foamed or sealed airtight.

E. Removal of Critical Barriers

1. No critical barrier shall be taken down until the final visual inspection and the final air clearance tests are found to be below 0.010 f/cc.
2. After a successful final visual inspection, encapsulation, and a successful final air clearance test, the Contractor shall perform tear down of the containment.
3. All encapsulated polyethylene sheeting used in the construction of the Decontamination Unit and Containment Area shall be bagged and disposed of as asbestos contaminated waste. Areas exposed during this process shall be examined for traces of suspect material. If any is found, it will be picked up by HEPA vacuuming and wet wiping, and a coat of encapsulant be applied to the affected areas. Based on the amount of suspect material found, the Consultant may request the use of misters in the surrounding area. The Contractor will then implement the use of misters as a precautionary measure.

F. Encapsulation Procedures

1. The polyethylene barriers shall be cleaned of gross contamination before a lock-down sealant can be applied to the substrate. After the substrate has been cleaned and all polyethylene barriers of the work area are cleaned of all visible debris, the Contractor shall request a visual inspection of the work area by the Consultant. Prior to the inspection of the work area, the Contractor shall remove the inside layer of the work area polyethylene sheeting, after cleaning, and dispose of it as contaminated waste. The work area will still have all primary barriers intact and one layer of polyethylene sheeting over the floor, walls, and permanent structures within the work area during the inspection.
2. Workers performing lock-down must wear disposable protective clothing and respirators suitable for asbestos. The encapsulation process shall not be treated any differently from the removal process in this respect.
3. The lock-down material shall be applied with a low pressure (less than 500 p.s.i.), airless spray-type mechanism.

4. All surfaces in the work area will be encapsulated. A minimum of one coat of lock-down encapsulant will be applied to prevent the generation of airborne residual fibers. The lock-down encapsulant will be applied to both the substrate and the polyethylene sheeting serving as the containment barrier. During the encapsulation process, the Contractor shall decrease the negative pressure of the work area by shutting down some of the air filtration devices in the work area. If the lock-down material is being applied to irregular, grooved, or corrugated surfaces, it shall be administered from the opposing side, or at a right angle to the direction of the previous application. The encapsulant shall be left to dry before the commencement of final air testing. After the final air clearance test and inspection criteria have been met, the Contractor shall begin final tear down procedures.

3.03 VAT/FLOOR COVERING REMOVAL METHOD

- A. Removal of vinyl asbestos floor tiles (VAT)/floor covering, including removal of any asbestos-contaminated materials, including, but not limited to, additional layers of floor tiles and mastic, flooring paper shall be in accordance with all applicable regulations including Part II, Department of Labor – Occupational Safety and Health Administration, 29 CFR Parts 1910, et. al., dated Wednesday, August 10, 1994. At a minimum, the following work practices shall apply:
 1. Workers shall wear protective clothing and half-mask, dual-cartridge, HEPA-filtered respirator, at a minimum.
 2. The work area shall be isolated as required by regulations and to the satisfaction of the Consultant. As minimum, critical barriers, a negative pressure system, and a personal decontamination facility shall be erected in accordance with Section 3.02 of this Section. All areas where VAT/floor covering, are to be removed shall be sealed off by the use of polyethylene sheeting on all openings and HEPA filtered negative pressure shall be established in each work area sufficient to achieve four air changes per hour.
 3. VAT/floor covering shall be wet prior to removal and during removal.
 4. Each floor tile shall be removed as a complete unit, with no breakage, wherever possible. Contractor shall remove any carpeting prior to removal of asbestos-containing flooring materials. It is the intention of the asbestos abatement scope of work to remove all layers of ACM flooring materials as well as any asbestos-contaminated materials down to the base substrate.
 5. The exposed floor will be cleaned with a HEPA vacuum cleaner and wet-scraped. Repeat the process until the floor area is clean and smooth.

6. Dispose of VAT/floor covering in a MassDEP-approved landfill that legally accepts this type of waste.

3.04 DECONTAMINATION/WORK PROCEDURES

- A. In order to avoid possible exposure to dangerous levels of asbestos, and to prevent possible contamination of areas outside the demarcated work zone, work shall follow the guidelines listed below.
 1. At no time shall a worker entering the containment area go further than the Clean Room of the Decontamination Unit without a respirator and protective clothing.
 2. Before leaving the work area, the worker shall remove all gross contamination and debris from the coveralls. In practice this is carried out by one worker assisting another.
 3. All equipment used by the workers inside the demarcated work zone shall be either left in the Dirty Room of the Decontamination Unit or thoroughly decontaminated before being removed from the area. Extra work clothing (that in addition to the disposable garments supplied by the Contractor) shall be left in the Dirty Room of the Decontamination Unit until the completion of work in that area.
 4. All persons leaving the removal area must shower before leaving the containment.
 5. Under no circumstance shall workers or supervisory personnel be allowed to eat, drink, smoke, chew gum, or chew tobacco in the work area; if caught the Consultant will halt all removal operations. Only in the case of life threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators while in the work area. In this situation, respirators are to be removed for as short a duration as possible.
 6. As with additional clothing, all footwear shall be left inside the work area until the completion of the job, then cleaned or discarded.

3.05 DISPOSAL OF ASBESTOS WASTE

- A. Waste removal procedure shall be done in accordance with all regulations as set forth by the agencies having authority to regulate.
- B. The Contractor shall provide proof that disposal sites for the waste materials have current and valid permits to dump asbestos waste at the time of the pre-construction meeting.

- C. Receipts shall be obtained by the Contractor from the dumping site(s), and submitted to the Owner upon request for final payment.
- D. Warning labels having permanent, waterproof print and adhesive shall be affixed to all bags, trucks, drums (lids and sides), and other containers used to store and/or transport asbestos-containing material. Labels must be conspicuous and legible and contain the following warning:

CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
AVOID BREATHING AIRBORNE ASBESTOS FIBERS

- E. The Contractor shall be responsible for all necessary precautions to prevent pollution by spilling during the performance of services and shall assume full responsibility for all Contractor caused spills, which shall be cleaned up at the Contractor's expense.
- F. Temporary storage of asbestos waste on-site must be approved by the Owner.

3.06 HOUSEKEEPING

- A. Throughout the work period, the Contractor shall maintain the building and site in a standard of cleanliness as specified throughout these Sections.
 - 1. Contaminated disposable clothing, respirator filters, and other debris shall be bagged and sealed at the end of each work day.
 - 2. All asbestos generated by either removal or repair, shall be bagged immediately and not allowed to be left exposed at the end of each work day.
 - 3. Respirators shall be thoroughly cleaned at the end of each work day and stored for the next day's use.
 - 4. The Contractor shall retain all stored items in an orderly arrangement allowing maximum access, not impeding traffic, and providing the required protection materials.
 - 5. The Contractor shall not allow the accumulation of scrap, debris, waste material, and other items not required for completion of the work.
 - 6. The Contractor shall provide adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection and protection of the ecology.

7. Daily, and more often if necessary, the Contractor shall inspect the work areas and adjoining spaces, and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage.
8. The Contractor shall maintain the site in a neat and orderly condition at all times.

3.07 AIR MONITORING

- A. Background (pre-testing) air and appropriate dust samples may be taken to represent conditions before the Contractor starts masking and sealing operations.
- B. During removal, outside area samples will be collected by the Consultant (Owner's Representative) outside major critical seals in the containment during abatement. The Contractor shall be responsible for all OSHA personal air sampling.
- C. Final air clearance samples will be collected inside the contained removal work area after all visual inspection criteria is met and the area is free and clear of any suspect material and debris. The substrate, if any, must be clean and bare. The work area should be clear of any debris from various surfaces from inside the work area.
 1. Air will be agitated by means of a small leaf blower prior to the test, and kept agitated by means of a small electric fan. The results of all samples must be less than 0.010 fibers per cubic centimeter (f/cc) for PCM analysis or less than an average of 70 structures per square millimeter (s/mm²) for TEM analysis to be in compliance with clearance criteria as described in this Section, Massachusetts Department of Labor Standards regulations. The first set of final clearance air tests for each removal area will be paid by the Owner. In the event that these air tests do not pass the clearance criteria, any subsequent air tests that need to be performed shall be paid for by the Contractor. If the Contractor fails to meet the criterion, the Contractor will be required to re-clean the designated work site and then the Consultant (Owner's Representative) to repeat the final air clearance testing. Cleaning and testing will be repeated until the specified criterion is met.

3.08 WORK REVIEW

- A. The Consultant will review Contractor's work practices prior to the start of and during all asbestos related work and will report any Section violations to the Contractor. If the Contractor fails to correct deficiencies in a timely manner, the Owner will be notified in writing, and work may be stopped. The Consultant will review the containment structure and negative air conditions before work begins and after the Contractor Site Supervisor has given approval. Outside containment airborne fiber concentrations must not exceed 0.010 f/cc or pre-abatement levels, whichever is greater, if concentrations exceed this level, then work must be halted, conditions

reviewed as to the probable cause, and then corrected. A description of procedures regarding fiber concentrations greater than 0.010 f/cc outside the containment can be found above.

- B. The Consultant will keep a daily log of the Contractor's work practices and will make these daily site logs as part of the final project documents.
- C. In addition to various daily inspections of containment and work practices, the Consultant will make three (3) mandatory inspections throughout the removal. These inspections include: a pre-abatement visual inspection, a post-abatement visual inspection, and a post-teardown visual inspection.
- D. Each inspection must be requested by the Contractor and performed by the Consultant, to the satisfaction of the Consultant, and be signed off by the Consultant, before work is to continue on to the next task in the phase. Failure on the part of the Contractor to obtain sign-off before proceeding is regarded as a serious violation of the contract and unacceptable.

END OF SECTION 02 82 00

SECTION 02.83.00

LEAD-CONTAINING PAINT CONSIDERATIONS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 1-GENERAL REQUIREMENTS which are hereby made a part of this Section.
- B. In addition to the requirements specified herein, refer to all Contract Documents for complete description of work required to be performed under this Section.
- C. Examine all Drawings and all other Sections of the Specifications for requirements of related Sections affecting the work of this Section. A lead determination at the site indicates that various building components are considered to be lead containing.
- D. The work of this Section shall be performed as stated herein. In performing the work of this Section, the Contractor shall refer to other Sections for additional procedures. The General Contractor is responsible for the coordination of the work of this Section with related work. No delays in completion of the work shall be claimed for lack of coordination.
- E. The Contractor shall comply with all applicable local, state, and federal guidelines and regulations regarding all work involving the presence of lead-containing paint.
- F. The work of this Section references work of the Demolition Section. Additionally, requirements of the General Contract regarding coordination and related work are identified in this Section and shall be considered the responsibility of the General Contractor.

1.02 DESCRIPTION OF WORK

- A. The work of this Section specifies minimum requirements for the disturbance, removal, containment, and disposal of lead-containing paint and associated waste generated as a result of demolition activities.
- B. The procedures described herein apply to all demolition work where a worker may be occupationally exposed to lead as well as to the disposal of the demolition debris. The Contractor shall assume that any painted surface not tested, as included in this Section, shall be assumed to contain lead paint and it shall be the Contractor's responsibility to protect workers performing under this Contract. This may require additional testing by the Contractor to verify lead content.

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- C. The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State and local regulations pertaining to work practices, hauling and disposal of hazardous waste, hauling and recycling of all metal components coated with lead-containing paint, protection of workers and visitors to the site, and persons occupying areas adjacent to the site. The Contractor shall hold the Owner, Engineer, and Consultant harmless for failure to comply with any applicable work, hauling, disposal, safety, health or regulation on the part of himself, his workers or his subcontractors.
- D. The Contractor is required to ensure the protection of workers performing any related demolition work that will affect surfaces coated with lead-containing paint as well as protecting the public and the environment from exposure to lead dust.
- E. Codes and Standards
1. All work shall conform to the standards set by applicable Federal, State and local laws, regulations, ordinances, and guidelines in such form in which they exist at the time of the work on the contract and as may be required by subsequent regulations.
 2. In addition to any detailed requirements of the Specification, the Contractor shall at his own cost and expense comply with all laws, ordinances, rules and regulations of Federal, State, Regional and Local Authorities regarding handling and storing of lead waste material.
 3. The following references are cited as applicable standard and regulations as amended:
 - a. Code of Federal Regulations (CFR) Publications:

29 CFR 1910	General Industry
29 CFR 1926.55	Gases, Vapors, Fumes, Dusts and Mists
29 CFR 1926.57	Ventilation
29 CFR 1926.62	Lead in Construction
29 CFR 1926.200	Signs, Signals and Barricades
29 CFR 1926.354	Welding, Cutting and Heating in Way of Preservative Coatings
29 CFR Subpart T	Demolition
40 CFR 50	National Primary and Secondary Ambient Air Quality Standards for Lead
40 CFR 61	Subpart A General Provisions
40 CFR 61.152	Standard for Waste Manufacturing, Demolition, Renovation, Spraying, and Fabricating Operations.

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40 CFR 241 Guidelines for the Land Disposal of Solid Wastes
40 CFR 257 Criteria for Classification of Solid Waste
40 CFR 261 and 262 Waste Disposal Facilities and Practices

b. Massachusetts Regulations:

454 CMR 22.11 Safety Procedures for renovation
454 CMR 23.00 Occupational Lead Exposure

4. All regulations by the above and other governing agencies in their most current version are applicable throughout this project. Where there is a conflict between this Specification and the cited State, Federal, or local regulations, the more restrictive or stringent requirements shall prevail.
5. THIS SECTION REFERS TO MANY REQUIREMENTS FOUND IN THESE REFERENCES, BUT IN NO WAY IS IT INTENDED TO CITE OR REITERATE ALL PROVISIONS THEREIN OR ELSEWHERE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO KNOW, UNDERSTAND, AND ABIDE BY ALL SUCH REGULATIONS AND COMMON PRACTICES.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Related work specified elsewhere: Examine all Drawings and all other Sections of the Specifications for requirements of related Sections affecting the work of this Section.
- B. The work of this Section shall be performed as stated herein. In performing the work of this Section, the Contractor shall refer to other Divisions for additional procedures. The Contractor is responsible for the coordination of the work of this Section with other related work.
- C. Portions of the work herein require direct coordination with the work of the above noted Related Sections. The General Contractor shall coordinate this with the work of other trades, subcontractors and filed sub-contractors on the site.

1.04 DEFINITIONS

- A. The following definitions apply to the performance of the work of this project.
 1. Action Level: An airborne concentration of lead above 30 micrograms/cubic meter (μm^3) as a time weighted average (TWA) for more than 30 days per year.
 2. Area Monitoring: Sampling of lead concentrations within the work area and

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outside the work area which is representative of the airborne concentrations of lead.

3. Clean Room: An uncontaminated change room directly adjacent to the work area having facilities for storage of employees' personal clothing and uncontaminated work clothes, materials and equipment provided when the airborne exposure to lead is above the PEL.
4. Consultant: Authorized representatives who are under contract with the Owner or Engineer to perform Lead Paint Consulting services.
5. Decontamination Area: A contained area adjacent to or connected to the work area and consisting of an equipment room, shower area, and clean room which is used for decontamination of workers, materials and equipment.
6. HEPA Filter Equipment: High efficiency particulate air (HEPA) filtered vacuuming or exhaust ventilation equipment with a UL 586 filter system. Filters shall be of 99.97 percent efficiency for retaining 0.3-micrometer diameter particles.
7. Lead Containing Paint: Paint, varnish, or stain that contains lead in excess of 0.0 mg/cm² or 0.0% lead by weight.
8. Lead Permissible Exposure Limit (PEL): 50 micrograms per cubic meter (µg/m³) of air, based upon an 8-hour time weighted average.
9. Sample Location: Area or place where an air sample is collected.
10. Time Weighted Average (TWA): The TWA is an 8-hour time weighted average for the test of the concentration of lead for worker exposure.
11. Wet Cleaning: The process of removing lead contamination from building surfaces, equipment and other objects by using cloths, mops, or other cleaning tools which have been dampened with water, and by afterwards disposing of these cleaning tools as lead contaminated wastes.
12. Work Area: A controlled-access work area which has plastic sheeting or other containment barriers erected to separate the trades.

1.05 SUBMITTALS

A. Notifications

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1. Provide in proper and timely fashion, all necessary notifications to relevant federal, state, and local authorities and obtain and comply with provisions of all permits or applications required by the work specified, as well as make all required submittals required under those auspices. Contractor shall indemnify Owner, Engineer and Consultant from, and pay for all claims resulting from failure to adhere to these provisions. Costs for all permits, applications, and the like are to be assumed by Contractor.
- B. Provide five (5) copies of the following Submittals at the Pre-Construction Conference for the review of the Owner, Engineer and General Contractor:
1. Copies of all notifications, permits, applications, licenses and like documents required by Federal, State, or local regulations and this specification obtained or submitted in proper fashion,
 2. Copies of written medical opinions for each employee who may be occupationally exposed to lead as required by 29 CFR 1926.62 (j) (3) (v),
 3. Employer's Lead Compliance Program as required by 29 CFR 1926.62, including proposed worker training, respiratory protection program and medical monitoring for all employees throughout all phases of the job, including make, model and NIOSH approval numbers of respirators to be used; worker orientation plan; written description of all proposed procedures, methods, or equipment to be utilized, including those that may differ from the Contract Specifications. In all instances, Contractor must comply with all applicable federal, state and local regulations.
 4. Proposed number and type (i.e., hazardous waste or non-hazardous waste, open top, front loading, etc.) of dumpsters for waste, proposed location(s),
 5. A list of all equipment to be used on site, by make and model,
 6. Chain of Command of responsibility at work site including supervisors and competent person, their names, resumes and phone numbers,
 7. List of total number of supervisors and workers intended to be assigned to the project, including name and lead awareness qualifications,
 8. Safety Data Sheets (SDS) on potentially hazardous materials to be used on the project,
 9. Waste Disposal Plan which describes the waste stream and the disposal means (i.e. landfill, recycle, etc.) and includes the name, address, and ID number of the proposed hazardous waste hauler, waste transfer route, and

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proposed disposal reclamation or treatment facility,

10. Name and address of the proposed construction debris site,
11. Name and address of the proposed metal component construction debris recycling site, including letter stating such site accepts such waste,
12. Construction schedule including sequence of critical work.

NOTE: No work of the project will be allowed to begin until Owner, Engineer, and General Contractor as listed herein accepts the Pre-Construction Submittals. Any delay caused by the Contractor's refusal to submit this documentation in a timely fashion does not constitute a claim for extra compensation or a time extension.

- C. Submit the following to the Owner, Engineer, and General Contractor as a Post-Construction submittal package:
 1. Copies of waste manifests and receipts acknowledging disposal and recycling of all lead waste material from the project, showing delivery date, quantity, and appropriate signature of landfill's authorized representative,
 2. MA DEP approval for all waste reduction techniques, if utilized,
 3. A notarized copy of the daily list of workers and site entry-exit logbook,
 4. All personnel monitoring results,
 5. All TCLP testing results.

1.06 GENERAL WORK PROCEDURES

- A. Work shall be carried out in sequential phases. Inspection and approval of each phase by the Engineer shall be sought and gained before proceeding to the next phase and in accordance with the schedule agreed upon by Owner and General Contractor at the Pre-Construction meeting as amended. This shall include demolition requirements for work area clearance and work area release prior to general construction work. As a Contract requirement, any reasonable delay caused by this requirement will not constitute a basis for claim against the Owner, Engineer, or Consultant. Contractor must coordinate the work of this Section with the work of the General Contractor and all other trades.
- B. At no time will Owner permit storage of debris generated from demolition activities

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to be stored inside buildings at the site, and any storage of materials shall be subject to Owner's approval. Assure security of debris at all times.

- C. The working hours for this project will be determined in the Pre-Construction meeting.

1.07 SPECIAL CONSIDERATIONS

A. Testing References

1. Testing for lead paint has been performed on a representative number of painted components in the areas scheduled for demolition work using SOP Paint Chip Analysis. Lead containing paint **was** detected on some of the representative wood, concrete and metal surfaces tested throughout the buildings. These surfaces included:

Brown School:

- Plaster Walls

Central Library:

- CMU walls

2. Testing results are found in Article 1.8.

- B. The Contractor shall follow the requirements of this Section regarding component removal, demolition, worker exposure and protection, work area cleaning, and waste disposal.

- C. Work Affected: In general, the following activities are minimum requirements of this Section and affect the demolition performed on the painted components:

1. No torch cutting, mechanical sanding or stripping or abrasive methods of paint removal shall occur.
2. No demolition or renovation activities shall occur which increase the workers' exposure above the Action Level of 30 $\mu\text{g}/\text{m}^3$. Contractor shall fully comply with the OSHA lead standard at 29 CFR 1926.62.
3. Workers shall be informed of the components to be impacted during renovation or demolition that have been identified as containing lead.
4. Worker protection, at a minimum, shall comply with the OSHA Lead Standard 29 CFR 1926.62. Worker Right to Know and Health and Safety Standards of 1926.62 shall also apply to the work of this Section.

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5. Separation of Trades: Unprotected, untrained workers or trades shall not perform any related work within the same vicinity as work involving components identified with lead.
6. Clean-up Activities: The Contractor shall maintain work zones free of accumulated debris and paint chips of demolition involving lead.

1.08 REPORT OF FINDINGS

A. The following table identifies various components identified as containing lead in excess of 0.0 mg/cm² at the building. These components fall under the purview of the Occupational Safety and Health Administration (OSHA). OSHA recognizes any XRF reading above 0.0 mg/cm² as a lead-**containing** paint and a possible exposure hazard to workers impacting those coated surfaces. It requires contractors and their employees to comply with the OSHA lead in construction standard found at 29CFR1926.62.

Table 4: Lead Paint Testing Results by SOP Based on SW846-7420/3051

Location	Component	Substrate	Color	Flame AAS Results (% Weight)
Paint Chip Survey				
Brown School - Stairwell	Interior – Stairwell Wall, Paint Chips	Plaster	Blue	0.038
Central Library - Restrooms	Interior – Restroom Wall, Paint Chips	CMU	White	0.040
Brown School - Basement	Interior – Fountain Area, Paint Chips	Metal	Yellow	<RL

<RL – BELOW REPORTING LIMIT OF 0.031% WEIGHT.

1.09 FEES, PERMITS & LICENSES

A. The Contractor shall pay all licensing fees, royalties, and other costs necessary for the use of any copyrighted or patented product, design, invention, or process in the performance of the work specified in this Section. The Contractor shall be solely responsible for costs, damages, or losses resulting from any infringement of these patent rights or copyrights. The Contractor shall hold the Owner or the Engineer harmless from any costs, damages, and losses resulting from any infringement of these patent rights or copyrights. If the Specification requests the use of any product, design, invention, or process that requires a licensing, patent or royalty fee for use in the performance of the job, the Contractor shall be responsible for the fee or royalty fee and shall disclose the existence of such rights.

- B. Contractor shall be responsible for costs for all licensing requirements, where applicable and notification requirements and all other fees related to the Contractor's ability to perform the work in this Section.
- C. Secure all necessary permits for work under this Section, including hauling, removal, and disposal, fire, and materials usage, or any other permits required to perform the specified work.

1.10 CLEAN-UP

- A. Maintain the work site in a neat and orderly manner at all times, so as not to interrupt or infringe upon the work of other trades.
- B. Comply with all requirements for release of work areas as described in the project specification.
- C. It is the prerogative of the Owner and/or the Engineer to inspect whenever deemed necessary and the Contractor is responsible for meeting and correcting any deficiencies discovered which do not meet the current applicable regulations and requirements of these specifications.

1.11 COORDINATION

- A. Extend full cooperation to Owner in all matters involving the use of Owner's facilities. At no time shall Contractor cause or allow to be caused conditions which may cause risk or hazard to the general public or conditions that might impair safe use of the facility. The use of the facility's electricity, water or like utilities by the Contractor shall be as specified in Division 1.
- B. Coordinate the work of this Section with that of all other trades. Phasing and scheduling of this project shall be subject to the approval of the Owner. The work of this Section shall be scheduled and performed so as not to impede the progress of the project as a whole. Work shall not proceed in any area without the express consent of the Engineer.
- C. Unless specifically authorized by the Owner, the work of this project shall be conducted in accordance with the working hours agreed upon in the Pre-Construction Meeting.
- D. Inspections: The Engineer may perform visual inspections during the work of this Section, as described below. Contractor shall not proceed with work until Contractor has received Engineer's approval at the stages identified below:

1. Post Inspection: At the completion of work and final clean-up, prior to clearance or removal of any critical barriers and decontamination unit from the work area.
2. Waste Removal Inspection: Prior to removal of hazardous waste from the site, Owner and Engineer will inspect the quantity and type.

1.12 EMERGENCY PRECAUTIONS

- A. The Contractor shall establish emergency and fire exits from the work area.
- B. When an injury occurs, the Contractor shall stop work until the injured person has been removed from the work area.

1.13 DISPOSAL OF WASTE MATERIAL

- A. General
 1. The Contractor shall comply with the Resource Conservation and Recovery ACT (RCRA) and with all applicable state and local regulations.
 2. Contractor shall be responsible for disposing of all metallic waste and components determined to be coated with Lead-containing paint (LBP) by separating and recycling.
 3. Contractor shall be responsible for disposing of all non-metallic waste determined by Toxicity Characteristic Leachate Procedure (TCLP) to be hazardous. If TCLP testing has not been performed, the Contractor shall be responsible for testing the waste.
 4. Contractor shall comply with all EPA regulations.

PART 2 - PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. The Contractor shall deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer, and details for proper storage and use.
- B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the work area in a manner that shall not interfere with other trades working in the area.
- C. Unloading and temporary storage sites, and transfer routes, must be approved in advance by the owner.
- D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material that becomes contaminated shall be packaged and legally disposed in an approved, secure landfill.

2.02 MATERIALS

- A. All materials and equipment proposed to be used on this project shall be subject to the acceptance of the Owner and the Engineer. The required materials shall include, but not necessarily limited to the following:
 - 1. Fire retardant polyethylene sheeting, minimum thickness of six (6)-mil.
 - 2. Plastic bags, minimum thickness of six (6)-mil.
 - 3. Duct Tape, up to 3 inch width
 - 4. Lead Warning Signs, as required by Section 3.02, the MA DLS Regulations, and OSHA Hazard Communication requirements.
 - 5. Flexible duct for ventilation units (if required)
 - 6. Spray adhesive, fire retardant
 - 7. Personal Protective Equipment, NIOSH approved respirators
 - 8. Ventilation units with HEPA filtration and exhaust fans.
 - 9. HEPA vacuums

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10. Tri-sodium Phosphate (TSP) and product data
11. Cloth tarpaulin

2.03 TOOLS AND EQUIPMENT

- A. **Transportation Equipment:** Transportation equipment, as required, shall be suitable for loading, temporary storage, transporting, and unloading waste without exposure to persons or property. All over-the-road transportation equipment must carry the appropriate hazardous waste transport licenses and insurance.
- B. **Vacuum Equipment:** All vacuum equipment utilized in the work area shall utilize HEPA filtration systems.
- C. **Water Sprayer:** The water sprayer shall be an airless or other low-pressure sprayer for water application.
- D. **Other Tools and Equipment:** The Contractor shall provide other suitable tools including but not limited to: rounded edge shovels, rakes, brooms, and carts.
- E. The Contractor shall provide ground fault circuit interrupters (GFCI) to protect all electrical cord and connections.
- F. Approved lighting equipment for use in the work area.
- G. **Scaffolding:** Scaffolding, as required to accomplish specified work, shall meet all applicable Federal, State and local safety regulations and used in accordance with manufacturer's specifications.

PART 3 - EXECUTION

3.01 SCHEDULING

- A. The Contractor shall coordinate all scheduling with the Owner and Engineer. A schedule of work shall be submitted to the Owner, prior to contract performance.

3.02 UTILITIES

- A. Provide all necessary connections for temporary utilities in the workplace during work. Shut down and disconnect all electrical power to the work area so that there is no possibility of reactivation and electrical shock during the work. The temporary electrical power shall be in accordance with all OSHA requirements.

3.03 IDENTIFICATION OF HAZARDS

- A. Prior to any work involving lead-containing items, the contractor shall identify all work activities in which a worker may be occupationally exposed to lead.
- B. The Contractor shall initially determine if any worker may be exposed to lead above the action level.

3.04 BARRIERS AND ISOLATION AREAS

- A. Containment controls (including critical barriers, protective coverings, HEPA-filtered ventilation and decontamination facilities), may be required for demolition work. The degree of containment shall be appropriate for the anticipated levels of airborne lead dust. The lower the level of airborne lead, the lesser the requirements necessary to control lead emissions at the job site.
- B. Work Area Isolation (unless exempted according to Paragraph A)
 - 1. The Contractor shall isolate work areas for the duration of work by completely sealing off all openings in the work area. Isolation sealing shall be accomplished by constructing critical barriers where necessary around the work area perimeter. The work area shall be sealed airtight to the greatest extent possible.
 - 2. Provide temporary power and lighting (with ground fault circuit interrupt protection) to the work areas, and ensure safe Installation of temporary power sources and equipment per applicable electrical code requirements, and OSHA requirements for temporary lighting in the environment normal to demolition areas.

LEAD-CONTAINING PAINT CONSIDERATIONS

- C. Equipment and Services: The Contractor shall provide portable lighting, staging and scaffolding, utility hook-ups, portable fire extinguishers, first aid equipment, and all other equipment or items for the safe and efficient performance of Work.
- D. Decontamination Facility:
1. The Contractor shall erect one or more Decontamination Facilities (if applicable) to serve each work area. The facility will consist of series of two or more connected chambers including, at a minimum, a clean room and a shower/wash room, separated by an air lock. Unless otherwise specified, the shower/wash room shall be contiguous to the work area. Non-contiguous, remote, three-chamber decontamination facilities may be substituted with the Consultant's prior written approval. Three-chamber decontamination facilities shall include an equipment room to be used for removal and temporary storage of contaminated worker clothing, equipment, and other items leaving the work area, prior to decontamination in the shower/wash room of the decontamination facility.
 2. In all cases, non-emergency access between contaminated and uncontaminated rooms or areas shall only be through the Decontamination Facility/Wash Room.
 3. Ensure that barriers and linings are effectively sealed and taped at all times, and that the Shower/Wash Room floor is completely watertight. Repair damaged barriers, and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period.
- E. All lead in demolition work areas shall remain isolated from all other trades on the project and remain inaccessible to the public. Contractor shall monitor the access to the demolition work areas. The below listed items are required to control the generation of lead-containing dust during demolition activities if worker exposure is above the PEL. The Contractor is ultimately responsible for cleaning all generated dust and paint debris from demolition operations and must maintain work areas free from lead dust generated from demolition activities.
1. Signs shall be posted at all approaches to the work area warning that work involving lead is being conducted in the vicinity. Signs shall be in bold lettering not smaller than two inches tall.
 2. Barriers shall not be removed until the work areas are thoroughly cleaned and approved by the Consultant.

LEAD-CONTAINING PAINT CONSIDERATIONS

3.05 APPROVALS AND INSPECTIONS

- A. All temporary facilities, work procedures, equipment, materials, services, and agreements must strictly adhere to and meet this Section along with EPA, OSHA, regulations and recommendations as well as federal, state, and local regulations. Where there exists overlap of these regulations, the most stringent one applies. All work performed by the Contractor is further subject to approval of the Owner and/or Engineer.

3.06 PERSONNEL SAMPLING – CONTRACTOR

- A. Perform personnel air sampling during all demolition work to determine worker exposure limits. The results of such sampling shall be posted, provided to individual workers, and submitted to Owner and Consultant as described herein.
- B. Provide sampling to check personal exposure levels. Representative sampling shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken for repeated working conditions if working conditions remain unchanged, but must be taken every time there is a change in the removal operation, either in terms of the location or the type of work. Sampling will be used to determine eight-hour Time-Weighted-Averages (TWA). Personal sampling shall be as outlined in OSHA Standard 29 CFR 1926.62.
- C. Air sampling results shall be transmitted to the Owner and individual workers available at the job site in written form no more than forty-eight (48) hours after the completion of a sampling cycle. The reporting document shall list each sample's result, sampling time and date, personnel monitored and their social security numbers, flow rate, sample duration, sample yield, cassette size, and analyst's name and company, and shall include an interpretation of the results. Air sample analysis results will be reported in micrograms/cubic meter ($\mu\text{g}/\text{m}^3$).
- D. The Contractor's testing lab shall be AIHA accredited for analysis of metals. Contractor shall submit for Owner's review and acceptance the name and address of the laboratory, certification(s) of AIHA accreditation for metal analysis, listing of relevant experience in air lead analysis, and presentation of a documented Quality Assurance and Quality Control program.
- E. Air monitoring frequency will be established in accordance with the requirements set forth in 29 CFR 1926.62.

3.07 WORK PROCEDURES

- A. The contractor shall initiate, and continue, sufficient engineering and work practice controls, as described in the Contractor's Lead Compliance Program, to reduce and

maintain worker exposures to lead at or below the Action Level.

B. The following work practices are specifically required by these specifications:

1. All persons except those directly involved in the work shall be excluded from the work area. Physical barriers shall be used, where necessary, to limit access to the work area for the duration of the demolition operations. (Warning signs may need to be posted in accordance with applicable regulations.)
2. Provide hand washing facilities and assure that all workers thoroughly wash their hands and face upon exiting the work area. Workers shall pay careful attention to cleanse the hands and face when decontaminating (Provide hygiene facilities, including shower, as required based on initial assessment and continued monitoring.)
3. Thoroughly wet the areas to be demolished and mist the air to reduce the potential for creating airborne lead and dust.
4. All equipment used by the workers inside the work area shall be either left in the work area or thoroughly decontaminated before being removed from the area. Extra work clothing (in addition to the disposable suits supplied by the Contractor) shall be left in the clean area until the completion of work in that area. The clean area shall be cleaned of all visible debris and disposable materials daily.
5. Under no circumstances shall workers or supervisory personnel eat, drink, smoke, chew gum, or chew tobacco in the work area; to do so shall be grounds for the Engineer to stop all demolition operations. Only in the case of life threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators, if applicable, while in the work area. In this situation, respirators are to be removed for as short a duration as possible.

3.08 DEMOLITION PROCEDURES

A. Feasible engineering controls shall be implemented by the Contractor as described in the Lead Compliance Program to minimize the possibility of contamination of areas adjacent to the work area. The following activities are the minimum requirements of this Section and affect the demolition performed on the painted components:

1. No torch cutting, mechanical sanding or stripping or abrasive methods of paint removal shall occur.

LEAD-CONTAINING PAINT CONSIDERATIONS

2. No demolition activities may occur which increase the workers exposure above the Action Level of $30 \mu\text{g}/\text{m}^3$. Contractor shall fully comply with the OSHA lead standard 29 CFR 1926.62.
- B. Workers shall be informed of the components to be impacted during demolition that are identified as containing lead.
- C. Separation of Trades: Unprotected, untrained workers or trades shall not perform any related work within the same areas as demolition involving components identified as containing lead. Other trades may not enter these areas until clean-up procedures are completed.

3.09 STORAGE OF WASTE

- A. Use of waste and recycling containers on site shall be controlled under the following requirements:
1. Location of waste and recycling containers on site shall be coordinated with the Contractor, subject to Owner's approval.
 2. Waste containers shall be lined with two layers of six-mil polyethylene sheeting, be solid, enclosed containers, locked and sealed at all times. This requirement applies to waste classified as hazardous based on TCLP testing.
 3. Contractor shall comply with all federal, state, and local regulations and ordinances regarding lead waste and recyclable storage.

END OF SECTION 02 83 00

SECTION 04 20 00

UNIT MASONRY

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Concrete Block.
- B. Mortar and Grout.
- C. Reinforcement and Anchorage.
- D. Refer to the Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Unit Masonry Work required to complete the work of the contract including all the Unit Masonry Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Unit Masonry Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Unit Masonry Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

- B. Unit Masonry Work includes but is not limited to:
1. Central Public Library - Infill CMU behind wall hung toilets & sinks. Extend CMU chase full height of wall behind both toilets.
 2. East Branch Public Library - No unit masonry work.
 3. (NOT USED)
 4. (NOT USED)
 5. J. F. Kennedy School - No unit masonry work.
 6. Benjamin Brown School - No unit masonry work.
 7. Winter Hill School - No unit masonry work.

1.04 RELATED REQUIREMENTS

- A. Section 02 41 00 - Selective Demolition: Removal of CMU to perform plumbing work.
- B. Section 09 30 00 - Tiling: Tile finish applied to CMU.
- C. Section 22 00 00 - Plumbing: Installation of hangers and supports for plumbing fixtures.

1.05 REFERENCE STANDARDS

- A. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units; 2014.
- B. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2011.
- C. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.
- D. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2006 (Reapproved 2011).
- E. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.
- F. ASTM C404 - Standard Specification for Aggregates for Masonry Grout; 2011.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data for masonry units, mortar, and masonry accessories.
- C. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

- A. Concrete Block: Comply with referenced standards and as follows:
 - 1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depths as indicated on the drawings for specific locations.
 - 2. Special Shapes: Provide non-standard blocks configured for corners.
 - 3. Load-Bearing Units: ASTM C90, normal weight.
 - a. Both hollow and solid block.
 - b. Exposed Faces: Manufacturer's standard color and texture where indicated.

2.02 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Mortar Aggregate: ASTM C144.
- D. Grout Aggregate: ASTM C404.

2.03 REINFORCEMENT AND ANCHORAGE

2.04 MORTAR AND GROUT MIXES

- A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
 - 1. Interior, loadbearing masonry: Type N.
 - 2. Interior, non-loadbearing masonry: Type O.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive masonry.
- B. Verify that related items provided under other sections are properly sized and located.
- C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 PREPARATION

- A. Direct and coordinate placement of metal anchors supplied for installation under other sections.
- B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.03 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Concrete Masonry Units:
 - 1. Bond: Running.
 - 2. Mortar Joints: Concave.

3.04 PLACING AND BONDING

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Lay hollow masonry units with face shell bedding on head and bed joints.
- C. Remove excess mortar and mortar smears as work progresses.
- D. Interlock intersections and external corners, except for units laid in stack bond.
- E. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- F. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
- G. Cut mortar joints flush where wall tile is scheduled or resilient base is scheduled.

3.05 CUTTING AND FITTING

- A. Cut and fit for chases, pipes, and plumbing hangers. Coordinate with other sections of work to provide correct size, shape, and location.
- B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.06 CLEANING

- A. Remove excess mortar and mortar droppings.
- B. Clean soiled surfaces with cleaning solution.

END OF SECTION 04 20 00

SECTION 05 52 13

PIPE AND TUBE RAILINGS (FILED SUB-BID REQUIRED)

PART 1 GENERAL

1.01 FILED SUB-BIDS

- A. Pipe and Tube Railing is stipulated as a Filed Sub-Bid under Part B, Item 2, of the FORM FOR GENERAL BID.
- B. All sub-bids shall be submitted on the FORM FOR SUB-BID furnished by the Awarding Authority as required by Section 44G of Chapter 149 of the General Laws, as amended.
- C. Sub-bids must be filed with the Awarding Authority in a sealed envelope, before the time stipulated on the ADVERTISEMENT, on the date stipulated in the ADVERTISEMENT.
- D. Specific information relating to sub-bidders is set forth in the CONTRACT DOCUMENTS under the heading, "NOTICE TO ALL BIDDERS", and the attention of the sub-bidders is directed thereto.
- E. The work to be done under this Section 05 52 13 is described herein, and on Drawings G1-01, A1-01, A1-02, A1-03, A2-01, A5-01, A5-02, A6-01, A6-02, A6-03, A6-04, A7-01, A7-02, A7-03, A7-04, P0.01, P1.01, P1.02, P1.03, P1.04, E0.01, E1.01, E1.02 and E1.03.

1.02 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.03 SECTION INCLUDES

- A. Wall mounted handrails.
- B. Free-standing railings at steps.
- C. Refer to the Drawings for additional requirements.

1.04 DESCRIPTION OF WORK

- A. Provide all the Pipe and Tube Railing Work required to complete the work of the contract including all the Pipe and Tube Railing Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Pipe and Tube Railing Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Pipe and Tube Railing Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
- B. Pipe and Tube Railing Work includes but not limited to:
 - 1. Central Public Library - No railing work.
 - 2. East Branch Public Library - No railing work.
 - 3. (NOT USED)
 - 4. (NOT USED)
 - 5. John F. Kennedy School - Provide post mounted metal handrails on both sides of the Cafetorium stage.
 - 6. Benjamin Brown School - Provide wall mounted metal handrails and continuous post mounted metal handrails at all levels of both interior egress stairs.
 - 7. Winter Hill School - No railing work.

1.05 RELATED REQUIREMENTS

- A. Section 02 41 00 - Selective Demolition
- B. Section 06 10 00 - Rough Carpentry: In-wall blocking for handrail attachment.
- C. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES: Patching of walls after installation of in-wall blocking.
- D. Section 09 91 23 - Interior Painting (FILED SUB-BID REQUIRED): Paint finish.

PIPE AND TUBE RAILINGS
(FILED SUB-BID
REQUIRED)
05 52 13 - 2

1.06 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.
- C. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings; 2013.
- D. ASTM E985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings; 2000 (Reapproved 2006).
- E. MAAB 521 CMR - Massachusetts Architectural Access Board Standards
- F. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; 1999 (Ed. 2004).

1.07 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners, and accessories.
- C. Samples: Submit two, six inch long samples of handrail. Submit two samples of elbow, wall bracket, and end stop.

PART 2 PRODUCTS

2.01 RAILINGS - GENERAL REQUIREMENTS

- A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of ASTM E985 and applicable local code.
- B. Concentrated Loads: Design railing assembly, wall rails, and attachments to resist a concentrated force of 200 pounds applied at any point on the top of the assembly and in any direction, without damage or permanent set.
- C. Allow for expansion and contraction of members and building movement without damage to connections or members.
- D. Dimensions: See drawings for configurations and heights.
 - 1. Top Rails and Wall Rails: 1-5/8 O.D. inches diameter, round.
 - 2. Posts: 1-5/8 O.D. inches diameter, round.
- E. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.

- F. Provide welding fittings to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.

2.02 STEEL RAILING SYSTEM

- A. Steel Pipe: ASTM A53/A53M, Grade B Schedule 80, black finish.
- B. Welding Fittings: Factory- or shop-welded from matching pipe or tube; seams continuously welded; joints and seams ground smooth.
- C. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.
- D. Straight Splice Connectors: Steel concealed spigots.
- E. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

2.03 FABRICATION

- A. Accurately form components to suit specific project conditions and for proper connection to building structure.
- B. Fit and shop assemble components in largest practical sizes for delivery to site.
- C. Fabricate components with joints tightly fitted and secured. Provide spigots and sleeves to accommodate site assembly and installation.
- D. Welded Joints:
 - 1. Interior Components: Continuously seal joined pieces by intermittent welds and plastic filler.
 - 2. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.

- C. Install railings in compliance with ADA Standards and MAAB regulations for accessible design at all locations.
- D. Anchor railings securely to structure.
- E. Field weld anchors as indicated on drawings. Touch-up welds with primer. Grind welds smooth.
- F. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

END OF SECTION 05 52 13

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Rough opening framing for doors.
- B. Fire retardant treated wood materials.
- C. Drinking fountain mounting boards.
- D. Concealed wood blocking, nailers, and supports.
- E. Miscellaneous wood nailers, furring, and grounds.

1.03 DESCRIPTION OF WORK

- A. Provide all the Rough Carpentry Work required to complete the work of the contract including all the Rough Carpentry Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Rough Carpentry Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Rough Carpentry Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and

equipment necessary to complete the work of this Section, including but not limited to the following:

- B. Rough Work Carpentry includes but is not limited to:
1. Central Public Library - Provide drinking fountain mounting board and miscellaneous blocking.
 2. East Branch Public Library - No rough carpentry work.
 3. (NOT USED)
 4. (NOT USED)
 5. J. F. Kennedy School - No rough carpentry work.
 6. Benjamin Brown School - Provide drinking fountain mounting boards and miscellaneous blocking. Provide blocking behind handrail bracket attachment locations.
 7. Winter Hill School - No rough carpentry work.

1.04 RELATED REQUIREMENTS

- A. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES: Gypsum-based sheathing.

1.05 REFERENCE STANDARDS

- A. AWC (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; 2015.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- D. AWPA U1 - Use Category System: User Specification for Treated Wood; 2012.
- E. PS 1 - Structural Plywood; 2009.
- F. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; 2010.
- G. PS 20 - American Softwood Lumber Standard; 2010.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide technical data on insulated sheathing, wood preservative materials, and application instructions.
- C. Manufacturer's Certificate: Certify that wood products supplied for rough carpentry meet or exceed specified requirements.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
 - 3. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.
- B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Stud Framing (2 by 2 through 2 by 6):
 - 1. Grade: No. 2.
- D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

- A. Wall Sheathing: Plywood, PS 1, Grade C-D, Exposure I.
- B. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.
- C. Mounting Boards:
 - 1. Marine-grade , B-B, or better, 3/4 inch thick, Exterior grade.

2.04 ACCESSORIES

- A. Fasteners and Anchors:

1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
2. Power-Driven fasteners: CABO NER-272.
3. Wood Screws: ASME B18.6.1.
4. Screws for fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
5. Anchors: Expansion shield and lag bolt type for anchorage to solid masonry or concrete: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.

2.05 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWWA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
 2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWWA standards.
- B. Fire Retardant Treatment:
 1. Interior Type A: AWWA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Treat rough carpentry items as indicated .
 - c. Do not use treated wood in applications exposed to weather or where the wood may become wet.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.02 FRAMING INSTALLATION

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
- B. Install structural members full length without splices unless otherwise specifically detailed.
- C. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes, AWC (WFCM) Wood Frame Construction Manual, and _____.
- D. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.
- E. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.03 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.
- C. In metal stud walls, provide continuous blocking around door openings for anchorage of frames, securely attached to stud framing.
- D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- E. Provide the following specific non-structural framing and blocking:
 - 1. Wall brackets.
 - 2. Handrails.
 - 3. Grab bars.
 - 4. Towel and bath accessories.
 - 5. Wall-mounted door stops.

3.04 INSTALLATION OF CONSTRUCTION PANELS

- A. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.

- B. Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges of board.

3.05 CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01 74 19 - Construction Waste Management and Disposal.
 - 1. Comply with applicable regulations.
 - 2. Do not burn scrap on project site.
 - 3. Do not burn scraps that have been pressure treated.
 - 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION 06 10 00

SECTION 06 20 00

FINISH CARPENTRY

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 DESCRIPTION OF WORK

- A. Provide all the Finish Carpentry Work required to complete the work of the contract including all the Finish Carpentry Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Finish Carpentry Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Finish Carpentry Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
- B. Finish Carpentry Work includes but is not limited to:
 1. Central Public Library - Hang existing door in new metal frames with reverse swings. Install toilet accessories.
 2. East Branch Public Library - Millwork related to Circulation Desk modifications.

3. (NOT USED)
4. (NOT USED)
5. J. F. Kennedy School - No finish carpentry work.
6. Benjamin Brown School - Modify newel post caps to accomodate new metal handrails.
7. Winter Hill School - Install cap trim at low walls.

1.03 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Support framing, grounds, and concealed blocking.
- B. Section 08 14 16 - Flush Wood Doors.
- C. Section 09 91 23 - Interior Painting (FILED SUB-BID REQUIRED): Painting and finishing of finish carpentry items.

1.04 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard; 2009.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.
- D. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.
- E. AWPA U1 - Use Category System: User Specification for Treated Wood; 2012.
- F. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.
- G. PS 1 - Structural Plywood; 2009.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the work with plumbing rough-in and installation of associated and adjacent components.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data:
 1. Provide data on fire retardant treatment materials and application instructions.
- C. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect work from moisture damage.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

- A. Interior Woodwork Items:
 - 1. Moldings, Bases, Casings, and Miscellaneous Trim: Clear white pine; prepare for paint finish.
 - 2. Service Counter: Oak; prepare for transparent finish.

2.02 WOOD-BASED COMPONENTS

- A. Wood fabricated from old growth timber is not permitted.

2.03 SHEET MATERIALS

- A. Softwood Plywood, Not Exposed to View: Any face species, medium density fiberboard core; PS 1 Grade A-B, glue type as recommended for application.
- B. Particleboard: ANSI A208.1; composed of wood chips, sawdust, or flakes of 45 pound density, made with waterproof resin binders; CS 236-66: Type 1, Grade B, Class 2; sanded faces, clean and free of oil or grease, and uniform thickness.
- C. Medium Density Fiberboard (MDF). Sanded smooth, clean and free of oil or grease, and uniform thickness.

2.04 PLASTIC LAMINATE MATERIALS

- A. Plastic Laminate: NEMA LD 3, VGS; M2178 color; textured, low gloss finish; Brushed Stainless Steel manufactured by Formica (or Approved Equal). Grain to run vertically in wall mounted applications.
- B. Laminate Adhesive: Type recommended by laminate manufacturer to suit application; not containing formaldehyde or other volatile organic compounds.

2.05 FASTENINGS

- A. Adhesive for Purposes Other Than Laminate Installation: Suitable for the purpose; not containing formaldehyde or other volatile organic compounds.
- B. Fasteners: Of size and type to suit application; galvanized finish in concealed locations and stainless finish in exposed locations.

2.06 WOOD TREATMENT

- A. Factory-Treated Lumber: Comply with requirements of AWPA U1 - Use Category System for pressure impregnated wood treatments determined by use categories, expected service conditions, and specific applications.
- B. Fire Retardant Treatment (FR-S Type): Chemically treated and pressure impregnated; capable of providing flame spread index of 25, maximum, and smoke developed index of 450, maximum, when tested in accordance with ASTM E84.

- C. Shop pressure treat wood materials requiring fire rating to concealed wood blocking.
- D. Provide identification on fire retardant treated material.
- E. Deliver fire retardant treated materials cut to required sizes. Minimize field cutting.

2.07 FABRICATION

- A. Shop assemble work for delivery to site, permitting passage through building openings.
- B. Fit exposed sheet material edges with matching veneer edging. Use one piece for full length only.
- C. Cap exposed plastic laminate finish edges with material of same finish and pattern.
- D. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.
- E. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.

2.08 SHOP FINISHING

- A. Sand work smooth and set exposed nails and screws.
- B. Apply wood filler in exposed nail and screw indentations.
- C. On items to receive transparent finishes, use wood filler that matches surrounding surfaces and is of type recommended for the applicable finish.
- D. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
 - 1. Transparent:
 - a. System - 12, Polyurethane, Water-based.
 - b. Sheen: Flat.
- E. Prime paint surfaces in contact with cementitious materials.
- F. Back prime woodwork items to be field finished, prior to installation.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

- C. See Section 06 10 00 ROUGH CARPENTRY for installation of recessed wood blocking.

3.02 INSTALLATION

- A. Set and secure materials and components in place, plumb and level.
- B. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

3.03 PREPARATION FOR SITE FINISHING

- A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
- B. Site Finishing: See Section 09 91 23.
- C. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.04 TOLERANCES

- A. Maximum Variation from True Position: 1/16 inch.
- B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION 06 20 00

SECTION 07 14 00

FLUID-APPLIED WATERPROOFING

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Fluid-Applied Waterproofing:
 - 1. Under-tile waterproofing and anti-fracture membrane.
- B. Refer to the Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Fluid-Applied Waterproofing Work required to complete the work of the contract including all the Fluid-Applied Waterproofing Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Fluid-Applied Waterproofing Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Fluid-Applied Waterproofing Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

- B. Installation of fluid-applied waterproofing under new tile includes but is not limited to:
1. Central Public Library - Install fluid applied waterproofing on floors and 8" up walls in toilet rooms.
 2. East Branch Public Library - No waterproofing work.
 3. (NOT USED)
 4. (NOT USED)
 5. John F. Kennedy School - No waterproofing work.
 6. Benjamin Brown School - No waterproofing work.
 7. Winter Hill School - No waterproofing work.

1.04 RELATED REQUIREMENTS

- A. Section 09 30 00 - Tiling: Preparation of setting bed to receive tile.

1.05 ABBREVIATIONS

A. REFERENCE STANDARDS

1. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes For Thin-Set Ceramic Tile And Dimension Stone Installation; 2014.
2. NRCA (WM) - The NRCA Waterproofing Manual; 2005.

B. SUBMITTALS

1. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
2. Product Data: Provide data for membrane, surface conditioner, flexible flashings, joint cover sheet, and joint and crack sealants.
3. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and acceptable installation temperatures.

C. QUALITY ASSURANCE

1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years documented experience.

D. WARRANTY

1. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
2. Provide five year manufacturer warranty for waterproofing failing to resist penetration of water, except where such failures are the result of structural

failures of building. Hairline cracking of concrete due to temperature change or shrinkage is not considered a structural failure.

PART 2 PRODUCTS

2.01 WATERPROOFING APPLICATIONS

- A. Under-Tile Waterproofing and Anti-Fracture Membrane: Use at toilet room floors and 8 inches up base of walls.
- B. Under-Tile Waterproofing and Anti-Fracture Membrane:

2.02 MEMBRANE AND FLASHING MATERIALS

- A. Under-Tile Waterproofing and Anti-Fracture Membrane: Specifically designed for bonding to concrete, backer boards, and plywood under ceramic tile; complying with ANSI A118.10.
 - 1. Material: Hydroban by Laticrete or approved equal. ___ inch
 - 2. IAPMO approved.
 - 3. Fabric Reinforcing provided by Laticrete compatible with Hydroban.
- B. Flexible Flashings: Type recommended by membrane manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify substrate surfaces are free of frozen matter, dampness, loose particles, cracks, pits, projections, penetrations, or foreign matter detrimental to adhesion or application of waterproofing system.
- C. Verify that substrate surfaces are smooth, free of honeycomb or pitting, and not detrimental to full contact bond of waterproofing materials.
- D. Verify items that penetrate surfaces to receive waterproofing are securely installed.

3.02 PREPARATION

- A. Protect adjacent surfaces from damage not designated to receive waterproofing.
- B. Clean and prepare surfaces to receive waterproofing in accordance with manufacturer's instructions; vacuum substrate clean.
- C. Do not apply waterproofing to surfaces unacceptable to waterproofing manufacturer.
- D. Fill non-moving joints and cracks with another layer of Hydroban and fabric reinforcing.

- E. Seal moving cracks with sealant and non-rigid filler, using procedures recommended by sealant and waterproofing manufacturers.

3.03 INSTALLATION

- A. Install waterproofing to specified minimum thickness in accordance with manufacturers instructions and NRCA (WM) applicable requirements.
- B. Apply extra thickness of waterproofing material at corners, intersections, and angles.
- C. Flexible Flashings: Seal items watertight that penetrate through waterproofing membrane with flexible flashings.

3.04 PROTECTION

- A. Do not permit traffic over unprotected or uncovered membrane.

END OF SECTION 07 14 00

SECTION 07 92 00

JOINT SEALANTS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.

1.03 DESCRIPTION OF WORK

- A. Provide all the Joint Sealants Work required to complete the work of the contract including all the Joint Sealants Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Joint Sealants Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Joint Sealants Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
- B. Joint Sealant Work includes but is not limited to:
 - 1. Central Public Library - Sealants at perimeter of drinking fountain and toilet fixtures.

2. East Branch Public Library - No sealant work.
3. (NOT USED)
4. (NOT USED)
5. J. F. Kennedy School - No sealant work.
6. Benjamin Brown School - Sealants at perimeter of drinking fountain.
7. Winter Hill School - Sealants at wood cap trim. Sealant at perimeter of drinking fountains.

1.04 REFERENCE STANDARDS

- A. ASTM C834 - Standard Specification for Latex Sealants; 2014.
- B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.
- C. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.
- D. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 2. List of backing materials approved for use with the specific product.
 3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 4. Substrates the product should not be used on.
 5. Substrates for which use of primer is required.
 6. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
 7. Sample product warranty.

PART 2 PRODUCTS

2.01 JOINT SEALANT APPLICATIONS

- A. Scope:
 1. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.

- b. Joints between wood trim and adjacent construction.
- c. Joints between plumbing fixtures and adjacent construction.
- 2. Do not seal the following types of joints.
 - a. Joints between suspended panel ceilings/grid and walls.
- B. Interior Joints: Use nonsag polyurethane sealant, unless otherwise indicated.
 - 1. Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
 - 2. Floor Joints in Wet Areas: Nonsag polyurethane "nontraffic-grade" sealant suitable for continuous liquid immersion.
 - 3. Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; white.
- C. Interior Wet Areas: restrooms; fixtures in wet areas include plumbing fixtures, countertops, and other similar items.

2.02 JOINT SEALANTS - GENERAL

- A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.
- B. Colors: As directed by Architect.

2.03 NONSAG JOINT SEALANTS

- A. Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
 - 1. Color: White.
- B. Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multicomponent; not expected to withstand continuous water immersion or traffic.
 - 1. Movement Capability: Plus and minus 25 percent, minimum.
 - 2. Color: To be selected by Architect from manufacturer's standard range.
- C. Polyurethane Sealant for Continuous Water Immersion: ASTM C920, Grade NS, Uses M and A; single or multicomponent; explicitly approved by manufacturer for continuous water immersion; suitable for traffic exposure when recessed below traffic surface .
 - 1. Movement Capability: Plus and minus 35 percent, minimum.
 - 2. Color: To be selected by Architect from manufacturer's standard range.
- D. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.
 - 1. Color: To be selected by Architect from manufacturer's standard range.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Install bond breaker backing tape where backer rod cannot be used.
- D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

END OF SECTION 07 92 00

SECTION 08 12 13

HOLLOW METAL FRAMES

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Non-fire-rated hollow metal frames for non-hollow wood doors.
- B. Refer to Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Hollow Metal Frames Work required to complete the work of the contract including all the Hollow Metal Frames Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Hollow Metal Frames Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Hollow Metal Frames Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
- B. Hollow Metal Frames Work includes but is not limited to:
 - 1. Central Public Library - Install frames with reversed swing at toilet rooms.

2. East Branch Public Library - No hollow metal frame work.
3. (NOT USED)
4. (NOT USED)
5. J.F. Kennedy School - No hollow metal frame work.
6. Benjamin Brown School - No hollow metal frame work.
7. Winter Hill School - No hollow metal frame work.

1.04 RELATED REQUIREMENTS

- A. Section 08 14 16 - FLUSH WOOD DOORS: Non-hollow wood door for hollow metal frames.
- B. Section 08 71 00 - Door Hardware: Hardware, silencers, and weatherstripping.
- C. Section 09 91 23 - Interior Painting (FILED SUB-BID REQUIRED): Field painting.

1.05 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2014.
- C. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2011.
- D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- E. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable; 2015.
- F. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2014.
- G. BHMA A156.115 - American National Standard for Hardware Preparation in Steel Doors and Steel Frames; 2014.
- H. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.
- I. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.
- J. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced grade standard.
- C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any.
- D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.
- E. Manufacturer's Qualification Statement.

1.07 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 DESIGN CRITERIA

- A. Door Frame Type: Provide hollow metal door frames with _____.
- B. Steel used for fabrication of frames shall comply with one or more of the following requirements; galvanized steel conforming to ASTM A653/A653M, cold-rolled steel conforming to ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel conforming to ASTM A1011/A1011M, Commercial Steel (CS) Type B for each.
- C. Accessibility: Comply with ICC A117.1 and ADA Standards.
- D. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior frame that is also indicated as being sound-rated must comply with the requirements specified for exterior frames and for sound-rated frames; where two requirements conflict, comply with the most stringent.
- E. Hardware Preparations, Selections and Locations: Comply with BHMA A156.115, NAAMM HMMA 830, NAAMM HMMA 831 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
- F. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.

2.03 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.04 ACCESSORIES

- A. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.
- B. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 PREPARATION

- A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.03 INSTALLATION

- A. Install frames in accordance with manufacturer's instructions and related requirements of specified frame standards or custom guidelines indicated.
- B. Install prefinished frames after painting and wall finishes are complete.
- C. Coordinate frame anchor placement with wall construction.
- D. Install door hardware as specified in Section 08 71 00.
- E. Touch up damaged factory finishes.

END OF SECTION 08 12 13

SECTION 08 71 00

DOOR HARDWARE

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Hardware for wood doors.
- B. Refer to the Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Door Hardware Work required to complete the work of the contract including all the Door Hardware Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Door Hardware Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Door Hardware Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
- B. Door Hardware Work includes, but is not limited to: Fabrication and installation of new door hardware.

1. Central Public Library - Install door hardware at toilet room doors.
2. East Branch Public Library - No door hardware work.
3. (NOT USED)
4. (NOT USED)
5. J. F. Kennedy School - No door hardware work.
6. Benjamin Brown School - No door hardware work.
7. Winter Hill School - No door hardware work.

1.04 RELATED REQUIREMENTS

- A. Section 08 12 13 - Hollow Metal Frames.

1.05 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. BHMA A156.1 - American National Standard for Butts and Hinges; 2013.
- C. BHMA A156.2 - American National Standard for Bored and Preassembled Locks & Latches; 2011.
- D. BHMA A156.4 - American National Standard for Door Controls - Closers; 2013.
- E. BHMA A156.7 - American National Standard for Template Hinge Dimensions; 2014.
- F. BHMA A156.8 - American National Standard for Door Controls - Overhead Stops and Holders; 2010.
- G. BHMA A156.18 - American National Standard for Materials and Finishes; 2012.
- H. DHI WDHS.3 - Recommended Locations for Architectural Hardware for Flush Wood Doors; 1993; also in WDHS-1/WDHS-5 Series, 1996.
- I. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.
- J. NFPA 101 - Life Safety Code; 2015.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project.
- C. Hardware Schedule: Detailed listing of each item of hardware to be installed on each door. Use door numbering scheme as included in the Contract Documents. Identify electrically operated items and include power requirements.
- D. Keying Schedule: Submit for approval of Owner.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Allegion Brands; Ives or Schlage: www.allegion.com/us.
- B. Assa Abloy Brands; McKinney or Yale: www.assaabloydss.com.
- C. Best Access Systems, division of Stanley Security Solutions; _____: www.bestaccess.com.
- D. Hager Companies; _____: www.hagerco.com.
- E. Or approved equal.

2.02 GENERAL REQUIREMENTS

- A. Provide door hardware specified, or as required to make doors fully functional, compliant with applicable codes, and secure to the extent indicated.
- B. Provide items of a single type of the same model by the same manufacturer.
- C. Provide products that comply with the following:
 - 1. Applicable provisions of federal, state, and local codes.
 - 2. Accessibility: ADA Standards and ICC A117.1.
 - a. Handles, Pulls, Latches, Locks, and other Operating Devices: shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
 - b. Thresholds: not more than 1/2 inch high. Bevel raised thresholds with a slope of not more than 1:2.
 - 3. Applicable provisions of NFPA 101, Life Safety Code.
 - a. Latches, Locks, and Exit Devices: Not more than 15 lbf to release latch. Locks shall not require the use of a key, tool, or special knowledge for operation.
 - b. Door Closers: Not more than 15 lbf to open door to minimum required width.
 - c. Thresholds: Not more than 1/2 inch high.
- D. Function: Lock and latch function numbers and descriptions of manufactures series as listed in hardware schedule.
- E. Finishes: Provide door hardware of the same finish unless otherwise indicated.
 - 1. Primary Finish: Satin chrome plated over nickel on brass or bronze, 626 (approx US26D).
 - 2. Finish Definitions: BHMA A156.18.

3. Exceptions:
 - a. Where base metal is specified to be different, provide finish that is an appearance equivalent according to BHMA A156.18.
 - b. Door Closer Covers and Arms: Color to be selected by Architect from manufacturer's standard colors.

F. Fasteners:

1. Concrete and Masonry Substrates: Stainless steel machine screws and lead expansion shields.

2.03 LOCKS AND LATCHES

A. Locks: Provide a lock for every door, unless specifically indicated as not requiring locking.

1. Hardware Sets indicate locking functions required for each door.
2. If no hardware set is indicated for a swinging door provide an office lockset.
3. Trim: Provide lever handle or pull trim on outside of all locks unless specifically stated to have no outside trim.
4. Lock Cylinders: Provide key access on outside of all locks unless specifically stated to have no locking or no outside trim.

B. Lock Cylinders: Manufacturer's standard tumbler type, six-pin standard core.

1. Provide cams and/or tailpieces as required for locking devices required.

C. Keying: Master keyed.

1. Key to existing keying system.
2. Supply keys in the following quantities:
 - a. 2 master keys.
 - b. 2 change keys for each lock.

2.04 HINGES

A. Hinges: Provide hinges on every swinging door.

1. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
2. Provide ball-bearing hinges at all doors having closers.
3. Provide hinges in the quantities indicated.

B. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7; standard weight, unless otherwise indicated.

C. Quantity of Hinges Per Door:

1. Doors From 60 inches High up to 90 inches High: Three hinges.

D. Manufacturers - Hinges:

1. Assa Abloy Brands; McKinney: www.assaabloydss.com.

2. Stanley Black & Decker; _____: www.stanleyblackanddecker.com.
3. Ives: www.allegion.com.
4. Or approved equal.

2.05 CYLINDRICAL LOCKSETS

- A. Locking Functions: As defined in BHMA A156.2, and as follows.
 1. Office: F81, key not required to lock, remains locked upon exit.
- B. Manufacturers - Cylindrical Locksets:
 1. Assa Abloy Brands, Corbin Russwin, Sargent, or Yale; _____: www.assaabloydss.com.
 2. Best Access Systems, division of Stanley Security Solutions; _____: www.bestaccess.com.
 3. Schlage, an Allegion brand; _____: www.allegion.com/us.
 4. Or approved equal.

2.06 CLOSERS

- A. Closers: Complying with BHMA A156.4.
 1. Provide surface-mounted, door-mounted closers unless otherwise indicated.
 2. At corridors, locate door-mounted closer on room side of door.
- B. Manufacturers - Surface Mounted Closers:
 1. Assa Abloy Brands, Corbin Russwin, Norton, Rixson, Sargent, or Yale; _____: www.assaabloydss.com.
 2. DORMA USA, Inc; 7400 Series, 8600 Series, 8900 Series, and TS93: www.dorma.com.
 3. LCN, an Allegion brand; _____: www.allegion.com/us.
 4. Or approved equal.

2.07 STOPS AND HOLDERS

- A. Stops: Complying with BHMA A156.8; provide a stop for every swinging door, unless otherwise indicated.
 1. Provide wall stops, unless otherwise indicated.
 2. If wall stops are not practical, due to configuration of room or furnishings, provide overhead stop.
 3. Stop is not required if positive stop feature is specified for door closer; positive stop feature of door closer is not an acceptable substitute for a stop unless specifically so stated.
- B. Manufacturers - Wall and Floor Stops/holders:

1. Assa Abloy Brands, McKinney; _____: www.assaabloydss.com.
2. C. R. Laurence Co., Inc: www.crl-arch.com.
3. Hager Companies; _____: www.hagerco.com.
4. Or approved equal.

2.08 PROTECTION PLATES AND ARCHITECTURAL TRIM

- A. Protection Plates:
1. Kickplate: Provide on push side of every door with closer.
- B. Manufacturers - Protection Plates and Architectural Trim:
1. Rockwood Manufacturing Company, an Assa Abloy brand: www.rockwoodmfg.com.
 2. C. R. Laurence Co., Inc: www.crl-arch.com.
 3. Hager Companies; _____: www.hagerco.com.
 4. Or approved equal.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that doors and frames are ready to receive work; labeled, fire-rated doors and frames are present and properly installed, and dimensions are as indicated on shop drawings.

3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Use templates provided by hardware item manufacturer.
- C. Do not install surface mounted items until finishes applied to substrate are complete.
- D. Mounting heights for hardware from finished floor to center line of hardware item. As indicated in the following list; unless noted otherwise in Door Hardware Sets Schedule or on the drawings.
1. For Steel Door Frames: Refer to Section 08 12 13.
 2. For Wood Doors: Comply with DHI WDHS.3 "Recommended Locations for Architectural Hardware for Flush Wood Doors".

3.03 CLEANING

- A. Clean adjacent surfaces soiled by hardware installation. Clean finished hardware per manufacturer's instructions after final adjustments has been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

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3.04 PROTECTION

- A. Protect finished Work under provisions of Section 01 70 00 - Execution and Closeout Requirements.
- B. Do not permit adjacent work to damage hardware or finish.

END OF SECTION 08 71 00

SECTION 09 21 16

GYP SUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Metal stud wall framing.
- B. Gypsum sheathing.
- C. Cementitious backing board.
- D. Gypsum wallboard.
- E. Joint treatment and accessories.
- F. Refer to the Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Gypsum Board Assemblies Work required to complete the work of the contract including all the Gypsum Board Assemblies Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Gypsum Board Assemblies Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Gypsum Board Assemblies Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each

section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

- B. Gypsum Board Assemblies Work includes, but is not limited to: Installation of new gypsum wallboard assemblies.
 - 1. Central Public Library - Install metal stud framing at drinking fountain.
 - 2. East Branch Public Library - No gypsum wallboard work.
 - 3. (NOT USED)
 - 4. (NOT USED)
 - 5. John F. Kennedy School - No gypsum wallboard work.
 - 6. Benjamin Brown School - Patch walls after blocking is installed at handrail bracket attachment locations.
 - 7. Winter Hill School - Install gypsum wallboard clad half walls at drinking fountains.

1.04 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Wood blocking product and execution requirements.

1.05 REFERENCE STANDARDS

- A. AISI S100-12 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2012.
- B. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2010 (Reaffirmed 2016).
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- D. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.
- E. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.
- F. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.
- G. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.
- H. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.

- I. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2015.
- J. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.
- K. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.
- L. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.
- M. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels; 2013.
- N. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.
- O. GA-216 - Application and Finishing of Gypsum Board; 2013.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
 - 1. See PART 3 for finishing requirements.

2.02 METAL FRAMING MATERIALS

- A. Manufacturers - Metal Framing, Connectors, and Accessories:
 - 1. Clarkwestern Dietrich Building Systems LLC; www.clarkdietrich.com.
 - 2. Marino: www.marinoware.com.
 - 3. Phillips Manufacturing Company: www.phillipsmfg.com.
 - 4. Or Approved equal.
- B. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf.
 - 1. Studs: "C" shaped with flat or formed webs with knurled faces.
 - 2. Runners: U shaped, sized to match studs.

- C. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100-12.
 2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot dipped galvanized coating.

2.03 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
1. CertainTeed Corporation: www.certainteed.com.
 2. Georgia-Pacific Gypsum: www.gpgypsum.com.
 3. National Gypsum Company: www.nationalgypsum.com.
 4. USG Corporation: www.usg.com.
 5. Or Approved Equal.
- B. Gypsum Wallboard: Faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Use for vertical surfaces, unless otherwise indicated.
 2. Glass mat faced gypsum panels as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
 3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 4. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
 5. Thickness:
 - a. Vertical Surfaces: 1/2 inch.
 - b. Horizontal Surfaces: 5/8 inch.
 6. Long Edges: Tapered.
 7. Glass Mat Faced Products:
 - a. Continental Building Products; Weather Defense Platinum Interior.
 - b. National Gypsum Company; Gold Bond eXP Interior Extreme Gypsum Panel.
 - c. USG Corporation; USG Sheetrock Brand Glass-Mat Panels Mold Tough.
 - d. Or Approved Equal.

- C. Backing Board For Non-Wet Areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.
1. Application: Vertical surfaces behind thinset tile, except in wet areas.
 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 3. Type: Regular, in locations indicated.
 4. Regular Board Thickness: 5/8 inch.
 5. Edges: Tapered.

2.04 ACCESSORIES

- A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: 3 1/2 inch.
- B. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
1. Types: As detailed or required for finished appearance.
 2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead at exposed panel edges.
- C. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
 2. Powder-type vinyl-based joint compound.
 3. Chemical hardening type compound.
- D. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.
- E. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion resistant.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Studs: Space studs at 16 inches on center.

1. Extend partition framing to height indicated on drawings.
 2. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

3.03 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
1. Exception: Tapered edges to receive joint treatment at right angles to framing.
- C. Cementitious Backing Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.
- D. Installation on Metal Framing: Use screws for attachment of gypsum board.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Corner Beads: Install at external corners, using longest practical lengths.
- B. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.05 JOINT TREATMENT

- A. Glass Mat Faced Gypsum Board: Use fiberglass joint tape, bedded and finished with chemical hardening type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
1. Feather coats of joint compound so that camber is maximum 1/32 inch.
 2. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.
- D. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

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3.06 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION 09 21 16

SECTION 09 30 00

TILING

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Stone thresholds.
- D. Ceramic trim.
- E. Refer to the Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Tiling Work required to complete the work of the contract including all the Tiling Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Tiling Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Tiling Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and

equipment necessary to complete the work of this Section, including but not limited to the following:

- B. Tiling Work includes, but is not limited to: Installation of new tile.
 - 1. Central Public Library - Install ceramic wall and floor tile in toilet rooms.
 - 2. East Branch Public Library - No tile work.
 - 3. (NOT USED)
 - 4. (NOT USED)
 - 5. John F. Kennedy School - No tiling work.
 - 6. Benjamin Brown School - No tiling work.
 - 7. Winter Hill School - No tile work.

1.04 RELATED REQUIREMENTS

- A. Section 07 14 00 - Fluid-Applied Waterproofing.
- B. Section 07 92 00 - Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.

1.05 REFERENCE STANDARDS

- A. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2014.
- B. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- C. ANSI A108.1c - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Bed with Dry-Set or Latex-Portland Cement; 1999 (Reaffirmed 2010).
- D. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2009 (Revised).
- E. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- F. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 1999 (Reaffirmed 2010).
- G. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2010).

- H. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (Reaffirmed 2010).
- I. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (Reaffirmed 2010).
- J. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior glue plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- K. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2010).
- L. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; 2012 (Revised).
- M. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2010 (Revised).
- N. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2013.1.
- O. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2015.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, thresholds, and setting details.
- D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Extra Tile: 10 square feet of each size, color, and surface finish combination.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.08 FIELD CONDITIONS

- A. Do not install solvent-based products. Install water based or low V.O.C. products only.
- B. Maintain ambient and substrate temperature of 50 degrees F during installation of mortar materials.

PART 2 PRODUCTS

2.01 TILE

- A. Manufacturers: All products by the same manufacturer.
 - 1. American Olean Corporation: www.americanolean.com.
 - 2. Dal-Tile Corporation: www.daltile.com.
 - 3. Emser Tile, LLC: www.emser.com.
 - 4. Or approved equal.
- B. Ceramic Mosaic Floor Tile: ANSI A137.1, standard grade.
 - 1. Size: 1 by 1 inch, nominal.
 - 2. Shape: Hexagon.
 - 3. Edges: Square.
 - 4. Surface Finish: Matte glazed.
 - 5. Color(s): Two colors, to be selected by Architect from manufacturer's standard range.
- C. Glazed Wall Tile: ANSI A137.1, standard grade.
 - 1. Size: Field tile, 4 by 8 inch, nominal.
 - 2. Edges: Cushioned.
 - 3. Colors: Field tile color and contrasting cap and base trim tile colors to be selected by Architect from manufacturer's standard range.
 - 4. Trim Units: Matching bead, bullnose, cove, and base shapes in sizes coordinated with field tile.

2.02 TRIM AND ACCESSORIES

- A. Ceramic Trim: Matching bullnose, double bullnose, cove base, and cove ceramic shapes in sizes coordinated with field tile.
 - 1. Applications:
 - a. Open Edges: Bullnose.
 - b. Inside Corners: Coved.
 - c. Floor to Wall Joints: Cove base.
 - 2. Manufacturers: Same as for tile.
- B. Thresholds: Marble, white or gray, polished or honed finish; 6 inches wide by full width of wall or frame opening; 1/2 inch thick; double Hollywood Bevel with radiused corners on top side; without holes, cracks, or open seams.
 - 1. Applications:
 - a. At doorways where tile terminates.

2.03 SETTING MATERIALS

- A. Manufacturers:
1. ARDEX Engineered Cements: www.ardexamericas.com.
 2. Bostik Inc: www.bostik-us.com.
 3. Custom Building Products: www.custombuildingproducts.com.
 4. LATICRETE International, Inc: www.laticrete.com.
 5. Merkrete, by Parex USA, Inc: www.merkrete.com.
 6. ProSpec, an Oldcastle brand: www.prospec.com.
 7. Or approved equal.
- B. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4 or ANSI A118.15.
1. Products:
 - a. Or approved equal.
- C. Mortar Bed Materials: Pre-packaged mix of Portland cement, sand, latex additive, and water.
1. Products:
 - a. LATICRETE International, Inc; LATICRETE 3701 Fortified Mortar Bed: www.laticrete.com/#sle.
 - b. Merkrete, by Parex USA, Inc; Merkrete Underlay C: www.merkrete.com/sle.
 - c. Proflex Products, Inc; MSI - Mud Set Installation: www.proflex.us.
 - d. Or approved equal.

2.04 GROUTS

- A. Manufacturers:
1. ARDEX Engineered Cements: www.ardexamericas.com.
 2. Bostik Inc: www.bostik-us.com.
 3. Custom Building Products: www.custombuildingproducts.com.
 4. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: www.laticrete.com/#sle.
 5. Merkrete, by Parex USA, Inc; Merkrete Duracolor Non-Sanded Color Grout: www.merkrete.com/sle.
 6. Or approved equal.
- B. High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.

2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
3. Color(s): As selected by Architect from manufacturer's full line.
4. Products:
 - a. Bostik Inc: www.bostik-us.com.
 - b. Custom Building Products; Fusion Pro Single Component Grout: www.custombuildingproducts.com.
 - c. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: www.laticrete.com/#sle.
 - d. Merkrete, by Parex USA, Inc; Merkrete Pro Grout: www.merkrete.com/sle.
 - e. Or approved equal.

2.05 MAINTENANCE MATERIALS

- A. Tile Sealant: Gunnable, silicone, siliconized acrylic, or urethane sealant; moisture and mildew resistant type.
 1. Applications: Between tile and plumbing fixtures.
 2. Color(s): As selected by Architect from manufacturer's full line.
 3. Products:
 - a. ARDEX Engineered Cements; ARDEX SX: www.ardexamericas.com/#sle.
 - b. Custom Building Products; Commercial 100% Silicone Caulk: www.custombuildingproducts.com.
 - c. LATICRETE International, Inc; LATICRETE LATASIL: www.laticrete.com/#sle.
 - d. Merkrete, by Parex USA, Inc; Merkrete Colored Caulking: www.merkrete.com/sle.
 - e. Or approved equal.
- B. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
 1. Composition: Water-based colorless silicone.
 2. Products:
 - a. Merkrete, by Parex USA, Inc; Merkrete Grout Sealer: www.merkrete.com/sle.
 - b. Or Approved Equal.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
- C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.
- D. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- D. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.03 INSTALLATION - GENERAL

- A. Install tile and thresholds and grout in accordance with applicable requirements of ANSI A108.1A thru A108.13, manufacturer's instructions, and TCNA (HB) recommendations.
- B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.
- C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.
- E. Form internal angles coved and external angles bullnosed.
- F. Install thresholds where indicated.
- G. Sound tile after setting. Replace hollow sounding units.
- H. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- I. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
- J. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

3.04 INSTALLATION - FLOORS - MORTAR BED METHODS

- A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F111, with cleavage membrane, unless otherwise indicated.
- B. Cleavage Membrane: Lap edges and ends.
- C. Waterproofing Membrane: Install Hydroban Liquid applied waterproofing membrane as specified in the section 07 14 00..
- D. Mortar Bed Thickness: 5/8 inch, unless otherwise indicated.

3.05 INSTALLATION - WALL TILE

- A. Over interior concrete and masonry install in accordance with TCNA (HB) Method W202, thin-set with dry-set or latex-Portland cement bond coat.

3.06 CLEANING

- A. Clean tile and grout surfaces.

3.07 PROTECTION

- A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION 09 30 00

SECTION 09 51 00

ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Suspended metal grid ceiling system.
- B. Acoustical units.
- C. Refer to the Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Suspended Acoustical Ceiling Work required to complete the work of the contract including all the Suspended Acoustical Ceiling Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Suspended Acoustical Ceiling Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Suspended Acoustical Ceiling Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

- B. Suspended Acoustical Ceiling Work includes but is not limited to installation of new suspended acoustical ceilings and supports.
 - 1. Central Public Library - Modify existing ceilings in toilet rooms and corridor.
 - 2. East Branch Public Library - No ceiling work.
 - 3. (NOT USED)
 - 4. (NOT USED)
 - 5. John F. Kennedy School - No ceiling work.
 - 6. Benjamin Brown School - No ceiling work.
 - 7. Winter Hill School - No ceiling work.

1.04 REFERENCE STANDARDS

- A. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2013a.
- B. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2014.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Sequence work to ensure acoustical ceilings are not installed until dust generating activities have terminated, and overhead work is completed, tested, and approved.
- B. Do not install acoustical units until after interior wet work is dry.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate grid layout and related dimensioning.
- C. Product Data: Provide data on suspension system components.
- D. Samples: Submit two samples 6 by 6 inch in size illustrating material and finish of acoustical units.
- E. Manufacturer's Installation Instructions: Indicate special procedures.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Extra Acoustical Units: 20 sq ft of each type and size.

1.07 QUALITY ASSURANCE

- A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- B. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acoustic Tiles/Panels:
 - 1. Armstrong World Industries, Inc: www.armstrong.com.
 - 2. CertainTeed Corporation: www.certainteed.com.
 - 3. Hunter Douglas Contract: www.hunterdouglascontract.com.
 - 4. USG: www.usg.com.
 - 5. Or approved equal.
- B. Suspension Systems:
 - 1. Same as for acoustical units.

2.02 ACOUSTICAL UNITS

- A. Acoustical Units - General: ASTM E1264, Class A.
- B. Acoustical Tile: Painted mineral fiber, ASTM E1264 Type III, with the following characteristics:
 - 1. Size: 12 by 12 inches.
 - 2. Thickness: 5/8 inches.
 - 3. Joint: Kerfed and rabbeted.
 - 4. Edge: Square.
 - 5. Surface Color: White.
 - 6. Surface Pattern: Directional fissured.
 - 7. Suspension System: Concealed grid.
- C. Acoustical Panels: Painted mineral fiber, ASTM E1264 Type III, with the following characteristics:
 - 1. Size: 24 by 24 inches.
 - 2. Thickness: 5/8 inches.
 - 3. Composition: Wet felted.
 - 4. Edge: Square.
 - 5. Surface Color: White.
 - 6. Surface Pattern: Non-directional fissured.
 - 7. Suspension System: Exposed grid.

2.03 SUSPENSION SYSTEM(S)

- A. Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.
- B. Exposed Steel Suspension System: Formed steel, commercial quality cold rolled; intermediate-duty.
 - 1. Profile: Tee; 9/16 inch wide face.
 - 2. Construction: Single web.
 - 3. Finish: White painted.
- C. Concealed Suspension System: Formed steel, commercial quality cold rolled; light-duty.
 - 1. Profile: Concealed Tee.
 - 2. Construction: Single web.

2.04 ACCESSORIES

- A. Support Channels and Hangers: Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.
- B. Perimeter Moldings: Same material and finish as grid.
 - 1. At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.
 - 2. At Concealed Grid: Provide exposed L-shaped molding.
- C. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

- A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
- B. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.
- C. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.
- D. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

- E. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- F. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- G. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
- H. Do not eccentrically load system or induce rotation of runners.
- I. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
 - 1. Use longest practical lengths.
 - 2. Overlap and rivet corners.

3.03 INSTALLATION - ACOUSTICAL UNITS

- A. Install acoustical units in accordance with manufacturer's instructions.
- B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Fit border trim neatly against abutting surfaces.
- D. Install units after above-ceiling work is complete.
- E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- F. Cutting Acoustical Units:
 - 1. Cut to fit irregular grid and perimeter edge trim.
 - 2. Make field cut edges of same profile as factory edges.
 - 3. Double cut and field paint exposed reveal edges.

END OF SECTION 09 51 00

SECTION 09 65 00

RESILIENT FLOORING

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Resilient base.
- B. Refer to the Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Resilient Flooring Work required to complete the work of the contract including all the Resilient Flooring Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Resilient Flooring Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Resilient Flooring Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
- B. Resilient Flooring Work includes but not limited to installation of resilient tile flooring.

1. Central Public Library - No resilient flooring work.
2. East Branch Public Library - No resilient flooring work.
3. (NOT USED)
4. (NOT USED)
5. John F. Kennedy School - No resilient flooring work.
6. Benjamin Brown School - Patch existing flooring where select tiles are abated.
7. Winter Hill School - Patch existing flooring where select tiles are abated.
Install resilient base at new low walls.

1.04 REFERENCE STANDARDS

- A. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile; 2004 (Reapproved 2014).
- B. ASTM F1861 - Standard Specification for Resilient Wall Base; 2008 (Reapproved 2012).

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.
- D. Verification Samples: Submit two samples, 12 by 12 inch in size illustrating color and pattern for each resilient flooring product selected.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.
- B. Store all materials off of the floor in an acclimatized, weather-tight space.
- C. Maintain temperature in storage area between 55 degrees F and 90 degrees F.
- D. Protect roll materials from damage by storing on end.

1.07 FIELD CONDITIONS

- A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 TILE FLOORING

- A. Vinyl Composition Tile: Homogeneous, with color extending throughout thickness.
1. Minimum Requirements: Comply with ASTM F1066, of Class corresponding to type specified.
 2. Size: 12 by 12 inch.
 3. Thickness: 0.125 inch.
 4. Pattern: to match existing.
 5. Color: To be selected by Architect from manufacturer's full range.
 6. Manufacturers:
 - a. Armstrong World Industries, Inc: www.armstrong.com.
 - b. Johnsonite, a Tarkett Company: www.johnsonite.com.
 - c. Mannington Mills, Inc: www.mannington.com.
 - d. Approved equal.

2.02 RESILIENT BASE

- A. Resilient Base: ASTM F1861, Type TV, vinyl, thermoplastic; top set Style B, Cove.
1. Height: 4 inch.
 2. Thickness: 0.125 inch.
 3. Finish: Satin.
 4. Length: Roll.
 5. Color: To be selected by Architect from manufacturer's full range.
 6. Manufacturers:
 - a. Burke Flooring: www.burkemercer.com.
 - b. Johnsonite, a Tarkett Company: www.johnsonite.com.
 - c. Roppe Corp: www.roppe.com.
 - d. Or Approved Equal.

2.03 ACCESSORIES

- A. Primers, Adhesives, and Seaming Materials: Waterproof; types recommended by manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

3.02 PREPARATION

- A. Remove existing asbestos containing tile and mastic; follow the requirements of Section 02 82 00.
- B. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.
- C. Prohibit traffic until filler is fully cured.
- D. Clean substrate.
- E. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

3.03 INSTALLATION - TILE FLOORING

- A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.
- B. Lay flooring with joints and seams parallel to building lines to produce symmetrical pattern.

3.04 INSTALLATION - RESILIENT BASE

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.
- B. Install base on solid backing. Bond tightly to wall and floor surfaces.
- C. Scribe and fit to door frames and other interruptions.

3.05 CLEANING

- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean in accordance with manufacturer's written instructions.

END OF SECTION 09 65 00

SECTION 09 91 23

INTERIOR PAINTING (FILED SUB-BID REQUIRED)

PART 1 GENERAL

1.01 FILED SUB-BIDS

- A. INTERIOR PAINTING is stipulated as a Filed Sub-Bid under Part B, Item 2, of the FORM FOR GENERAL BID.
- B. All sub-bids shall be submitted on the FORM FOR SUB-BID furnished by the Awarding Authority as required by Section 44F of Chapter 149 of the General Laws, as amended.
- C. Sub-bids must be filed with the Awarding Authority in a sealed envelope, before the time stipulated on the ADVERTISEMENT, on the date stipulated in the ADVERTISEMENT.
- D. Specific information relating to sub-bidders is set forth in the CONTRACT DOCUMENTS under the heading, "NOTICE TO ALL BIDDERS", and the attention of the sub-bidders is directed thereto.
- E. The work to be done under this Section 09 91 23 is described herein, and on Drawings G1-01, A1-01, A1-02, A1-03, A2-01, A5-01, A5-02, A6-01, A6-02, A6-03, A6-04, A7-01, A7-02, A7-03, A7-04, P0.01, P1.01, P1.02, P1.03, P1.04, E0.01, E1.01, E1.02 and E1.03.

1.02 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.03 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints, stains, and varnishes.
- C. Refer to the Drawings for additional requirements.

1.04 DESCRIPTION OF WORK

- A. Provide all the Interior Painting Work required to complete the work of the contract including all the Interior Painting Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Interior Painting Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Interior Painting Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - B. Painting work includes but is not limited to field applied finishes.
 - 1. Central Public Library - Prepare and paint toilet room concrete block walls, exposed conduit, acoustic ceilings, and metal door frames. Refinish existing stained wood doors to toilet rooms.
 - 2. East Branch Public Library - Prepare, stain and varnish new oak trim at Circulation Desk.
 - 3. (NOT USED)
 - 4. (NOT USED)
 - 5. John F. Kennedy School - Prime and Paint steel pipe handrails.
 - 6. Benjamin Brown School - Prime and Paint steel pipe handrails. Within Stair 1 and Stair 2: at all walls with handrails, prime and paint walls from top of baseboard up to 4'-0" above baseboard.
 - 7. Winter Hill School - Prime and Paint new gypsum wallboard half walls and wood trim.
 - C. Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
 - 1. Mechanical and Electrical:
 - a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports,

mechanical equipment, and electrical equipment, unless otherwise indicated.

- D. Do Not Paint or Finish the Following Items:
1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
 2. Items indicated to receive other finishes.
 3. Items indicated to remain unfinished.
 4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
 5. Stainless steel, anodized aluminum, bronze, terne coated stainless steel, and lead items.
 6. Floors, unless specifically indicated.
 7. Ceramic and other tiles.
 8. Brick, architectural concrete.
 9. Glass.
 10. Concealed pipes, ducts, and conduits.

1.05 RELATED REQUIREMENTS

- A. Section 05 52 13 - Pipe And Tube Railings: Shop-primed items.

1.06 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this section.

1.07 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2014.
- C. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.
- D. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition, www.paintinfo.com.
- E. SSPC-SP 1 - Solvent Cleaning; 2015.
- F. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

1.08 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

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- B. Product Data: Provide complete list of products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
 - 2. MPI product number (e.g. MPI #47).
 - 3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
- C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
 - 1. Where sheen is specified, submit samples in only that sheen.
 - 2. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens definitely not required.
 - 3. Allow 2 weeks for approval process, after receipt of complete samples by Architect.
- D. Certification: By manufacturer that paints and finishes comply with VOC limits specified.
- E. Manufacturer's Instructions: Indicate special surface preparation procedures.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Paint and Finish Materials: 1 gallon of each color; from the same product run, store where directed.
 - 3. Label each container with color in addition to the manufacturer's label.

1.09 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum three years documented experience.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.11 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply materials when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.
- D. Minimum Application Temperatures for Paints: 50 degrees F for interiors unless required otherwise by manufacturer's instructions.
- E. Minimum Application Temperature for Varnish Finishes: 65 degrees F for interior, unless required otherwise by manufacturer's instructions.
- F. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.
- B. Paints:
 - 1. Behr Process Corporation: www.behr.com.
 - 2. Sherwin-Williams Company: www.sherwin-williams.com.
 - 3. Benjamin Moore & Co: www.benjaminmoore.com.
 - 4. Or approved equal.
- C. Transparent Finishes:
 - 1. Behr Process Corporation: www.behr.com.
 - 2. Sherwin-Williams Company: www.sherwin-williams.com.
 - 3. Minwax Company: www.minwax.com.
 - 4. Or approved equal.
- D. Stains:
 - 1. Behr Process Corporation: www.behr.com.
 - 2. Sherwin-Williams Company: www.sherwin-williams.com.

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3. Minwax Company: www.minwax.com.
 4. Or approved equal.
- E. Primer Sealers: Same manufacturer as top coats.

2.02 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
 3. Supply each paint material in quantity required to complete entire project's work from a single production run.
 4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
- B. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.
- C. Colors: To be selected from manufacturer's full range of available colors.
1. Selection to be made by Architect after award of contract.
 2. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.
 3. Extend colors to surface edges; colors may change at any edge as directed by Architect.
 4. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.
- D. Coats:
1. Opaque Paint: Two top coats and one coat primer.
 - 2.

2.03 PAINT SYSTEMS - INTERIOR

- A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete masonry units, brick, wood, plaster, uncoated steel, and shop primed steel.
- B. Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood:

1. Medium duty applications include doors, door frames, railings, handrails, guardrails, and balustrades.
 2. Two top coats and one coat primer.
 3. Top Coat(s): Interior Alkyd, Water Based; MPI #167, 168, or 169.
 - a. Products:
 - 1) Sherwin-Williams ProMar 200 Waterbased Acrylic-Alkyd, Semi-Gloss.
 - 2) Or approved equal.
 4. Primer: As recommended by top coat manufacturer for specific substrate.
- C. Paint I-OP-MD-WC - Medium Duty Vertical and Overhead: Including gypsum board and plaster.
1. Two top coats and one coat primer.
 2. Top Coat(s): Institutional Low Odor/VOC Interior Latex; MPI #143, 144, 145, 146, 147, or 148.
 - a. Products:
 - 1) Sherwin-Williams ProMar 200 Zero VOC Interior Latex, Low Sheen. (MPI #144)
 - 2) Or approved equal.
 3. Primer: As recommended by top coat manufacturer for specific substrate.
- D. Paint I-TR -W - Transparent Finish on Wood.
1. 1 top coat over sanding sealer over stain.
 2. Stain: Semi-Transparent Stain for Wood; MPI #90.
 3. Sealer: Alkyd, Sanding Sealer, Clear; MPI #102.
 4. Top Coat(s): Alkyd Varnish; MPI #73 or 75
 - a. Products:
 - 1) Sherwin-Williams Wood Classics FastDry Varnish, Satin. (MPI #73)
 - 2) Or approved equal.
 5. Top Coat Sheen:
 - a. Satin: MPI gloss level 4; use this sheen at all locations.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin application of paints and finishes until substrates have been properly prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.
- D. Test shop-applied primer for compatibility with subsequent cover materials.
- E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Gypsum Wallboard: 12 percent.
 - 2. Plaster and Stucco: 12 percent.
 - 3. Masonry, Concrete, and Concrete Masonry Units : 12 percent.
 - 4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or repair existing paints or finishes that exhibit surface defects.
- D. Remove surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- E. Seal surfaces that might cause bleed through or staining of topcoat.
- F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- G. Masonry:
 - 1. Prepare surface as recommended by top coat manufacturer.
- H. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.
- I. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
- J. Ferrous Metal:
 - 1. Solvent clean according to SSPC-SP 1.
 - 2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
 - 3. Remove rust, loose mill scale, and other foreign substances using using methods recommended in writing by paint manufacturer and blast cleaning

according to SSPC-SP 6 "Commercial Blast Cleaning". Protect from corrosion until coated.

- K. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.
- L. Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.
- M. Wood Doors to be Field-Finished: Seal wood door top and bottom edge surfaces with clear sealer.

3.03 APPLICATION

- A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- B. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".
- C. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.
- D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- E. Apply each coat to uniform appearance in thicknesses specified by manufacturer.
- F. Sand wood and metal surfaces lightly between coats to achieve required finish.
- G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- H. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- I. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

- A. Protect finishes until completion of project.

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ADA CITYWIDE UPGRADES
SOMERVILLE, MA
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B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION 09 91 23

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SECTION 10 28 00

TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Under-lavatory pipe supply covers.
- B. Accessories for toilet rooms.
- C. Refer to the Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Toilet, Bath, and Laundry Accessories Work required to complete the work of the contract including all the Toilet, Bath, and Laundry Accessories Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Toilet, Bath, and Laundry Accessories Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Toilet, Bath, and Laundry Accessories Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and

equipment necessary to complete the work of this Section, including but not limited to the following:

- B. Toilet, Bath, and Laundry Accessories Work includes but is not limited to the installation of toilet accessories.
 - 1. Central Public Library - Install new grab bars and toilet accessories in toilet rooms.
 - 2. East Branch Public Library - No toilet accessories work.
 - 3. (NOT USED)
 - 4. (NOT USED)
 - 5. John F. Kennedy School - No toilet accessories work.
 - 6. Benjamin Brown School - No toilet accessories work.
 - 7. Winter Hill School - No toilet accessories work.

1.04 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service; 2015.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- D. M.G.L. 521CMR - Massachusetts Architectural Access Board (MAAB) Standards for Accessible Design

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the work with the placement of internal wall reinforcement and reinforcement of toilet partitions to receive anchor attachments.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Commercial Toilet, Shower, and Bath Accessories:
 - 1. AJW Architectural Products: www.ajw.com.
 - 2. ASI - American Specialties, Inc: www.americanspecialties.com.
 - 3. Bradley Corporation: www.bradleycorp.com.

TOILET, BATH, AND
LAUNDRY ACCESSORIES

4. Approved Equal.
 - B. Under-Lavatory Pipe Supply Covers:
 1. Plumberex Specialty Products, Inc: www.plumberex.com/#sle.
 2. Or approved equal.
 - C. All items of each type to be made by the same manufacturer.
- 2.02 MATERIALS
- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
 - B. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.
- 2.03 COMMERCIAL TOILET ACCESSORIES
- A. Grab Bars: Stainless steel, nonslip grasping surface finish.
 1. Standard Duty Grab Bars:
 - a. Push/Pull Point Load: 250 pound-force, minimum.
 - b. Dimensions: 1-1/4 inch outside diameter, minimum 0.05 inch wall thickness, exposed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
 - c. Length and Configuration: As indicated on drawings.
- 2.04 UNDER-LAVATORY PIPE AND SUPPLY COVERS
- A. Under-Lavatory Pipe and Supply Covers:
 1. Insulate exposed drainage piping including hot, cold, and tempered water supplies under lavatories or sinks to comply with ADA Standards.
 2. Exterior Surfaces: Smooth non-absorbent, non-abrasive surfaces.
 3. Construction: 1/8 inch flexible PVC.
 - a. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
 4. Color: White.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.
- C. Verify that field measurements are as indicated on drawings.

3.02 INSTALLATION

- A. Install accessories in accordance with manufacturers' instructions in locations indicated on the drawings.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
 - 1. Grab Bars: As indicated on drawings.

3.03 PROTECTION

- A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION 10 28 00

SECTION 12 36 00

COUNTERTOPS AND BACKSPLASHES

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. Countertops for architectural cabinet work.
- B. Wall-hung backsplash panels for drinking fountains.
- C. Refer to the Drawings for additional requirements.

1.03 DESCRIPTION OF WORK

- A. Provide all the Countertops and Backsplash Work required to complete the work of the contract including all the Countertops and Backsplash Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Countertops and Backsplash Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Countertops and Backsplash Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

- B. Countertops and Backsplash Work includes but is not limited to fabrication and installation of new plastic laminate clad countertop and stainless steel clad panel backsplashes.
1. Central Public Library - Install stainless steel clad panel backsplash at drinking fountain.
 2. East Branch Public Library - Install plastic laminate countertop at circulation desk.
 3. (NOT USED)
 4. (NOT USED)
 5. John F. Kennedy School - No countertop work.
 6. Benjamin Brown School - Install stainless steel clad panel backsplash at drinking fountain.
 7. Winter Hill School - No countertop work.

1.04 RELATED REQUIREMENTS

- A. Section 06 41 00 - Architectural Wood Casework.

1.05 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard; 2009.
- B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.
- C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.
- D. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.
- E. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.
- F. PS 1 - Structural Plywood; 2009.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Specimen warranty.
- C. Shop Drawings: Complete details of materials and installation.
- D. Selection Samples: For each finish product specified, color chips representing manufacturer's full range of available colors and patterns.

- E. Maintenance Data: Manufacturer's instructions and recommendations for maintenance and repair of countertop surfaces.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.08 FIELD CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.01 COUNTERTOPS

- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
- B. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.
 - 1. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inch nominal thickness.
 - a. Finish: Matte or suede, gloss rating of 5 to 20.
 - b. Surface Color and Pattern: As selected by Architect from the manufacturer's standard line.
 - c. Manufacturers:
 - 1) Formica Corporation: www.formica.com.
 - 2) Panolam Industries International, Inc\Pionite: www.pionitelaminates.com.
 - 3) Wilsonart, LLC: www.wilsonart.com.
 - 4) Or approved equal.
 - 2. Exposed Edge Treatment: Molded rubber edge with T-spline, sized to completely cover edge of panel.
 - a. Color: As selected by Architect from the manufacturer's full line.
- C. Stainless Steel clad panel Backsplash: ASTM A666, Type 304, stainless steel sheet; 16 gage, 0.0625 inch nominal sheet thickness.
 - 1. Finish: 4B satin brushed finish.
 - 2. Exposed Edge Shape: Straight turndown with return; 3/4 inch high face, 1/2 inch return to face of case.

3. Backsplash Dimensions: 40 inch wide x 48 inch high by 3/4 inch thick, as indicated on drawings.

2.02 MATERIALS

- A. Plywood for Supporting Substrate of stainless panel backsplash: Marine Grade, Exterior, B-B veneer grade, minimum 5-ply; 3/4 inch thick.
- B. Particleboard for Supporting Substrate of plastic laminate: ANSI A208.1 Grade 2-M-2, 45 pcf minimum density; minimum 3/4 inch thick; join lengths using metal splines.
- C. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.
- D. Joint Sealant: Mildew-resistant silicone sealant, clear.

2.03 FABRICATION

- A. Fabricate tops in the largest sections practicable, without joints or seams.
 1. Fabricate countertop to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet.
 2. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.
- B. Stainless Steel: Fabricate panel backsplash up to 144 inches long in one piece including nosings.
 1. Weld joints; grind smooth and polish to match.
 2. Coordinate openings in backsplash with Plumbing and Electrical requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Verify that wall surfaces have been finished and mechanical and electrical services are installed in proper locations.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

- A. Securely attach countertops to cabinets or supports using concealed fasteners. Make flat surfaces level; shim where required.
- B. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch.
- C. Attach stainless steel panel backsplashes using exposed stainless steel fasteners.
- D. Seal joint between panel backsplashes and vertical surfaces.

3.04 TOLERANCES

- A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.
- B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.
- C. Field Joints: 1/8 inch wide, maximum.

3.05 CLEANING

- A. Clean countertop and backsplash surfaces thoroughly.

3.06 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION 12 36 00

SECTION 12 41 00

FURNITURE

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that all the material, labor, and equipment be furnished complete in every respect, and that this Contractor shall provide all material, labor, and equipment needed and usually furnished in connection with such systems to provide a complete installation including all demolition, disposal, and patching of adjacent surfaces. Materials, equipment, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

1.02 SECTION INCLUDES

- A. ADA compliant computer workstation.

1.03 DESCRIPTION OF WORK

- A. Provide all the Furniture Work required to complete the work of the contract including all the Furniture Work shown on the plans, listed in the specifications, and needed to install a complete assembly in every way. Coordinate the Furniture Work with all the other trades for the project. Provide all the demolition and disposal work needed to complete the Furniture Work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. It is the General Contractor's responsibility to review all the work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
- B. Furniture Work includes but is not limited to the assembly and installation of new furniture. Coordinate with Owner and Architect for location of furniture placement.
 - 1. Central Public Library - No furniture work

2. East Branch Public Library - Provide a premanufactured computer workstation fully assembled and ready for use in the Reading Room.
3. (NOT USED)
4. (NOT USED)
5. John F. Kennedy School - No furniture work.
6. Benjamin Brown School - No furniture work.
7. Winter Hill School - No furniture work.

1.04 REFERENCE STANDARDS

- A. ADA Standards – Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. 521 CMR – Massachusetts Architectural Access Board regulations.

1.05 SUBMITTALS

- A. Submit manufacturer's product data under provisions of Section 01 31 00, Submittals in General Requirements.
- B. Submit manufacturer's use and care instructions.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Pack furniture individually in a manner to protect product and its finish.

1.07 PROTECTION

- A. Protect adjacent or adjoining finished surfaces and work from damage during installation of work of this Section.
- B. Store off ground in dry area. Do not bring to site until Substantial Completion.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Specifications are based on products supplied by Staples, or approved equal.

2.02 MATERIAL

- A. Supply 1 computer desk. Bush Business Cubix 48W Desk. 48" W x 27" D x 30" with thermally fused laminate surface in Hansen Cherry / Galaxy finish. 10 year manufacturer limited warranty meeting or exceeding ANSI-BIFMA standards.

PART 3 – EXECUTION – NOT USED

END OF SECTION 12 41 00

SECTION 22 00 00

PLUMBING (Filed Sub-Bid Required)

PART 1 GENERAL

1.01 FILING SUB-BIDS

- A. Plumbing is stipulated as a filed Sub-Bid under Part D, Item 2 of the form for GENERAL BID.
- B. All sub-bids shall be submitted on the form for SUB-BID furnished by the Awarding Authority, as required by Section 44H of Chapter 149 of the General Laws, as amended.
- C. Sub-Bids must be filed with the Awarding Authority in a sealed envelope, before twelve o'clock noon, local time, on the date stipulated in the Advertisement.
- D. Specific information relating to sub-bidders is set forth in the Contract Documents, under the heading "NOTICE TO ALL BIDDERS, Including Sub-bidders" and the attention of sub-bidders is directed thereto.
- E. The work to be done under this SECTION 22 00 00-PLUMBING is shown on the drawings numbered: P0.01, P1.0 1, P1.02, P1.03, and P1.04.

1.02 RELATED DOCUMENTS

- A. Examine all drawings and all other Sections of the Specifications for requirements therein affecting the work of this Section.

1.03 SCOPE OF WORK

- A. Provide all labor, tools, and materials necessary for complete installation and proper operation of plumbing work whether or not specifically mentioned or indicated on plans, but which are usually provided or essential for proper operation of each system as outlined below. Provide all labor, tools and materials necessary for complete demolition of existing fixtures and systems as indicated on the drawings. All existing sanitary piping impacted by the scope of work shall be rodded from the point of new connection to its connection in the street.
- B. The work includes, but does not necessarily consist of in its entirety, the following
 1. Sanitary drain, waste and vent system.
 2. Domestic water supply system.
 3. Plumbing fixtures and trim as required by code and as indicated on the drawings.
 4. Insulation of piping.
 5. Access panels (furnishing only). Access panels shall be gypsum faced and keyed.
 6. Cleaning and testing.
 7. Modifications to the existing piping including connections to the new system

8. Selected demolition work of plumbing systems.
9. Other work indicated on the drawings and specifications

1.02 RELATED WORK IN OTHER SECTIONS

- A. The following items shall be furnished or performed under other Sections of these Specifications:
 1. Cutting and patching of walls, ceilings and floors.
 2. Installation of access panels.
 3. Toilet accessories.

1.03 INTERPRETATION OF DRAWINGS

- A. All work shown on the plans is intended to be approximately correct to scale, but figured dimensions and detailed drawings are to be followed in every case. The drawings shall be taken in a sense as diagrammatic. Sizes of pipes and methods of running them are shown but it is not intended to show every offset and fitting, nor every structural difficulty that may be encountered.
- B. Locations shown on the plans are approximate. It is the intent that equipment shall be in accord with the general and detail drawings of the construction proper. All measurements must be taken at the building and in coordination with all existing conditions.
- C. Confer with all other trades relative to location of all apparatus and equipment to be installed and select location so as not to conflict with work of others. Any apparent conflict shall be referred immediately to the Construction Superintendent for contractor coordination and to prevent delay in installation of work.

1.04 COOPERATION WITH OTHER TRADES

- A. Perform plumbing work so that the progress of the rest of the work shall not be delayed or interfered with. Material and apparatus shall be installed as fast as conditions of the building will permit and must be installed promptly.
- B. Check with General Contractor, as to location of pipes, ducts, lights and apparatus, and install Plumbing in such a manner as to avoid interference with other trades.

1.05 MATERIAL AND EQUIPMENT

- A. All material shall be new and of the best quality. Where no specific make of material is mentioned, any first class product of a reputable manufacturer may be used provided it conforms to the drawings and specifications and has the approval of the Engineer.
- B. Materials and equipment offered or approved equal shall be equal to those specified in type, size, quality, capacity, space requirements, and power requirements. The request for each substitution must be accompanied by complete specifications of the materials or equipment offered, together with drawings or samples where necessary, to properly

appraise the materials and equipment. No equipment or material shall be used unless approved for use in the State of Massachusetts and by the Architect.

1.06 GUARANTEE

- A. The Plumbing Contractor shall guarantee to make good all faults and defects in the plumbing system due to defective or improper materials or workmanship that may appear within one year from the date of final acceptance of the work, and make all repairs, replacements, and changes within the guarantee period which are required to put the systems in proper operation and condition, without cost to the Owner.

1.07 PROTECTION AND CLEANING

- A. Protect all materials, fixtures and fittings from loss or damage, and all pipe openings from obstruction and blockage, throughout the construction. Heavy jute inserted type paper shall be taped securely for complete covering and protection of fixtures and equipment.
- B. All dirt and debris resulting from the plumbing work shall be thoroughly taken up and disposed in dumpsters provided at the site. Clean and polish all fixtures, fittings, exposed trim and equipment to leave for inspection and use in the best possible condition.

1.08 PUTTING EQUIPMENT IN OPERATION

- A. All mechanical equipment installed in connection with plumbing work shall be put in operation in the presence of duly authorized representatives of the Owner, instructions shall be given to the Owner's employee appointed to familiarize himself with the systems and equipment. Four copies of the operating manual, parts list, and bulletins shall be delivered to the Owner.

1.09 MISCELLANEOUS IRON AND STEEL

- A. Provide steel supports and hangers as specified or as required to fully support piping, pumps, tanks, or other equipment. All shall be done in compliance with local code and manufacturers recommendations.
- B. All work shall be cut, assembled, welded, and finished by skilled mechanics. All shop fabricated iron and steel work shall be cleaned and dried and given a shop coat of paint on all surfaces and in all openings.

1.10 REGULATIONS, FEES AND PERMITS

- A. All materials and the installation thereof shall conform to the requirements of the State Building Code, all State and local laws, rules and regulations and codes pertaining thereto and all applicable Sections of the State Plumbing Code. Where documents exceed code requirements, the documents and specifications shall govern construction.
- B. The Plumbing Contractor shall give the proper authorities all required notices or information relating to work in his charge, and obtain all official licenses, permits and certificates.

1.11 RECORD DRAWINGS

- A. Maintain at the job site at all times a complete set of black line prints and mark accurately, clearly and completely the actual installations in accordance with the requirements of this Section. At the completion of the contract, prepare at no extra cost a set of reproducible record drawings and submit to the Architect. Refer to Division 01 for details of procedure of record drawings.

1.12 SUBMITTALS

- A. Submit shop drawings or descriptive literature giving performance data, physical size, wiring diagrams, configuration, capacity, material, for all items under this Section, including the following:
 - 1. Plumbing fixtures and trim.
 - 2. Hangers and supports.
 - 3. Drains, valves, and hose bibbs.
 - 4. Pipe insulation.

1.13 INSPECTION OF SITE

- A. This Contractor shall, prior to submitting his bid, review all drawings and visit the site and inspect all conditions affecting the proposed work. Failure to visit the site and misinterpretation of the drawings and specifications resulting there from shall be entirely the responsibility of the bidder. No claims based on lack of knowledge or difficulties resulting from same shall be allowed.

1.14 COORDINATION DRAWINGS

- A. Coordinate use of project space and sequence of installation of plumbing, HVAC, and electrical work.
- B. Allow cutting of structural elements only in locations and by methods approved by the architect.
- C. Prepare coordination drawings for areas such as plumbing chases, corridor ceiling space, common area ceiling space, showing ductwork, piping, lights or any other potential obstruction located in the ceiling.

PART 2 - PRODUCTS

2.01 HANGERS AND SUPPORTS

- A. Furnish and install all hangers and supports and al steel framework required for the support of various systems. All piping shall be supported from the building structure by means of approved hangers as manufactured by Carpenter-Patterson, Grinnell Co., Fee & Mason, or approved equal.
- B. Horizontal piping shall be hung with adjustable wrought iron or malleable iron pipe hangers, spaced as follows:

<u>PIPE SIZE</u>	<u>COPPER</u>	<u>STEEL</u>	<u>ROD SIZE</u>
3/4" to 1"	6 ft.	8 ft.	3/8"
1-1/4" to 2"	8 ft.	10 ft.	3/8"
2-1/2" to 4"	10 ft.	14 ft.	1/2"

- C. Cast iron soil pipe shall be supported at 5-foot intervals at hub. Copper tube straps may be used on water lines up to 1" for wood joist construction only. Bands or rings supporting copper tubing shall be heavily copper plated.
- D. Hangers shall be located not more than 4' from elbow or 10' on screwed piping. Hangers for piping sizes 4" and smaller shall be Carpenter Patterson No. 1A Band Type, Grinnell Co., Fee & Mason, or approved equal black steel with hanger rods with machine threads. For copper tubing, the hangers shall be copperized. Hangers for piping larger than 4" shall be adjustable clevis wrought iron or malleable iron.
- E. Chain, strap, perforated bar or wire hangers will not be approved. Approved gang hangers may be used in lieu of separate hangers on pipes running parallel to each other and close together. Where used for copper tubing, the gang hangers shall have copper saddles.

2.02 CROSS CONNECTIONS

- A. No piping shall be installed in a manner to permit back siphonage or any flow of polluted water or other liquid into water service or distribution piping under any conditions.
- B. Air gaps, receptor type drains, approved backflow preventors and approved vacuum breaking devices shall be provided as required by State and local codes and ordinances. Piping to inlets below fixture overflow shall have vacuum breakers of make, design, size and location approved by the Inspector of Plumbing. Breakers shall not be concealed. Breakers shall be full size of pipe and shall be Beaco, Chicago, Watts, or approved equal.

2.03 VALVES

- A. The entire plumbing installation shall be provided with valves located to permit easy operation, replacement and repair. Valves shall be the product of one manufacturer except as noted. Jenkins Brothers, Hammond, Walworth, Nibco, Apollo, or approved

equal. All valves shall be ball valves. All valves used shall be rated for domestic water service.

- B. Valves shall be bronze except as otherwise specified. Valves on each hot water recirculation branch line shall be combination balancing and stop type, all bronze, or ball valves.
- C. Ball valves: Cast bronze, two-piece body, ASTM B-584 bronze trim, soldered ends, 125 PSI WSP.
- D. Check valves: Horizontal swing, renewable seats & disc, bronze disc, soldered ends, 125 PSI WSP, ASTM B-62.

2.04 WATER MIXERS

- A. Tempering or water mixing shall be performed by lavatory faucets. Lavatory faucets shall have integral mixing assemblies in the faucets. Please see section 2.16 Plumbing Fixtures of this specification.

2.05 UNIONS AND FLANGES

- A. Unions and flanges shall be furnished and installed at all pieces of equipment to allow for easy removal and dismantling of piping systems will be allowed for removal of equipment. Unions shall be the product of Hammond Co., Jamesbury, Hancock, or approved equal.

2.06 VALVE TAGS AND PIPE MARKING

- A. All valves to groups of fixtures shall have laminated plastic tags attached to stem of each valve. Each tag shall be stamped clearly with large letters and numbers to designate the valve number and the service. A printed or typewritten list or schedule of all valves shall be made which shall give the number, service and location of each valve. The above list shall be mounted in fused plastic in a location directed by the Architect. All valve numbers shall correspond to numbers indicated for valves on the record drawings,
- B. All piping except sanitary and vent shall be marked with Seton "Set Mark" or approved equal pipemarkers showing the direction of flow and pipe service after pipe is insulated and/or painted.
- C. Identify non-potable water by firmly attached metal tags as required by State Plumbing Code bearing the legend WATER UNSAFE and attached to pipes at intervals of not more than 25'.

2.07 SLEEVES

- A. Approved sleeves for the passage of all piping through foundation walls, floors and partition walls shall be furnished by the Plumbing Contractor and set into the construction by the trade involved.
- B. Sleeves for passage of pipes through waterproofed walls or floors, and through foundation walls below grade shall be approved castings with collar or fin for embedding in the construction, or wrought iron pipe sleeve with welded fin (assembly galvanized), or cast iron with brazed fin. Pipes shall be lead caulked in sleeves and the whole installation made watertight.
- C. Sleeves through masonry walls shall be Schedule 40 steel pipe. Sleeves through non-bearing walls shall be galvanized metal, 24 gauge.
- D. Sleeves through concrete floors shall have anchoring rings or lugs to hold sleeve in floor construction. Install top of sleeve 3/4" above finish floor.
- E. Sleeves shall be at least two sizes larger than the pipe accommodated and sized to permit continuous insulation on pipes with at least 1/4" clearance.
- F. Sleeves shall have spaces between pipe and sleeve sealed with a polysulfide sealant.
- G. Escutcheons shall be installed around all exposed pipe passing through finished floor, wall or ceiling. Escutcheons shall be chrome plated, secured in place by set screw or clips.

2.08 ACCESS PANELS

- A. Furnish all access panels for walls and where required. Coordinate the access panel location as well as provide a scaled drawing of locations to the General Contractor for coordination and approval prior to installation. The same scaled drawing shall be submitted to the Architect prior to installation. Piping shall be laid out in such a manner as to minimize the number of access panels required. Access panels shall be fire rated where required. Make: Ventlock, Knapp, J.R. Smith, or approved equal. Minimum size: 12" x 12" key latch. All access panels shall be purchased and provided by Plumber and installed by General contractor. All access panels in ceiling shall be recessed to accept gypsum board.
- B. Provide access panels for all cleanouts, valves, shock absorbers, control valves, pressure reducers, air arrestors, and any other concealed accessories requiring access.

2.09 MISCELLANEOUS FIXTURES AND ACCESSORIES

- A. Interior Hose Bibb: Chicago Faucet #952, Woodford, T&S or approved equal, including vacuum breaker, 3/4" hose thread, flanged inlet, removable tee handle, polished chrome.
- B. Pressure Gauges: U.S. Gauge P1525, Marsh, Trerice or approved equal. 2" dial, stainless steel bulb, range 0 to 100. Install with stop cock.

- C. Trap primers: Precision Plumbing products model P1-500, Watts, Conbraco or approved equal. Pressure drop of 5-10 psi, with an operating pressure of 35-75 psi.
- D. Shock Absorbers: Precision Plumbing products model SC-100, Watts, Conbraco or approved equal. Preset diagram pressure of 60 psi.

2.10 CLEANOUTS, COVERS AND FRAMES

- A. Floor cleanout: Duco cast iron with tapered cleanout plug. Adjustable scoriated polished bronze top for concrete finished floors: recess type top for tile or terrazzo floors. Make: J.R. Smith Fig. 4020 Series, or equal Zurn, Josam, or approved equal.
- B. Wall cleanout: Cleanout plugs concealed in walls shall be made accessible with chrome plated bronze round or square frame and cover secured with slotted screws. Make: J.R. Smith Fig. 4720, Zurn, Josam, or approved equal.

2.11 FLOOR DRAINS

- A. FD-1 General Use Drain: Cast iron drain with double flange, weepholes, caulk bottom outlet, adjustable polished brass strainer. Provide flashing clamp for drains in slabs above ground floor level. FD1 shall be similar to J.R. Smith model 2010C-6 with vandal proof screws and square. Other acceptable manufacturers shall be Zurn or Wade or approved equal. The floor drain shall be provided with a tapping for trap primer.

2.12 INSULATING FITTINGS

- A. Furnish and install patented type dielectric fittings or couplings, Epco, Vallett, Watts or approved equal in pipe systems wherever dissimilar metals are joined.
- B. Dielectric fittings shall not be concealed within walls or ceilings.

2.13 INSULATION

- A. All insulation when installed shall have composite fire and smoke hazard ratings as tested by Procedure ASTM-E-84, NFPA-255, and UL-723, not exceeding a flame spread of 25 and smoke developed of 50, as approved under NFPA and NBFU Pamphlet #90A and #90B standards.
- B. Insulation material and application shall be in accordance with State Building Code / NFPA.
- C. Cold Water: Piping shall be insulated with 1/2" thick fiberglass insulation with factory applied all-service jacket secured in place with self sealing laps. Fittings shall be insulated with premolded PVC fitting covers secured in place with stainless steel tacks.
- D. Hot Water and Existing Storm Drain: Piping shall be insulated with 1" thick fiberglass pipe insulation with factory-applied all-service jacket secured in place with outward clinching staples. Fittings shall be insulated with premolded PVC fittings, covers secured in place with stainless steel tacks.

- E. Piping insulation materials as manufactured by Johns Mansville, Owens-Corning, Knauf or Certain Teed, or approved equal.

2.14 PIPE, FITTINGS AND FABRICATION

- A. All piping materials for the various systems specified under this Section shall conform to the standards listed below, (Refer to System Materials for type of pipe to be used.)

- 1. Buried Pipe: Bell and spigot with mechanical push-on joints and resilient gaskets, cast iron, service weight; both pipe and fittings products of one manufacturer: Combustion Engineering, Central Foundry, Russell, Alabama Foundry, Charlotte Foundry, or approved equal. Piping shall be coated with asphaltum or coal tar pitch inside and outside.
- 2. Above Ground Pipe - Sanitary and Storm Drain: Hubless cast iron, service weight, ASTM-A-74, manufactured and installed in accordance with C.I.S.P.I. Standards and as approved by the State Plumbing Code.
- 3. Type "L" (above ground) and "K" (below ground) copper tubing (hard temper), ASTM-B-88, used with cast brass or wrought copper solder fittings. Drain & vent pipe (for drain & vent 2" and smaller only) shall use drainage patten fittings.

B. Piping Joints

- 1. Joints in cast iron bell and spigot piping shall be caulked and made gas and watertight, firmly packed with picked oakum to a depth of 1-1/2", and secured with pouring of molten virgin lead or shall be made with mechanical push on type joints made with resilient gaskets as approved by the State Plumbing Code.
- 2. Joints for hubless cast iron pipe and fittings shall be made with double lamp retainer sleeve and neoprene gasket as manufactured by MG, Dresser, Clamp-All, or approved equal. and approved by the State Plumbing Code and local plumbing Inspector.
- 3. Joints in copper tubing shall be properly fluxed with non-corrosive, lead free flux and made with lead free 95-5 solder. Joints for Type "K" copper below ground shall be made using silver solder or flared ends or other method approved by the State Plumbing Code.
- 4. Joints between copper tubing and cast iron soil pipe shall be made with cast iron, bronze or brass adapters for leading into bell and soil pipe.
- 5. Joints on cast iron water pipe shall be made with cast iron Dresser, Smith-Blair, Adams, Victaulic, or approved equal coupling.

C. Systems Materials

- 1. Sanitary and System
 - a. Buried piping: Service weight cast iron, bell & spigot, neoprene gasket.
 - b. Above ground: Hubless cast iron, service weight, for pipe sizes larger than 2". Sizes 2" and under shall be DWV copper with drainage pattern fittings. Urinal waste shall be cast iron with lead and oakum caulked joints.

2. Water System
 - a. Service main: (Existing)
 - b. Interior piping: Type "L" copper for all above ground piping with matching solder type fittings. Type "K" for all below ground piping with matching fittings. Use lead free solder joints.

2.15 PLUMBING FIXTURES

- A. Provide fixtures with traps, valves, waste fittings and all parts necessary for final connection. Color of fixtures shall be white unless otherwise noted. Provide additional support to suit the construction as required for lavatory hangers and all wall-mounted accessories. Furnish and set all hangers, supports, brackets, for the proper installation of all fixtures or equipment requiring support. Supports shall be in accordance with recommendations of the manufacturers of the fixtures, and where built in to partitions or walls, shall be set as the wall progresses. This Section shall be held responsible for the stability of all fixtures and furnishing all chair carriers or other materials necessary to accomplish this. Exact mounting height shall be determined in full compliance with code and as indicated on the contract drawings by the Architect.
- B. The SPECIFICATIONS indicate manufacturer, model, type, capabilities and ratings of equipment for this project. Performance, capacities, and any other statistical data, shall be interpreted as the minimum requirements.
- C. The manufacturer's names and models indicated represent a standard of materials, appearance, finishes, performance and are not intended to specify a particular manufacturer. Listing of a specific manufacturer does not constitute a final acceptance.
- D. The following is a list of manufacturers:
 1. Fixtures: Zurn, Toto, Kohler or approved equal.
 2. Sinks: Zurn, Fiat, Kohler, or approved equal.
 3. Faucets: Chicago, Scott, Zurn, or approved equal.
 4. Flush Valves: Sloan, Toto, Zurn, or approved equal.
 5. Toilet Seats: Church, Bemis, Sperzel, or approved equal.
 6. Chair Carriers: J.R. Smith, Zurn, Josam or approved equal.
 7. Drinking fountains/water coolers: Elkay, Haws, Helsey Taylor or approved equal.
 8. Water hammer arrestors shall be by Smith, Zurn or Precision Plumbing Products or approved equal.
- E. Fixture Description – all plumbing fixtures shall be as described in the plumbing fixture schedule of sheet P0.01

PART 3 - EXECUTION

3.01 SERVICES AND SYSTEMS

- A. Water System

1. Piping shall be run parallel with the lines of the building; well supported from the structure; free from pockets and sags; pitched to drain points; and installed with pipe expansion loops, mechanical expansion joints, pipe guides, offsets and anchors to adequately care for thermal expansion.
2. Piping shall be installed to provide not less than 3/4" spacing from finished covering to other covering or surfaces of other obstruction.
3. All piping shall be protected from water hammer or shocks by approved water hammer arrestors, Air cushion shall be provided at tops of risers, and mechanical arrestors at all quick closing or solenoid valve equipped apparatus.,
4. Valves shall be installed as indicated on riser diagrams on branches leaving mains, at branches to large groups of fixtures and at single fixtures when trim does not include stops.
5. Final connections shall be made to all fixtures, appliances, or equipment with plumbing connections whether furnished by this contractor or by others,
6. Sterilization: Before any use of water system is made for domestic purposes, sterilize the entire water distribution system. Contractor to provide water testing reports after water has been sterilized.
7. Water piping shall be covered as specified except where chrome plated piping is used or other notation is made.

B. Drainage Systems

1. The interior drainage systems shall be constructed using materials as specified and/or indicated.
2. Provide properly trapped and vented waste connections to fixtures, floor drains, and special equipment.
3. Drain piping shall be uniformly pitched to conform to local and state code requirements. In the absence of invert elevations check contract drawings and verify location, size, and elevation of all existing sanitary piping before proceeding with installation.
4. Cleanouts shall be installed at the base of all stacks, beyond running traps, at changes in direction of more than 45 degrees, at not over 50' intervals in horizontal runs. Cleanout tees shall not be used where it is possible to use a straight tee.
5. Traps of material and design approved by local or state plumbing inspector shall be furnished and installed by the Plumbing Contractor for all equipment and appliances. All traps shall have bottom cleanouts where access can be provided.
6. Carefully inspect for damaged materials. Run piping as shown on the drawings, making changes in direction with long sweep 1/8 and/or 1/16 bends. Make connections to horizontal lines with Y's and 1/8 bends. Connections to stacks may be with sanitary T-fittings.
7. Clamps on hubless cast iron type joints shall be tightened to not less than 48 pounds of torque. A calibrated preset torque wrench supplied by pipe manufacturers shall be used.
8. Hubless type joints suspended more than 18" below the floor slab shall be provided with sway bracing.

3.02 TESTING

- A. Testing of all systems shall be done at the expense of the plumbing contractor and with equipment furnished by him. Testing shall be done in the presence of duly authorized inspectors and the Owner's representative with 48 hour notice given these authorities. All systems shall be repaired and retested until requirements are met, without additional expense to the Owner
- B. Sanitary and vent piping shall be tested by plugging where leaving the building at outlets on the system; filling the system by section and proving tight, without addition of water for one hour's duration. Systems tested by sections shall be proved tight for one hour or by similar test required by the inspector of plumbing. Install necessary test plugs in stacks during installation.
- C. Interior water piping shall be tested at a water pressure of 150 psi for one hour.

3.03 STERILIZATION

- A. The entire potable water distribution system shall be thoroughly disinfected with a solution containing not less than 50 parts per million of available chlorine, and shall be introduced into the system for a period of time during which all valves and faucets shall remain open chlorine solution shall be flushed from the system with clean water until the residual chlorine content is no greater than 0.2 parts per million. Contractor to provide water testing reports after water has been sterilized.

3.04 DEMOLITION

- A. Demolition performed by this contractor shall include all existing sanitary and water piping. Cap pipes back at active lines. Disposal of the removed materials shall be by general contractor. The plumbing contractor shall remove and store all demolition materials for removal from site by general contractor.

3.05 COMPLETION

- A. Provide properly executed certificate of inspection from authorities having jurisdiction.
- B. Instruct such persons as the Owner designates in the proper operation and maintenance of the systems and their parts. Submit to the Architect a letter naming the person or persons so instructed and the dates of such instruction.
- C. Prepare and deliver literature showing operating, service and replacement data for all equipment which will require periodic maintenance or replacement.
 - 1. Verify that project record documents are complete as specified under submittals and Record Documents.

3.06 RODDING OF EXISTING PIPING

- A. Before any new piping connections are made to the existing sanitary systems, the existing sanitary systems affected by the work shown on the drawings shall be rodded or "rotored" clean to insure that they are free from blockage. The rodding shall include all

of the existing sanitary systems that are being connected to as part of the new work and shall include all of the building drain piping out to the connection to the street sewer. Rodding work shall be done in the presence of Architect or his design representative.

- B. The rodding of pipes shall start from the highest point at the end of the piping line and shall be terminated at the drain piping connection to the street sewer or drain.

END OF SECTION

SECTION 26 00 00

ELECTRICAL (Filed Sub-Bid Required)

PART 1 GENERAL

1.01 FILING SUB-BIDS

- A. Electrical is stipulated as a filed Sub-Bid under Part D, Item 2 of the form for GENERAL BID.
- B. All sub-bids shall be submitted on the form for SUB-BID furnished by the Awarding Authority, as required by Section 44H of Chapter 149 of the General Laws, as amended.
- C. Sub-Bids must be filed with the Awarding Authority in a sealed envelope, before twelve o'clock noon, local time, on the date stipulated in the Advertisement.
- D. Specific information relating to sub-bidders is set forth in the Contract Documents, under the heading "NOTICE TO ALL BIDDERS, Including Sub-bidders" and the attention of sub-bidders is directed thereto.
- E. The work to be done under this SECTION 26 00 00-ELECTRICAL is shown on the drawings numbered: E0.01, E1.01, E1.02 & E1.03.

1.02 SCOPE OF WORK

- A. Conditions of the Contract and Division 1, General Requirements, apply to work of this Section. Where paragraphs of this Section conflict with similar paragraphs of Division 01, requirements of this Section shall prevail.
- B. Examine Drawings and other Sections of Specifications for requirements that affect work of this Section.
- C. As used in this Section, "provide" means "furnish and install" and "HVAC" means "Heating, Ventilating, and Air Conditioning" and "POS" means "Provided Under Other Sections". "Furnish" means "to purchase and deliver to the project site complete with every necessary appurtenance and support," and "Install" means "to unload at the delivery point at the site and perform every operation necessary to establish secure mounting and correct operation and the proper location in the project."
- D. Perform work and provide material and equipment as shown on Drawings and as specified or indicated in this Section of the Specifications. Completely coordinate work of this Section with work of other trades and provide a complete and fully functional installation. Drawings and Specifications from complimentary requirements; provide work specified and not shown, and work shown and not specified as though explicitly required by both. Although work is not specifically shown or specified, provide supplementary or miscellaneous items, appurtenances, devices and materials obviously

necessary for a sound, secure and complete installation. Remove all debris caused by contractors' work.

- E. Drawings are diagrammatic and indicate general arrangement of systems and work included in Contract. It is not intended to specify or to show every offset, fitting or component; however, Contract Documents require components and materials whether or not indicated or specified as necessary to make the installation complete and operational.
- F. Perform work strictly as required by the rules, regulations, standards, codes, ordinances, and laws of local, state, and federal government, and other authorities that have lawful jurisdiction.
- G. Give notices, file plans, obtain permits and licenses, pay fees and obtain necessary approvals from authorities that have jurisdiction.
- H. Refer to specification section 02 41 19 – “Selective Building Demolition” and sheets and E1.01 for demolition and existing equipment to remain.
- I. As work progresses and for duration of Contract, maintain complete and separate set of prints of Contract Drawings at job site at all times. Record work completed and all changes from original Contract Drawings clearly and accurately, including work installed as a modification or addition to the original design.
- J. Work shall include, but shall not be limited to, the following:
 - 1. Reuse of existing Panelboards and circuit breakers.
 - 2. Conduit and raceways.
 - 3. Wire and Cable.
 - 4. Branch circuit wiring.
 - 5. Existing fire alarm system shall be reused. New devices to accommodate new architectural layout.
 - 6. Pull boxes and cable troughs.
 - 7. Grounding.
 - 8. Supervision and approval.
 - 9. Testing
 - 10. Electrical demolition.

1.03 CONTRACT DOCUMENTS

- A. Work to be performed under this Section is shown primarily on the Electrical Drawings.

- B. Electrical Sub-Contractor shall refer to Architectural, Plumbing, Electrical, and other Drawings and other Sections that indicate types of construction in which work shall be installed and work of other trades with which work of this Section must be coordinated.
- C. Except where modified by a specific notation to the contrary, it shall be understood that the indication and/or description of any item, in the drawings or specifications or both, carries with it the instruction to furnish and install the item, regardless or whether or not this instruction is explicitly stated as part of the indication or description.
- D. Items referred to in singular number in Contract Documents shall be provided in quantities necessary to complete work.
- E. Drawings are diagrammatic. They are not intended to be absolutely precise; they are not intended to specify or to show every offset, fitting, and component. The purpose of the drawings is to indicate a systems concept, the main components of the systems, and the approximate geometrical relationships. Based on the systems concept, the main components, and the approximate geometrical relationships, the contractor shall provide all other components and materials necessary to make the systems fully complete and operational.

1.04 REFERENCES

- A. For products or workmanship specified by association, trade, or federal standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. The date of the standard is that in effect as the Bid date, except when a specific date is specified.
- C. Schedule of References:
 - 1. ASNI American National Standards Institute
 - 2. IEEE Institute of Electrical & Electronics Engineers
 - 3. NEMA National Electrical Manufacturer's Association
 - 4. NFPA National Fire Protection Association
 - 5. UL Underwriters' Laboratories, Inc.
 - 6. OSHA Occupational Safety and Health Administration

1.05 VERIFYING CONDITIONS

- A. Before commencing any work under this section, verify all governing dimensions and examine all adjoining work on which this work is in any way associated or connected. Failure to visit the jobsite will in no way relieve the Contractor from installing the work according to the intent of these specifications and at no additional cost to the Owner.

- B. Each bidder shall visit the site and inspect conditions affecting the proposed work. Failure to do so and misinterpretation of the Plans and Specifications resulting there from shall be entirely the responsibility of the bidder.
- C. Each bidder shall make note of the existing conditions affecting hauling, rigging, transportation, installation, etc., in connection with his work and shall make all provisions for transportation of all materials and equipment.

1.06 CODES, STANDARDS, AUTHORITIES AND PERMITS

- A. Perform work in strict accordance with the rules, regulations, standards, codes, ordinances, and laws of local, state, and federal governments and other authorities having legal jurisdiction over the site.
- B. Underwriters' Laboratories (UL) shall list material and equipment.
- C. Give all notices, file all plans, obtain all permits, pay all fees and licenses and obtain all necessary approvals from authorities having jurisdiction. Deliver all certificates of inspection to the authorities having jurisdiction. No work shall be covered before examination and approval by Architect/Engineer, inspectors, and authorities having jurisdiction. Replace imperfect or condemned work conforming to requirements, satisfactory to Architect, and without extra cost to the Owner. If work is covered before due inspection and approval, the installing contractors shall pay costs of uncovering and reinstalling the covering, whether it meets contract requirements or not.

1.07 SEQUENCING AND SCHEDULING

- A. Construct work in sequence under provisions of Division 01.

1.08 DISCREPANCIES IN DOCUMENTS

- A. Address questions regarding drawings to Architect in writing before award of contract; otherwise, Architect's interpretation of meaning and intent on the drawings shall be final.

1.09 SITE VISIT

- A. Before submitting bid, visit and carefully examine site to identify existing conditions and difficulties that will affect work of this Section. No extra payment will be allowed for additional work caused by unfamiliarity with site conditions that are visible or readily construed by experienced observer.

1.10 GUARANTEE

- A. Guarantee work in writing for one year from date of final acceptance. Repair or replace defective materials or installation at no cost to Owner. Correct damage caused in making necessary repairs and replacements under guarantee at no cost to Owner.
- B. Submit guarantees to Architect before final payment.

- C. Statement of guarantee requirements shall not be interpreted to limit owner's rights under law and this contract.
- D. Guarantee that all work installed will be free from any and all defects in workmanship and/or materials and that all apparatus will develop capacities and characteristics specified.
- E. If, during a period of one year from the date of final completion and acceptance of the work, any such defects in workmanship, material or performance appear, the Electrical Sub-Contractor will, without cost to the Owner, remedy such defects within a reasonable time.

1.11 CLEANING

- A. During the progress of the electrical work, clean up and remove all oil, grease and other debris caused by this work. At completion, the Contractor shall clean all equipment, piping and duct systems and leave all work in perfect operating condition.

1.12 RESPONSIBILITY

- A. The structure and its appurtenances, clearances and the related services, such as plumbing, heating, ventilation and electric service have been planned to be legal, adequate and suitable for the installation of equipment specified under this section. The owner will not assume any increase in cost caused by differing requirements peculiar to a particular make or type of equipment, and any incidental cost shall be borne by the Electrical Sub-Contractor. He shall be responsible for the proper location of his required sleeves, chases, inserts, etc., and see that they are set in the forms before the concrete is poured. He shall be responsible for his work and equipment furnished and installed by him until the completion and final acceptance of this contract, and shall replace any work which may be damaged, lost or stolen, without additional cost to Owner.

1.13 PROTECTION OF WORK AND PROPERTY

- A. Materials, fixtures and equipment shall be properly protected and all floor openings/conduit openings shall be temporarily closed so as to prevent obstruction and damage.
- B. Protect and preserve all materials, supplies and equipment of every description and all work performed. Protect all existing equipment and property of any kind from damage during the operations. Damage shall be repaired or replaced promptly by the Contractor at his expense.

1.14 SAFETY PRECAUTIONS

- A. Life safety shall be a primary consideration. The contractor shall provide all required and prudent material, labor and equipment to comply with applicable safety regulations. Further, the Electrical Sub-Contractor shall similarly provide all material, labor and equipment to comply with reasonable or generally accepted safety precautions as directed by the Owner or the Architect.

- B. Comply with all of the safety requirements of the OSHA throughout the entire construction period of the project.
- C. Furnish, place and maintain proper guards for prevention of accidents and any other necessary construction required to secure safety of life and property.
- D. Perform work only in areas of the building as approved by the Owner or his representative. Personnel and equipment access to the site, laydown areas, parking areas and areas of work shall only be as designated and allowed by the Owner.

1.15 COOPERATION AND COORDINATION WITH OTHER TRADES

- A. The work shall be so performed that the progress of the renovation including all other trades shall not be delayed or interfered with. Materials and apparatus shall be installed as fast as conditions of the building will permit and must be installed promptly when and as directed.
- B. Confer with all other trades relative to location of all apparatus and equipment to be installed and select locations so as not to conflict with work of other Sections. Any conflicts shall be referred immediately to the Architect for decision to prevent delay in installation of work. All work and materials placed in violation of this clause shall be readjusted to the Architect's satisfaction, at no expense to the Owner.
- C. Where work of this section will be installed in close proximity to work of other sections or where there is evidence that the work of this section will interfere with work of other sections, assist in working out space conditions to make satisfactory adjustment. Prepare and submit for approval 3/8 inch scale or larger working drawings and sections, clearly showing how this work is to be installed in relation to the work of other sections. If the work of this section is installed before coordinating with other trades or so as to cause interference with work of other trades, make changes necessary to protect conditions without extra charge.
- D. Keep fully informed as to the shape, size and position of all openings required for all apparatus and give information in advance to build openings into the work. Furnish and set in place all sleeves, pockets, supports and incidentals.

1.16 INTERPRETATION OF DRAWINGS

- A. It is the intention of the Specifications and Drawings to call for finished work, tested and ready for operation. Any apparatus, appliance, material or work not shown on the Drawings, but mentioned in the Specifications or vice-versa, or any incidental accessories necessary to make the work complete in all respects and ready for operation, even if not particularly specified, shall be provided by the Contractor without additional expense to the Owner.
- B. The Drawings are generally diagrammatic. The locations of all items that are not definitely fixed by dimensions are approximate only. The exact locations must be determined at the project and shall have the approval of the Engineer before being installed. The Contractor shall follow drawings of other trades to verify spaces in which

work will be installed. Maintain maximum headroom and space conditions. Where space conditions appear inadequate, notify the Engineer before proceeding with the installation. The Contractor shall, without extra charge, make reasonable modifications in the layout as needed to prevent conflict with work of other trades or for proper execution of the work.

- C. Size of conduit and methods of running them are shown, but it is not intended to show every offset and fitting, nor every structural difficulty that may be encountered. To carry out the true intent and purpose of the Drawings, all necessary parts to make complete approved working systems ready for use, shall be furnished without extra charge. All work shall be installed in such a manner as to avoid being unsightly.
- D. All measurements shall be taken at the building by the Contractor, prior to purchasing and installing the equipment and conduit.

1.17 RECORD DRAWINGS

- A. Maintain record drawings on site. Record set must be complete and current and available for inspection when requisitions for payment are submitted.

1.18 ACCESSIBILITY

- A. All work shall be installed so that parts requiring inspection, operation, maintenance and repair are readily accessible. Minor deviations from the drawings may be made to accomplish this, but changes of substantial magnitude shall not be made prior to written approval from the Architect.

1.19 SUBMITTALS

- A. Submit shop drawings, check, stamp and mark with project name submittals before transmitting to Architect. Indicate deviations from contract documents.
- B. Deviations from contract documents or proposed substitutions of materials or equipment for those specified shall be requested in separate letter whether deviations are due to field conditions, standard shop practice, or other cause.
- C. Submit list of proposed materials and equipment and indicate manufacturer's names, addresses and identifying data. No consideration will be given to partial lists submitted out of sequence.
- D. Material and equipment requiring Shop Drawing and Product Data submittal shall include but shall not be limited to:
 - 1. Receptacles and Devices
 - 2. Fire alarm devices
 - 3. Lighting controls including switches and occupancy sensors.

1.20 STANDARDS

- A. The latest published issue of standards, recommendations, or requirements of the following listed societies, associations, or institutes in effect at the date of Contract are part of this Specification. These shall be considered as minimum requirements; specific requirements of this specification and/or associated drawings shall have precedence. In case of conflict between published requirements, the Owner's representative shall determine which is to be followed.

1. IEEE Institute of Electrical and Electronic Engineers
2. NEMA National Electrical Manufacturers Association
3. NFPA National Fire Protection Association
4. UL Underwriters' Laboratories, Inc.
5. NEC National Electric Code

1.21 OBTAINING INFORMATION

- A. Obtain from the manufacturer the proper method of installation and connection of the equipment that is to be furnished and installed. Obtain all information that is necessary to facilitate the work and to complete the project.

1.22 RELATED WORK IN OTHER SECTIONS

- A. The following work is not included in this section:
1. Temporary water, heat, gas and sanitary facilities for use during construction and testing.

1.23 MATERIAL AND EQUIPMENT STANDARDS

- A. All equipment and material must be approved by the Architect/Engineer prior to use. Substitutions may be offered for review provided the material, equipment or process offered for consideration is equal in every respect to that indicated or specified and only if the term "approved equal" appears. The request for each substitution must be accompanied by complete specifications together with drawings or samples to properly appraise the materials, equipment or process.
- B. If a substitution of materials or equipment in whole or in part is made, the Electrical Sub-Contractor shall bear the cost of any changes necessitated.
- C. All materials, equipment and accessories provided under this section shall be new and unused products of recognized manufacturers.

1.24 SUPERVISION

- A. Supply the service of an experienced and competent supervisor who shall be in charge of the electrical work at the site.

1.25 DELIVERY, STORAGE AND HANDLING

- A. All manufactured materials shall be delivered to the site in original packages or containers bearing the manufacturer's labels and product identification.
- B. Protect materials against dampness. Store off floors, under cover, and adequately protected from damage.
- C. Deliver products to site and store and protect same under the provisions of Division 01.
- D. Thoroughly inspect all electrical equipment and materials upon receipt at the job site for damage and correctness.

1.26 FINAL ACCEPTANCE

- A. Final acceptance of Ownership of the Electrical system installed within this scope of work shall be contingent on passing a satisfactory system tests, performance test and other tests required in this spec to determine that the system will perform according to the contract requirements. The above tests shall be witnessed by the Engineer and the Owner at his option and acceptance will only be granted in writing by the Owner after receipt of certification from the Engineer that the design criteria have been met.

PART 2 PRODUCTS

2.01 RACEWAYS

- A. Rigid metallic conduit shall be zinc-coated steel that conforms to industry standards, by Allied Tube and Conduit, Republic Steel, Wheatland Tube or approved equal.
- B. Intermediate metal conduit (IMC) shall be zinc-coated steel that conforms to industry standards, by Allied tube and Conduit, Triangle/ PWC or approved equal.
- C. Electrical metallic tubing (EMT) shall be zinc-coated steel that conforms to industry standards, by Republic Steel, Allied Tube and Conduit, Triangle/PWC or approved equal.
- D. Flexible metallic conduit shall be galvanized, spiral wrapped metallic conduit (Greenfield) or liquid-tight flexible metallic conduit as specified for specific equipment.
- E. Provide threaded malleable iron or steel connectors and couplings with insulated throats; manufactured elbows; locknuts; and plastic or bakelite bushings at terminations, as necessary. Couplings and connectors shall be gland and ring compression or stainless steel multiple point locking or steel concrete-tight set screw. Compression couplings and connectors shall form positive ground. Set-screw connectors and couplings shall have wall thickness equal to conduit, care-hardened, hex-head screws and separate ground wire. Bushings for rigid steel conduit and connectors for EMT shall have insulating inserts that meet requirements of UL 514 flame test.

2.02 OUTLET BOXES

- A. Outlet boxes on concealed work shall be at least 4" square or octagonal, galvanized pressed steel with plaster rings as required. Outlet boxes for exposed conduit work shall be cast aluminum alloy with cast aluminum covers.
- B. Where installed in plaster, boxes shall be fitted with galvanized steel plaster covers of required depth to finish flush with finished wall or ceiling.
- C. Switch boxes, receptacle boxes and other outlet boxes shall be standard 4" square with plaster rings or gang covers as required.
- D. Outlet boxes shall be by Steel City Electric Company, Appleton Electric Company, National Electric Products Company or approved equal.
- E. Outlet boxes for various systems and components shall be as required by manufacturer.
- F. Provide only enough conduit openings to accommodate conduits at individual location. Each box shall be large enough to accommodate number and sizes of conduits, wires and splices to meet NEC requirements, but shall be at least size shown or specified. Necessary volume shall be obtained by using boxes of proper dimensions. Box depths greater than 2-1/8" shall not be used to obtain necessary volume, but may be used with Architect's approval to facilitate installation. Standard concrete boxes may be 6" deep where necessary to permit entrance of conduits into sides of boxes without interference with reinforcing bars. Octagonal hung ceiling boxes with suspension bars may be 3-1/2" deep. Rectangular boxes for inter-connection of branch circuit conduits may be 2-1/2" deep.

2.03 JUNCTION BOXES, PULL BOXES AND CABLE TROUGHS

- A. Provide code gauge galvanized steel junction and pull boxes for conduit 1-1/4" trade size and larger, where indicated and as necessary to facilitate installation, of required dimensions, with accessible, removable screw-on covers. Provide junction and pull boxes in special sizes and shapes determined in field where necessary.
- B. Junction box covers shall be accessible. Do not install junction boxes above suspended ceilings except where ceiling is removable or where access panel is provided.
- C. Sheet metal pull boxes shall be supported adequately to maintain shape. Larger boxes shall have structural steel bracing welded into rigid assembly formed adequately to maintain alignment in shipment and installation. Secure covers with corrosion-resistant screws or bolts.

2.04 WIRE AND CABLE (600 V INSULATION)

- A. Provide single-conductor, annealed copper wire and cable with insulation rated 600 V, of sizes specified and scheduled on Drawings and as required by code, whichever is larger, by General Electric, Rome, Okonite or approved equal, for branch and system wiring. Wire insulated for 300 V may be used where voltage is less than 100 V, if isolated from higher voltages. Wire sizes shown and specified are American Wire Gauge for copper.

- B. Armored cable shall be Type AC 600 V copper with full-sized insulated ground conductor. Use if restricted by requirements of Paragraph entitled WIRING METHODS in Part 3 of this section. Minimum size shall be #12 AWG unless specified otherwise.
- C. Wire #8 and larger shall be stranded; #10 and smaller shall be solid. Wire and cable shall have THWN-THHN or XHHW insulation.
- D. Splices and Terminations
 - 1. Make splices in branch circuit wiring with UL-listed, solderless connectors rated 600 V, of sizes and types required by manufacturer's recommendations with temperature ratings equal to those of wires. Splice connectors shall be screw-on. Insulate splices with integral covers or with plastic or rubber friction tape to preserve characteristics of wire and cable insulation.
 - 2. Provide standard bolt-on lugs with hex screws to attach copper wire and cable to panelboards, disconnect switches and electrical equipment.
 - 3. Make terminations and splices for conductors #6 and larger with corrosion-resistant, high conductivity pressure indent, hex screw or bolt-clamp connectors, with or without tongues, designed specifically for intended service.
 - 4. Ampacity of splices and connectors shall be equal to those of associated wires and cables.

2.05 FEEDER IDENTIFICATION

- A. Provide nonferrous identifying tags or pressure-sensitive labels for cables, feeders, and power circuits in vaults, pull boxes, manholes and switchboard rooms, at cable termination and in other locations.
- B. Tags or labels shall be stamped or printed to correspond with markings on Drawings or marked so that feeder cable may be identified readily. If suspended tags are provided, attach with 1/32" diameter nylon 55-pound test monofilament line or slip-free plastic cable lacing unit.

2.06 COLOR CODING

- A. Color code secondary service, feeders and branch circuit conductors as follows:

<u>208/120 Volts</u>	<u>Phase</u>
Black	A
Red	B
Blue	C
White	Neutral Grey
Green	Ground Green

- B. Colors shall be factory-applied entire length of conductors by one of the following methods except as noted and limited below:

1. solid color compound,
 2. solid color coating,
 3. colored stripping (2 stripes 180 degrees apart),
 4. colored bands or hash marks with maximum spacing of 18",
 5. colored fibrous covering, or
 6. surface printing every 12", maximum spacing of 18".
- C. Branch circuit conductors #12 and #10 shall have solid color compound, solid color coating. Neutrals and equipment grounds shall have solid compound or solid color coating (white, gray and green), except that neutrals with colored stripe shall be used where required by NEC. Conductors #8 and larger with stripes, bands or hash marks shall have background color other than white, green and gray.
- D. Solid color coating, stripes, bands or has marks shall be strongly adherent paint or dye, sufficiently wide and clear to be readily distinguishable after installation.
- E. Alternative field-applied color coding methods may be lied for wire #10 or larger, with color code specified in Subparagraph A:
1. Apply 3/4" colored pressure-sensitive plastic tape in half overlapping turns for 6" from all terminal points and in boxes in which splices or taps are made. Apply last two laps of tape with no tension. Do not cover cable identification markings.

2.07 WIRE PULLING EQUIPMENT

- A. Provide polyethylene ropes for pulling wire.
- B. Provide fish wires in telephone and data conduits and other empty conduit systems required, without splices and with ample exposed lengths at each end.
- C. Provide wire pulling lubricants that meet applicable UL requirements as necessary.

2.08 WIRING DEVICES

- A. Provide wiring devices by single manufacturer. Cooper (Division of Crouse-Hinds), Leviton, Bryant, Hubbell or approved equal. Catalog designations of Cooper are specified to establish standards of quality for materials and performance. Devices shall be the color to match existing.
- B. Toggle Switches:
 1. Single-pole shall be No. CSB120B, 20A, 120-277 V AC.
 2. Double-pole shall be No. CSB220B, 20A, 120-277 V AC.

C. Receptacles:

1. Single receptacles shall be No. 1877W, 20A, 2-pole 3W grounding.
2. Duplex shall be No. 5362W, 125 V, 20A, 2-pole, 3 W, grounding.
3. Duplex GFCI receptacle No. Pass and Seymour no. 2095

2.09 WIRING PLATES

- A. Provide nylon devices by Cooper, Leviton, Bryant, Hubbell or approved equal.
- B. Nameplate designations for device plates shall be engraved directly on plates and filled in. Device Plates shall be stainless steel.
- C. Device plates shall be manufacturer of wiring devices.
- D. Outlets shall be flush fully recessed to surface.

2.10 PANELBOARDS

- A. Panelboards are existing. Provide compatible circuit breakers sized as shown on drawings.
- B. Provide molded case, bolt-on, thermal-magnetic trip, single, two or three pole branch circuit breakers as shown on Drawings. Multiple pole breakers shall be single handle, common-trip. All circuit breakers shall be rated for switching purposes.
- C. Update the typed panel directories to show use of each circuit.

2.11 FIRE ALARM SYSTEM

- A. Scope: The Electrical Sub-Contractor shall reuse the existing Fire Alarm System. The work covered by this section of the specifications includes the furnishing of all labor, equipment, materials, to relocate existing devices. Include testing and recertification of the existing fire alarm system
 1. Equipment shall meet requirements of Somerville Fire Department and State Fire Marshall. Installation shall meet FM requirements and following NFPA standards:
 - a. Life Safety Code 101.
 - b. National Electrical Code 70.
 - c. International Fire Alarm Code
 - d. NFPA 72
 - e. ADA
 - f. Massachusetts State Building Code

PART 3 EXECUTION

3.01 MATERIALS AND WORKMANSHIP

- A. Work shall be executed in workmanlike manner and shall present neat, rectilinear and mechanical appearance when completed. Maintain maximum headroom at all time. Do not run conduits exposed unless shown exposed on drawings. Material and equipment shall be new and installed according to manufacturer's recommended best practice.

3.02 CONTINUITY OF SERVICES

- A. The GC is responsible to secure temporary power prior to the start of the project.

3.03 SPECIAL RESPONSIBILITIES

- A. Coordinate work of this Section with work of other Sections.
 - 1. Obtain detailed information from manufacturers of equipment provided under this Section as to proper methods of installation.
 - 2. Keep fully informed of shape, size and position of openings required for material and equipment provided under this and other Sections. Ensure that openings required for work of this Section are coordinated with work of other Sections. Provide cutting and patching as necessary.

3.04 TESTING, INSPECTION AND CLEANING

- A. Test and inspect work provided under this Section as required by Contract Documents, codes, standards and authorities that have jurisdiction, to satisfaction of Architect. Notify Architect and authorities at least 48 hours before testing or inspection. Do not cover work before testing or inspection.
- B. Furnish Architect with certificates of testing and inspection for electrical systems, indicating approval of authorities that have jurisdiction and conformance with requirements of Contract Documents.
- C. Test wiring and connections for continuity and grounds before fixtures are connected.
- D. Test lighting fixtures with specified lamps in place for 10 hours; check fixtures in sections. Do not operate lamps other than testing before final inspection by Architect. Replace lamps that fail within 90 days after substantial completion by Architect within Contract Price.
- E. Provide necessary testing equipment and testing.
- F. Failure or defects in workmanship or materials revealed by tests or inspection shall be corrected promptly and retested. Replace defective material.

3.05 NAMEPLATES

- A. Provide nameplates in or on junction boxes and cabinets, and for special purpose switches, motor disconnect switches, starters or other controls furnished or installed under this Section. Nameplates shall designate equipment controlled and function.
- B. Nameplates shall be laminated black bakelite with 1/4" high white recessed letters. Nameplates shall be securely attached to the equipment with galvanized screws. Adhesives or cements shall not be used.

3.06 WIRING METHODS

- A. Install wire and cable in approved raceways as specified and as approved by authorities that have jurisdiction. Surface metal raceways shall not be used unless explicitly specified and shown on Drawings. Do not use surface raceways on floor. Do not use armored cable except as approved by local code for lighting and receptacle circuits in suspended ceilings and stud-wall partitions. Homeruns for lighting circuits shall be 3-phase, 4-wire run in conduit.
- B. Wire from point of service connection to receptacles, lighting fixtures, devices, equipment, outlets for future extension, and other electrical apparatus as shown on Drawings. Provide slack wire for connections. Tape ends of wires and provide blank covers for outlet boxes designated for future use.
- C. Conductors #10 and smaller in branch circuit panelboards, signal cables, signal control boards, switchboards and motor control centers shall be bundled. Conductors larger than #10 in switchboards, motor control centers and pull boxes shall be cabled in individual circuits.
- D. Follow homerun circuit numbers shown on Drawings to connect circuits to panelboards. Connect each branch circuit homerun with two or more circuits and common neutral to circuit breaker or switch in three-wire or four-wire branch circuit panelboard so that no two circuits are fed from same bus.
- E. Electrical metallic tubing may be used generally, if approved by local codes, for lighting fixture and receptacle circuits, telephone, inter-communications, signal and instrumentation circuits, and for control circuits. EMT may be used generally, if approved by authorities, in masonry walls, above hung ceilings, in equipment rooms, in mechanical and electrical chases and closets, in exposed locations along ceilings or walls above normal traffic level and where not subject to accidental damage or abuse.
- F. Install connectors and couplings as recommended by manufacturers. Compression fittings shall not be used with rigid steel, intermediate metallic or aluminum conduit. Set screw fittings shall not be used with rigid aluminum conduit and shall not be used for other applications, unless specified and approved by Architect. If set-screw connectors are used, tighten to imbed screws in conduit.
- G. Provide flexible conduits for connections to electrical equipment and to equipment furnished under Divisions 22 and 23 that are subject to movement, vibration or misalignment; where available space dictates; and where noise transmission must be eliminated or reduced.

- H. Run concealed conduit and EMT in as direct lines as possible with minimum number of bends of longest possible radius. Run exposed conduit and EMT parallel to or at right angles to building lines. Ends shall be free from dents or flattening.
- I. Conduit and EMT runs shall be mechanically and electrically continuous from service entrance to outlets. Conduit shall enter and be secured to cabinet, junction box, pull box or outlet box with locknut outside and bushing inside, or with liquid-tight, threaded, self-locking, cold-weld wedge adapter. Provide additional locknut for rigid conduit and wrench-tighten locknut for EMT or flexible conduit where circuit voltage exceeds 250 V. Locknuts and bushings or self-locking adapters will not be required where conduits are screwed into tapped connections. Vertical conduit runs that terminate in bottoms of wall boxes or cabinets shall be protected from entrance of foreign material before installation of conductors.
- J. Size rigid steel conduit, EMT and flexible metallic conduit as required by NEC except as specified or shown on Drawings otherwise.
- K. Check raceway sizes to determine that green equipment ground conductor fits in same raceway with phase and neutral conductors to meet NEC percentage of fill requirements. Increase duct, conduit, tubing, and raceway sizes shown or specified as required to accommodate conductors.
- L. Unless specified or shown on Drawings otherwise, install conduit and EMT concealed. Unless specified or shown otherwise, conduit and EMT may be run exposed on unfinished walls and unfurred basement ceilings.
- M. Install conduit systems complete before drawing in conductors. Blow through and swab after plaster is finished and dry, and before conductors are installed.

3.07 GROUNDING

- A. Provide equipment grounding system as shown on Drawings. Equipment grounding system shall be designated so metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, portable equipment and other conductive items in close proximity with electrical circuits operate continuously at ground potential and provide low impedance path for possible ground fault currents.
- B. System shall meet NEC requirements, modified as shown on Drawings and as specified.
- C. Provide separate green insulated equipment grounding conductor for each single or three-phase feeder and each branch circuit. Install grounding conductor in common conduit with related phase or neutral conductors, or both.
- D. Provide green insulated grounding conductor in same raceway with associated phase conductors, as follows:
 - 1. From green ground terminals or receptacles to green 10-32 washer-in-head outlet box machine screw. (Receptacles with special cast boxes and factory designed and approved ground path do not require separate ground jumper.)

CITY OF SOMERVILLE
ADA CITYWIDE UPGRADES
SOMERVILLE, MA
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2. From green 10-32 washer-in-head machine screw in ceiling outlet box or junction box through flexible metallic conduit to ground terminal in fixture.
3. From green 10-32 washer-in-head machine screw in ceiling outlet box or junction box through flexible metallic conduit to green 10-32 washer-in-head machine screw in switch outlet box in movable partitions.
4. From green 10-32 washer-in-head machine screw in junction box or disconnect switch through flexible metallic conduit to ground terminal in connection box mounted on single phase fractional horsepower motor.

END OF SECTION 26 00 00

PART 4: DRAWINGS

Due to the file sizes, the drawings have been uploaded to Google Drive found here

https://drive.google.com/drive/folders/1MAhebRzM_85drKiRVdMg_JD8pAYw77D?usp=sharing