

IFB # 17-01

**SOLICITATION FOR:**  
Cross Street Senior Center Renovations



**CITY OF SOMERVILLE, MASSACHUSETTS**  
**Joseph A. Curtatone, Mayor**

Purchasing Department  
Angela M. Allen, Purchasing Director

**RELEASE DATE:** 7/29/2016  
**PRE-BID MEETING DATE AND TIME:** 8/4/2016 at 11AM EST  
**QUESTIONS DUE:** 8/5/2016 by 12PM EST  
**DUE DATE AND TIME:** 8/16/2016 by 11AM EST

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

**IFB # 17-01**  
**Cross Street Senior Center Renovations**

## **Key Project Information**

Project Address	165 E. Broadway St., Somerville, MA
Estimated Construction Cost	\$260,000.00
Anticipated Contract Award	8/19/2016
Est. Contract Commencement Date	9/19/2016
Date of Substantial Completion/ Certificate of Occupancy	11/19/2016
Date of Final Completion	12/15/2016
Governing Bid Law	<b>MGL C. 149 (Vertical Construction)</b>
Wage Requirements	<b>State Prevailing Wages</b>
Payment Bond Requirements	<b>100% of Contract Value</b>
Performance Bond Requirements	<b>100% of Contract Value</b>
Bid Bond	<b>5% of Contract Value</b>
Liquidated Damages (\$ per Day)	<b>\$500.00</b>

## **Managing Department Information**

Managing City Department	Capital Projects and Planning
Project Manager	Eddie Nuzzo
Project Manager Email	ENuzzo@somervillema.gov

## **Designer Information**

Designer Name	CBI Consulting, Inc.
Designer Address	250 Dorchester Avenue, Boston, MA 02127
Designer Specialty	<b>Engineering</b>
Designer Contact	Andrea Willett
Designer Contact Email	awillett@cbiconsultinginc.com

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	Reference Form (or equivalent may be attached)
	5% Bid Deposit
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# Part 1: Invitation for Bid Documents

IFB # 17-01  
Cross Street Senior Center Renovations

## 1.1 General Instructions

Copies of the solicitation may be obtained from the Purchasing Department on and after 7/29/2016 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 <b>7:30</b> p.m.
Friday	8:30 a.m. to <b>12:30</b> p.m.

<b>All Responses Must be Sealed and Delivered To:</b>
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>
<b>Bid Format:</b>
Submit one, original (1) sealed bid package; it must be marked with the solicitation title and number.
<b>BIDS SUBMITTED MUST BE AN ORIGINAL.</b> <b>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:</b> 1) Form for General Bid 2) Bid Form for Alternates (if applicable) 3) Unit Price Form 4) Somerville Living Wage Form 5) Quality Requirements Form 6) Certificate of Non-Collusion & Tax Compliance 7) Certificate of Signature Authority 8) Reference Form 9) 5% Bid Deposit 10) Prevailing / Davis Bacon Wages Statement of Compliance Form 11) OSHA Form
<b>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.</b>
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	7/29/2016
Optional Pre-bid Site Visit	8/4/2016 at 11AM EST
Deadline for Submitting Questions to IFB	8/5/2016 by <b>12PM EST</b>
Bids Due	8/16/2016 by <b>11AM EST</b>
Anticipated Contract Award	8/19/2016
Est. Contract Commencement Date	9/19/2016
Est. Contract Completion Date	12/15/2016

<b>Responses must be delivered by 8/16/2016 by 11AM EST to:</b>	City of Somerville Purchasing Department Attn: Michael Richards 93 Highland Avenue Somerville, MA 02143
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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
<b>Envelope 1: Sealed Bid:</b> 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.)]	<b>To Be Marked:</b> IFB # 17-01 Cross Street Senior Center Renovations
<b>Please send the complete sealed package to the attention of :</b>	Michael Richards Procurement Analyst Purchasing Department Somerville City Hall 93 Highland Avenue Somerville, MA 02143

## 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 are due: 8/5/2016 by 12PM EST**

**Questions concerning this solicitation must be delivered in writing to:**

Michael Richards  
Procurement Analyst  
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.**

## 1.5 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.

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

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.**

### **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.

### **Maintenance Manual and As-Built Drawing Requirements**

Upon Final Completion of all park construction, the contractor shall submit: two complete copies of a park maintenance manual, and two copies of an as-built drawing set, with two compact disc (CD) copies of the as-built drawings. The City will not issue the final check for park retainage until the submittal and approval of the maintenance manual and as-built drawings.

- 1) The Maintenance Manual shall be in the form of a three ring binder, organized and tabbed into appropriate sections, and shall include the following items:
  - A complete maintenance plan with recommended maintenance schedules and procedures for all systems including: HVAC, security (card access/cameras), fire suppression, irrigation, fertilization, and water systems shut-down procedures, etc., and all other applicable systems and procedures;
  - A letter from the contractor stating the period of warranty for all parts, materials, and workmanship, from the date of Final Completion;
  - A letter from the contractor stating the period of warranty for all systems (HVAC, irrigation, fire suppression, etc.);
  - All product information, product directions, and warranties;
  - List of all materials (plants, etc.), sizes of plant containers, etc.;
  - Copies of City permits with signatures of inspectors;
  - Contact information for all subcontractors including email addresses; and,
  - A record of all submittals and dates of approvals.
- 2) As-Built drawings shall be a complete and accurate record that incorporates any and all changes to the construction plan set issued at the time of contract initiation. As-built drawings shall be clearly marked and annotated and shall include but not be limited to: all field changes, change orders, and supplemental drawing provided by the landscape architect.
- 3) The Compact Discs shall include an electronic copy of all as-built drawings.

**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 9/19/2016 and ends on or about **Error! Reference source not found..** 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.

**IFB # 17-01**  
**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**

<b>Project Information</b>	
<b>Managing City Department:</b>	Capital Projects and Planning
<b>Project Manager:</b>	Eddie Nuzzo
<b>Project Manager Email:</b>	ENuzzo@somervillema.gov
<b>Designer:</b>	CBI Consulting, Inc.
<b>Designer Contact:</b>	Andrea Willett
<b>Project Address:</b>	165 E. Broadway St., Somerville, MA
<b>Brief Project Description:</b>	In general, the Project consists of Renovations to the Women's Restroom, stair handrails at the main stair, exterior walkways, walls, doors, build out of one story room at the back of the two story building, roof repair of the one story roof, and installation of an exterior freezer. The work includes a new door at the second story fire escape.
<b>Estimated Project Cost:</b>	\$260,000.00
<b>Project Schedule</b>	
<b>Estimated Award Date:</b>	8/19/2016
<b>Estimated Start Date:</b>	9/19/2016
<b>Date of Substantial Completion:</b>	11/19/2016
<b>Date of Final Completion:</b>	12/15/2016

## 2.3 Minimum Quality Requirements

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 through 5 or a failure to respond to any of the following minimum standards may result in disqualification of your bid.

QUALITY REQUIREMENTS		YES	NO
1.	Manufacturer Qualifications: Company specializing in manufacturing the products specified in this bid with minimum three years of documented experience.		
2.	Regulatory Requirements: Products 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.		
3.	Installer: Installation shall be performed by installer specialized and experienced in work similar to that required for this project.		
4.	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?		
5.	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 through 5 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.

IFB # 17-01

## SECTION 3.0

Cross Street Senior Center Renovations

### 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**

	Form for General Bid
	Bid Form for Alternates (if applicable)
	Unit Price Form (if applicable)
	Somerville Living Wage Form
	Quality Requirements Form (Section 2.0)
	Certificate of Non-Collusion & Tax Compliance
	Certificate of Signature Authority
	Reference Form (or equivalent may be attached)
	5% Bid Deposit
	Prevailing / Davis Bacon Wages Statement of Compliance Form
	OSHA Form
	Responsible Employer Ordinance
	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 Compliance
	Performance Bond (see specification for details)
	Payment Bond (if applicable, see specification for details)

**SECTION 00 41 00**  
**FORM FOR GENERAL BID**

**CROSS STREET SENIOR CENTER RENOVATIONS,**  
**SOMERVILLE, MASSACHUSETTS**

August 12, 2016

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. ALTERNATES:

— Add Alternate #1:

Renovation of Men's Restroom, and Men's Restroom Vestibule to include the construction and modification of interior partitions, finishes, plumbing, electrical and HVAC, as well as replacement of door, frame and hardware. Furnish and install acoustic tiles in existing acoustic tile grid.

\_\_\_\_\_ dollars (\$\_\_\_\_\_).

- C. 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.

- D. 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.
- E. 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".
- F. 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 under in this section, the work "person" shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.
- G. 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.
- H. Substantial Completion

Substantial completion in all School Buildings to be by November 21, 2016.

Substantial completion in non-School Buildings to be by December 15, 2016.

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.



G. 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: \_\_\_\_\_

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)

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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)

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



**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 7/1/2016 “Living Wage” shall be deemed to be an hourly wage of no less than \$12.31 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

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

Form:\_\_\_\_\_  
Contract Number:\_\_\_\_\_

CITY OF SOMERVILLE

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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 7/1/2016 is **\$12.31** 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.

Form:\_\_\_\_\_  
Contract Number:\_\_\_\_\_

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## **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:** \_\_\_\_\_



**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)**

## **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:\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## 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](http://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 \_\_\_\_\_

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) 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 Bid)**  
**Duly Authorized**

**Name of Business or Entity:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**RETURN THIS FORM WITH YOUR BID**

**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.	<b>1</b> Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	<b>2</b> Business name/disregarded entity name, if different from above	
	<b>3</b> Check appropriate box for federal tax classification; check only <b>one</b> of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ <b>Note.</b> 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) ▶ _____	<b>4</b> 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>
	<b>5</b> Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	<b>6</b> City, state, and ZIP code	
<b>7</b> 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.

<b>Social security number</b>									
				-				-	
<b>or</b>									
<b>Employer identification number</b>									
					-				

## Part II Certification

Under penalties of perjury, I certify that:

- 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
- 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
- I am a U.S. citizen or other U.S. person (defined below); and
- 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.

<b>Sign Here</b>	Signature of U.S. person ▶	Date ▶
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## 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](http://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:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- 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
- 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 person 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 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> 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](http://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](http://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](http://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 <sup>1</sup>
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
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 <sup>1</sup>  The actual owner <sup>1</sup>
5. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
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 <sup>4</sup>
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

<sup>1</sup> 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.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> 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.

<sup>4</sup> 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](mailto: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](mailto:spam@uce.gov) or contact them at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 1-877-IDTHEFT (1-877-438-4338).

Visit [IRS.gov](http://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, 17<sup>th</sup> 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.....\$ Two 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:

Workers Compensation.....\$ Statutory  
Employer's 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" and "CBI Consulting, Inc." as a certificate holder and as an additional insured for general liability with a Waiver of Subrogation on the insurance policy for this project, along with a description of operation in the space provided on the certificate.**
4. Please comply with our requirement of a **thirty (30) day** notice of cancellation and note on 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	
	NAIC #	
	INSURER A :	
	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
	<b>GENERAL LIABILITY</b> <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 \$ \$
	<b>AUTOMOBILE LIABILITY</b> <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) \$ \$
	<b>UMBRELLA LIAB</b> <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE DED <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> 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 \$

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 and CBI CONSULTING, INC. IS A CERTIFICATE HOLDER AND ADDITIONAL INSURED FOR GENERAL LIABILITY WITH A WAIVER OF SUBROGATION

**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

**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)

**IFB # 17-01**  
**SECTION 4.0**  
**PREVAILING WAGES AND/OR DAVIS BACON WAGES**



# MASSACHUSETTS WEEKLY CERTIFIED PAYROLL REPORT FORM



Company's Name:		Address:				Phone No.:				Payroll No.:									
Employer's Signature:		Title:				Contract No:		Tax Payer ID Number		Work Week Ending:									
Awarding Authority's Name:		Public Works Project Name:				Public Works Project Location:				Min. Wage Rate Sheet Number									
General / Prime Contractor's Name:		Subcontractor's Name:						"Employer" Hourly Fringe Benefit Contributions											
				(B+C+D+E)      (A x F)															
Employee Name & Complete Address	Work Classification:	Employee is OSHA 10 certified (?)	Appr. Rate (%)	Hours Worked								Project Hours (A) All Other Hours	Hourly Base Wage (B)	Health & Welfare Insurance (C)	ERISA Pension Plan (D)	Supp. Unemp. (E)	Total Hourly Prev. Wage (F)	Project Gross Wages Total Gross Wages	Check No. (H)
				Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.									

Are all apprentice employees identified above currently registered with the MA DLS's Division of Apprentices Standards?      YES ☐      NO ☐

For all apprentices performing work during the reporting period, attach a copy of the apprentice identification card issued by the Massachusetts Department of Labor Standards / Division of Apprentices Standards.      No apprentices are identified above ☐

**NOTE:** Pursuant to MGL c. 149, s. 27B, every contractor and subcontractor is required to submit a true and accurate copy of their certified weekly payroll records to the awarding authority by first-class mail or e-mail. In addition, each weekly payroll must be accompanied by a statement of compliance signed by the employer. Failure to comply may result in the commencement of a criminal action or the issuance of a civil citation.

Page \_\_\_\_\_ of \_\_\_\_\_

Date Received by Awarding Authority  
/      /



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**

RONALD L. WALKER, II  
Secretary

WILLIAM D MCKINNEY  
Director

**Awarding Authority:** City of Somerville  
**Contract Number:** **City/Town:** SOMERVILLE  
**Description of Work:** Cross Street Senior Center - Restroom Renovations, main stair handrails, exterior walkways, walls, doors, one story room build-out at rear of a two story bldg, one story roof repair, freezer install  
**Job Location:** 165 Broadway Street Somerville, MA

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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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Construction</b>						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	06/01/2016	\$33.25	\$10.41	\$10.08	\$0.00	\$53.74
	08/01/2016	\$33.25	\$10.91	\$10.08	\$0.00	\$54.24
	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>	06/01/2016	\$33.32	\$10.41	\$10.08	\$0.00	\$53.81
	08/01/2016	\$33.32	\$10.91	\$10.08	\$0.00	\$54.31
	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>	06/01/2016	\$33.44	\$10.41	\$10.08	\$0.00	\$53.93
	08/01/2016	\$33.44	\$10.91	\$10.08	\$0.00	\$54.43
	12/01/2016	\$33.44	\$10.91	\$10.89	\$0.00	\$55.24
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.29	\$9.80	\$19.23	\$0.00	\$117.32
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2016	\$36.60	\$7.45	\$13.80	\$0.00	\$57.85
	12/01/2016	\$37.60	\$7.45	\$13.80	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	06/01/2016	\$36.60	\$7.45	\$13.80	\$0.00	\$57.85
	12/01/2016	\$37.60	\$7.45	\$13.80	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2016	\$41.62	\$6.97	\$16.21	\$0.00	\$64.80
	01/01/2017	\$42.92	\$6.97	\$16.21	\$0.00	\$66.10

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - BOILERMAKER - Local 29**

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
2	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
3	70	\$29.13	\$6.97	\$11.35	\$0.00	\$47.45
4	75	\$31.22	\$6.97	\$12.16	\$0.00	\$50.35
5	80	\$33.30	\$6.97	\$12.97	\$0.00	\$53.24
6	85	\$35.38	\$6.97	\$13.78	\$0.00	\$56.13
7	90	\$37.46	\$6.97	\$14.59	\$0.00	\$59.02
8	95	\$39.54	\$6.97	\$15.40	\$0.00	\$61.91

**Effective Date - 01/01/2017**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	02/01/2016	\$49.86	\$10.18	\$19.14	\$0.00	\$79.18
BRICKLAYERS LOCAL 3 (BOSTON)	08/01/2016	\$50.76	\$10.18	\$19.22	\$0.00	\$80.16
	02/01/2017	\$51.33	\$10.18	\$19.22	\$0.00	\$80.73

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

**Effective Date -**
02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.93	\$10.18	\$19.14	\$0.00	\$54.25
2	60	\$29.92	\$10.18	\$19.14	\$0.00	\$59.24
3	70	\$34.90	\$10.18	\$19.14	\$0.00	\$64.22
4	80	\$39.89	\$10.18	\$19.14	\$0.00	\$69.21
5	90	\$44.87	\$10.18	\$19.14	\$0.00	\$74.19

**Effective Date -**
08/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.38	\$10.18	\$19.22	\$0.00	\$54.78
2	60	\$30.46	\$10.18	\$19.22	\$0.00	\$59.86
3	70	\$35.53	\$10.18	\$19.22	\$0.00	\$64.93
4	80	\$40.61	\$10.18	\$19.22	\$0.00	\$70.01
5	90	\$45.68	\$10.18	\$19.22	\$0.00	\$75.08

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$36.95	\$7.45	\$14.00	\$0.00	\$58.40
	12/01/2016	\$37.95	\$7.45	\$14.00	\$0.00	\$59.40
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$35.80	\$7.45	\$14.00	\$0.00	\$57.25
	12/01/2016	\$36.80	\$7.45	\$14.00	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$35.80	\$7.45	\$14.00	\$0.00	\$57.25
	12/01/2016	\$36.80	\$7.45	\$14.00	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 1 (Metro Boston)</i>	03/01/2016	\$43.92	\$9.80	\$16.82	\$0.00	\$70.54
	09/01/2016	\$45.01	\$9.80	\$16.82	\$0.00	\$71.63
	03/01/2017	\$46.09	\$9.80	\$16.82	\$0.00	\$72.71
	09/01/2017	\$47.21	\$9.80	\$16.82	\$0.00	\$73.83
	03/01/2018	\$48.32	\$9.80	\$16.82	\$0.00	\$74.94
	09/01/2018	\$49.47	\$9.80	\$16.82	\$0.00	\$76.09
	03/01/2019	\$50.62	\$9.80	\$16.82	\$0.00	\$77.24

**Apprentice - CARPENTER - Zone 1 Metro Boston****Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.96	\$9.80	\$1.63	\$0.00	\$33.39
2	60	\$26.35	\$9.80	\$1.63	\$0.00	\$37.78
3	70	\$30.74	\$9.80	\$11.93	\$0.00	\$52.47
4	75	\$32.94	\$9.80	\$11.93	\$0.00	\$54.67
5	80	\$35.14	\$9.80	\$13.56	\$0.00	\$58.50
6	80	\$35.14	\$9.80	\$13.56	\$0.00	\$58.50
7	90	\$39.53	\$9.80	\$15.19	\$0.00	\$64.52
8	90	\$39.53	\$9.80	\$15.19	\$0.00	\$64.52

**Effective Date - 09/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.51	\$9.80	\$1.63	\$0.00	\$33.94
2	60	\$27.01	\$9.80	\$1.63	\$0.00	\$38.44
3	70	\$31.51	\$9.80	\$11.93	\$0.00	\$53.24
4	75	\$33.76	\$9.80	\$11.93	\$0.00	\$55.49
5	80	\$36.01	\$9.80	\$13.56	\$0.00	\$59.37
6	80	\$36.01	\$9.80	\$13.56	\$0.00	\$59.37
7	90	\$40.51	\$9.80	\$15.19	\$0.00	\$65.50
8	90	\$40.51	\$9.80	\$15.19	\$0.00	\$65.50

**Notes:****Apprentice to Journeyworker Ratio:1:5****CEMENT MASONRY/PLASTERING***BRICKLAYERS LOCAL 3 (BOSTON)*

01/01/2016

\$46.44

\$10.90

\$18.71

\$1.30

\$77.35

**Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Boston)****Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.22	\$10.90	\$12.21	\$0.00	\$46.33
2	60	\$27.86	\$10.90	\$13.71	\$1.30	\$53.77
3	65	\$30.19	\$10.90	\$14.71	\$1.30	\$57.10
4	70	\$32.51	\$10.90	\$15.71	\$1.30	\$60.42
5	75	\$34.83	\$10.90	\$16.71	\$1.30	\$63.74
6	80	\$37.15	\$10.90	\$17.71	\$1.30	\$67.06
7	90	\$41.80	\$10.90	\$18.71	\$1.30	\$72.71

**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>	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$45.23	\$10.00	\$15.15	\$0.00	\$70.38
	12/01/2016	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	06/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
	12/01/2017	\$48.48	\$10.00	\$15.15	\$0.00	\$73.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
	12/01/2016	\$31.27	\$10.00	\$15.15	\$0.00	\$56.42
	06/01/2017	\$31.96	\$10.00	\$15.15	\$0.00	\$57.11
	12/01/2017	\$32.65	\$10.00	\$15.15	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 1</i>	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.23	\$7.85	\$0.00	\$0.00	\$33.08
2	55	\$27.75	\$7.85	\$3.66	\$0.00	\$39.26
3	60	\$30.28	\$7.85	\$3.99	\$0.00	\$42.12
4	65	\$32.80	\$7.85	\$4.32	\$0.00	\$44.97
5	70	\$35.32	\$7.85	\$14.11	\$0.00	\$57.28
6	75	\$37.85	\$7.85	\$14.44	\$0.00	\$60.14
7	80	\$40.37	\$7.85	\$14.77	\$0.00	\$62.99
8	90	\$45.41	\$7.85	\$15.44	\$0.00	\$68.70

**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**

DEMO: ADZEMAN <i>LABORERS - ZONE 1</i>	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.50	\$7.45	\$13.55	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2015	\$36.25	\$7.45	\$13.55	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i>	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$58.86	\$9.80	\$19.23	\$0.00	\$87.89
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$63.06	\$9.80	\$19.23	\$0.00	\$92.09
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.23	\$9.80	\$19.23	\$0.00	\$117.26
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56



**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - ELECTRICIAN - Local 103**
**Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
2	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
3	45	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
4	45	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
5	50	\$23.09	\$13.00	\$12.71	\$0.00	\$48.80
6	55	\$25.39	\$13.00	\$13.07	\$0.00	\$51.46
7	60	\$27.70	\$13.00	\$13.44	\$0.00	\$54.14
8	65	\$30.01	\$13.00	\$13.81	\$0.00	\$56.82
9	70	\$32.32	\$13.00	\$14.18	\$0.00	\$59.50
10	75	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

**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

01/01/2016	\$54.53	\$14.43	\$14.96	\$0.00	\$83.92
01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85

**Apprentice - ELEVATOR CONSTRUCTOR - Local 4**
**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.27	\$14.43	\$0.00	\$0.00	\$41.70
2	55	\$29.99	\$14.43	\$14.96	\$0.00	\$59.38
3	65	\$35.44	\$14.43	\$14.96	\$0.00	\$64.83
4	70	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
5	80	\$43.62	\$14.43	\$14.96	\$0.00	\$73.01

**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

01/01/2016	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FENCE & GUARD RAIL ERECTOR	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
LABORERS - ZONE 1	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	05/01/2016	\$41.03	\$10.00	\$14.90	\$0.00	\$65.93
OPERATING ENGINEERS LOCAL 4	11/01/2016	\$41.62	\$10.00	\$14.90	\$0.00	\$66.52
	05/01/2017	\$42.50	\$10.00	\$14.90	\$0.00	\$67.40
	11/01/2017	\$43.23	\$10.00	\$14.90	\$0.00	\$68.13
	05/01/2018	\$43.94	\$10.00	\$14.90	\$0.00	\$68.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY	05/01/2016	\$42.47	\$10.00	\$14.90	\$0.00	\$67.37
OPERATING ENGINEERS LOCAL 4	11/01/2016	\$43.07	\$10.00	\$14.90	\$0.00	\$67.97
	05/01/2017	\$43.96	\$10.00	\$14.90	\$0.00	\$68.86
	11/01/2017	\$44.69	\$10.00	\$14.90	\$0.00	\$69.59
	05/01/2018	\$45.41	\$10.00	\$14.90	\$0.00	\$70.31
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY	05/01/2016	\$21.88	\$10.00	\$14.90	\$0.00	\$46.78
OPERATING ENGINEERS LOCAL 4	11/01/2016	\$22.23	\$10.00	\$14.90	\$0.00	\$47.13
	05/01/2017	\$22.76	\$10.00	\$14.90	\$0.00	\$47.66
	11/01/2017	\$23.18	\$10.00	\$14.90	\$0.00	\$48.08
	05/01/2018	\$23.61	\$10.00	\$14.90	\$0.00	\$48.51
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
ELECTRICIANS LOCAL 103	For apprentice rates see "Apprentice- ELECTRICIAN"					
FIRE ALARM REPAIR / MAINTENANCE	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18
/ COMMISSIONINGELECTRICIANS						
LOCAL 103	For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"					
FIREMAN (ASST. ENGINEER)	06/01/2016	\$36.71	\$10.00	\$15.15	\$0.00	\$61.86
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$37.75	\$10.00	\$15.15	\$0.00	\$62.90
	06/01/2017	\$38.59	\$10.00	\$15.15	\$0.00	\$63.74
	12/01/2017	\$39.42	\$10.00	\$15.15	\$0.00	\$64.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER	06/01/2016	\$20.50	\$7.45	\$13.80	\$0.00	\$41.75
LABORERS - ZONE 1	12/01/2016	\$20.50	\$7.45	\$13.80	\$0.00	\$41.75
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER	03/01/2016	\$42.13	\$9.80	\$17.62	\$0.00	\$69.55
FLOORCOVERERS LOCAL 2168 ZONE 1						

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - FLOORCOVERER - Local 2168 Zone I**
**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.

**Apprentice to Journeyworker Ratio:1:1**

FORK LIFT/CHERRY PICKER	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$31.27	\$10.00	\$15.15	\$0.00	\$56.42
	06/01/2017	\$31.96	\$10.00	\$15.15	\$0.00	\$57.11
	12/01/2017	\$32.65	\$10.00	\$15.15	\$0.00	\$57.80

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)	07/01/2016	\$45.75	\$7.85	\$16.10	\$0.00	\$69.70
GLAZIERS LOCAL 35 (ZONE 1)	01/01/2017	\$46.70	\$7.85	\$16.10	\$0.00	\$70.65

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - GLAZIER - Local 35 Zone 1**
**Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.88	\$7.85	\$0.00	\$0.00	\$30.73
2	55	\$25.16	\$7.85	\$3.66	\$0.00	\$36.67
3	60	\$27.45	\$7.85	\$3.99	\$0.00	\$39.29
4	65	\$29.74	\$7.85	\$4.32	\$0.00	\$41.91
5	70	\$32.03	\$7.85	\$14.11	\$0.00	\$53.99
6	75	\$34.31	\$7.85	\$14.44	\$0.00	\$56.60
7	80	\$36.60	\$7.85	\$14.77	\$0.00	\$59.22
8	90	\$41.18	\$7.85	\$15.44	\$0.00	\$64.47

**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**
*OPERATING ENGINEERS LOCAL 4*

06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - OPERATING ENGINEERS - Local 4**
**Effective Date - 06/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.33	\$10.00	\$0.00	\$0.00	\$34.33
2	60	\$26.54	\$10.00	\$15.15	\$0.00	\$51.69
3	65	\$28.75	\$10.00	\$15.15	\$0.00	\$53.90
4	70	\$30.96	\$10.00	\$15.15	\$0.00	\$56.11
5	75	\$33.17	\$10.00	\$15.15	\$0.00	\$58.32
6	80	\$35.38	\$10.00	\$15.15	\$0.00	\$60.53
7	85	\$37.60	\$10.00	\$15.15	\$0.00	\$62.75
8	90	\$39.81	\$10.00	\$15.15	\$0.00	\$64.96

**Effective Date - 12/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$25.01	\$10.00	\$0.00	\$0.00	\$35.01
2	60	\$27.29	\$10.00	\$15.15	\$0.00	\$52.44
3	65	\$29.56	\$10.00	\$15.15	\$0.00	\$54.71
4	70	\$31.84	\$10.00	\$15.15	\$0.00	\$56.99
5	75	\$34.11	\$10.00	\$15.15	\$0.00	\$59.26
6	80	\$36.38	\$10.00	\$15.15	\$0.00	\$61.53
7	85	\$38.66	\$10.00	\$15.15	\$0.00	\$63.81
8	90	\$40.93	\$10.00	\$15.15	\$0.00	\$66.08

**Notes:**
**Apprentice to Journeyworker Ratio:1:6**

HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2016	\$43.31	\$10.70	\$21.95	\$2.28	\$78.24
	08/01/2016	\$44.46	\$10.70	\$21.95	\$2.28	\$79.39
	02/01/2017	\$45.56	\$10.70	\$21.95	\$2.28	\$80.49
	08/01/2017	\$46.66	\$10.70	\$21.95	\$2.28	\$81.59
	02/01/2018	\$47.81	\$10.70	\$21.95	\$2.28	\$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2016	\$43.31	\$10.70	\$21.95	\$2.28	\$78.24
	08/01/2016	\$44.46	\$10.70	\$21.95	\$2.28	\$79.39
	02/01/2017	\$45.56	\$10.70	\$21.95	\$2.28	\$80.49
	08/01/2017	\$46.66	\$10.70	\$21.95	\$2.28	\$81.59
	02/01/2018	\$47.81	\$10.70	\$21.95	\$2.28	\$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING - WATER) <i>PIPEFITTERS LOCAL 537</i>	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	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>	06/01/2016	\$36.60	\$7.45	\$13.80	\$0.00	\$57.85
	12/01/2016	\$37.60	\$7.45	\$13.80	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2015	\$43.81	\$11.50	\$13.80	\$0.00	\$69.11
	09/01/2016	\$45.81	\$11.50	\$13.80	\$0.00	\$71.11
	09/01/2017	\$47.81	\$11.50	\$13.80	\$0.00	\$73.11
	09/01/2018	\$50.06	\$11.50	\$13.80	\$0.00	\$75.36
	09/01/2019	\$52.56	\$11.50	\$13.80	\$0.00	\$77.86

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

**Effective Date -** 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.91	\$11.50	\$10.05	\$0.00	\$43.46
2	60	\$26.29	\$11.50	\$10.80	\$0.00	\$48.59
3	70	\$30.67	\$11.50	\$11.55	\$0.00	\$53.72
4	80	\$35.05	\$11.50	\$12.30	\$0.00	\$58.85

**Effective Date -** 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$11.50	\$10.05	\$0.00	\$44.46
2	60	\$27.49	\$11.50	\$10.80	\$0.00	\$49.79
3	70	\$32.07	\$11.50	\$11.55	\$0.00	\$55.12
4	80	\$36.65	\$11.50	\$12.30	\$0.00	\$60.45

**Notes:**

Steps are 1 year

**Apprentice to Journeyworker Ratio:1:4**

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i>	03/16/2016	\$43.40	\$7.80	\$20.85	\$0.00	\$72.05
	09/16/2016	\$44.05	\$7.80	\$20.85	\$0.00	\$72.70
	03/16/2017	\$44.65	\$7.80	\$20.85	\$0.00	\$73.30

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - IRONWORKER - Local 7 Boston**
**Effective Date - 03/16/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.04	\$7.80	\$20.85	\$0.00	\$54.69
2	70	\$30.38	\$7.80	\$20.85	\$0.00	\$59.03
3	75	\$32.55	\$7.80	\$20.85	\$0.00	\$61.20
4	80	\$34.72	\$7.80	\$20.85	\$0.00	\$63.37
5	85	\$36.89	\$7.80	\$20.85	\$0.00	\$65.54
6	90	\$39.06	\$7.80	\$20.85	\$0.00	\$67.71

**Effective Date - 09/16/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.43	\$7.80	\$20.85	\$0.00	\$55.08
2	70	\$30.84	\$7.80	\$20.85	\$0.00	\$59.49
3	75	\$33.04	\$7.80	\$20.85	\$0.00	\$61.69
4	80	\$35.24	\$7.80	\$20.85	\$0.00	\$63.89
5	85	\$37.44	\$7.80	\$20.85	\$0.00	\$66.09
6	90	\$39.65	\$7.80	\$20.85	\$0.00	\$68.30

**Notes:**

\*\* Structural 1:6; Ornamental 1:4

**Apprentice to Journeyworker Ratio:\*\***

JACKHAMMER & PAVING BREAKER OPERATOR	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
LABORERS - ZONE 1	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
LABORER	06/01/2016	\$35.85	\$7.45	\$13.80	\$0.00	\$57.10
LABORERS - ZONE 1	12/01/2016	\$36.85	\$7.45	\$13.80	\$0.00	\$58.10

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Apprentice - LABORER - Zone 1</b>						
<b>Effective Date - 06/01/2016</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.51	\$7.45	\$13.80	\$0.00	\$42.76
2	70	\$25.10	\$7.45	\$13.80	\$0.00	\$46.35
3	80	\$28.68	\$7.45	\$13.80	\$0.00	\$49.93
4	90	\$32.27	\$7.45	\$13.80	\$0.00	\$53.52
<b>Effective Date - 12/01/2016</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.11	\$7.45	\$13.80	\$0.00	\$43.36
2	70	\$25.80	\$7.45	\$13.80	\$0.00	\$47.05
3	80	\$29.48	\$7.45	\$13.80	\$0.00	\$50.73
4	90	\$33.17	\$7.45	\$13.80	\$0.00	\$54.42
<b>Notes:</b>						
<b>Apprentice to Journeyworker Ratio:1:5</b>						
LABORER: CARPENTER TENDER	06/01/2016	\$35.85	\$7.45	\$13.80	\$0.00	\$57.10
LABORERS - ZONE 1	12/01/2016	\$36.85	\$7.45	\$13.80	\$0.00	\$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER	06/01/2016	\$35.85	\$7.45	\$13.80	\$0.00	\$57.10
LABORERS - ZONE 1	12/01/2016	\$36.85	\$7.45	\$13.80	\$0.00	\$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER	12/01/2015	\$35.50	\$7.45	\$13.55	\$0.00	\$56.50
LABORERS - ZONE 1						
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
LABORERS - ZONE 1	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
LABORER: MULTI-TRADE TENDER	06/01/2016	\$35.85	\$7.45	\$13.80	\$0.00	\$57.10
LABORERS - ZONE 1	12/01/2016	\$36.85	\$7.45	\$13.80	\$0.00	\$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER	06/01/2016	\$35.85	\$7.45	\$13.80	\$0.00	\$57.10
LABORERS - ZONE 1	12/01/2016	\$36.85	\$7.45	\$13.80	\$0.00	\$58.10
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	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
LABORERS - ZONE 1	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
MARBLE & TILE FINISHERS	02/01/2016	\$38.08	\$10.18	\$17.70	\$0.00	\$65.96
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2016	\$38.78	\$10.18	\$17.78	\$0.00	\$66.74
	02/01/2017	\$39.24	\$10.18	\$17.78	\$0.00	\$67.20



**Classification**

**Effective Date    Base Wage    Health    Pension    Supplemental  
Unemployment    Total Rate**

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

**Effective Date - 02/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.04	\$10.18	\$17.70	\$0.00	\$46.92
2	60	\$22.85	\$10.18	\$17.70	\$0.00	\$50.73
3	70	\$26.66	\$10.18	\$17.70	\$0.00	\$54.54
4	80	\$30.46	\$10.18	\$17.70	\$0.00	\$58.34
5	90	\$34.27	\$10.18	\$17.70	\$0.00	\$62.15

**Effective Date - 08/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.39	\$10.18	\$17.78	\$0.00	\$47.35
2	60	\$23.27	\$10.18	\$17.78	\$0.00	\$51.23
3	70	\$27.15	\$10.18	\$17.78	\$0.00	\$55.11
4	80	\$31.02	\$10.18	\$17.78	\$0.00	\$58.98
5	90	\$34.90	\$10.18	\$17.78	\$0.00	\$62.86

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**

MARBLE MASONS,TILELAYERS & TERRAZZO MECH	02/01/2016	\$49.90	\$10.18	\$19.14	\$0.00	\$79.22
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2016	\$50.80	\$10.18	\$19.22	\$0.00	\$80.20
	02/01/2017	\$51.37	\$10.18	\$19.22	\$0.00	\$80.77

**Classification**

Effective Date    Base Wage    Health    Pension    Supplemental  
Unemployment    Total Rate

**Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile**
**Effective Date - 02/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.95	\$10.18	\$19.14	\$0.00	\$54.27
2	60	\$29.94	\$10.18	\$19.14	\$0.00	\$59.26
3	70	\$34.93	\$10.18	\$19.14	\$0.00	\$64.25
4	80	\$39.92	\$10.18	\$19.14	\$0.00	\$69.24
5	90	\$44.91	\$10.18	\$19.14	\$0.00	\$74.23

**Effective Date - 08/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.40	\$10.18	\$19.22	\$0.00	\$54.80
2	60	\$30.48	\$10.18	\$19.22	\$0.00	\$59.88
3	70	\$35.56	\$10.18	\$19.22	\$0.00	\$64.96
4	80	\$40.64	\$10.18	\$19.22	\$0.00	\$70.04
5	90	\$45.72	\$10.18	\$19.22	\$0.00	\$75.12

**Notes:**
**Apprentice to Journeyworker Ratio:1:5**

MECH. SWEEPER OPERATOR (ON CONST. SITES)	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 1)	04/01/2015	\$37.64	\$9.80	\$16.21	\$0.00	\$63.65
MILLWRIGHTS LOCAL 1121 - Zone 1						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Apprentice - MILLWRIGHT - Local 1121 Zone 1</b>						
<b>Effective Date - 04/01/2015</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$20.70	\$9.80	\$4.48	\$0.00	\$34.98
2	65	\$24.47	\$9.80	\$13.36	\$0.00	\$47.63
3	75	\$28.23	\$9.80	\$14.18	\$0.00	\$52.21
4	85	\$31.99	\$9.80	\$14.99	\$0.00	\$56.78
<b>Notes:</b>						
Steps are 2,000 hours						
<b>Apprentice to Journeyworker Ratio:1:5</b>						
MORTAR MIXER	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
LABORERS - ZONE 1	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS)	06/01/2016	\$22.41	\$10.00	\$15.15	\$0.00	\$47.56
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$23.06	\$10.00	\$15.15	\$0.00	\$48.21
	06/01/2017	\$23.57	\$10.00	\$15.15	\$0.00	\$48.72
	12/01/2017	\$24.09	\$10.00	\$15.15	\$0.00	\$49.24
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS)	06/01/2016	\$26.29	\$10.00	\$15.15	\$0.00	\$51.44
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$27.04	\$10.00	\$15.15	\$0.00	\$52.19
	06/01/2017	\$27.64	\$10.00	\$15.15	\$0.00	\$52.79
	12/01/2017	\$28.25	\$10.00	\$15.15	\$0.00	\$53.40
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS II	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
OPERATING ENGINEERS LOCAL 4	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS)	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
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 - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.23	\$7.85	\$0.00	\$0.00	\$33.08
2	55	\$27.75	\$7.85	\$3.66	\$0.00	\$39.26
3	60	\$30.28	\$7.85	\$3.99	\$0.00	\$42.12
4	65	\$32.80	\$7.85	\$4.32	\$0.00	\$44.97
5	70	\$35.32	\$7.85	\$14.11	\$0.00	\$57.28
6	75	\$37.85	\$7.85	\$14.44	\$0.00	\$60.14
7	80	\$40.37	\$7.85	\$14.77	\$0.00	\$62.99
8	90	\$45.41	\$7.85	\$15.44	\$0.00	\$68.70

**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) *	07/01/2016	\$47.15	\$7.85	\$16.10	\$0.00	\$71.10
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1	01/01/2017	\$48.10	\$7.85	\$16.10	\$0.00	\$72.05

**Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - New****Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.58	\$7.85	\$0.00	\$0.00	\$31.43
2	55	\$25.93	\$7.85	\$3.66	\$0.00	\$37.44
3	60	\$28.29	\$7.85	\$3.99	\$0.00	\$40.13
4	65	\$30.65	\$7.85	\$4.32	\$0.00	\$42.82
5	70	\$33.01	\$7.85	\$14.11	\$0.00	\$54.97
6	75	\$35.36	\$7.85	\$14.44	\$0.00	\$57.65
7	80	\$37.72	\$7.85	\$14.77	\$0.00	\$60.34
8	90	\$42.44	\$7.85	\$15.44	\$0.00	\$65.73

**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)	07/01/2016	\$45.21	\$7.85	\$16.10	\$0.00	\$69.16
PAINTERS LOCAL 35 - ZONE 1	01/01/2017	\$46.16	\$7.85	\$16.10	\$0.00	\$70.11

**Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - Repaint****Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.61	\$7.85	\$0.00	\$0.00	\$30.46
2	55	\$24.87	\$7.85	\$3.66	\$0.00	\$36.38
3	60	\$27.13	\$7.85	\$3.99	\$0.00	\$38.97
4	65	\$29.39	\$7.85	\$4.32	\$0.00	\$41.56
5	70	\$31.65	\$7.85	\$14.11	\$0.00	\$53.61
6	75	\$33.91	\$7.85	\$14.44	\$0.00	\$56.20
7	80	\$36.17	\$7.85	\$14.77	\$0.00	\$58.79
8	90	\$40.69	\$7.85	\$15.44	\$0.00	\$63.98

**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

06/01/2016

\$35.85

\$7.45

\$13.80

\$0.00

\$57.10

12/01/2016

\$36.85

\$7.45

\$13.80

\$0.00

\$58.10

For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) \*

07/01/2016

\$45.75

\$7.85

\$16.10

\$0.00

\$69.70

\* If 30% or more of surfaces to be painted are new construction,

01/01/2017

\$46.70

\$7.85

\$16.10

\$0.00

\$70.65

NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1

**Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW****Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.88	\$7.85	\$0.00	\$0.00	\$30.73
2	55	\$25.16	\$7.85	\$3.66	\$0.00	\$36.67
3	60	\$27.45	\$7.85	\$3.99	\$0.00	\$39.29
4	65	\$29.74	\$7.85	\$4.32	\$0.00	\$41.91
5	70	\$32.03	\$7.85	\$14.11	\$0.00	\$53.99
6	75	\$34.31	\$7.85	\$14.44	\$0.00	\$56.60
7	80	\$36.60	\$7.85	\$14.77	\$0.00	\$59.22
8	90	\$41.18	\$7.85	\$15.44	\$0.00	\$64.47

**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)	07/01/2016	\$43.81	\$7.85	\$16.10	\$0.00	\$67.76
PAINTERS LOCAL 35 - ZONE 1	01/01/2017	\$44.76	\$7.85	\$16.10	\$0.00	\$68.71

**Apprentice - PAINTER Local 35 Zone 1 - BRUSH REPAINT****Effective Date - 07/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.91	\$7.85	\$0.00	\$0.00	\$29.76
2	55	\$24.10	\$7.85	\$3.66	\$0.00	\$35.61
3	60	\$26.29	\$7.85	\$3.99	\$0.00	\$38.13
4	65	\$28.48	\$7.85	\$4.32	\$0.00	\$40.65
5	70	\$30.67	\$7.85	\$14.11	\$0.00	\$52.63
6	75	\$32.86	\$7.85	\$14.44	\$0.00	\$55.15
7	80	\$35.05	\$7.85	\$14.77	\$0.00	\$57.67
8	90	\$39.43	\$7.85	\$15.44	\$0.00	\$62.72

**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	06/01/2016	\$33.08	\$10.41	\$10.08	\$0.00	\$53.57
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	08/01/2016	\$33.08	\$10.91	\$10.08	\$0.00	\$54.07
	12/01/2016	\$33.08	\$10.91	\$10.89	\$0.00	\$54.88
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
PILE DRIVER LOCAL 56 (ZONE 1)						
For apprentice rates see "Apprentice- PILE DRIVER"						
PILE DRIVER	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
PILE DRIVER LOCAL 56 (ZONE 1)						



## Classification

Effective Date

Base Wage

Health

Pension

Supplemental  
Unemployment

Total Rate

**Apprentice - PILE DRIVER - Local 56 Zone 1****Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.02	\$9.80	\$19.23	\$0.00	\$50.05
2	60	\$25.22	\$9.80	\$19.23	\$0.00	\$54.25
3	70	\$29.43	\$9.80	\$19.23	\$0.00	\$58.46
4	75	\$31.53	\$9.80	\$19.23	\$0.00	\$60.56
5	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
6	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
7	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87
8	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87

**Notes:****Apprentice to Journeyworker Ratio:1:3****PIPEFITTER & STEAMFITTER***PIPEFITTERS LOCAL 537*

03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03

**Apprentice - PIPEFITTER - Local 537****Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.68	\$9.70	\$7.50	\$0.00	\$36.88
2	45	\$22.14	\$9.70	\$18.14	\$0.00	\$49.98
3	60	\$29.51	\$9.70	\$18.14	\$0.00	\$57.35
4	70	\$34.43	\$9.70	\$18.14	\$0.00	\$62.27
5	80	\$39.35	\$9.70	\$18.14	\$0.00	\$67.19

**Effective Date - 09/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.08	\$9.70	\$7.50	\$0.00	\$37.28
2	45	\$22.59	\$9.70	\$18.14	\$0.00	\$50.43
3	60	\$30.11	\$9.70	\$18.14	\$0.00	\$57.95
4	70	\$35.13	\$9.70	\$18.14	\$0.00	\$62.97
5	80	\$40.15	\$9.70	\$18.14	\$0.00	\$67.99

**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:\*\*****PIPELAYER***LABORERS - ZONE 1*

06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PLUMBERS & GASFITTERS	03/01/2016	\$51.36	\$11.07	\$15.14	\$0.00	\$77.57
<i>PLUMBERS &amp; GASFITTERS LOCAL 12</i>	09/01/2016	\$52.41	\$11.07	\$15.14	\$0.00	\$78.62
	03/01/2017	\$53.41	\$11.07	\$15.14	\$0.00	\$79.62

**Apprentice - PLUMBER/GASFITTER - Local 12**

**Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.98	\$11.07	\$5.63	\$0.00	\$34.68
2	40	\$20.54	\$11.07	\$6.37	\$0.00	\$37.98
3	55	\$28.25	\$11.07	\$8.56	\$0.00	\$47.88
4	65	\$33.38	\$11.07	\$10.03	\$0.00	\$54.48
5	75	\$38.52	\$11.07	\$11.48	\$0.00	\$61.07

**Effective Date - 09/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.34	\$11.07	\$5.63	\$0.00	\$35.04
2	40	\$20.96	\$11.07	\$6.36	\$0.00	\$38.39
3	55	\$28.83	\$11.07	\$8.55	\$0.00	\$48.45
4	65	\$34.07	\$11.07	\$10.02	\$0.00	\$55.16
5	75	\$39.31	\$11.07	\$11.48	\$0.00	\$61.86

**Notes:**

\*\* 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr  
Step4 with lic\$57.78 Step5 with lic\$64.37

**Apprentice to Journeyworker Ratio:\*\***

PNEUMATIC CONTROLS (TEMP.)	03/01/2016	\$49.19	\$9.70	\$18.14	\$0.00	\$77.03
<i>PIPEFITTERS LOCAL 537</i>	09/01/2016	\$50.19	\$9.70	\$18.14	\$0.00	\$78.03
	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
<i>LABORERS - ZONE 1</i>	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER	06/01/2016	\$36.85	\$7.45	\$13.80	\$0.00	\$58.10
<i>LABORERS - ZONE 1</i>	12/01/2016	\$37.85	\$7.45	\$13.80	\$0.00	\$59.10
For apprentice rates see "Apprentice- LABORER"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
<i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE)	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
<i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$30.40	\$10.00	\$15.15	\$0.00	\$55.55
	12/01/2016	\$31.27	\$10.00	\$15.15	\$0.00	\$56.42
	06/01/2017	\$31.96	\$10.00	\$15.15	\$0.00	\$57.11
	12/01/2017	\$32.65	\$10.00	\$15.15	\$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>	07/01/2016	\$28.03	\$8.23	\$9.31	\$0.00	\$45.57
	05/01/2017	\$28.18	\$8.23	\$9.72	\$0.00	\$46.13
	07/01/2017	\$28.18	\$8.48	\$9.72	\$0.00	\$46.38
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 25a</i>	07/01/2016	\$31.29	\$8.23	\$9.31	\$0.00	\$48.83
	05/01/2017	\$31.44	\$8.23	\$9.72	\$0.00	\$49.39
	07/01/2017	\$31.44	\$8.48	\$9.72	\$0.00	\$49.64
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 1 (Residential Wood)</i>	04/01/2011	\$37.25	\$8.67	\$15.51	\$0.00	\$61.43
RESIDENTIAL WOOD FRAME CARPENTER ** ** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. <i>CARPENTERS -ZONE 1 (Residential Wood)</i> As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.	05/01/2011	\$27.49	\$6.34	\$6.23	\$0.00	\$40.06

**Apprentice - CARPENTER (Residential Wood Frame) - Zone 1**

**Effective Date -** 05/01/2011

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$16.49	\$6.34	\$0.00	\$0.00	\$22.83
2	60	\$16.49	\$6.34	\$6.23	\$0.00	\$29.06
3	65	\$17.87	\$6.34	\$6.23	\$0.00	\$30.44
4	70	\$19.24	\$6.34	\$6.23	\$0.00	\$31.81
5	75	\$20.62	\$6.34	\$6.23	\$0.00	\$33.19
6	80	\$21.99	\$6.34	\$6.23	\$0.00	\$34.56
7	85	\$23.37	\$6.34	\$6.23	\$0.00	\$35.94
8	90	\$24.74	\$6.34	\$6.23	\$0.00	\$37.31

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) <i>ROOFERS LOCAL 33</i>	02/01/2016	\$40.11	\$11.00	\$12.90	\$0.00	\$64.01

**Apprentice - ROOFER - Local 33**

**Effective Date -** 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.06	\$11.00	\$3.39	\$0.00	\$34.45
2	60	\$24.07	\$11.00	\$12.90	\$0.00	\$47.97
3	65	\$26.07	\$11.00	\$12.90	\$0.00	\$49.97
4	75	\$30.08	\$11.00	\$12.90	\$0.00	\$53.98
5	85	\$34.09	\$11.00	\$12.90	\$0.00	\$57.99

**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.

**Apprentice to Journeyworker Ratio:\*\***

ROOFER SLATE / TILE / PRECAST CONCRETE <i>ROOFERS LOCAL 33</i>	02/01/2016	\$40.36	\$11.00	\$12.90	\$0.00	\$64.26
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2016	\$43.31	\$10.70	\$21.95	\$2.28	\$78.24
	08/01/2016	\$44.46	\$10.70	\$21.95	\$2.28	\$79.39
	02/01/2017	\$45.56	\$10.70	\$21.95	\$2.28	\$80.49
	08/01/2017	\$46.66	\$10.70	\$21.95	\$2.28	\$81.59
	02/01/2018	\$47.81	\$10.70	\$21.95	\$2.28	\$82.74

**Classification**

Effective Date    Base Wage    Health    Pension    Supplemental  
Unemployment    Total Rate

**Apprentice - SHEET METAL WORKER - Local 17-A**
**Effective Date - 02/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.32	\$10.70	\$4.90	\$0.00	\$32.92
2	40	\$17.32	\$10.70	\$4.90	\$0.00	\$32.92
3	45	\$19.49	\$10.70	\$9.79	\$1.20	\$41.18
4	45	\$19.49	\$10.70	\$9.79	\$1.20	\$41.18
5	50	\$21.66	\$10.70	\$10.65	\$1.29	\$44.30
6	50	\$21.66	\$10.70	\$10.90	\$1.30	\$44.56
7	60	\$25.99	\$10.70	\$12.37	\$1.47	\$50.53
8	65	\$28.15	\$10.70	\$13.24	\$1.56	\$53.65
9	75	\$32.48	\$10.70	\$14.97	\$1.74	\$59.89
10	85	\$36.81	\$10.70	\$16.18	\$1.91	\$65.60

**Effective Date - 08/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.78	\$10.70	\$4.90	\$0.00	\$33.38
2	40	\$17.78	\$10.70	\$4.90	\$0.00	\$33.38
3	45	\$20.01	\$10.70	\$9.79	\$1.22	\$41.72
4	45	\$20.01	\$10.70	\$9.79	\$1.22	\$41.72
5	50	\$22.23	\$10.70	\$10.65	\$1.31	\$44.89
6	50	\$22.23	\$10.70	\$10.90	\$1.31	\$45.14
7	60	\$26.68	\$10.70	\$12.37	\$1.49	\$51.24
8	65	\$28.90	\$10.70	\$13.24	\$1.59	\$54.43
9	75	\$33.35	\$10.70	\$14.97	\$1.77	\$60.79
10	85	\$37.79	\$10.70	\$16.18	\$1.94	\$66.61

**Notes:**

Steps are 6 mos.

**Apprentice to Journeyworker Ratio:1:4**
**SIGN ERECTOR**
*PAINTERS LOCAL 35 - ZONE 1*

06/01/2013    \$25.81    \$7.07    \$7.05    \$0.00    \$39.93

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - SIGN ERECTOR - Local 35 Zone 1**
**Effective Date - 06/01/2013**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$12.91	\$7.07	\$0.00	\$0.00	\$19.98
2	55	\$14.20	\$7.07	\$2.45	\$0.00	\$23.72
3	60	\$15.49	\$7.07	\$2.45	\$0.00	\$25.01
4	65	\$16.78	\$7.07	\$2.45	\$0.00	\$26.30
5	70	\$18.07	\$7.07	\$7.05	\$0.00	\$32.19
6	75	\$19.36	\$7.07	\$7.05	\$0.00	\$33.48
7	80	\$20.65	\$7.07	\$7.05	\$0.00	\$34.77
8	85	\$21.94	\$7.07	\$7.05	\$0.00	\$36.06
9	90	\$23.23	\$7.07	\$7.05	\$0.00	\$37.35

**Notes:**

Steps are 4 mos.

**Apprentice to Journeyworker Ratio:1:1**

<b>SPECIALIZED EARTH MOVING EQUIP &lt; 35 TONS</b> <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	06/01/2016	\$33.54	\$10.41	\$10.08	\$0.00	\$54.03
	08/01/2016	\$33.54	\$10.91	\$10.08	\$0.00	\$54.53
	12/01/2016	\$33.54	\$10.91	\$10.89	\$0.00	\$55.34
<b>SPECIALIZED EARTH MOVING EQUIP &gt; 35 TONS</b> <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	06/01/2016	\$33.83	\$10.41	\$10.08	\$0.00	\$54.32
	08/01/2016	\$33.83	\$10.91	\$10.08	\$0.00	\$54.82
	12/01/2016	\$33.83	\$10.91	\$10.89	\$0.00	\$55.63
<b>SPRINKLER FITTER</b> <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	03/01/2016	\$54.43	\$8.67	\$16.80	\$0.00	\$79.90
	10/01/2016	\$55.53	\$8.67	\$16.80	\$0.00	\$81.00
	03/01/2017	\$56.53	\$8.67	\$16.80	\$0.00	\$82.00

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1**
**Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.05	\$8.67	\$8.55	\$0.00	\$36.27
2	40	\$21.77	\$8.67	\$8.55	\$0.00	\$38.99
3	45	\$24.49	\$8.67	\$8.55	\$0.00	\$41.71
4	50	\$27.22	\$8.67	\$8.55	\$0.00	\$44.44
5	55	\$29.94	\$8.67	\$8.55	\$0.00	\$47.16
6	60	\$32.66	\$8.67	\$8.55	\$0.00	\$49.88
7	65	\$35.38	\$8.67	\$8.55	\$0.00	\$52.60
8	70	\$38.10	\$8.67	\$8.55	\$0.00	\$55.32
9	75	\$40.82	\$8.67	\$8.55	\$0.00	\$58.04
10	80	\$43.54	\$8.67	\$8.55	\$0.00	\$60.76

**Effective Date - 10/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.44	\$8.67	\$8.55	\$0.00	\$36.66
2	40	\$22.21	\$8.67	\$8.55	\$0.00	\$39.43
3	45	\$24.99	\$8.67	\$8.55	\$0.00	\$42.21
4	50	\$27.77	\$8.67	\$8.55	\$0.00	\$44.99
5	55	\$30.54	\$8.67	\$8.55	\$0.00	\$47.76
6	60	\$33.32	\$8.67	\$8.55	\$0.00	\$50.54
7	65	\$36.09	\$8.67	\$8.55	\$0.00	\$53.31
8	70	\$38.87	\$8.67	\$8.55	\$0.00	\$56.09
9	75	\$41.65	\$8.67	\$8.55	\$0.00	\$58.87
10	80	\$44.42	\$8.67	\$8.55	\$0.00	\$61.64

Notes: Apprentice entered prior 9/30/10:  
40/45/50/55/60/65/70/75/80/85  
Steps are 850 hours

**Apprentice to Journeyworker Ratio:1:3**

STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

**Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103****Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.85	\$13.00	\$0.42	\$0.00	\$27.27
2	40	\$13.85	\$13.00	\$0.42	\$0.00	\$27.27
3	45	\$15.58	\$13.00	\$11.52	\$0.00	\$40.10
4	45	\$15.58	\$13.00	\$11.52	\$0.00	\$40.10
5	50	\$17.32	\$13.00	\$11.79	\$0.00	\$42.11
6	55	\$19.05	\$13.00	\$12.06	\$0.00	\$44.11
7	60	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
8	65	\$22.51	\$13.00	\$12.62	\$0.00	\$48.13
9	70	\$24.24	\$13.00	\$12.90	\$0.00	\$50.14
10	75	\$25.97	\$13.00	\$13.17	\$0.00	\$52.14

**Notes:****Apprentice to Journeyworker Ratio:1:1****TERRAZZO FINISHERS***BRICKLAYERS LOCAL 3 - MARBLE & TILE*

02/01/2016	\$48.80	\$10.18	\$19.14	\$0.00	\$78.12
08/01/2016	\$49.70	\$10.18	\$19.22	\$0.00	\$79.10
02/01/2017	\$50.27	\$10.18	\$19.22	\$0.00	\$79.67

**Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile****Effective Date - 02/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.40	\$10.18	\$19.14	\$0.00	\$53.72
2	60	\$29.28	\$10.18	\$19.14	\$0.00	\$58.60
3	70	\$34.16	\$10.18	\$19.14	\$0.00	\$63.48
4	80	\$39.04	\$10.18	\$19.14	\$0.00	\$68.36
5	90	\$43.92	\$10.18	\$19.14	\$0.00	\$73.24

**Effective Date - 08/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.85	\$10.18	\$19.22	\$0.00	\$54.25
2	60	\$29.82	\$10.18	\$19.22	\$0.00	\$59.22
3	70	\$34.79	\$10.18	\$19.22	\$0.00	\$64.19
4	80	\$39.76	\$10.18	\$19.22	\$0.00	\$69.16
5	90	\$44.73	\$10.18	\$19.22	\$0.00	\$74.13

**Notes:****Apprentice to Journeyworker Ratio:1:3**



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$37.20	\$7.45	\$14.00	\$0.00	\$58.65
For apprentice rates see "Apprentice- LABORER"	12/01/2016	\$38.20	\$7.45	\$14.00	\$0.00	\$59.65
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$35.92	\$7.45	\$14.00	\$0.00	\$57.37
For apprentice rates see "Apprentice- LABORER"	12/01/2016	\$36.92	\$7.45	\$14.00	\$0.00	\$58.37
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2016	\$35.80	\$7.45	\$14.00	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"	12/01/2016	\$36.80	\$7.45	\$14.00	\$0.00	\$58.25
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$43.81	\$10.00	\$15.15	\$0.00	\$68.96
	12/01/2016	\$45.04	\$10.00	\$15.15	\$0.00	\$70.19
	06/01/2017	\$46.03	\$10.00	\$15.15	\$0.00	\$71.18
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2017	\$47.02	\$10.00	\$15.15	\$0.00	\$72.17
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	06/01/2016	\$34.12	\$10.41	\$10.08	\$0.00	\$54.61
	08/01/2016	\$34.12	\$10.91	\$10.08	\$0.00	\$55.11
	12/01/2016	\$34.12	\$10.91	\$10.89	\$0.00	\$55.92
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2016	\$48.08	\$7.45	\$14.40	\$0.00	\$69.93
For apprentice rates see "Apprentice- LABORER"	12/01/2016	\$49.08	\$7.45	\$14.40	\$0.00	\$70.93
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2016	\$50.08	\$7.45	\$14.40	\$0.00	\$71.93
For apprentice rates see "Apprentice- LABORER"	12/01/2016	\$51.08	\$7.45	\$14.40	\$0.00	\$72.93
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2016	\$40.15	\$7.45	\$14.40	\$0.00	\$62.00
For apprentice rates see "Apprentice- LABORER"	12/01/2016	\$41.15	\$7.45	\$14.40	\$0.00	\$63.00
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2016	\$42.15	\$7.45	\$14.40	\$0.00	\$64.00
For apprentice rates see "Apprentice- LABORER"	12/01/2016	\$43.15	\$7.45	\$14.40	\$0.00	\$65.00
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	06/01/2016	\$33.54	\$10.41	\$10.08	\$0.00	\$54.03
	08/01/2016	\$33.54	\$10.91	\$10.08	\$0.00	\$54.53
	12/01/2016	\$33.54	\$10.91	\$10.89	\$0.00	\$55.34
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2016	\$36.10	\$7.45	\$13.80	\$0.00	\$57.35
For apprentice rates see "Apprentice- LABORER"	12/01/2016	\$37.10	\$7.45	\$13.80	\$0.00	\$58.35
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2016	\$44.23	\$10.00	\$15.15	\$0.00	\$69.38
	12/01/2016	\$45.48	\$10.00	\$15.15	\$0.00	\$70.63
	06/01/2017	\$46.48	\$10.00	\$15.15	\$0.00	\$71.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2017	\$47.48	\$10.00	\$15.15	\$0.00	\$72.63
WATER METER INSTALLER <i>PLUMBERS &amp; GASFITTERS LOCAL 12</i>	03/01/2016	\$51.36	\$11.07	\$15.14	\$0.00	\$77.57
	09/01/2016	\$52.41	\$11.07	\$15.14	\$0.00	\$78.62
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"	03/01/2017	\$53.41	\$11.07	\$15.14	\$0.00	\$79.62
<b>Outside Electrical - East</b>						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$26.11	\$7.25	\$1.78	\$0.00	\$35.14
	08/28/2016	\$26.61	\$7.50	\$1.80	\$0.00	\$35.91
	09/03/2017	\$27.14	\$7.75	\$1.81	\$0.00	\$36.70

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2015	\$36.98	\$7.25	\$8.12	\$0.00	\$52.35
	08/28/2016	\$37.70	\$7.50	\$8.87	\$0.00	\$54.07
	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>	08/30/2015	\$30.46	\$7.25	\$8.34	\$0.00	\$46.05
	08/28/2016	\$31.05	\$7.50	\$8.89	\$0.00	\$47.44
	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>	08/30/2015	\$23.93	\$7.25	\$1.72	\$0.00	\$32.90
	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	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>	08/30/2015	\$36.98	\$7.25	\$12.29	\$0.00	\$56.52
	08/28/2016	\$37.70	\$7.50	\$12.95	\$0.00	\$58.15
	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>	08/30/2015	\$32.63	\$7.25	\$9.05	\$0.00	\$48.93
	08/28/2016	\$33.26	\$7.50	\$9.63	\$0.00	\$50.39
	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>	08/30/2015	\$23.93	\$7.25	\$1.72	\$0.00	\$32.90
	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	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>	08/30/2015	\$19.58	\$7.25	\$1.59	\$0.00	\$28.42
	08/28/2016	\$19.96	\$7.50	\$1.60	\$0.00	\$29.06
	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>	08/30/2015	\$43.51	\$7.25	\$15.06	\$0.00	\$65.82
	08/28/2016	\$44.35	\$7.50	\$15.83	\$0.00	\$67.68
	09/03/2017	\$45.23	\$7.75	\$16.61	\$0.00	\$69.59

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - LINEMAN (Outside Electrical) - East Local 104**
**Effective Date - 08/30/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.11	\$7.25	\$3.28	\$0.00	\$36.64
2	65	\$28.28	\$7.25	\$3.35	\$0.00	\$38.88
3	70	\$30.46	\$7.25	\$3.41	\$0.00	\$41.12
4	75	\$32.63	\$7.25	\$4.98	\$0.00	\$44.86
5	80	\$34.81	\$7.25	\$5.04	\$0.00	\$47.10
6	85	\$36.98	\$7.25	\$5.11	\$0.00	\$49.34
7	90	\$39.16	\$7.25	\$7.17	\$0.00	\$53.58

**Effective Date - 08/28/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.61	\$7.50	\$3.30	\$0.00	\$37.41
2	65	\$28.83	\$7.50	\$3.36	\$0.00	\$39.69
3	70	\$31.05	\$7.50	\$3.43	\$0.00	\$41.98
4	75	\$33.26	\$7.50	\$5.00	\$0.00	\$45.76
5	80	\$35.48	\$7.50	\$5.06	\$0.00	\$48.04
6	85	\$37.70	\$7.50	\$5.13	\$0.00	\$50.33
7	90	\$39.92	\$7.50	\$7.20	\$0.00	\$54.62

**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.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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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.

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

**AGREEMENT NAME:** @@@@

### Project Information

Approved version 7-13-16

**Section 1: CONTRACT DOCUMENTS**

The Contract Documents consist of this Agreement; the General Conditions; 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; Supplementary Conditions; Addenda issued prior to execution of this Contract; Modifications agreed to in writing after the execution of this Contract; 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. The following Appendices are hereby incorporated by reference as part of this Agreement.

Appendix Location	Appendix Description	X if Applicable; If No X Not Applicable
Appendix A	Scope of Work – Includes Plans, Technical Specifications, and Addenda Issued During the Bid Process (Incorporated by reference)	X
Appendix B	Contractor's Bid Price; Form for General Bid	X
Appendix C	Certificate of Authority	
	Insurance Requirements and Contractor's Insurance Certificate(s)	
	Procurement Documentation (Advertisement, Central Register, Non-Collusion and Tax Compliance, etc.)	
	Living Wage Notice for Contracts (over \$10,000; if applicable)	
	Certificate of Good Standing (over \$35,000, only applicable to Corporations)	
	Statement of Management (over \$100,000.00; if applicable)	
	OSHA Certification	
	Responsible Employer Ordinance Certification (over \$100,000; if applicable)	
	Federal Requirements: Form 1040 (if applicable); Section 3, Preference in Hiring (over \$100,000; if applicable)	
	Wage Rates and Certification Forms (Davis/Bacon and/or Prevailing) (federally funded over \$2,000; state or local funded over \$0)	
	Payment Bond (over \$2,000; if applicable)	
	Performance Bond (over \$2,000; if applicable)	
Appendix D	General Conditions	X

**Section 2: THE WORK**

The Contractor shall execute all work described in the Contract Documents, except to the extent that such work is specifically indicated in the Contract Documents to be the responsibility of others. In accordance with Chapter 30, section 39I of the General Laws, the contractor shall perform all of work in conformity with the plans and specifications included herein as Appendix A. No willful or substantial deviation from such plans and specifications shall be made unless authorized in writing by the Commissioner of Public Works, which authorization shall be confirmed by written change order within thirty days.

**Section 3: PROJECT DATES****(a) Contract Period:**

The Contract shall begin on the first date of the Contract Period as stated on the first page of this contract.

**(b) Progress Schedule:**

The Contractor shall submit a Progress Schedule along with a draw down schedule, which shall be subject to the approval of the City, no later than 10 days after contract execution and shall adhere to the Progress Schedule throughout execution of the Work.

**(c) Date of Commencement of Work:**

The Date of Commencement of the Work shall be stipulated by a written Notice to Proceed given by the City to the Contractor.

**(d) Substantial Completion/Final Completion:**

The Contractor shall achieve Substantial Completion of the Work on or before the Date of Substantial Completion as stated on first page of this Agreement, time being of the essence. 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. The Date of Final Completion of the Work shall be the Date of Final Completion as stated on first page this Agreement.

**(e) Liquidated Damages.** The Contractor and the Contractor's surety shall be liable for and shall pay the City the sum, per calendar day, as stated on the first page of the Agreement, as Liquidated Damages, for each calendar day of delay until the work is substantially completed or, in the case of the portion of the work, for each calendar day of delay until the portion of the work is substantially completed.

- (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 DPW 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);

**Section 4. CONTRACT SUM**

The contract sum shall be as stated on the first page of this Agreement. The contract sum may be increased or decreased by change order, as quantities which have been estimated in the bid documents become known, or as other additions or deletions to the work are made, or if the work is interrupted or suspended by the City, all as set forth here in.

**Section 5. PREVAILING WAGE REQUIREMENTS**

(a) The Contractor shall pay wages at no less than the wage rates as stated on the first page of this Agreement and as set forth in Appendix C, incorporated as part of this Agreement. Notwithstanding anything to the contrary in Articles of the General Conditions included herein, the City may, in its sole discretion withhold payment from the General Contractor with respect to a given application for 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. Payment by the City on one or more occasions in the absence of the General Contractor's compliance with this section shall not constitute a waiver of the City's right to withhold payment for noncompliance on other occasions.

If a labor classification is not listed, the Contractor shall notify the City and request instructions. In addition, the Contractor shall:

(1) pay wages at least once a week; and  
 (2) The General Contractor shall submit payroll information on a weekly basis in a format approved by City (form attached), numbered in numerical sequence and signed by the Contractor (including forms for weeks when the Contractor is not on the site, in which case there shall be a notation to the effect "no work this payroll period" and a date anticipated for resuming work). The General Contractor shall submit these forms to the Project Manager noted on the cover page of this contract.

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

(1) a list of apprenticeship programs with which the Contractor is affiliated;  
 (2) the number of apprentices on the Project employed by the Contractor;  
 (3) a list of the Contractor's employee fringe benefits;  
 (4) a copy of each project schedule, including the anticipated commencement date for each Subcontractor; and  
 (5) a list of each Subcontractor's suppliers and materialmen.

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

(d) Notwithstanding anything to the contrary in Articles 5 and 13 of the General Conditions included herein as Appendix C, the City may, in its sole discretion withhold payment from the Contractor with respect to a given application for 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. Payment by the City on one or more occasions in the absence of the Contractor's compliance with this section shall not constitute a waiver of the City's right to withhold payment for noncompliance on other occasions.

**Section 6. CONTRACTOR'S CERTIFICATIONS**

(a) That if this Contract is in excess of \$100,000 and is federally funded, the Contractor will abide by the Byrd Anti-Lobbying Amendment (31 U.S.C.1352), and more specifically:

(1) That no federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress, in connection with the awarding of this Federal contract and the extension, continuation, renewal, amendment, or modification of this Federal contract; and

(2) That if any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, the Contractor will complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions; and

(3) That the Contractor will include the language of this certification in all subcontracts, and that all subcontractors shall certify and disclose accordingly.

THIS CERTIFICATION IS A MATERIAL REPRESENTATION OF FACT UPON WHICH RELIANCE WAS PLACED WHEN THIS THE AWARD OF THIS CONTRACT WAS MADE. ANY PERSON WHO FAILS TO FILE THE REQUIRED CERTIFICATION SHALL BE SUBJECT TO A CIVIL PENALTY OF NOT LESS THAN \$10,000 AND NOT MORE THAN \$100,000 FOR EACH FAILURE.

(b) Drug-Free Workplace Act of 1988 (42 U.S.C. 701):

That, if this Contract is federally funded, the Contractor will provide a drug-free workplace and comply with the HUD rules contained in 24 CFR part 24M, including notification to employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited; that action will be taken against employees violating the prohibition; and that an employee who is convicted of manufacturing, distributing, dispensing, possession, or use of a controlled substance may be terminated or required to participate in a drug abuse assistance or rehabilitation program approved for such purpose by a Federal, State, or local health, law enforcement, or other appropriate agency.

(c) Debarment and Suspension: That the Contractor is a duly licensed general contractor, and

(1) That neither the Contractor nor any of its principal employees are on the General Services Administration's List of Parties Excluded from Federal Procurement or Nonprocurement Programs [E.O. 12549 and E.O. 12689 at 24 CFR part 24, applicable to contracts exceeding the small purchase threshold of fixed by 41 U.S.C. 403 (11) ]; and  
 (2) That the Contractor has not been debarred or suspended by any state agency or city or town in the Commonwealth of Massachusetts.

(e) Noncollusion: That the bid upon which this Contract was based was made without collusion or fraud with any other person and was in all respects bona fide and fair. As used in this paragraph, the word "person" shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.

(f) Tax Compliance: That the Contractor is in full compliance with all federal and state laws relating to income taxes, and has paid all real estate and personal property/excise taxes, water charges, fines and other municipal lien charges due to the City of Somerville, and the Contractor's Federal Tax Identification Number is as noted on the first page of this agreement .

**Section 7 NON-APPLICABILITY OF FEDERAL REQUIREMENTS**

If the funding source, as noted on the first page of the Agreement, does not note any federal funding (partial or full), it means that this Agreement has not been funded with federal funds and the obligations and requirements under federal law which are set forth in this Agreement do not apply.



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SAMPLE CONTRACT

IN WITNESS WHEREOF, the City and the Contractor have executed this Contract as a sealed instrument on			
	Pick D.	January,	Pick Year
this, the	day of		

Pick Year

CONTRACTOR

x

Contractor Signature (Duly Authorized):

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

CITY

City Auditor's Encumbrance Statement

I hereby certify that the total contract amount is \$\_\_\_\_\_ and that an unencumbered balance of \$\_\_\_\_\_ is available for the current fiscal year of this contract. I further certify that a sum of \$\_\_\_\_\_ is hereby encumbered against the appropriate account for the purposes of this contract and as funds become available, I will encumber additional sums as are required under this contract.

\$\_\_\_\_\_ is hereby encumbered against the appropriate account for the purposes of this contract and as funds become available, I will encumber additional sums as are required under this contract.

x

ONLINE

Edward Bean, City Auditor
x

Joseph A. Curtatone, Mayor

Angela M. Allen, Purchasing Director
x

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SAMPLE CONTRACT

**Appendix A**  
*Plans, Technical Specifications, and Addenda*  
*(Incorporated by Reference)*

SAMPLE CONTRACT

**Appendix B**  
*CONTRACTOR'S BID PRICE*  
Form for General Bid  
Bid Form For Alternates (if applicable)  
Unit Price Form (if applicable)  
Schedule of Values (if applicable)

The Contractor shall periodically submit invoices to the City, for which compensation is due under this Contract and requesting payment for goods received or services rendered by the Contractor during the period covered by the invoice. The invoice must agree to the rates/payment schedule as indicated in this contract and must include the applicable Purchase Order number. The invoice shall include the following information: Contractor name, Contractor remit address, invoice date, invoice number, itemized listing of goods, services, labor, and expenses and indicating the total amount due.

SAMPLE CONTRACT

**Appendix C**  
*Forms*

SAMPLE CONTRACT

**Appendix D**  
*General Conditions*

SAMPLE CONTRACT

**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: Agreement between the City of Somerville and the Contractor, 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, 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. We usually put a contract end date that is beyond the date of 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. For the purposes of this project, **Design Professional** shall mean the firm of Weston & Sampson and appropriate consultants.

**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 purposes 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 be 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/or 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's Law Department** 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 performance bond 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, §39O, 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, §39O*). (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 include 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 CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) 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 of 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) more fully set forth in Appendix G attached hereto, 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**

**CROSS STREET  
SENIOR CENTER  
RENOVATIONS**

**SOMERVILLE, MASSACHUSETTS**

**CITY OF SOMERVILLE**

Capital Projects and Planning Department  
1 Franey Road  
Somerville, MA, 02145

July 29, 2016

Prepared by:

**CBI Consulting Inc.**

250 Dorchester Avenue  
Boston, Massachusetts 02127  
(617) 268-8977  
Fax (617) 464-2971

**CBI FILE NUMBER 15036-C**

CITY OF SOMERVILLE  
CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
CBI JOB NO.:15036-C

CBI Consulting Inc.  
Boston, Massachusetts  
Tel: (617) 268-8977  
Fax: (617) 464-2971

**SECTION 00 01 01**

**PROJECT TITLE PAGE**

**END OF SECTION**

## **SECTION 00 01 10**

### **TABLE OF CONTENTS**

#### **SECTIONS**

##### **DIVISION 00 -- PROCUREMENT AND CONTRACTING REQUIREMENTS**

- A. 00 01 01 - Project Title Page
- 00 01 10 - Table of Contents
- 00 01 15 - List of Drawing Sheets
- 00 30 00 - Form For General Bid

#### **TECHNICAL SPECIFICATIONS**

##### **DIVISION 01 -- GENERAL REQUIREMENTS**

- 01 10 00 - Summary of Work
- 01 20 00 - Price and Payment Procedures
- 01 23 00 - Alternates
- 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**

- For Site Preparation and Earthwork, see Division 31
- 02 41 00 - Selective Demolition

##### **DIVISION 05 -- METALS**

- 05 50 00 - Metal Fabrications
- 05 52 13 - Pipe and Tube Railings

##### **DIVISION 06 -- WOOD, PLASTICS, AND COMPOSITES**

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

##### **DIVISION 07 -- THERMAL AND MOISTURE PROTECTION**

- 07 21 00 - Thermal Insulation



- 07 31 13 - Asphalt Shingles
- 07 53 23 - Ethylene-Propylene-Diene-Monomer Roofing (EPDM)
- 07 62 00 - Sheet Metal Flashing and Trim
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- 08 71 00 - Door Hardware
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DIVISION 09 -- FINISHES

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- 09 30 00 - Tiling
- 09 51 00 - Acoustical Ceilings
- 09 65 00 - Resilient Flooring
- 09 91 13 - Exterior Painting
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- 10 21 13.19 - Plastic Toilet Compartments
- 10 26 01 - Wall Covering and Corner Guards
- 10 28 00 - Toilet, Bath, and Laundry Accessories

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- 12 36 00 - Countertops

DIVISION 22 -- PLUMBING

- 22 00 00 - Plumbing

DIVISION 23 -- HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

- 23 01 30.51 - Heating, Ventilating and Air Conditioning

DIVISION 26 -- ELECTRICAL

- 26 00 00 - Electrical

DIVISION 31 -- EARTHWORK

- 31 23 16 - Excavation

DIVISION 32 -- EXTERIOR IMPROVEMENTS

CITY OF SOMERVILLE  
CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
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Boston, Massachusetts  
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Fax: (617) 464-2971

- 32 11 23 - Aggregate Base Courses
- 32 12 16 - Asphalt Paving
- 32 13 13 - Concrete Paving
- 32 14 13 - Precast Concrete Unit Paving

**END OF SECTION**

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Boston, Massachusetts  
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Fax: (617) 464-2971

**SECTION 00 01 15**

**LIST OF DRAWING SHEETS**

**END OF SECTION**

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Fax: (617) 464-2971

**SECTION 00 85 10**

**DRAWING LIST**

## **DRAWINGS (ALL DRAWINGS ARE 24" X 36")**

### **ARCHITECTURAL**

- G1-01 COVER SHEET
- G1-02 FIRST FLOOR DEMOLITION KEY PLAN AND FIRST FLOOR KEY PLAN
- D1-01 FIRST FLOOR DEMOLITION PLAN AND FLOOR PLAN
- A1-01 RESTROOM DEMOLITION PLAN AND RESTROOM PLAN
- A1-02 RESTROOM ELEVATIONS
- A2-01 RESTROOM ELEVATIONS AND DETAILS
- A4-01 STAIR PLAN, HANDRAILS ELEVATIONS AND DETAILS
- A4-02 SLOPED SIDEWALK PLAN AND ELEVATIONS
- A4-03 SLOPED SIDEWALK SECTIONS AND DETAILS
- A4-04 DOOR DETAILS
- A5-01 STAIR PLAN, HANDRAIL ELEVATIONS AND DETAILS
- A5-02 SLOPED SIDEWALK PLANS, ELEVATIONS AND DETAILS
- A5-03 SLOPED SIDEWALK SECTIONS AND DETAILS
- A5-04 ENTRY DOOR ELEVATIONS AND SECTIONS
- A5-05 ROOF DETAILS AND SECTIONS
- A6-01 FINISH AND DOOR SCHEDULE

### **STRUCTURAL**

- S1-01 ROOF FRAMING PLAN AND DETAILS

### **PLUMBING**

- P001 PLUMBING LEGEND NOTES & SCHEDULES
- P100 PLUMBING RESTROOMS RENOVATION PLAN
- P101 PLUMBING RESTROOM RENOVATION PLAN
- P102 PLUMBING FOOD PREP RENOVATION PLAN
- P103 PLUMBING FOOD PREP RENOVATION PLAN

### **HVAC**

CITY OF SOMERVILLE  
CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
CBI JOB NO.:15036-C

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Boston, Massachusetts  
Tel: (617) 268-8977  
Fax: (617) 464-2971

H100 HVAC PART PLANS, LEGEND, SCHEDULE & DETAILS

H101 HVAC FIRST FLOOR PLANS

## **ELECTRICAL**

E0-01 LEGEND AND NOTES

E1-01 FIRST FLOOR BATHROOM PLANS AND FOOD PANTRY PLANS

**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: Cross Street Senior Center Renovations.
- B. Project Location:
  - 1. 165 Broadway Street  
Somerville, MA 02145
- C. Owner's Name: City of Somerville.
- D. Architect's Name: CBI Consulting Inc..
- E. In general, the Project consists of Renovations to the Women's Restroom, installation of new stair handrails at the main stair, Renovation of exterior walkways and installation of eloped sidewalk curbs, interior walls and doors, build out of the one story space at the back of the two story building into a food pantry, roof repair of the one story roof, the installation of an exterior freezer pad, and a new door at the second story fire escape.

##### **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 Renovation 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 Renovation 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 Senior Center will be occupied for the duration of the project by the Administration and visitors, the public.
- 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. Cross Street Renovations to include:
      - 1) Front Entry
        - (a) Replacement of exterior door and hardware.
        - (b) Construction of concrete curbs and sloped walks.
        - (c) Installation of salvaged concrete pavers.
      - 2) Stair
        - (a) Installation of interior steel pipe handrails.
      - 3) Restrooms
        - (a) Women's room base-Contract.
        - (1) Construction and modification to interior partitions, finishes, vanity, accessories, plumbing, electrical and HVAC.
        - (2) Replacement of door, frame and hardware.
        - (b) Men's Room - ADD ALTERNATE #1
          - (1) Construction and modification to interior partitions, finishes, vanity, accessories, plumbing, electrical and HVAC.
          - (2) Replacement of door, frame and hardware.
          - (c) Similar work in men's room as ADD ALTERNATE #1
      - 4) Food Pantry
        - (a) Replacement of exterior doors, first floor door from Senior Center to Food Pantry and second floor fire escape door, and all hardware.
        - (b) Construction of concrete curbs and sloped walk and bollards.

## SUMMARY OF WORK



- (c) Installation of interior concrete wheelchair ramp and pad with steel pipe handrails at accessible entrance door.
- (d) Construction and modification to interior partitions.
- (e) Repairs to existing one story roof.
- (f) Installation of a stainless steel sink.
- (g) Construction and modification of thermal envelope at existing masonry walls.
- (h) Installation of exterior freezer on concrete pad.

- 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.
- D. Owner intends to use second floor spaces during construction, fire escape service must remain intact throughout construction.

#### 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 building 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.
- 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. Provide protected cover over all exterior doors. Provide temporary support of fire escape during construction.
  - 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 the work to the hours of 8:00 a.m. to 4:00 p.m., Monday through Friday.

### SUMMARY OF WORK

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.

SUMMARY OF WORK

- 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

### SUMMARY OF WORK

CITY OF SOMERVILLE  
CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
CBI JOB NO.:15036-C

CBI Consulting Inc.  
Boston, Massachusetts  
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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**

## **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.

### **PRICE AND PAYMENT**

### **PROCEDURES**

- 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 six (6) 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.

#### PRICE AND PAYMENT

#### PROCEDURES

- 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**



## **SECTION 01 23 00**

### **ALTERNATES**

#### **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 WORK TO BE PERFORMED**

- A. Provide all Alternate work required to complete the work of the contract including all the Alternate work shown in the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing , pinning and finishes. Coordinate the Alternate with all the other trades of the project. Provide all demolition and disposal work to complete the Alternate work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. Is it the General Contractor's responsibility to review all work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA
  - 4. Food Pantry
    - a. NA
- C. Alternate Work:

1. Add Alternate No. 1: Renovation of Men's Restroom, and Men's Restroom Vestibule.
  - a. Construction and modification to interior partitions, finishes, plumbing, electrical and HVAC.
  - b. Replacement of door, frame and hardware.
  - c. Furnish and Install acoustic tiles in existing acoustic tile grid for the Men's Restroom.

1.03 RELATED REQUIREMENTS

- A. Document 00 21 13 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

1.04 ACCEPTANCE OF ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.05 SCHEDULE OF ALTERNATES

- A. Add Alternate No. 1 - Renovation of Men's Restroom and Men's Restroom Vestibule.:
  1. Base Bid Item: Section 02 41 00, 08 14 16, 09 30 00, 09 51 00, 09 65 00, 09 91 23, 10 21 13.9, 10 28 00, 12, 36 00, 22 00 00, 23 00 00, 26 00 00, and Drawing number G1-01 through A6-01 including P001 through P1-3, H100 through H101, and E001 through E100.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

## **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. Submittal procedures.
- I. General Notes
- J. Insurance
- K. Owner's Cooperation.

##### **1.03 RELATED REQUIREMENTS**

- A. Section 01 32 16 - Construction Progress Schedule: Form, content, and administration of schedules.
- B. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.
- C. Section 01 78 00 - Closeout Submittals: Project record documents.

#### 1.04 PROJECT COORDINATION

- A. Cooperate with the Owner and the Owner'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 Senior Center schedules, procedures, and activities.
  - 2. All construction activities and deliveries to the site are to be coordinated with the Owner.
  - 3. Pre-construction meeting shall be held with the Owner's Project Manager, 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.
  - 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. Scheduling
  - 1. The building will be occupied during this project.
    - a. Work in the Senior Center to be substantially complete by October 21, 2016.
    - b. Submit shop drawings accordingly in order to facilitate review by Architect and fabrication of signs to meet phased construction schedule.
- F. Subcontractors
  - 1. Subcontractors are subject to approval by the Owner.
- G. 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 un-reviewed work is covered up without approval, the Contractor shall bear the costs of uncovering it upon request.

H. 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.

I. Coordination of Work

1. Contractor shall coordinate all construction work with the Project Coordinator.
  - 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.

J. 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.

K. 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.

L. Cutting and Patching

1. The work to be performed under this Contract shall include all cutting and patching necessary to accommodate new work.

M. 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's Project Manager.
  2. Architect.
  3. General Contractor.
  4. All File Sub Bidders.
- 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. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures
  5. Designation of personnel representing the parties to Contract, Owner and Architect.
  6. Distribution of Contact Information
  7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  8. Scheduling.
  9. Project Scope.
- D. Architect to record minutes and distribute to Owner, participants, and those affected by decisions made.

### 3.02 PROGRESS MEETINGS

- A. Owner's Project Manager will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- B. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Owner's Project Manager, 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 off-site fabrication and delivery schedules.
  7. Maintenance of progress schedule.
  8. Corrective measures to regain projected schedules.
  9. Planned progress during succeeding work period.
  10. Coordination of projected progress.
  11. Maintenance of quality and work standards.
  12. Effect of proposed changes on progress schedule and coordination.

### ADMINISTRATIVE REQUIREMENTS

13. 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. Completion of site clearing.
2. Excavations in progress.
3. Concrete work in progress and upon completion.
4. 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.
5. Hard Copy: Printed hardcopy (grayscale) of PDF file and point of view sketch.

3.05 DAILY PROGRESS REPORTS

- A. Provide a copy of the daily superintendent report to the Owner's project manager's clerk daily.

### 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 only 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. No action will be taken.

### 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:
  - 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

- A. Shop Drawing Procedures:
  - 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
  - 2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
- B. Transmit each submittal with a copy of approved submittal form.
- C. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- D. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- E. 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.
- F. Deliver submittals to Architect at business address.
- G. Schedule submittals to expedite the Project, and coordinate submission of related items.

- H. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- I. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
- J. Provide space for Contractor and Architect review stamps.
- K. When revised for resubmission, identify all changes made since previous submission.
- L. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

### 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)
- 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.

ADMINISTRATIVE  
REQUIREMENTS

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.
- D. Submittals not requested will not be recognized or processed.

**END OF SECTION**

From:

(Contractor's Company Information)

# SUBMITTAL TRANSMITTAL

To:

CBI Consulting Inc.  
250 Dorchester Ave.  
Boston, MA 02127

Project: \_\_\_\_\_

Contractor's Project #: \_\_\_\_\_

Architect's Project #: \_\_\_\_\_

C.C.: \_\_\_\_\_

Date: \_\_\_\_\_

Submittal Number: \_\_\_\_\_

We are sending for your ☐ Approval ☐ Review the following items:

Specification Number:  -  -  Specification Title: \_\_\_\_\_

Subcontractor/Supplier: \_\_\_\_\_

	Copies:	Date:	Description	Size:
Product Data Sheet				
MSDS Sheets				
Shop Drawings				
Warranties				
Qualifications				
Samples				

Deviations from Contract Documents: \_\_\_\_\_

Designer's Stamp

Notes: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contractor's Stamp

## **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 or width required.
- 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.
- 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, 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 including the effects of changes on schedules of separate contractors.

### 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 shown in schedules.

### **END OF SECTION**



## **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 and procedures.
- 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 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 PROCEDURES

- A. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- B. A request for substitution 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.
  - 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.
  - 5. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.
- C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

### 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 bonded 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**

## **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. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
  - 1. On request, submit documentation verifying accuracy of survey work.
  - 2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.
  - 3. Submit surveys and survey logs for the project record.
- C. 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.
- D. 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.

- B. For survey work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.

#### 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 shown 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. 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 shown.
  - 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 temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- C. Remove protective coverings when no longer needed; reuse or recycle plastic 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. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- E. Clean filters of operating equipment, including faucets.
- F. Clean site; sweep paved areas, rake clean landscaped surfaces.
- G. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.
- H. 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**

## **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**

## **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.

## **CLOSEOUT SUBMITTALS**

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 and Shop 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.

## **CLOSEOUT SUBMITTALS**

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.

CITY OF SOMERVILLE  
CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
CBI JOB NO.:15036-C

CBI Consulting Inc.  
Boston, Massachusetts  
Tel: (617) 268-8977  
Fax: (617) 464-2971

E. Additional Requirements: As specified in individual product specification sections.

**END OF SECTION**

CITY OF SOMERVILLE  
CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
CBI JOB NO.:15036-C

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Fax: (617) 464-2971

**SECTION 02 08 10**

**LEAD PAINT**

**ATC GROUP SERVICES REPORT**

CITY OF SOMERVILLE  
CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
CBI JOB NO.:15036-C

CBI Consulting Inc.  
Boston, Massachusetts  
Tel: (617) 268-8977  
Fax: (617) 464-2971

**END OF SECTION**





**ENVIRONMENTAL • GEOTECHNICAL  
BUILDING SCIENCES • MATERIALS TESTING**

LIMITED ASBESTOS CONTAINING MATERIALS AND LEAD CONTAINING PAINT SURVEY REPORT  
SOMERVILLE SENIOR CENTER  
165 BROADWAY  
SOMERVILLE, MASSACHUSETTS

PREPARED FOR:

CBI CONSULTING, INC.  
250 DORCHESTER AVENUE  
BOSTON, MASSACHUSETTS 02127

PREPARED BY:

ATC GROUP SERVICES  
500 WEST CUMMINGS PARK, SUITE 3750  
WOBURN, MASSACHUSETTS 01801

ATC PROJECT NO: 6000000833

FEBRUARY 5, 2016

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## **1.0 EXECUTIVE SUMMARY**

ATC of Woburn, Massachusetts was retained by CBI to perform an asbestos containing materials and lead containing paint survey of the Food Pantry Room of the Somerville Senior Center, located at 165 Broadway in Somerville, Massachusetts. It is ATC's understanding that this area is scheduled for renovation.

ATC's scope of work included a survey for asbestos containing materials (ACM) and lead containing paint. ATC conducted limited exploratory demolition in representative interior areas throughout the space in an attempt to identify the presence of hidden ACM. Exterior sampling was not conducted as part of this survey.

### **1.1 Asbestos**

Section 2.0 discusses the asbestos-containing materials survey and sampling methodology. This survey involved a visual inspection, bulk sampling and inventory of suspect ACM, including locating and quantifying the identified ACM. In consideration that the building was occupied at the time of the inspection, limited exploratory demolition in representative interior and exterior areas of the stairwells was performed only in discrete locations to the degree feasible to identify the presence of hidden ACM. ATC did not disassemble mechanical equipment or electrical gear that may have suspect ACM internal components. ATC did sample roofing materials as a part of the survey. Sub surface sampling was not conducted as part of this survey.

The asbestos survey was performed by Massachusetts Division of Labor Standards (DLS) certified Asbestos Inspector, Mr. Scott Drinko (AI-000072), on January 21, 2016. A total of sixteen (16) samples of suspect ACM were collected with sixteen (16) analyzed to determine asbestos content. The ATC inspector performed both the visual inspection and bulk sampling in the building according to methods outlined in the U.S. Environmental Protection Agency (EPA) guidance document titled, "Guidance for Controlling Asbestos-Containing Materials in Buildings" (Document No. 560/5-85/024). Please find the ProScience Analytical Services, Inc. Polarized Light Microscopy (PLM) bulk sample results included as Appendix A.

The results of the asbestos survey conducted at the Food Pantry Room located at the Somerville Senior Center indicate that none of the materials sampled contain asbestos.

### **1.2 Lead Determination**

ATC performed a lead paint determination on representative interior painted surfaces of the Food Pantry Room that will be impacted by the proposed renovation project. The lead paint testing was performed via paint chip sampling and analysis.

Results of the lead determination indicate that lead is present on the interior brick walls. Note that contractors performing work at the building where the painted surfaces will be disturbed must comply with the Occupational Safety and Health Administration (OSHA) 29 CFR 1926.62, Lead in Construction. Since the housing complex is not a child occupied facility MADPH lead laws do not apply. Additional waste disposal requirements may apply in accordance with EPA and MA DEP regulations. Table IV, found in Section 3.2 presents the findings of ATC's lead determination.

The cost for renovation of building components coated with lead paint is approximately **10-15%** above the cost for general renovation.

### ***Limitations***

*Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with customary principles and practices in the field of environmental science and engineering. This statement is in lieu of other statements either expressed or implied. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.*

*Environmental evaluations are limited in the sense that conclusions and recommendations are developed and information obtained from limited research and secondary sources. Except as set forth in this report, ATC has made no independent investigations as to the accuracy or completeness of the information derived from the secondary sources and personal interviews and has presumed that such information was accurate and complete.*

*This report is intended for the sole use of CBI Consulting, Inc. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations, is at risk of said user.*

### **CERIFICATION OF RESULTS**

This report has been prepared for the exclusive use of CBI Consulting, Inc. Photocopying of this document by parties other than those designated by the Client, or use of this document for purposes other than it is intended, is prohibited.

Respectfully submitted this 5<sup>th</sup> day of February, 2016

**ATC**



Scott Drinko  
Senior Project Manager  
For ATC Group Services  
Direct Line 1 781 404 1310  
[Scott.Drinko@atcassociates.com](mailto:Scott.Drinko@atcassociates.com)

## **2.0 ASBESTOS CONTAINING MATERIALS SURVEY**

The survey was performed by Massachusetts DLS certified Asbestos Inspector on January 21, 2016. Bulk samples representing individual homogenous areas of suspect materials, were collected in a randomly distributed manner, in accordance with those methods outlined below. Please note that only limited exploratory demolition was performed during this survey.

### **2.1 Sampling Methodology**

Building materials exist in the form of thermal systems insulation (TSI), surfacing materials, and miscellaneous materials. The following generally illustrates the sampling strategy employed by ATC where feasible:

- (a) Surfacing materials - In a randomly distributed manner, collect bulk samples of surfacing materials, representative of each homogeneous area, and not assumed to be ACM.
  - (1) Collect at least three (3) bulk samples from each homogeneous area that is less than or equal to 1,000 ft<sup>2</sup>.
  - (2) Collect at least five (5) bulk samples from each homogeneous area that is greater than 1,000 ft<sup>2</sup>, but less than or equal to 5,000 ft<sup>2</sup>.
  - (3) Collect at least seven (7) bulk samples from each homogeneous area that is greater than 5,000 ft<sup>2</sup>.
- (b) Thermal systems insulation.
  - (1) In a randomly distributed manner, collect at a minimum, three (3) bulk samples of thermal systems insulation material, representative of each homogeneous area, and not assumed to be ACM.
  - (2) Collect, at a minimum, one (1) bulk sample of patched thermal systems insulation, representative of each homogenous area, and not assumed to be ACM, providing the section of patch was less than 6 linear or square feet.
  - (3) Collect, at a minimum, three (3) representative bulk samples of each insulated mechanical system not assumed to be ACM, including, but not limited to cementitious material used on pipe fittings such as tees, elbows, or valves. Representative sampling was conducted in a manner sufficient as to identify whether each homogenous area is either asbestos or non-asbestos containing.
  - (4) Bulk samples are not required to be collected from any homogeneous area where the accredited asbestos inspector has determined that the thermal systems insulation is a non-suspect material (i.e., fiberglass, foam glass, rubber, or any other non-ACM).
- (c) Miscellaneous materials - Collect, at a minimum, two (2) representative bulk sample of each miscellaneous material not assumed to be ACM, including, but not limited to ceiling tiles, floor tiles, associated floor tile mastic, etc. Representative sampling was conducted in a manner sufficient as to identify whether each homogenous area is either asbestos or non-asbestos containing.

## 2.2 Asbestos-Containing Materials

ATC conducted the asbestos survey in representative accessible interior areas of the Food Pantry Room at the Somerville Senior Center located at 165 Broadway in Somerville, Massachusetts. Appropriate efforts were made in representative accessible areas to identify various building materials. ATC performed limited exploratory investigations in representative interior areas to evaluate potential hidden ACM within wall cavities or pipe chases and below flooring materials. ATC did not perform exploratory investigations through brick walls or concrete floors.

Please note that ATC did not disassemble mechanical equipment or electrical gear that may have suspect ACM internal components, or inspect below grade on foundation walls.

The following table presents a list of the materials that were identified as non-ACMs, based on the results of the sampling conducted by ATC as a part of this survey. Also please note that an ACM is defined by the MA DEP as any material or product containing one percent or greater asbestos by weight.

**Table 1: Summary of Non-ACM Materials**  
**Somerville Senior Center**  
**Somerville, MA**

Sample ID	Material	Location(s) Sampled
01A,B	White Drywall	Food Pantry Room
02A,B	Joint Compound associated with White Drywall	
03A,B	Gray Drywall	
04A,B	Joint Compound associated with Gray Drywall	
05A,B	Black Mastic on Fiberglass Insulation	
06A,B	Black Cove Base Mastic	
07A,B	Brick Mortar	
08A,B	Concrete Floor	

## 2.3 Analytical Method

Bulk samples of suspect materials were analyzed by Asbestos Identification Laboratory (AIL) of Woburn, Massachusetts (ProScience) using the EPA approved polarized light microscopy with dispersion staining (PLM/DS) method using the visual estimation technique for asbestos quantification. AIL is fully accredited for bulk sample analysis under the National Voluntary Laboratory Accreditation Program (NVLAP) administered by the National Institute of Standards and Technology and is also licensed by DLS (AA-000208). Bulk samples were analyzed for asbestos content using EPA Method 600/R-93/116. The visual estimation technique was used to quantify asbestos concentrations.

## **2.4 Consideration for Hidden Materials**

Since this survey was generally limited to non-destructive methods, hidden materials may be present in concealed areas that were inaccessible. ATC recommends that if a suspect material has not been positively identified, but is similar in mode of occurrence or physical properties as other ACM, it should be considered asbestos-containing. Any suspect materials uncovered during future renovation/renovation activities, not readily identified as non-asbestos, should be assumed to be asbestos-containing, unless future bulk sampling reveals otherwise.

Please note that only minimal exploratory demolition was performed during this survey.

ATC did not perform exploratory investigations in plenums or through brick walls or concrete floors. In addition, ATC did not disassemble mechanical equipment or electrical gear that may have suspect ACM internal components or inspect below grade on foundation walls. Additional suspect materials may be present in these or other inaccessible areas.

## **2.5 Recommendations**

ATC recommends that this survey report including all bulk sample results and attached lab reports be provided to all renovation contractors that will be performing any work in the building that would impact and/or disturb any of the building materials noted in this report. ATC also recommends that such contractors comply with all federal, state, and local regulations regarding renovation and disposal of the building materials noted in this report.

Any additional suspect asbestos containing materials that may possibly be uncovered during renovation activities should be sampled prior to disturbance of the material. These suspect materials should be assumed asbestos containing until future sampling proves otherwise. Only through further sampling and analysis should a suspect material be identified as non-asbestos.

## **3.0 LEAD PAINT DETERMINATION**

ATC performed a limited lead-containing paint (LCP) determination on representative interior painted surfaces of the Food Pantry Room that are to be impacted by renovation. The lead determination was performed on January 21, 2016 by ATC's Inspector, Mr. Scott Drinko.

### **3.1 Testing Procedures – Paint Chip**

The lead paint testing was performed via paint chip sampling. Paint chip samples were analyzed for lead content by ProScience Analytical Services of Woburn, Massachusetts (ProScience) (AIHA-LAP, LLC Lab ID 102754) utilizing the method "Lead Analysis in Paint SOP Based on SW846-7420/3051".

### **3.2 Summary of Findings**

The following readings are in percent by weight. Readings above the reporting limit have been highlighted.

**Table 2: Lead Paint Testing Results by Paint Chip**  
**Somerville Senior Center**  
**Somerville, MA**

LOCATION	COMPONENT	SUBSTRATE	COLOR	RESULT % BY WEIGHT
Food Pantry Room	Walls	Brick	Blue/Green	0.24
	Ceiling	Drywall	Light Blue	<RL
	Windows/Walls	Wood/Drywall	Yellow	<RL
	Walls	Brick	Red	0.17
	Walls/Doors	Drywall/Wood	White	<RL
	Radiators	Metal	Dark Blue	<RL

RL – Reporting Limit

### 3.3 Regulatory Implications and Regulations

The implications of lead paint existing in a residential building not occupied by children are related to the future use of the facility and the need to impact these painted surfaces during the renovation and renovation process.

The Occupational Safety and Health Administrative (OSHA) does not acknowledge any quantitative threshold for a lead-based paint. Paint with a detectable amount of lead, regardless of the level, is recognized as a lead-containing paint. The possible exposure hazard to workers impacting these coated surfaces should be assessed and contractors and their employees must adhere to the OSHA Lead in Construction standard found at 29 CFR 1926.62. Although OSHA does not recognize negative XRF results as proof that paint does not contain lead, the use of XRF is an efficient real time screening technique for identifying lead-containing paints. To comply with OSHA requirements, a negative XRF result would have to be confirmed by other approved methods. Positive XRF results do not need to be confirmed. Regardless of analytical results, OSHA still requires that personal exposure monitoring be conducted when appropriate to determine lead exposure, even for zero results as determined by any method. To fully comply with EPA regulations, sampling of renovation debris waste streams may be required, depending on the requirements of the receiving facility.

OSHA recognizes that construction type work on surfaces coated with lead-containing paint has a potential to expose workers to hazardous levels of lead and requires that appropriate safety and health measures be followed as stated in 29 CFR 1926.62. OSHA states that until the employer performs an exposure assessment and documents that employees are not exposed above the permissible exposure limit (PEL) of greater than 50 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) of air, the employer must treat employees as if they were exposed above the PEL for the following operations:

- Manual renovation and renovation of structures, manual scraping, manual sanding, and use of heat gun where lead-containing coatings or paints are present;
- Abrasive blasting;
- Power tool cleaning;
- Lead burning;
- Using lead-containing mortar or spray painting with lead-containing paint;
- Abrasive blasting, rivet busting, or welding, cutting, or burning on any structure where lead-containing coatings or paint are present;
- Cleanup activities where dry expendable abrasives are used; and



- Any other task the employer believes may cause exposure in excess of the PEL.

Work precautions include providing respiratory protection, protective work clothing and equipment, change areas, hand washing facilities, biological monitoring, and training until an exposure assessment has determined that the work activity will result in a exposure below the PEL. Additional requirements under this standard include a written compliance program as well as record keeping.

### **3.4 Cost Estimates**

The estimated costs for the removal or remediation of lead containing painted components prior to the renovation of the Housing Facility is approximately **10-15%** above the cost for general renovation. This cost includes contractor record-keeping requirements, personal protection of workers, and possible isolation of the work area to comply with the OSHA Lead Standard (29 CFR 1926.62) and DLS 454 CMR 22.11. Additional costs may include disposal of some of the debris as hazardous waste depending on the results of TCLP testing.

## **APPENDIX A**

### **ASBESTOS BULK SAMPLE ANALYSIS RESULTS BY PLM/POINT COUNT**



## Asbestos Identification Laboratory

165 New Boston St., Ste 271

Woburn, MA 01801

781-932-9600

Web: [www.asbestosidentificationlab.com](http://www.asbestosidentificationlab.com)

Email: [mikemanning@asbestosidentificationlab.com](mailto:mikemanning@asbestosidentificationlab.com)

Batch:

11157



Lab Code: 200919-0

January 27, 2016

Scott Drinko  
ATC Group Services, Woburn  
500 West Cummings Park  
Suite 3750  
Woburn, MA 01801

**Project Number:** 600000083

**Project Name:** CBI- Somerville SC #600000083

**Date Sampled:** 2016-01-21

**Work Received:** 2016-01-25

**Analysis Method:** BULK PLM ANALYSIS EPA/600/R-93/116

Dear Scott Drinko,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project.

The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations Department of Health Certification: AAL-121

Thank you Scott Drinko for your business.

Michael Manning  
Owner/Director

January 27, 2016

Scott Drinko  
ATC Group Services, Woburn  
500 West Cummings Park  
Suite 3750  
Woburn, MA 01801

**Project Number:** 600000083

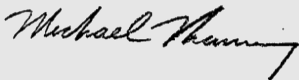
**Project Name:** CBI- Somerville SC #600000083

**Date Sampled:** 2016-01-21

**Work Received:** 2016-01-25

**Analysis Method:** BULK PLM ANALYSIS EPA/600/R-93/116

FieldID	Material	Location	Color	Non-Asbestos %	Asbestos %
LabID					
01A	White Drywall	Addition Food Pantry	gray	Cellulose Non-Fibrous	20 None Detected 80
120651					
01B	White Drywall	Addition Food Pantry	gray	Cellulose Non-Fibrous	20 None Detected 80
120652					
02A	Joint Comp. Assoc. w/ 01	Addition Food Pantry	white	Non-Fibrous	100 None Detected
120653					
02B	Joint Comp. Assoc. w/ 01	Addition Food Pantry	white	Non-Fibrous	100 None Detected
120654					
03A	Drywall Gray	Food Pantry Wall	gray	Cellulose Non-Fibrous	20 None Detected 80
120655					
03B	Drywall Gray	Food Pantry Ceiling	gray	Cellulose Non-Fibrous	15 None Detected 85
120656					
04A	Joint Comp. Assoc. w/ 03	Food Pantry Wall	white	Non-Fibrous	100 None Detected
120657					
04B	Joint Comp. Assoc. w/ 03	Food Pantry Ceiling	white	Non-Fibrous	100 None Detected
120658					
05A	Black Mastic on Insulation Paper	Food Pantry	black	Non-Fibrous	100 None Detected
120659					
05B	Black Mastic on Insulation Paper	Food Pantry	black	Non-Fibrous	100 None Detected
120660					
06A	Black Cove Base Mastic	Food Pantry	black	Other Non-Fibrous	2 None Detected 98
120661					
06B	Black Cove Base Mastic	Food Pantry	black	Other Non-Fibrous	2 None Detected 98
120662					
07A	Brick Mortar	Food Pantry	gray	Non-Fibrous	100 None Detected
120663					
07B	Brick Mortar	Food Pantry	gray	Non-Fibrous	100 None Detected
120664					

FieldID	Material	Location	Color	Non-Asbestos %	Asbestos %
08A	Concrete Floor	Food Pantry	gray	Non-Fibrous	100 None Detected
120665					
08B	Concrete Floor	Food Pantry	gray	Non-Fibrous	100 None Detected
120666					
Wednesday 27			End of Report	Page 2 of 2	
Analyzed by:			Batch: 11157		

Page 1 of 2

Sampling Time	Sample Method
Less 3 Hrs	<input checked="" type="checkbox"/> Bulk
Same Day	<input type="checkbox"/> Soil

☐ Next Day ☐ Wine

<input checked="" type="checkbox"/>	Two Day	<input type="checkbox"/>	Point Count
-------------------------------------	---------	--------------------------	-------------

Stop on 1st Positive? ☒ Yes/No ☐ Faint Count

Notify Method: Mail/E-Mail/Verbal ☒

Analyzed By: Michael E. Mann

Date: 1/26/16

[illegible]

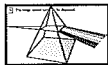
[illegible]

[illegible]



[illegible]

**APPENDIX B**  
**LEAD PAINT CHIP ANALYTICAL RESULTS**



**ProScience Analytical Services, Inc.**  
22 Cummings Park, Woburn, MA 01801

Telephone: 781-935-3212  
Facsimile: 781-932-4857  
Email: [chemistry@proscience.net](mailto:chemistry@proscience.net)

## Laboratory Report

**Contact:** Bryan Thompson  
**Client:** ATC Group Services, LLC  
**Address:** 500 W. Cummings Pk , 3750  
Woburn, MA 01801

**Batch #:** C 286955  
**Date received:** 1/25/2016  
**Date analyzed:** 1/25/2016  
**Date of report:** 1/25/2016

**Project #** 6000000833  
**P.O.#** N/A  
**Project Site:** CBI - Somerville Senior Center

AIHA-LAP, LLC Lab ID 102754

### Lead Analysis In Paint Using SOP Based on SW846-7420/3051

Results in weight percent on an "as received" weight basis

Lab ID	Client ID	Sample date	Description	Result	Reporting Limit	Comments
C 540662	L1	1/21/16	Blue / Green - Brick Walls	0.24	0.018	
C 540663	L2	1/21/16	Light Blue - Drywall Ceiling	<RL	0.024	
C 540664	L3	1/21/16	Yellow - Windows / Drywall Walls	<RL	0.018	
C 540665	L4	1/21/16	Red - Brick Walls	0.17	0.021	
C 540666	L5	1/21/16	White - Drywall Walls / Doors	<RL	0.017	
C 540667	L6	1/21/16	Dark Blue - Radiators	<RL	0.029	

  
Simona Peavey, Tech. Manager Chemistry  
Aimee Cormier, Lab Director

Page 1 of 1

Unless otherwise indicated, all samples were received in acceptable condition.

All result apply only to the samples as received and are accurate to no more than two significant figures.

Unless otherwise indicated, all the quality control criteria for the method above have been met.

RL-Reporting Limit(%by weight)

Note on units: mg/Kg is the same as ppm by weight.

***For complete information about our services and locations please visit us at [www.proscience.net](http://www.proscience.net) or call the numbers above.***

## **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 WORK TO BE PERFORMED**

- 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 specification, 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 demolition and disposal Work 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 Subcontractor, and each file sub-bidder for the entire project so that all the Work can be properly and completely performed.
- B. Selective Demolition Work includes but not limited to:
- C.
  - 1. Front Entry
    - a. Sawcut and remove sections of concrete paving at front entry and rear entry, carefully remove sections of interior Kneewall adjacent to the front entry door, remove entry door leaf and hardware.
  - 2. Stair
    - a. NONE
  - 3. Restrooms
    - a. Remove doors and frames to Woman's Restroom, demolish gypsum wall board partitions at Woman's Restroom Vestibule, remove hydronic heaters from toilet room, remove plumbing fixtures from restroom, remove vanity top and supports in Women's Restroom, remove tile and wall finish in areas of new work.

- D. Alternate Work
1. Add Alternate No. 1: Renovation of Men's Restroom, and Men's Restroom Vestibule.
    - a. Remove doors and frames to Men's Restroom, demolish gypsum wall board partitions at Men's Restroom Vestibule, remove hydronic heaters from toilet room, remove plumbing fixtures from restroom, remove vanity top and supports in Men's Restroom, remove tile and wall finish in areas of new work.
  2. Front Entry
    - a. Remove framing at exterior walls in Wilderness Room at the back of the building. Remove wilderness office within the one story rooms.
    - b. Carefully sawcut and remove portion of masonry wall to create masonry opening for new door to ramp.
    - c. Remove hydronic heater and electrical panel in Food Pantry.
    - d. Remove portion of roofing from Food Pantry roof at the masonry wall and below the fire escape. Remove masonry to accommodate installation of thru wall flashing above low roof.
    - e. Remove existing entry door to Food Pantry entry door, storage door and fire escape door.
- E. Salvage of existing items to be reused or turned over to the facility includes but is not limited to:
1. Front Entry
    - a. Salvage concrete pavers at front walk to be reinstalled.
  2. Stair
    - a. NONE
  3. Women's Restroom, and Women's Restroom Vestibule
    - a. Salvage toilet accessories to be reused.
  4. Food Pantry
    - a. NONE
- F. 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, 23 00 00 HVAC, and 26 00 00 - Electrical. Removal and disposal of such materials shall be then done under this Section 024100 - Demolition.
- G. Disconnection and reinstallation of plumbing, HVAC, and electrical equipment temporarily interrupted during construction.
- H. Removal and legal disposal of demolished materials off site. Except those items specifically designated to be relocated, reused, or turned over to 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.
- I. Demolition and removal work shall properly prepare for alteration work and new construction to be provided under the contract.

## SELECTIVE DEMOLITION

- J. 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.

#### 1.03 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 22 00 00 - Plumbing
- E. Section 23 00 00 - HVAC
- F. Section 26 00 00 - Electrical
- G. Section 31 23 16 - Excavation: removal of paving and sub-grade materials.

#### 1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Site Plan: Showing:
  - 1. Site elements and structures to be protected.
  - 2. Areas for temporary and permanent placement of removed materials.
- C. 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.
- D. 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.

### **SELECTIVE DEMOLITION**

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.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

## 2.03 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.



CITY OF SOMERVILLE  
CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
CBI JOB NO.:15036-C

CBI Consulting Inc.  
Boston, Massachusetts  
Tel: (617) 268-8977  
Fax: (617) 464-2971

D. Clean up spillage and wind-blown debris from public and private lands.

**END OF SECTION**

## **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 WORK TO BE PERFORMED**

- A. Provide all Brick Masonry Unit work required to complete the work of the contract including all the Brick Masonry Unit work shown in the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning and finishes. Coordinate the Brick Masonry Unit with all the other trades of the project. Provide all demolition and disposal work to complete the Brick Masonry Unit work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. Is it the General Contractor's responsibility to review all work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NONE
  - 2. Stairs
    - a. NONE
  - 3. Restrooms
    - a. Women's Room - Base Contract
      - 1) NONE
    - b. Men's Room - ADD ALTERNATE #1
      - 1) NONE
  - 4. Food Pantry

- a. Carefully remove three (3) courses of brick and the old metal flashing. Install new zinc coated copper with fully soldered seams, through wall flashing in the masonry at the roof level, on all brick wall surfaces that connect with the low roof. Install new brick to match existing with weeps.

#### 1.03 RELATED REQUIREMENTS

- A. Section 02 41 00- Selective Demolition
- B. Section 07 62 00 - Sheet Metal Flashing and Trim: Through-wall masonry flashings.
- C. Section 07 92 00 - Joint Sealants: Sealing control and expansion joints.
- D. Section 22 00 00 - Plumbing: Installation of hangers and supports for plumbing fixtures.

#### 1.04 REFERENCE STANDARDS

- A. ACI 530/530.1/ERTA - Building Code Requirements and Specification for Masonry Structures and Related Commentaries; American Concrete Institute International; 2011.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- C. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale); 2013.
- D. ASTM C67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile; 2014.
- E. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.
- F. ASTM D4637/D4637M - Standard Specification for EPDM Sheet Used in Single-Ply Roof Membrane; 2013.
- G. BIA Technical Notes No. 7 - Water Penetration Resistance - Design and Detailing; 2005.
- H. BIA Technical Notes No. 28B - Brick Veneer/Steel Stud Walls; 2005.
- I. BIA Technical Notes No. 46 - Maintenance of Brick Masonry; 2005.

#### 1.05 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. Samples: Submit four samples of [Brick shall match existing in quality, texture, color and size,] units to illustrate color, texture, and extremes of color range.
- D. Samples: Submit four samples of Mortar shall match existing in quality, texture, color and joint size, units to illustrate color, texture, and extremes of color range.
- E. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

#### 1.06 QUALITY ASSURANCE

- A. Comply with provisions of ACI 530/530.1/ERTA, except where exceeded by requirements of the contract documents.
- B. Obtain materials from approved individual sources in sufficient quantities to complete each portion of the work.

- C. Mortar ingredients shall be of uniform quality, texture and color with each pier to match existing.
- D. Brick masonry units shall be uniform quality, texture and color or a uniform blend within ranges accepted for these characteristics to match existing..

#### 1.07 MOCK-UP

- A. Construct a through wall flashing section as a mock-up length to be 3 feet long by 2 feet high; include mortar, accessories, structural backup, and flashings (with lap joint, corner, and end dam) in mock-up.
- B. Locate where directed.

#### 1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry materials by means that will prevent mechanical damage and contamination by other materials, and in un-damaged condition.
- B. Storage and Handling
  - 1. Store and handle brick masonry units and materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion or other causes.
  - 2. Limit moisture absorption of brick masonry units and cement, lime, etc., during delivery and until time of installation to the maximum percentage specified for brick for the brick for the average annual relative humidity as reported by the U.S. Weather Bureau Station nearest project site.
  - 3. Store cementitious materials off the ground, under weather tight covers or indoors, and kept clean and dry.
  - 4. Store aggregates where grading and other required characteristics can be maintained.
  - 5. Store masonry accessories including metal items to prevent deterioration by corrosion and accumulation of dirt.

## PART 2 PRODUCTS

#### 2.01 BRICK UNITS

- A. Manufacturers:
  - 1. Belden Brick; Belcrest: [www.beldenbrick.com](http://www.beldenbrick.com).
  - 2. Boral Bricks, Inc; Commercial Bricks: [www.boralbricks.com](http://www.boralbricks.com).
  - 3. Endicott Clay Products Co; Face Brick: [www.endicott.com](http://www.endicott.com).
  - 4. Substitutions: or approved equal, See section 01 60 00 - Product Requirements.
- B. Building (Common) Brick: ASTM C62, Grade SW; solid units.
  - 1. Nominal size: New brick shall match existing brick in color, size and texture..
  - 2. Compressive strength: Brick shall be hard burned, water struck, sand molded, or wire cut clay brick conforming to ASTM C216, Grade SW, Type FBS, except that compressive strength shall not be less than 6,000 psi (individual) nor 8,000 psi (average of five) nor shall water abs, Brick shall be hard burned, water struck, sand

molded, or wire cut clay brick conforming to ASTM C216, Grade SW, Type FBS, except that compressive strength shall not be less than 6,000 psi (individual) nor 8,000 psi (average of five) nor shall water absorption exceed 10% (individual) or 8% (average of five) when subjected to 5 hour boiling test, all in accordance with testing procedures defined and measured in accordance with ASTM C67.

## 2.02 MORTAR MATERIALS

- A. Mortar: Shall conform to ASTM C270, Type N, consisting of one (1) part Portland Cement (ASTM C150, Type 1, and meeting efflorescence requirements below), ½ to 1 ¼ parts hydrated lime (ASTM C207, Type S), and sand (ASTM C144) in quantity of not less than 2 ½ nor more than 3 times the sum of the quantities of cement and lime, by volume.
  - 1. Mortar mixes containing Masonry Cement shall not be accepted.
- B. New mortar at new brickwork and at all repointing locations shall match the existing mortar in color, texture, aggregate and finish.
- C. Tooled joint shall match existing including depth of joint, shape of joint as well as amount of aggregate exposed.
- D. Water shall be potable and free of injurious contaminates.
- E. No admixtures of any type will be permitted.
- F. Mixing:
  - 1. Combine and thoroughly mix cementitious, water, and aggregates in a mechanical batch mixer.

## 2.03 REINFORCEMENT AND ANCHORAGE

## 2.04 FLASHINGS

- A. Through-Wall Flashing Materials
  - 1. New through-wall flashing pans shall be continuous 16oz. zinc coated copper, with fully soldered seams.
  - 2. New Self Adhering through-wall flashing membrane within the wall masonry shall be PermaBarrier by W R Grace, Blue-Skin by Henry Company, or approved equal.
- B. Woven inserts for weephole slots shall be as manufactured by CavClear or Mortar Net, or approved equal, color to match mortar and filling opening to restrict insect access.
- C. Exterior Sealants: Medium modulus, neutral cure single component, non sag, Silicone sealant ASTM C 920 79/Type S/Class 25/Grade NS, such as 795 by Dow Corning, 864 by Pecora, or approved Equal.
- D. Bond Breaker Tape: Any acceptable polyethylene or similar type bond breaker tape shall be used to prevent three (3) sided adhesion in locations where backer rod cannot be used.
- E. EPDM Flashing: ASTM D4637, Type I, 0.040 inch thick.
  - 1. Manufacturers:
    - a. Hohmann & Barnard, Inc; Epra-Max: [www.h-b.com/sle](http://www.h-b.com/sle).
    - b. PermaBarrier by W R Grace.

- c. Blue-Skin by Henry Company.
- d. Substitutions: See Section 01 60 00 - Product Requirements.

### **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 COLD AND HOT WEATHER REQUIREMENTS**

- A. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.
- B. Maintain materials and surrounding air temperature to maximum 90 degrees F prior to, during, and 48 hours after completion of masonry work.
- C. Antifreeze admixtures will not be allowed in the mortar. No frozen work shall be built upon. No masonry unit having a film of frost on its surface shall be laid in the work. Any completed work found to be affected by frost shall be taken down and rebuilt..

#### **3.04 COURSING**

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Lay masonry plumb; true to line; with level courses; straight, clean, uniform joints; dry surfaces; and straight, plumb corners. Maintain vertical alignment of joints as required to match existing bond patterns. Align horizontal joints with tops of openings, as indicated. Lay units in solid partitions in manner to provide same evenness of surface on each side.
- C. Brick Units:
  - 1. Brick shall be studied for permeability before laying. Hard impervious brick shall be laid dry to assure maximum bonding.
  - 2. Brick work shall be executed in patterns to match the existing in horizontal and vertical dimension. Construct brick work to conform to approved sample panel.
  - 3. Shove bricks into place (do not lay) in full mortar beds, with vertical and horizontal joints completely filled when laid. Do not slush. Strike exposed joints flush with face of brick, then finish to match existing. Exercise extreme care to prevent mortar from falling into cavities and blocking the weep system.

4. When mortar at exposed joints has become partially set, and will make a thumbprint under pressure without displacement of mortar, the joints shall be tooled to match existing.

### 3.05 REINFORCEMENT AND ANCHORAGE - GENERAL

### 3.06 MASONRY FLASHINGS

- A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
- B. Extend EPDM and self adhered and zinc coated copper flashings to within 1/4 inch of exterior face of masonry.
- C. Lap end joints of flashings at least 6 inches and seal watertight with flashing sealant/adhesive.
- D. Install zinc coated copper pan out to the face of the brick. All joints shall be fully soldered.
- E. Install step flashing above the sloped roof cricket. Each section of step flashing shall have pocketed ends to collect and drain water to the exterior.
- F. Provide open head joint weep slots filled with woven fabric weephole filler inserts to form full head joints at 24" on center.
- G. Open the wall in small segments to avoid masonry movement above, especially below the stone window sills 3 courses above the new flashing level.

### 3.07 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.

### 3.08 CLEANING

- A. Remove and replace masonry units which are loose, chipped, broken, stained, or otherwise damaged or, if units do not match adjoining units as intended.
- B. Provide new units to match adjoining units and install in fresh mortar pointed to eliminate evidence of replacement.
- C. Remove excess mortar and mortar droppings.
- D. Clean soiled surfaces with cleaning solution.
- E. Obtain approval of CBI for sample cleaning before proceeding with cleaning of masonry.
- F. Clean masonry to comply with masonry manufacturer's directions and applicable NCMA TEK Bulletins.

## **END OF SECTION**

## **SECTION 05 50 00**

### **METAL FABRICATIONS**

#### **PART 1 GENERAL**

##### **1.01 GENERAL REQUIREMENTS**

- A.
- 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 WORK TO BE PERFORMED**

- A. Provide all the Metal Fabrications work required to complete the work of the contract including all the Metal Fabrications work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Metal Fabrications work with all the other trades for the project. Provide all demolition and disposal work to complete the Metal Fabrications 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Metal Fabrication work includes, but is not limited to:
  - 1. Front Entry
    - a. NONE
  - 2. Stairs
    - a. NONE
  - 3. Restroom
    - a. NONE
  - 4. Food Pantry
    - a. Steel fabrications for support of the existing fire escape on new platforms at the existing roof. Steel lintel assembly over the new opening in the masonry wall for a new door. All shop fabricated steel items to be Hot Dipped Galvanized for corrosion protection.



### 1.03 RELATED REQUIREMENTS

- A. Section 05 12 00 - Structural Steel Framing: Structural steel sections.

### 1.04 REFERENCE STANDARDS

- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- B. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.
- C. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.
- D. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; American Welding Society; 2012.
- E. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2015.
- F. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).

### 1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
  - 1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
- C. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.
- D. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.

## PART 2 PRODUCTS

### 2.01 MATERIALS - STEEL

- A. Steel Sections: ASTM A36/A36M.
- B. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.
- C. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

### 2.02 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. 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.

- D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

#### 2.03 FINISHES - STEEL

- A. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.

#### 2.04 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

### **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 items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Field weld components as indicated on drawings.
- D. Perform field welding in accordance with AWS D1.1/D1.1M.
- E. Obtain approval prior to site cutting or making adjustments not scheduled.
- F. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

#### 3.04 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum Offset From True Alignment: 1/4 inch.
- C. Maximum Out-of-Position: 1/4 inch.

### **END OF SECTION**

## **SECTION 05 52 13**

### **PIPE AND TUBE RAILINGS**

#### **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 WORK TO BE PERFORMED**

- 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 specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Pipe and Tube Railing work with all the other trades for the project. Provide all demolition and disposal work 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following: Fabrication and installation of new steel pipe rails. Refer to the Drawings for additional requirements.
  - 1. Front Entry
    - a. NONE
  - 2. Stairs
    - a. Provide continuous wall mounted metal handrails on both sides of the existing interior egress stair.
  - 3. Restroom
    - a. NONE
  - 4. Food Pantry

- a. Provide pipe with cap for exterior bollard.
- b. Provide continuous wall mounted metal handrails on both sides of the new Interior ramp.

#### 1.03 RELATED REQUIREMENTS

- A. Section 02 41 00 - Selective Demolition
- B. Section 03 30 00 - Cast-in-Place Concrete: Placement of anchors in concrete.
- C. Section 06 10 00 - Rough Carpentry: In-wall blocking for handrail attachment.
- D. Section 09 91 23 - Interior Painting: Paint finish.

#### 1.04 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 E985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings; 2000 (Reapproved 2006).
- D. MAAB 521 CMR - Massachusetts Architectural Access Board Standards
- E. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; Society for Protective Coatings; 1999 (Ed. 2004).

#### 1.05 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. Allow for expansion and contraction of members and building movement without damage to connections or members.
- C. 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.
- D. 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.

- E. 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 for accessible design at applicable locations.
- D. Anchor railings securely to structure.
- E. Field weld anchors as indicated on drawings. Touch-up welds with primer. Grind welds smooth.

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CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
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Boston, Massachusetts  
Tel: (617) 268-8977  
Fax: (617) 464-2971

- F. Conceal anchor bolts and screws whenever possible. Where not concealed, use flush countersunk fastenings.

**END OF SECTION**

## **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 WORK TO BE PERFORMED**

- 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 specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Rough Carpentry work with all the other trades for the project. Provide all demolition and disposal work 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. Provide framing and blocking at sink vanity and grab bar mounting locations.
  - 4. Food Pantry
    - a. Provide framing for roof platform and crickets.
    - b. Provide framing for new interior handicap ramp.
- C. Alternate Work:

1. Add Alternate No. 1: Renovation of Men's Restroom and Men's Restroom Vestibule.

- a. Provide framing and blocking at sink and grab bar mounting locations.

#### 1.03 RELATED REQUIREMENTS

- A. Section 05 50 00 - Metal Fabrications: Miscellaneous steel connectors and support angles for wood framing.
- B. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES: Gypsum-based sheathing.

#### 1.04 REFERENCE STANDARDS

- A. AFPA (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; American Forest and Paper Association; 2012.
- 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. AWWPA U1 - Use Category System: User Specification for Treated Wood; American Wood Protection Association; 2012.
- E. PS 1 - Structural Plywood; 2009.
- F. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; National Institute of Standards and Technology, U.S. Department of Commerce; 2010.
- G. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology, Department of Commerce; 2010.

#### 1.05 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.

#### 1.06 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](http://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. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16 ):
  - E. 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. Subfloor/Underlayment Combination: Any PS 2 type, rated Single Floor.
    1. Bond Classification: Exterior.
    2. Span Rating: 48.
    3. Performance Category: 1-1/8 PERF CAT.
  - B. Wall Sheathing: Plywood, PS 1, Grade C-D, Exposure I.
  - 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 per ASTM A 153/A 153M 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.
  - B. Subfloor Glue: Waterproof, air cure type, cartridge dispensed.

## 2.05 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWWPA 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 AWWPA standards.
- B. Fire Retardant Treatment:
  - 1. Interior Type A: AWWPA 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.
- C. Preservative Treatment:
  - 1. Manufacturers:
    - a. Arch Wood Protection, Inc; Chemonite: [www.wolmanizedwood.com](http://www.wolmanizedwood.com).
    - b. Koppers Performance Chemicals, Inc; Preserve: [www.koppersperformancechemicals.com](http://www.koppersperformancechemicals.com).
    - c. Viance, LLC; Preserve ACQ: [www.treatedwood.com](http://www.treatedwood.com).
    - d. Substitutions: See Section 01 60 00 - Product Requirements.
  - 2. Preservative Pressure Treatment of Lumber Above Grade: AWWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb/cu ft retention.
    - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.

## 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 and AFPA Wood Frame Construction Manual.
- 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. Stainless steel sink and built-in counter top.
  - 6. Wall-mounted door stops.
  - 7. Stainless Steel sink.

### 3.04 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.
- B. Provide wood curb at all roof openings except where specifically indicated otherwise. Form corners by alternating lapping side members.

3.05 INSTALLATION OF CONSTRUCTION PANELS

- A. Subflooring/Underlayment Combination: Glue and nail to framing; staples are not permitted.
- B. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.
- C. 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.

3.06 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**

## **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 WORK TO BE PERFORMED**

- 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 specification, 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 demolition and disposal Work 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 Subcontractor, and each file sub-bidder for the entire project so that all the Work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom and Restroom Vestibule
    - a. Finish trim at Women's Restroom vanity.
    - b. Baseboards and window and door trim at modified and new walls.
  - 4. Food Pantry
    - a. Baseboards and window and door trim at modified and new walls.
- C. Alternate Work:

1. Add Alternate No. 001: Renovation of Men's Restroom and Men's Restroom Vestibule.

- a. Baseboards and window and door trim at modified and new 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: 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/AWMA/WI (AWS) - Architectural Woodwork Standards; 2014.
- D. AWWA U1 - Use Category System: User Specification for Treated Wood; American Wood-Preservers' Association; 2012.
- E. NEMA LD 3 - High-Pressure Decorative Laminates; National Electrical Manufacturers Association; 2005.
- F. 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 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

#### 1.08 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.

2.02 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 AWWA 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.
- F. Redry wood after pressure treatment to maximum 19% percent moisture content.

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), 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**



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CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
CBI JOB NO.:15036-C

CBI Consulting Inc.  
Boston, Massachusetts  
Tel: (617) 268-8977  
Fax: (617) 464-2971

## **SECTION 07 21 00**

### **THERMAL INSULATION**

#### **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 WORK TO BE PERFORMED**

- A. Provide all Thermal Insulation work required to complete the work of the contract including all the Thermal Insulation work shown in the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning and finishes. Coordinate the Thermal Insulation with all the other trades of the project. Provide all demolition and disposal work to complete the Thermal Insulation work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. Is it the General Contractor's responsibility to review all work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA
  - 4. Food Pantry
    - a. Furnish and install R-13 batt insulation at exterior framing at interior side of exterior masonry mass wall.
    - b. Furnish and Install R-28 batt insulation at select area of existing ceiling joists.

### 1.03 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Supporting construction for batt insulation.
- B. Section 06 10 00 - Rough Carpentry: Installation requirements for board insulation over steep slope roof sheathing or roof structure.
- C. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES: Acoustic insulation inside walls and partitions.

### 1.04 REFERENCE STANDARDS

- A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2010.
- B. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- D. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C; 2016.

### 1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.

### 1.06 FIELD CONDITIONS

- A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

### 2.02 APPLICATIONS

- A. Insulation in Metal Framed Walls: Batt insulation with integral vapor retarder.

### 2.03 BATT INSULATION MATERIALS

- A. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
  - 1. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
  - 2. Thermal Resistance: R-value of 13 and 38.
  - 3. Manufacturers:
    - a. CertainTeed Corporation: [www.certainteed.com](http://www.certainteed.com).
    - b. Johns Manville: [www.jm.com](http://www.jm.com).
    - c. Owens Corning Corporation; EcoTouch PINK FIBERGLAS Insulation: [www.ocbuildingspec.com](http://www.ocbuildingspec.com).

## 2.04 ACCESSORIES

- A. Sheet Vapor Retarder: Black polyethylene film for above grade application, 10 mil thick.

## **PART 3 EXECUTION**

### 3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.
- B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

### 3.02 BATT INSTALLATION

- A. Install insulation and vapor retarder in accordance with manufacturer's instructions.
- B. Install in exterior wall and roof spaces without gaps or voids. Do not compress insulation.
- C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.
- E. At wood framing, place vapor retarder on warm side of insulation by stapling at 6 inches on center. Lap and seal sheet retarder joints over member face.
- F. At metal framing, place vapor retarder on warm side of insulation; lap and seal sheet retarder joints over member face.
- G. Tape seal tears or cuts in vapor retarder.
- H. Extend vapor retarder tightly to full perimeter of adjacent window and door frames and other items interrupting the plane of the membrane. Tape seal in place.

### 3.03 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

## **END OF SECTION**

## **SECTION 07 31 13**

### **ASPHALT SHINGLES**

#### **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 WORK TO BE PERFORMED**

- A. Provide all the Asphalt Shingles work required to complete the work of the contract including all Asphalt Shingles work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Asphalt Shingles work with all the other trades for the project. Provide all demolition and disposal work to complete the Asphalt Shingles 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 Subcontractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Provide all the Asphalt Shingles work required to compete the work of the contract including all Asphalt Shingles work shown on the plans, listed on the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes.
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA
  - 4. Food Pantry

- a. Removal of old asphalt shingle roofing, building paper, and related elements at areas of existing roof shown on the demolition drawings.
- b. Furnish and Install new asphalt roof system to existing areas of the existing roof system, including new underlayment and ice and water shield and 15 pound building paper, indicated on the drawings.
- c. All related flashing including, but not limited to, furnishing and installation of drip edge.

#### 1.03 RELATED REQUIREMENTS

- A. Section 04 20 00 Unit Masonry: Flashing reglets placed at vertical surfaces of concrete and masonry.
- B. Section 06 10 00 - Rough Carpentry: Roof sheathing.
- C. Section 07 62 00 - Sheet Metal Flashing and Trim: Edge and cap flashings.
- D. Section 07 71 23 - Manufactured Gutters and Downspouts.

#### 1.04 REFERENCE STANDARDS

- A. ASTM D225 - Standard Specification for Asphalt Shingles (Organic Felt) Surfaced with Mineral Granules; 2007.
- B. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2009.
- C. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2015a.
- D. ASTM D3161/D3161M - Standard Test Method for Wind-Resistance of Steep Slope Roofing Products (Fan-Induced Method); 2014.
- E. ASTM D3462/D3642M - Standard Specification for Asphalt Shingles Made From Glass Felt and Surfaced With Mineral Granules; 2010a.
- F. NRCA MS104 - The NRCA Steep Roofing Manual; National Roofing Contractors Association; 2001, Fifth Edition, with interim updates.
- G. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association; 2012.

#### 1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating material characteristics.
  1. Granule surfaced asphalt shingle roofing.
  2. Moisture shedding underlayment, eaves, valley and ridge protection.
  3. Ice and Water Shield.
  4. Nails.
  5. Associated metal flashing and roof edge trim.
  6. Pre-manufactured metal and rubber vent stack boot flashing.
- C. Shop Drawings: For metal flashings, indicate specially configured metal flashings.

- D. Samples: Submit two samples of each shingle color indicating color range and finish texture/pattern; for color selection.
- E. Do not commence fabrication of any work or begin installation until approval has been obtained from the Architect.
- F. Manufacturer's Installation Instructions: Indicate installation criteria and procedures.

1.06 QUALITY ASSURANCE

- A. Perform Work in accordance with the recommendations of NRCA Steep Roofing Manual.

1.07 FIELD CONDITIONS

- A. Do not install shingles or eave protection membrane when surface temperatures are below 45 degrees F.

**PART 2 PRODUCTS**

2.01 SHINGLES

- A. Manufacturers:
  - 1. GAF; Timberline Cool Series: [www.gaf.com/sle](http://www.gaf.com/sle).
  - 2. Owens Corning Corp; Owens Corning Woodmar: [www.owenscorning.com](http://www.owenscorning.com).
  - 3. Certainteed, Landmark Shingles. [www.certainteed.com](http://www.certainteed.com)
- B. Asphalt Shingles: Provide 50 year asphalt shingles, Owens Corning Woodmar, or approved equal asphalt shingles, conforming to: ASTM D 3018 Type I - Self-Sealing; UL Certification of ASTM D 3462, UL 997 minimum 110-mph Wind Resistance, and UL Class A Fire Resistance; glass fiber mat base, ceramically colored/UV resistant mineral surface granules across entire face of shingle
  - 1. Weight: 465 lb/100 sq ft.
  - 2. Basis of Design: To match existing.
  - 3. Color: To match existing.

2.02 SHEET MATERIALS

- A. Underlayment: Asphalt-saturated organic roofing felt, unperforated, complying with ASTM D226/D226M, Type I ("No.15").
- B. Flexible Flashing: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M; 40 mil total thickness; with strippable treated release paper and polyethylene sheet top surface.

2.03 ACCESSORIES

- A. Nails: Standard round wire shingle type, of hot-dipped zinc coated steel, 10 wire gage, 0.1019 inch shank diameter, 3/8 inch head diameter, of sufficient length to penetrate through roof sheathing or 3/4 inch into roof sheathing or decking.

**2.04 ICE AND WATER SHIELD**

- A. Ice and water shield to be pre-formed, mastic-permeated material by W.R. Grace, G.A.F. Stormguard, CertainTeed Winterguard HT Film, or approved equal. Ice and water shield shall extend a minimum of 36" inboard of the heated wall line and around all roofing penetrations. See plans for extent.

**2.05 METAL FLASHINGS**

- A. Metal Flashings: Provide sheet metal eave edge, gable edge, ridge, ridge vents, open valley flashing, chimney flashing, dormer flashing, and other flashing indicated.
  - 1. Form flashings to profiles indicated on Drawings.
  - 2. Form sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
  - 3. Hem exposed edges of flashings minimum 1/4 inch on underside.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify existing conditions prior to beginning work.
- B. Verify that deck is of sufficient thickness to accept fasteners.
- C. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surface.
- D. Verify roof openings are correctly framed.
- E. Verify deck surfaces are dry, free of ridges, warps, or voids.

**3.02 PREPARATION**

- A. Seal roof deck joints wider than 1/16 inch as recommended by shingle manufacturer.
- B. At areas where eave protection membrane is to be adhered to substrate, fill knot holes and surface cracks with latex filler.
- C. Broom clean deck surfaces before installing underlayment or eave protection.
- D. Install eave edge flashings tight with fascia boards. Weather lap joints 2 inches and seal with plastic cement. Secure flange with nails spaced 4 inches on center.

**3.03 INSTALLATION - EAVE PROTECTION MEMBRANE**

- A. Install eave protection membrane from eave edge to minimum 4 ft up-slope beyond interior face of exterior wall.
- B. Install eave protection membrane in accordance with manufacturer's instructions.

**3.04 INSTALLATION - UNDERLAYMENT**

- A. Items projecting through or mounted on roof: Weather lap and seal watertight with plastic cement.



3.05 INSTALLATION - EAVE, RAKE AND VALLEY PROTECTION

- A. An ice and water shield shall be applied at the edge of the roof along the eaves and rake. Ice shield shall be set starting from the eaves, 72" minimum (two courses), and extending to a point 36" inside the inside wall line of the building. Ice and water shield shall be applied directly to the wood deck with 4" side laps and 6" end laps.
- B. At Exposed Valleys: Install minimum 36 inches wide roll roofing with mineral surface side up over first layer of protection, centered. Apply a 4 inch wide band of lap cement along each edge of first, press roll roofing into cement, and nail in place minimum 18 inches on center, 1 inch from edges.

3.06 INSTALLATION - METAL FLASHING AND ACCESSORIES

- A. Install flashings in accordance with NRCA requirements.
- B. Weather lap joints minimum 2 inches and seal weather tight with plastic cement.
- C. Secure in place with nails at 4 inches on center. Conceal fastenings.
- D. Items Projecting Through or Mounted on Roofing: Flash and seal weather tight with plastic cement.

3.07 INSTALLATION - SHINGLES

- A. Install shingles in accordance with manufacturer's instructions.
  - 1. Fasten individual shingles using 2 nails per shingle, or as required by code, whichever is greater.
  - 2. Fasten strip shingles using 4 nails per strip, or as required by code, whichever is greater.
- B. Place shingles in straight coursing pattern with 5 inch weather exposure to produce double thickness over full roof area. Provide double course of shingles at eaves.
- C. Project first course of shingles 1/4" to 3/8" inch beyond fascia boards.
- D. Extend shingles 1/4" to 3/8" inch beyond face of gable edge fascia boards.
- E. Extend shingles on one slope across valley and fasten. Trim shingles from other slope 2 inches from valley center line to achieve closed cut valley, concealing the valley protection.
- F. Extend shingles on both slopes across valley in a weave pattern and fasten. Extend shingles a minimum of 12 inches beyond valley center line to achieve woven valley, concealing the valley protection.
- G. Cap hips with individual shingles, maintaining 5 inch weather exposure. Place to avoid exposed nails.
- H. A starter course of shingles shall be applied at the eaves before the first full course of shingles is applied. The starter course shall be either a row of asphalt shingles cut 7 inches from the top or a 7 inch wide (minimum) starter strip of mineral-surfaced asphalt roll roofing positioned with the lower edge of the material overhanging the drip edge 1/4" to 3/8". Inverting a course of shingles is not an acceptable starter course. The material shall be fastened with roofing nails along a line that is parallel to and 5-1/2 inches above the eave edge. The nails shall be placed at 1-1/2, 11, and 13 inches in from

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Fax: (617) 464-2971

each side and in such a way that the nail heads will not be exposed either at cutouts or spaces between shingle tabs in the first course.

I. Complete installation to provide weather tight service.

3.08 PROTECTION

A. Do not permit traffic over finished roof surface.

**END OF SECTION**

## **SECTION 07 53 23**

### **ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING (EPDM)**

#### **PART 1 GENERAL**

##### **1.01 GENERAL REQUIREMENTS**

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- 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 the equipment to be furnished complete in every respect, and that this Contractor shall provide all equipment needed and usually furnished in connection with such systems to provide a complete installation. Equipment, materials, and articles incorporated in the Work shall be new and of the best grade of their respective kinds.

##### **1.02 WORK TO BE PERFORMED**

- A. Provide all the EPDM Sheet Roofing Work required to complete the Work of the Contract including all the EPDM Sheet Roofing Work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all hardware, finishes, and accessories. Coordinate the EPDM Sheet Roofing Work with all the other trades for the project. Provide all demolition and disposal Work to complete the EPDM Sheet Roofing 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, and each Subcontractor for the entire project so that all the Work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. EPDM Sheet Roofing Work includes but is not limited to all the Work shown on the plans and described below and shall include the removal and disposal of incidental existing roofing and flashing materials, and related items, required for the roofing Work as specified below and as indicated on the Drawings.
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA

4. Food Pantry

- a. Furnish and Install 60 mil EPDM roof membrane over the cricket and platform locations of the replaced Low Asphalt Roof.
- b. Furnish and install EPDM self adhering flashing tape.

1.03 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Wood nailers associated with roofing and roof insulation.

1.04 REFERENCE STANDARDS

- A. ASTM D2178/D2178M - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing; 2013a.
- B. ASTM D4601/D4601M - Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing; 2004 (Reapproved 2012)e1.
- C. FM DS 1-28 - Wind Design; Factory Mutual System; 2007.
- D. PS 1 - Structural Plywood; 2009.
- E. PS 20 - American Softwood Lumber Standard; 2010.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data:
  1. Provide membrane manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the membrane manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with roofing membrane.
  2. Installation Instructions: Provide manufacturer's instructions to installer, marked up to show exactly how all components will be installed; where instructions allow installation options, clearly indicate which option will be used.
- C. Samples: Submit samples of each product to be used.
- D. Shop Drawings: Provide:
  1. The roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashings, base tie-ins, roof edges, terminations, expansion joints, penetrations, and drains.
- E. Executed Warranty.

1.06 QUALITY ASSURANCE

- A. Installer Qualifications: Roofing installer shall have the following:
  1. At least five years experience in installing specified system.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- B. Store materials clear of ground and moisture with weather protective covering.
- C. Keep combustible materials away from ignition sources.

1.08 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Comply with all warranty procedures required by manufacturer, including notifications, scheduling, and inspections.

**PART 2 PRODUCTS**

2.01 MANUFACTURERS

- A. Acceptable Manufacturer - Roofing System: Firestone Building Products LLC, Carmel, IN: [www.firestonebpco.com](http://www.firestonebpco.com).

2.02 ROOFING SYSTEM DESCRIPTION

- A. Roofing System: Ethylene-propylene-diene-monomer (EPDM) single-ply membrane.
  - 1. Membrane Attachment: Fully adhered.
  - 2. Comply with applicable local building code requirements.
- B. Roofing System Components: Listed in order from the top of the roof down:
  - 1. Membrane: Thickness as specified.
  - 2. Base Sheet Over Insulation: Mechanically attached.
  - 3. Vapor Retarder: Asphalt felt over modified bitumen base sheet; base layer mechanically fastened, top layer asphalt attached.

2.03 EPDM MEMBRANE MATERIALS

- A. Roofing and Flashing Membrane: Black, cured synthetic single-ply membrane composed of ethylene propylene diene terpolymer (EPDM) with the following properties:
  - 1. Nominal Thickness Tolerance: Plus/minus 10 percent.
- B. Membrane Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.
- C. Self-Adhesive Flashing Membrane: Semi-cured 45 mil EPDM membrane laminated to 35 mil EPDM tape adhesive; QuickSeam Flashing by Firestone.
- D. Pre-Molded Pipe Flashings: EPDM, molded for quick adaptation to different sized pipes; Firestone EPDM Pipe Flashing.
- E. Self-Adhesive Lap Splice Tape: 35 mil EPDM-based, formulated for compatibility with EPDM membrane and high-solids primer; QuickSeam Splice Tape by Firestone.

ETHYLENE-PROPYLENE-DI  
ENE-MONOMER ROOFING  
(EPDM)

- F. Splice Adhesive: Synthetic polymer-based, formulated for compatibility with EPDM membrane and metal surfaces; SA-1065 Splice Adhesive by Firestone.
- G. Adhesive Primer: Synthetic rubber based primer formulated for compatibility with EPDM membrane and tape adhesive, with VOC content less than 2.1 lb/gal; QuickPrime Plus LVOC by Firestone.
- H. Seam Edge Treatment: EPDM rubber-based sealant, formulated for sealing exposed edges of membrane at seams; Lap Sealant HS by Firestone.
- I. Pourable Sealer: Two-part polyurethane, two-color for reliable mixing; Pourable Sealer by Firestone.
- J. Water Block Seal: Butyl rubber sealant for use between two surfaces, not exposed; Water Block Seal by Firestone.
- K. Metal Plates and Strips Used for Fastening Membrane and Insulation: Steel with Galvalume coating; corrosion-resistance meeting FM 4470 criteria.
- L. Termination Bars: Aluminum bars with integral caulk ledge; 1.3 inches wide by 0.10 inch thick; Firestone Termination Bar by Firestone.

#### 2.04 VAPOR RETARDER MATERIALS

- A. Base Sheet: Firestone MB Base Sheet; high-performance, asphalt coated, fiberglass reinforced, roofing base sheet complying with ASTM D4601 Type II.
- B. Asphalt Felt: Asphalt impregnated, glass fiber mat reinforced roofing sheet, complying with ASTM D2178/D2178M, Type IV or VI.
- C. Asphalt: As recommended by roofing membrane manufacturer.

### PART 3 INSTALLATION

#### 3.01 GENERAL

- A. Install roofing, flashings, and accessories in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Where manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.
- B. Obtain all relevant instructions and maintain copies at project site for duration of installation period.
- C. Perform work using competent and properly equipped personnel.
- D. Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.
- E. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 degrees F.

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ENE-MONOMER ROOFING  
(EPDM)

- F. Protect adjacent construction, property, vehicles, and persons from damage related to roofing work; repair or restore damage caused by roofing work.
  - 1. Protect from spills and overspray from bitumen, adhesives, sealants and coatings.
  - 2. Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.
  - 3. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.
- G. Until ready for use, keep materials in their original containers as labeled by the manufacturer.
- H. Consult membrane manufacturer's instructions, container labels, and Material Safety Data Sheets (MSDS) for specific safety instructions. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.

### 3.02 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains.
- D. Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptable of project conditions and requirements.

### 3.03 PREPARATION

- A. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.
- B. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.
- C. Fill all surface voids in the immediate substrate that are greater than 1/4 inch wide with fill material acceptable insulation to membrane manufacturer.
- D. Seal, grout, or tape deck joints, where needed, to prevent bitumen seepage into building.

### 3.04 VAPOR RETARDER

- A. Before installing insulation install vapor retarder directly over the deck.
- B. Ensure that all penetrations and edge conditions are sealed to prevent moisture and air drive into the roofing system.

### 3.05 SINGLE-PLY MEMBRANE INSTALLATION

- A. Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing; in colder weather allow for longer relax time.
- B. Lay out the membrane pieces so that field and flashing splices are installed to shed water.
- C. Install membrane without wrinkles and without gaps or fishmouths in seams; bond and test seams and laps in accordance with membrane manufacturer's instructions and details.
- D. Install membrane adhered to the substrate, with edge securement as specified.
- E. Adhered Membrane: Bond membrane sheet to substrate using membrane manufacturer's recommended bonding material, application rate, and procedures.
- F. Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
  - 1. Exceptions: Round pipe penetrations less than 18 inches in diameter and square penetrations less than 4 inches square.
  - 2. Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.

### 3.06 FLASHING AND ACCESSORIES INSTALLATION

- A. Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.
- B. Metal Accessories: Install metal edgings, gravel stops, and copings in locations indicated on the drawings, with horizontal leg of edge member over membrane and flashing over metal onto membrane.
  - 1. Follow roofing manufacturer's instructions.
  - 2. Remove protective plastic surface film immediately before installation.
  - 3. Install water block sealant under the membrane anchorage leg.
  - 4. Flash with manufacturer's recommended flashing sheet unless otherwise indicated.
  - 5. Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
  - 6. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersections of the two flashing sections.
  - 7. When the roof slope is greater than 1:12, apply seam edge treatment along the back edge of the flashing.



3.07 FINISHING AND WALKWAY INSTALLATION

- A. Install walkways at access points to the roof, around rooftop equipment that may require maintenance, and where indicated on the drawings.

3.08 FIELD QUALITY CONTROL

- A. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer specifically to inspect installation for warranty purposes (i.e. not a sales person).
- B. Perform all corrections necessary for issuance of warranty.

3.09 CLEANING

- A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

3.10 PROTECTION

- A. Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damaged roofing to original condition.

**END OF SECTION**

## **SECTION 07 62 00**

### **SHEET METAL FLASHING AND TRIM**

#### **PART 1 GENERAL**

##### **1.01 GENERAL REQUIREMENTS**

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- 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 WORK TO BE PERFORMED**

- A. Provide all the Sheet Metal Flashing and Trim work required to complete the work of the contract including all the Sheet Metal Flashing and Trim work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Sheet Metal Flashing and Trim work with all the other trades for the project. Provide all demolition and disposal work to complete the Sheet Metal Flashing and Trim 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Sheet Metal Flashing and Trim work includes, but is not limited to:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA
  - 4. Food Pantry
    - a. Continuous zinc coated copper through wall step flashing, fully soldered, at the Tower, to be installed by the Masonry File Sub-Bidder.
    - b. Furnish and install aluminum downspouts.

- c. At all locations and configurations shown on the plans.
- d. Aluminum edge metal at perimeter of EPDM roofs and shingle roofs.

1.03 RELATED REQUIREMENTS

- A. Section 04 20 00 - Unit Masonry: Metal flashings embedded in masonry.
- B. Section 06 10 00 - Rough Carpentry: Wood nailers for sheet metal work.
- C. Section 06 10 00 - Rough Carpentry: Field fabricated roof curbs.
- D. Section 07 31 13 - Asphalt Shingles: Non-metallic flashings associated with shingle roofing.
- E. Section 07 92 00 - Joint Sealants: Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.04 REFERENCE STANDARDS

- A. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2015.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- C. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- D. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2014.
- E. ASTM B370 - Standard Specification for Copper Sheet and Strip for Building Construction; 2012.
- F. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.
- G. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2012)e1.
- H. CDA A4050 - Copper in Architecture - Handbook; Copper Development Association, Inc.; current edition.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene one week before starting work of this section.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- C. Samples: Submit two samples, [1'-0"] inch in size illustrating material of typical downspout.
- D. Samples: Submit two samples, [3'-0"] inch in size illustrating material of typical through-wall flashing.

- E. Samples: Submit two samples, 1'-0" inch in size illustrating material of typical edge metal.
- F. Samples: Submit two samples 1'-0" inch in size illustrating metal finish color.

#### 1.07 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

#### 1.08 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

### **PART 2 PRODUCTS**

#### 2.01 SHEET MATERIALS

- A. Galvanized Steel: ASTM A653/A653M, with G90/Z275 zinc coating; minimum 24 gage (0.0239 inch) thick base metal.
- B. Pre-Finished Aluminum: ASTM B209 (ASTM B209M); 20 gage (0.032 inch) thick; plain finish shop pre-coated with modified silicone coating.
  - 1. Modified Silicone Polyester Coating: Pigmented Organic Coating System, AAMA 2603; baked enamel finish system.
- C. Copper: ASTM B370, cold rolled 16 oz/sq ft (24 gage) (0.0216 inch) thick; Zinc finish.

#### 2.02 ACCESSORIES

- A. Fasteners: Galvanized steel, with soft neoprene washers.
- B. Primer: Zinc chromate type.
- C. Protective Backing Paint: Zinc molybdate alkyd.
- D. Sealant to be Concealed in Completed Work: Non-curing butyl sealant.
- E. Sealant to be Exposed in Completed Work: ASTM C920; elastomeric sealant, 100 percent silicone with minimum movement capability of plus/minus 25 percent and recommended by manufacturer for substrates to be sealed; clear.
- F. Plastic Cement: ASTM D4586, Type I.

#### 2.03 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest possible lengths.
- C. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- D. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- E. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

### **3.02 PREPARATION**

- A. Install starter and edge strips, and cleats before starting installation.
- B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

### **3.03 INSTALLATION**

- A. Conform to drawing details.
- B. Insert flashings into reglets to form tight fit. Secure in place with lead wedges. Pack remaining spaces with lead wool. Seal flashings into reglets with sealant.
- C. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.
- D. Apply plastic cement compound between metal flashings and felt flashings.
- E. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- F. Secure gutters and downspouts in place using concealed fasteners.
- G. Connect downspouts to downspout boots. Grout connection watertight.

### **3.04 FIELD QUALITY CONTROL**

- A. See Section 01 40 00 - Quality Requirements, for field inspection requirements.
- B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

### **3.05 SCHEDULE**

- A. Through-Wall Flashing in Masonry:
  - 1. Material: Zinc Coated Copper.
  - 2. Thickness: 16 oz. inch.
  - 3. Finish: Zinc.
- B. Flashings Associated with Shingle Roofing, including Valley, Hip, Eave, and Gutter Edge.
- C. Counterflashings at Roofing Terminations (over roofing base flashings):
- D. Roofing Penetration Flashings, for Pipes, Structural Steel, and Equipment Supports:

## **END OF SECTION**

## **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 WORK TO BE PERFORMED**

- 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 specification, and needed to install a complete assembly in every way, with all hardware, finishes, and accessories. Coordinate the Joint Sealants work with all the other trades for the project. Provide all demolition and disposal work 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 Subcontractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. Caulk at new exterior door installation.
    - b. Provide silicone perimeter sealant as detailed for all exterior applications.
    - c. Sealant at baseboards, casings, and trim.
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. Sealant at perimeter of toilet fixtures and vanity top.
    - b. Provide paintable acrylic sealant as detailed for interior application.
    - c. Baseboards and window and door trim at modified and new walls.

#### **JOINT SEALANTS**

4. Food Pantry

- a. Provide paintable acrylic sealant as detailed for interior application.
- b. Provide silicone perimeter sealant as detailed for all exterior applications.
- c. Provide a complete watertight installation as per good construction practice.
- d. Caulk at new exterior door installations.

C. Alternate Work:

1. Add Alternate No. 1: Renovation of Men's Restroom, and Men's Restroom Vestibule.

- a. Sealant at perimeter of toilet fixtures.
- b. Provide paintable acrylic sealant as detailed for interior application.
- c. Baseboards and window and door trim at modified and new walls.

1.03 RELATED REQUIREMENTS

- A. Section 08 71 00 - Door Hardware: Setting exterior door thresholds in sealant.
- B. Section 09 30 00 - Tiling: Sealant between tile and plumbing fixtures and at junctions with other materials and changes in plane.

1.04 REFERENCE STANDARDS

- A. ASTM C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants; 2015.
- B. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2000 (Reapproved 2011).
- 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; [www.aqmd.gov](http://www.aqmd.gov).

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.
- C. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.

## 1.06 QUALITY ASSURANCE

- A. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
  - 1. Adhesion Testing: In accordance with ASTM C794.
  - 2. Compatibility Testing: In accordance with ASTM C1087.
  - 3. Allow sufficient time for testing to avoid delaying the work.
  - 4. Deliver to manufacturer sufficient samples for testing.
  - 5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.
  - 6. Testing is not required if sealant manufacturer provides data showing previous testing, not older than 24 months, that shows satisfactory adhesion, lack of staining, and compatibility.

## 1.07 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

# PART 2 PRODUCTS

## 2.01 JOINT SEALANT APPLICATIONS

- A. Scope:
  - 1. Exterior Joints: Seal open joints, whether or not the joint is indicated on the drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
    - a. Joints in concrete walkway.
    - b. Joints between door, window, and other frames and adjacent construction.
    - c. Joints between different exposed materials.
  - 2. 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.
  - 3. Do not seal the following types of joints.
    - a. Intentional weepholes in masonry.
    - b. Joints between suspended panel ceilings/grid and walls.
- B. Exterior Joints: Use nonsag non-staining silicone sealant, unless otherwise indicated.
  - 1. Exterior Sealants: Medium modulus, neutral cure single component, non sag, Silicone sealant ASTM C 920 79/Type S/Class 25/Grade NS, such as 795 by Dow Corning, 864 by Pecora, or approved Equal.



2. Primer: A primer shall be used at all locations in accordance with the manufacturer's instructions, with all primers being installed prior to the installation of any backer rod or bond breaker tape. Manufacturer shall be consulted for all surfaces not specifically covered in submittal application instructions.
  3. Backer Rod: Shall be closed cell polyethylene or polyurethane as recommended by the sealant manufacturer for compatibility with sealant.
  4. Bond Breaker Tape: Any acceptable polyethylene or similar type bond breaker tape shall be used to prevent three (3) sided adhesion in locations where backer rod cannot be used.
- C. 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.
- D. 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 South Coast Air Quality Management District (SCAQMD); Rule 1168.
  - B. Colors: As directed by Architect.

## **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.

## **JOINT SEALANTS**

- 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**

## **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 WORK TO BE PERFORMED**

- 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 specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Hollow Metal Frames work with all the other trades for the project. Provide all demolition and disposal work 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. Install frames at toilet room.
  - 4. Food Pantry
    - a. Install frame at storage room.
    - b. Install frame at new interior handicap ramp.

C. Alternate Work:

1. Add Alternate 1: Men's Restroom, and Men's Restroom Vestibule
  - a. Install frames at toilet room.

1.03 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 13 - Exterior Painting: Field painting.
- D. Section 09 91 23 - Interior Painting: Field painting.

1.04 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2011.
- C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2014.
- D. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2011.
- E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- F. 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.
- G. 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.
- H. ICC A117.1 - Accessible and Usable Buildings and Facilities; International Code Council; 2009 (ANSI).
- 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.
- K. NAAMM HMMA 840 - Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames; 2007.

1.05 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. Provide details at 3" to 1' scale and dimensioned elevations at not less than 3/8" to 1' scale.
- D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.

#### 1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store in accordance with applicable requirements and in compliance with standards and/or custom guidelines as indicated.
- B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.

### PART 2 PRODUCTS

#### 2.01 MANUFACTURERS

- A. Hollow Metal Frames with Integral Casings:
  - 1. Ceco Door, an Assa Abloy Group company: [www.assaabloydss.com](http://www.assaabloydss.com).
  - 2. Republic Doors: [www.republicdoor.com](http://www.republicdoor.com).
  - 3. Steelcraft, an Allegion brand: [www.allegion.com/us](http://www.allegion.com/us).
  - 4. Or approved equal.

#### 2.02 DESIGN CRITERIA

- A. Refer to Door and Frame Schedule on the drawings for frame sizes, fire ratings, sound ratings, finishing, door hardware to be installed, and other variations, if any.
- B. Door Frame Type: Provide hollow metal door frames with integral casings.
- C. Steel used for fabrication of frames shall comply with one or more of the following requirements; Galvannealed 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.
- D. Accessibility: Comply with ICC A117.1 and ADA Standards.
- E. 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.
- F. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
- G. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.

## 2.03 HOLLOW METAL DOOR FRAMES WITH INTEGRAL CASINGS

- A. Frame Finish: Factory primed and field finished.
- B. Type 1, Interior Door Frames, Non-Fire Rated: Knock-down type.
  - 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
    - a. Level 1 - Standard-duty.
    - b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
    - c. Frame Metal Thickness: 18 gage, 0.042 inch, minimum.
    - d. Zinc Coating: Manufacturer's standard coating thickness; ASTM A653/A653M.
  - 2. Terminated Stops: Provide at interior doors; closed end stop terminated 6 inch above floor at 45 degree angle.

## 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. Grout for Frames: Portland cement grout with maximum 4 inch slump for hand troweling; thinner pumpable grout is prohibited.
- C. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

## 2.05 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.
- B. Bituminous Coating: Asphalt emulsion or other high-build, water-resistant, resilient coating.

# 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. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.

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CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
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CBI Consulting Inc.  
Boston, Massachusetts  
Tel: (617) 268-8977  
Fax: (617) 464-2971

- E. Coordinate installation of hardware.
- F. Touch up damaged factory finishes.

3.04 TOLERANCES

- A. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

**END OF SECTION**

## **SECTION 08 14 16**

### **FLUSH WOOD DOORS**

#### **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 WORK TO BE PERFORMED**

- A. Provide all the Flush Wood Doors work required to complete the work of the contract including all the Flush Wood Doors work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Flush Wood Doors work with all the other trades for the project. Provide all demolition and disposal work to complete the Flush Wood Doors 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. Install door to toilet room.
  - 4. Food Pantry
    - a. Install door at storage room.
    - b. Install door at new interior handicap ramp.
    - c. Install door at the second floor fire escape.



C. Alternate Work:

1. Add Alternate 1: Men's Restroom and Men's Restroom Vestibule
  - a. Install door to toilet room.

1.03 RELATED REQUIREMENTS

- A. Section 08 12 13 - Hollow Metal Frames.
- B. Section 08 71 00 - Door Hardware.
- C. Section 09 91 23 - Interior Painting: Field finishing of doors.

1.04 REFERENCE STANDARDS

- A. ANSI A135.4 - American National Standard for Basic Hardboard; 2012.
- B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
- C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
- D. Specimen warranty.
- E. Samples: Submit one sample of door construction, 6 by 6 inch in size cut from top corner of door.
- F. Manufacturer's Installation Instructions: Indicate special installation instructions.
- G. Warranty, executed in Owner's name.

1.06 QUALITY ASSURANCE

- A. Maintain one copy of the specified door quality standard on site for review during installation and finishing.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver and store doors in accordance with specified quality standard.
- B. Accept doors on site in manufacturer's packaging. Inspect for damage.
- C. Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

1.08 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Interior Doors: Provide manufacturer's warranty for the life of the installation.

- C. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Wood Veneer Faced Doors:
  - 1. Graham Wood Doors: [www.grahamdoors.com](http://www.grahamdoors.com).
  - 2. Haley Brothers: [www.haleybros.com](http://www.haleybros.com).
  - 3. Marshfield DoorSystems, Inc: [www.marshfielddoors.com](http://www.marshfielddoors.com).
  - 4. Or approved equal.

### **2.02 DOORS AND PANELS**

- A. Doors: See drawings for locations and additional requirements.
  - 1. Quality Level: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS).
  - 2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.
- B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
  - 1. Provide solid core doors at each location.
  - 2. Wood veneer facing for field opaque finish as indicated on drawings.

### **2.03 DOOR AND PANEL CORES**

- A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

### **2.04 DOOR FACINGS**

- A. Veneer Facing for Opaque Finish: Medium density overlay (MDO), in compliance with indicated quality standard.
- B. Hardboard Facing for Opaque Finish: ANSI A135.4, Class 1 - Tempered, S2S (smooth two sides) hardboard, 1/8 inch thick.

### **2.05 DOOR CONSTRUCTION**

- A. Fabricate doors in accordance with door quality standard specified.
- B. Cores Constructed with stiles and rails:
  - 1. Provide solid blocks at lock edge for hardware reinforcement.
- C. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
- D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
  - 1. Exception: Doors to be field finished.
- E. Provide edge clearances in accordance with the quality standard specified.

**2.06 FACTORY FINISHING - WOOD VENEER DOORS**

- A. Finish work in accordance with AWI/AWMAC/WI (AWS), Section 5 - Finishing for grade specified and as follows:
  - 1. Opaque:
    - a. System - 4, Latex Acrylic, Water-based.
    - b. Color: As selected by Architect.
    - c. Sheen: Semigloss.
- B. Factory finish doors in accordance with approved sample.
- C. Seal door top edge with color sealer to match door facing.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

**3.02 INSTALLATION**

- A. Install doors in accordance with manufacturer's instructions and specified quality standard.
- B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.
- C. Field-Finished Doors: Trimming to fit is acceptable.
  - 1. Adjust width of non-rated doors by cutting equally on both jamb edges.
  - 2. Trim maximum of 3/4 inch off bottom edges.
- D. Use machine tools to cut or drill for hardware.
- E. Coordinate installation of doors with installation of frames and hardware.

**3.03 TOLERANCES**

- A. Conform to specified quality standard for fit and clearance tolerances.
- B. Conform to specified quality standard for telegraphing, warp, and squareness.

**3.04 ADJUSTING**

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

**END OF SECTION**

## **SECTION 08 16 13**

### **FIBERGLASS DOORS**

#### **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 WORK TO BE PERFORMED**

- A. Provide all the Fiberglass Door work required to complete the work of the contract including all the Fiberglass Door work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Fiberglass Door work with all the other trades for the project. Provide all demolition and disposal work to complete the Fiberglass Door 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. Install entry door and hardware.
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA
  - 4. Food Pantry
    - a. NA

1.03 RELATED REQUIREMENTS

- A. Section 08 71 00 - Door Hardware: Other door hardware.
- B. Section 09 91 23 - Interior Painting: Field finishing.

1.04 REFERENCE STANDARDS

- A. AAMA 1304; Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems.
- B. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position; 2014.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- D. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- E. ASTM E330; Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Pressure Difference.
- F. ASTM E331; Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- G. ASTM E547; Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.
- H. ASTM E 1886; Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
- I. ASTM E 1996; Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard details, installation instructions, and hardware and anchor recommendations.
- C. Shop Drawings: Show layout and profiles; include assembly methods.
  - 1. Indicate product components, including hardware reinforcement locations and preparations, accessories, finish colors, patterns, and textures.
  - 2. Indicate wall conditions, door and frame elevations, sections, materials, gages, finishes, location of door hardware by dimension, and details of openings; use same reference numbers indicated on Drawings to identify details and openings.
- D. Selection Samples: Submit two complete sets of color chips, illustrating manufacturer's available finishes, colors, and textures.
- E. Maintenance Data: Include instructions for repair of minor scratches and damage.
- F. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer; include detailed terms of warranty.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with not less than three years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- B. Store materials in original packaging, under cover, protected from exposure to harmful weather conditions and from direct contact with water.
  - 1. Store at temperature and humidity conditions recommended by manufacturer.
  - 2. Do not use non-vented plastic or canvas shelters.
  - 3. Immediately remove wet wrappers.
- C. Store in position recommended by manufacturer, elevated minimum 4 inch above grade, with minimum 1/4 inch space between doors.

**PART 2 PRODUCTS**

2.01 MANUFACTURERS

- A. Fiberglass Clad Doors:
  - 1. Jeld-Wen Fiberglass Doors; Architectural Collection: [www.jeld-wen.com](http://www.jeld-wen.com).
  - 2. Therma-Tru Doors; Classic Craft Mahogany: [www.thermatru.com](http://www.thermatru.com).
  - 3. Pella Doors; Architect Series: [www.pella.com](http://www.pella.com)
  - 4. Or approved equal.

2.02 DOOR AND FRAME ASSEMBLIES

- A. Door and Frame Assemblies: Factory-fabricated, prepared and machined for hardware.
  - 1. Door and frame pre-assembled, complete with hinges; shipped with braces, spreaders, and packaging as required to prevent damage.
  - 2. Screw-Holding Capacity: Tested to 900 psi, minimum.
  - 3. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less, Class A; when tested in accordance with ASTM E84.
  - 4. Flammability: Self-extinguishing when tested in accordance with ASTM D635.
  - 5. Clearance Between Door and Frame: 1/8 inch, maximum.
  - 6. Clearance Between Bottom of Door and Finished Floor: 3/4 inch, maximum; not less than 1/4 inch clearance to threshold.

2.03 COMPONENTS

- A. Doors: Through-color coating on fiberglass reinforced resin construction with reinforced core.
  - 1. Thickness: 1-3/4 inches, overall.

2. Door Construction: Fiberglass faces adhered to engineered wood frames with core materials and bonding agents that permanently lock skin to frame.
  3. Subframe and Reinforcements: Stile and Rails: engineered wood.
  4. Hardware Preparations: Factory reinforce, machine, and prepare for all hardware including field installed items; provide solid blocking for each hardware item; make field cutting, drilling or tapping unnecessary; obtain manufacturer's templates for hardware preparations.
- B. Frames: Profiles and dimensions as indicated on drawings; same type and construction used in mechanical durability test for doors.
1. Corner Joints: Rabbeted with concealed corner blocks or angles of same material as frame.
- C. Hinge and Hardware Fasteners: Stainless steel, Type 304; wood screws.
- 2.04 ACCESSORIES
- A. Glazing Stops: Fiberglass unless otherwise indicated or required by fire rating; provided by door manufacturer to fit factory made openings, color and texture to match door; fasteners not penetrating waterproof integrity.
1. Exterior Doors: Provide non-removable stops on outside and continuous compression gasket weatherseal.
  2. Glazed Openings: Provide removable stops on one side.
  3. Opening Sizes: As indicated on drawings.
- B. Glazing: Fully tempered float glass, 3/4 inch thick, insulated, clear.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify actual dimensions of openings by field measurements before door fabrication; show recorded measurements on shop drawings.
- B. Do not begin installation until substrates have been properly prepared.

### **3.02 PREPARATION**

- A. Remove existing doors and frames, and dispose of all removed materials in accordance with local authorities having jurisdiction.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Clean and prepare substrate in accordance with manufacturer's directions.

### **3.03 INSTALLATION**

- A. Install in accordance with manufacturer's instructions; do not penetrate frames with anchors.
- B. Set units plumb, level, and true-to-line, without warping or racking doors, and with specified clearances; anchor in place.

- C. Separate aluminum and other metal surfaces from sources of corrosion of electrolytic action at points of contact with other materials.

3.04 ADJUSTING

- A. Lubricate, test, and adjust doors to operate easily, free from warp, twist or distortion, and to fit watertight for entire perimeter.
- B. Adjust hardware for smooth and quiet operation.
- C. Adjust doors to fit snugly and close without sticking or binding.

3.05 CLEANING

- A. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance.

3.06 PROTECTION

- A. Protect installed products from damage until Date of Substantial Completion.

**END OF SECTION**



## **SECTION 08 43 13**

### **ALUMINUM-FRAMED STOREFRONTS**

#### **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 WORK TO BE PERFORMED**

- A. Provide all the Aluminum Framed Entrances and Storefront work required to complete the work of the contract including all the Aluminum Framed Entrances and Storefront work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Aluminum Framed Entrances and Storefront work with all the other trades for the project. Provide all demolition and disposal work to complete the Aluminum Framed Entrances and Storefront 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:  
Fabrication and installation of new Aluminum Framed Entrance door. Refer to the Drawings for additional requirements.
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA

4. Food Pantry

- a. Install entry door to food pantry.

1.03 RELATED REQUIREMENTS

- A. Section 07 25 00 - Weather Barriers: Sealing framing to weather barrier installed on adjacent construction.
- B. Section 08 71 00 - Door Hardware: Hardware items other than specified in this section.
- C. Section 08 80 00 - Glazing: Glass and glazing accessories.
- D. Section 09 91 23 - Interior Painting: Field painting of interior surface of infill panels.

1.04 REFERENCE STANDARDS

- A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; 2015.
- B. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document); 2015.
- C. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2012.
- D. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2013.
- E. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate with installation of other components that comprise the exterior enclosure.
- B. Preinstallation Meeting: Conduct a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, internal drainage details.
- C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work, expansion and contraction joint location and details, and field welding required.
- D. Design Data: Provide framing member structural and physical characteristics, engineering calculations, and dimensional limitations.
- E. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.
- F. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Handle products of this section in accordance with AAMA CW-10.

- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

#### 1.08 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

### **PART 2 PRODUCTS**

#### 2.01 BASIS OF DESIGN -- FRAMING FOR INSULATING GLAZING

#### 2.02 BASIS OF DESIGN -- SWINGING DOORS

- A. Medium Stile, Insulating Glazing, Not Thermally-Broken:
  - 1. Basis of Design: Kawneer North America, 350.
  - 2. Thickness: 1-3/4 inches.
- B. Other Manufacturers: Provide either the product identified as "Basis of Design" or an equivalent product of one of the manufacturers listed below:
  - 1. Coral Architectural Products, a division of Coral Industries, Inc.; \_\_\_\_: [www.coralap.com](http://www.coralap.com).
  - 2. C.R. Laurence Co., Inc.; U.S. Aluminum \_\_\_\_: [www.crl-arch.com](http://www.crl-arch.com).
  - 3. EFCO, a Pella Company; \_\_\_\_: [www.efcocorp.com](http://www.efcocorp.com).

#### 2.03 MANUFACTURERS

- A. Aluminum-Framed Storefront and Doors:
  - 1. EFCO Corporation; D-300: [www.efcocorp.com](http://www.efcocorp.com).
  - 2. Kawneer North America; 350: [www.kawneer.com](http://www.kawneer.com).
  - 3. Tubelite, Inc; Medium: [www.tubeliteinc.com](http://www.tubeliteinc.com).

#### 2.04 COMPONENTS

- A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
  - 1. Glazing Stops: Flush.
  - 2. Cross-Section: As indicated on drawings.
- B. Swing Doors: Glazed aluminum.
  - 1. Thickness: 1-3/4 inches.
  - 2. Top Rail: 4 inches wide.
  - 3. Vertical Stiles: 4-1/2 inches wide.
  - 4. Bottom Rail: 10 inches wide.
  - 5. Glazing Stops: Square.

6. Finish: Bronze.

## 2.05 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Fasteners: Stainless steel.
- C. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

## 2.06 FINISHES

- A. Class I Color Anodized Finish: AAMA 611 AA-M12C22A42 Integrally colored anodic coating not less than 0.7 mils thick.
- B. Color: As selected by Architect from manufacturer's standard range.

## 2.07 HARDWARE

- A. For each door, include weatherstripping, sill sweep strip, and threshold.
- B. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.
- C. Sill Sweep Strips: Resilient seal type, retracting, of neoprene; provide on all doors.
- D. Threshold: Extruded aluminum, one piece per door opening, ribbed surface; provide on all doors.
- E. Hinges: Butt type, swing clear; top and bottom.
  - 1. Provide on doors as scheduled.
- F. Push/Pull Set: Standard configuration push/pull handles.
- G. Door Closers: Concealed overhead.
  - 1. Provide on doors as scheduled.
- H. Handle Latch: Paddle.
  - 1. Provide on doors as scheduled.

# PART 3 EXECUTION

## 3.01 EXAMINATION

- A. Verify dimensions, tolerances, and method of attachment with other work.
- B. Verify that wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

## 3.02 INSTALLATION

- A. Install wall system in accordance with manufacturer's instructions.
- B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- C. Provide alignment attachments and shims to permanently fasten system to building structure.

- D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- E. Provide thermal isolation where components penetrate or disrupt building insulation.
- F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
- G. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.
- H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- I. Set thresholds in bed of sealant and secure.
- J. Install hardware using templates provided.
- K. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

### 3.03 ADJUSTING

- A. Adjust operating hardware and sash for smooth operation.

### 3.04 CLEANING

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.
- C. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 609 & 610.

### 3.05 PROTECTION

- A. Protect installed products from damage during subsequent construction.

## **END OF SECTION**

## **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 WORK TO BE PERFORMED**

- 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 specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Door Hardware work with all the other trades for the project. Provide all demolition and disposal work 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 Subcontractor, and each file sub-bidder for the entire project so that all the work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following: Fabrication and installation of new door hardware. Refer to the Drawings for additional requirements.
  - 1. Front Entry
    - a. Install door hardware door to entry door.
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. Install door hardware at toilet room.
  - 4. Food Pantry
    - a. Install door hardware door to storage door.

- b. Install door hardware door to interior Food Pantry doors.
- c. Install door hardware door to fire escape door.
- d. Install door hardware at storage door.

C. Alternate Work

- 1. Add Alternate No. 1: Renovation of Men's Restroom and Men's Restroom Vestibule.
  - a. Install door hardware at toilet room.

1.03 RELATED REQUIREMENTS

- A. Section 08 12 13 - Hollow Metal Frames and doors.
- B. Section 08 14 16 - FLUSH WOOD DOORS.
- C. Section 08 16 13 - Fiberglass Doors.

1.04 REFERENCE STANDARDS

- A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- B. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- C. BHMA A156.1 - American National Standard for Butts and Hinges; Builders Hardware Manufacturers Association, Inc.; 2013 (ANSI/BHMA A156.1).
- D. BHMA A156.2 - American National Standard for Bored and Preassembled Locks & Latches; Builders Hardware Manufacturers Association; 2011 (ANSI/BHMA A156.2).
- E. BHMA A156.4 - American National Standard for Door Controls - Closers; Builders Hardware Manufacturers Association, Inc.; 2013 (ANSI/BHMA A156.4).
- F. BHMA A156.6 - American National Standard for Architectural Door Trim; Builders Hardware Manufacturers Association; 2010 (ANSI/BHMA A156.6).
- G. BHMA A156.7 - American National Standard for Template Hinge Dimensions; Builders Hardware Manufacturers Association; 2014 (ANSI/BHMA A156.7).
- H. BHMA A156.8 - American National Standard for Door Controls - Overhead Stops and Holders; Builders Hardware Manufacturers Association, Inc.; 2010 (ANSI/BHMA A156.8).
- I. BHMA A156.18 - American National Standard for Materials and Finishes; Builders Hardware Manufacturers Association, Inc.; 2012 (ANSI/BHMA A156.18).
- J. BHMA A156.21 - American National Standard for Thresholds; Builders Hardware Manufacturers Association; 2014 (ANSI/BHMA A156.21).
- K. BHMA A156.22 - American National Standard for Door Gasketing and Edge Seal Systems; Builders Hardware Manufacturers Association; 2012 (ANSI/BHMA A156.22).
- L. DHI WDHS.3 - Recommended Locations for Architectural Hardware for Flush Wood Doors; Door and Hardware Institute; 1993; also in WDHS-1/WDHS-5 Series, 1996.
- M. ICC A117.1 - Accessible and Usable Buildings and Facilities; International Code Council; 2009 (ANSI).

- N. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.
- O. NFPA 101 - Life Safety Code; National Fire Protection Association; 2015.
- P. UL (DIR) - Online Certifications Directory; Underwriters Laboratories Inc.; current listings at database.ul.com.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware will be installed upon.
- B. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.
- C. Convey Owner's keying requirements to manufacturers.

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 QUALITY ASSURANCE

- A. Standards for Fire-Rated Doors: Maintain one copy of each referenced standard on site, for use by Architect and Contractor.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- C. Hardware Supplier Qualifications: Company specializing in supplying commercial door hardware .
- D. Hardware Supplier Personnel: Employ an Architectural Hardware Consultant (AHC) to assist the Contractor and Designer in the work of this section.

1.08 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](http://www.allegion.com/us).
- B. Assa Abloy Brands; McKinney or Yale: [www.assaabloydss.com](http://www.assaabloydss.com).
- C. Best Access Systems, division of Stanley Security Solutions: [www.bestaccess.com](http://www.bestaccess.com).
- D. Hager Companies: [www.hagerco.com](http://www.hagerco.com).
- E. Or approved equal.



## 2.02 DOOR HARDWARE - GENERAL

- A. Provide hardware specified or 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.
  - 4. Fire-Rated Doors: NFPA 80.
  - 5. Hardware on Fire-Rated Doors, Except Hinges: Listed and classified by UL (DIR) as suitable for the purpose specified and indicated.
  - 6. Hardware for Smoke and Draft Control Doors (Indicated as "S" on Drawings): Provide hardware that enables door assembly to comply with air leakage requirements of the applicable code.
- 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. Hinges for Fire-Rated Doors: Steel base metal with painted finish.
    - c. Door Closer Covers and Arms: Color to be selected by Architect from manufacturer's standard colors.
    - d. Aluminum door hardware to match aluminum door finish.

## 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.
- D. Latches: Provide a latch for every door that is not required to lock, unless specifically indicated "push/pull" or "not required to latch".

#### 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.
  4. Provide non-removable pins on exterior outswinging doors.
- B. Butt Hinges: Comply with BHMA A156.1 and 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](http://www.assaabloydss.com).
  2. Stanley Black & Decker: [www.stanleyblackanddecker.com](http://www.stanleyblackanddecker.com).
  3. Ives: [www.allegion.com](http://www.allegion.com).
  4. Or approved equal.

#### 2.05 PUSH/PULLS

- A. Push/Pulls: Comply with BHMA A156.6.
  1. Provide push and pull on doors not specified to have lockset, latchset, exit device, or auxiliary lock.
  2. On solid doors, provide matching push plate and pull plate on opposite faces.
- B. Manufacturers - Push/Pulls:
  1. Assa Abloy Brands; McKinney: [www.assaabloydss.com](http://www.assaabloydss.com).
  2. C. R. Laurence Co., Inc: [www.crl-arch.com](http://www.crl-arch.com).

3. Hager Companies: [www.hagerco.com](http://www.hagerco.com).
4. Or approved equal.

## 2.06 CYLINDRICAL LOCKSETS

- A. Locking Functions: As defined in BHMA A156.2, and as follows.
  1. Passage: No locking, always free entry and exit.
  2. 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](http://www.assaabloydss.com).
  2. Best Access Systems, division of Stanley Security Solutions: [www.bestaccess.com](http://www.bestaccess.com).
  3. Schlage, an Allegion brand: [www.allegion.com/us](http://www.allegion.com/us).
  4. Or approved equal.

## 2.07 CLOSERS

- A. Closers: Complying with BHMA A156.4.
  1. Provide surface-mounted, door-mounted closers unless otherwise indicated.
  2. Provide a door closer on every exterior door.
  3. Provide a door closer on every fire- and smoke-rated door. Spring hinges are not an acceptable self-closing device unless specifically so indicated.
  4. At corridors, locate door-mounted closer on room side of door.
  5. Provide doors closers at restroom doors.
  6. At outswinging exterior doors, mount closer in inside of door.
- B. Manufacturers - Surface Mounted Closers:
  1. Assa Abloy Brands; Corbin Russwin, Norton, Rixson, Sargent, or Yale: [www.assaabloydss.com](http://www.assaabloydss.com).
  2. DORMA USA, Inc.; 7400 Series, 8600 Series, 8900 Series, and TS93: [www.dorma.com](http://www.dorma.com).
  3. LCN, an Allegion brand: [www.allegion.com/us](http://www.allegion.com/us).
  4. Or approved equal.

## 2.08 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](http://www.assaabloydss.com).
2. C. R. Laurence Co., Inc: [www.crl-arch.com](http://www.crl-arch.com).
3. Hager Companies: [www.hagerco.com](http://www.hagerco.com).
4. Or approved equal.

## 2.09 GASKETING AND THRESHOLDS

- A. Gaskets: Complying with BHMA A156.22.
  1. On each exterior door, provide weatherstripping gaskets, unless otherwise indicated; top and sides.
    - a. Where exterior door is also required to have fire or smoke rating, provide gaskets functioning as both smoke and weather seals.
  2. On each exterior door, provide door bottom sweep, unless otherwise indicated.
- B. Thresholds: Complying with BHMA A156.21.
  1. At each exterior door, provide a threshold unless otherwise indicated.
  2. Field cut threshold to frame for tight fit.
- C. Fasteners At Exterior Locations: Non-corroding.
- D. Manufacturers - Gasketing and Thresholds:
  1. Assa Abloy Brands; McKinney: [www.assaabloydss.com](http://www.assaabloydss.com).
  2. Hager Companies: [www.hagerco.com](http://www.hagerco.com).
  3. Pemko Manufacturing Co: [www.pemko.com](http://www.pemko.com).
  4. Or approved equal.

## 2.10 PROTECTION PLATES AND ARCHITECTURAL TRIM

- A. Protection Plates:
  1. Kickplate: Provide on push side of every door with closer.
- B. Drip Guard: Provide projecting drip guard over all exterior doors unless they are under a projecting roof or canopy.
- C. Manufacturers - Protection Plates and Architectural Trim:
  1. Assa Abloy Brands; McKinney: [www.assaabloydss.com](http://www.assaabloydss.com).
  2. C. R. Laurence Co., Inc: [www.crl-arch.com](http://www.crl-arch.com).
  3. Hager Companies: [www.hagerco.com](http://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. Install hardware on fire-rated doors and frames in accordance with code and NFPA 80.
- E. Mounting heights for hardware from finished floor to center line of hardware item.
  - 1. For Steel Door Frames: Refer to Section 08 12 13.
  - 2. For Wood Doors: Comply with DHI "Recommended Locations for Architectural Hardware for Wood Flush Doors."
  - 3. Wood Doors: Refer to Section 08 14 16.
- F. Set exterior door thresholds with full-width bead of elastomeric sealant on each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

### 3.03 ADJUSTING

- A. Adjust work under provisions of Section 01 70 00.
- B. Adjust hardware for smooth operation.

### 3.04 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.

### 3.05 PROTECTION

- A. Protect finished Work under provisions of Section 01 70 00.
- B. Do not permit adjacent work to damage hardware or finish.

### **END OF SECTION**

## **SECTION 08 80 00**

### **GLAZING**

#### **PART 1 GENERAL**

##### **1.01 GENERAL REQUIREMENTS**

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01000 as part of this Section.
- 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 the equipment to be furnished complete in every respect, and that this Contractor shall provide all equipment needed and usually furnished in connection with such systems to provide a complete installation. Equipment, materials, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

##### **1.02 WORK TO BE PERFORMED**

- A. Provide all the Glazing work required to complete the work of the contract including all the Glazing work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all hardware, finishes, and accessories. Coordinate the Glazing work with all the other trades for the project. Be responsible for repairing any damage to the finishes as a result of the installation of the new windows. All work of the contract is related. It is the Window Contractor's responsibility to review all the work of each section, and shall coordinate with the General Contract and each Subcontractor, for the entire project so that all the work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA
  - 4. Food Pantry
    - a. All glass units for storefront doors shall be 3/16" glass, as specified below, in insulated 3/4" thick glass units, argon filled space, low-e coated, having a warm edge spacer technology, and tinted.

##### **1.03 RELATED REQUIREMENTS**

- A. Section 07 25 00 - Weather Barriers.

- B. Section 07 92 00 - Joint Sealants: Sealants for other than glazing purposes.
- C. Section 08 43 13 - Aluminum-Framed Storefronts: Glazing furnished as part of storefront assembly.

#### 1.04 REFERENCE STANDARDS

- A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; current edition.
- B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test; 2010.
- C. ASTM C1036 - Standard Specification for Flat Glass; 2011e1.
- D. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.
- E. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.
- F. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass; 2015.
- G. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2012a.
- H. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.
- I. GANA (SM) - GANA Sealant Manual; Glass Association of North America; 2008.
- J. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2014.
- K. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2014.
- L. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2014.

#### 1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Samples: Submit two samples 12" by 12" inch in size of glass units.
- C. Samples: Submit 12" inch long bead of glazing sealant, color as selected.

#### 1.06 FIELD CONDITIONS

- A. Do not install glazing when ambient temperature is less than 40 degrees F.

#### 1.07 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

## PART 2 PRODUCTS

#### 2.01 MANUFACTURERS

- A. Glass Fabricators:
  - 1. JE Berkowitz, LP: [www.jeberkowitz.com](http://www.jeberkowitz.com).
  - 2. Trulite Glass & Aluminum Solutions: [www.trulite.com](http://www.trulite.com).

3. Viracon, Inc.: [www.viracon.com](http://www.viracon.com).

## 2.02 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

- A. Select type and thickness of exterior glazing assemblies to withstand dead and live loads caused by positive and negative wind pressure acting normal to plane of glass.
1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
  2. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
  3. Glass thicknesses listed are minimum.
- B. Vapor Retarder and Air Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure vapor retarder and air barrier.
1. In conjunction with vapor retarder and joint sealer materials described in other sections.
- C. Thermal and Optical Performance: Provide glass products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 5.2/6.3 computer program.
  2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 5.2/6.3 computer program.
  3. Solar Optical Properties: Comply with NFRC 300 test method.

## 2.03 GLASS MATERIALS

- A. Float Glass: Provide float glass based glazing unless noted otherwise.
1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
  2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and FT.
  3. Fully Tempered Safety Glass: Complies with ANSI Z97.1 and 16 CFR 1201 criteria.
  4. Tinted Type: ASTM C1036, Class 2 - Tinted, Quality-Q3, color and performance characteristics as indicated.
  5. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.

## 2.04 INSULATING GLASS UNITS

- A. Insulating Glass Units Manufacturers:
1. Cardinal Glass Industries: [www.cardinalcorp.com](http://www.cardinalcorp.com).
  2. Guardian Industries Corp: [www.sunguardglass.com](http://www.sunguardglass.com).
  3. Pilkington North America Inc: [www.pilkington.com/na](http://www.pilkington.com/na).
- B. Insulating Glass Units: Types as indicated.



1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
  2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
  3. Spacer Color: Bronze.
  4. Edge Seal:
  5. Color: Black.
  6. Purge interpane space with dry air, hermetically sealed.
- C. Type IG-1 - Insulating Glass Units: Vision glass, double glazed.
1. Applications: Exterior glazing unless otherwise indicated.
  2. Space between lites filled with air.
  3. Outboard Lite: Annealed float glass, 1/4 inch thick, minimum.
    - a. Tint: Clear.
  4. Inboard Lite: Annealed float glass, 1/4 inch thick, minimum.
    - a. Tint: Clear.
  5. Total Thickness: 1 inch.
  6. Thermal Transmittance (U-Value), Summer - Center of Glass: 3/4", nominal.

## 2.05 GLAZING UNITS

- A. Type G-1 - Monolithic Exterior Vision Glazing:
1. Applications: Exterior glazing unless otherwise indicated.
  2. Glass Type: Annealed float glass.
  3. Tint: Clear.
  4. Thickness: 1/4 inch, nominal.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

### 3.02 INSTALLATION, GENERAL

- A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.
- B. Install glazing sealants in accordance with ASTM C1193, GANA Sealant Manual, and manufacturer's instructions.

3.03 CLEANING

- A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.
- B. Remove non-permanent labels immediately after glazing installation is complete.
- C. Clean glass and adjacent surfaces after sealants are fully cured.
- D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.04 PROTECTION

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.
- B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

**END OF SECTION**

## **SECTION 09 21 16**

### **GYPSUM 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 WORK TO BE PERFORMED**

- A. Provide all Gypsum Board Assembly work required to complete the work of the contract including all the Gypsum Board Assembly work shown in the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning and finishes. Coordinate the Gypsum Board Assembly with all the other trades of the project. Provide all demolition and disposal work to complete the Gypsum Board Assembly work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. Is it the General Contractor's responsibility to review all work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. Install cementitious backer board at toilets.
    - b. Install new partitions, and modify existing partitions.
  - 4. Food Pantry
    - a. Install new partitions, and modify existing partitions.

- b. Install gypsum board and furring channels to existing wood ceiling joist.

C. Alternate Work:

- 1. Add Alternate No. 1: Renovation of Men's Restroom, and Men's Restroom Vestibule.
  - a. Install new partitions, modify partitions, install cementitious backer board at toilets.

1.03 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Building framing and sheathing.
- B. Section 06 10 00 - Rough Carpentry: Wood blocking product and execution requirements.
- C. Section 09 22 16 - Non-Structural Metal Framing.
- D. Section 09 30 00 - Tiling: Tile backing board.

E. REFERENCE STANDARDS

- 1. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.
- 2. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.
- 3. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.
- 4. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.
- 5. 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.
- 6. 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.
- 7. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2014a.
- 8. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.
- 9. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.
- 10. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2013.

F. SUBMITTALS

- 1. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- 2. 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](http://www.clarkdietrich.com).
  - 2. Marino: [www.marinoware.com](http://www.marinoware.com).
  - 3. Phillips Manufacturing Company: [www.phillipsmfg.com](http://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/240 at 5 psf.
  - 1. Studs: "C" shaped with flat or formed webs with knurled faces.
  - 2. Runners: U shaped, sized to match studs.

### **2.03 BOARD MATERIALS**

- A. Manufacturers - Gypsum-Based Board:
  - 1. CertainTeed Corporation: [www.certainteed.com](http://www.certainteed.com).
  - 2. Georgia-Pacific Gypsum: [www.gpgypsum.com](http://www.gpgypsum.com).
  - 3. National Gypsum Company: [www.nationalgypsum.com](http://www.nationalgypsum.com).
  - 4. USG Corporation: [www.usg.com](http://www.usg.com).
  - 5. Or Approved Equal.
- B. 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. 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.

- B. Joint Materials: ASTM C475 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.
- C. 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.
- D. 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 12 inches on center.
  - 1. Extend partition framing to height indicated on drawings.
- C. Blocking: Install wood blocking for support of:
  - 1. Plumbing fixtures.
  - 2. Toilet accessories.
  - 3. Wall mounted door hardware.

#### **3.03 BOARD INSTALLATION**

- A. Comply with ASTM C 840, 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. Installation on Metal Framing: Use screws for attachment of gypsum board.
- D. Installation on Wood Framing: For non-rated assemblies, install as follows:
  - 1. Single-Layer Applications: Screw attachment.

#### **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. Paper Faced Gypsum Board: Use fiberglass joint tape, bedded with powder-type vinyl-based joint compound and finished with powder-type vinyl-based joint compound.

### **GYPSUM BOARD**

### **ASSEMBLIES**

- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
  - 1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
  - 2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
  - 3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
- 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.

### 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**

## **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 WORK TO BE PERFORMED**

- 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 specification, and needed to install a complete assembly in every way. Coordinate the Tiling work with all the other trades for the project. Provide all demolition and disposal work 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. Install wall and floor tile in toilet rooms.
  - 4. Food Pantry
    - a. NA



C. Alternate Work

1. Add Alternate No. 001: Renovation of Men's Restroom and Men's Restroom Vestibule.
  - a. Install wall and floor tile in toilet rooms.

1.03 SECTION INCLUDES

- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Cementitious backer board as tile substrate.
- D. Ceramic accessories.

1.04 RELATED REQUIREMENTS

- A. Section 07 92 00 - Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.
- B. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES: Tile backer board.

1.05 REFERENCE STANDARDS

- A. ANSI A108/A118/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile - Version; 2014.
- B. ANSI A108.1A - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2014.
- C. 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).
- D. 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 Mortar; 1999 (Reaffirmed 2010).
- E. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2009 (Revised).
- F. 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).
- G. 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).
- H. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2010).
- I. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (Reapproved 2010).
- J. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (Reapproved 2010).

- K. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2010 (Revised).
- L. ANSI A108.12 - American National Standard Specifications for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- M. ANSI A108.13 - American National Standard Specifications for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2010).
- N. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; 2012 (Revised).
- O. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2010 (Revised).
- P. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (Reaffirmed 2010).
- Q. ANSI A118.15 - American National Standard Specifications for Improved Modified Dry-Set Cement Mortar; 2012.
- R. ANSI A137.1 - American National Standard Specifications for Ceramic Tile - Version; 2013.1.
- S. 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. See Section 01 60 00 - Product Requirements, for additional provisions.
  - 2. Extra Tile: 10 square feet of each size, color, and surface finish combination.

#### 1.07 QUALITY ASSURANCE

- A. Maintain one copy of and ANSI A108/A118/A136.1 and TCNA (HB) on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.
- C. Installer Qualifications: Company specializing in performing tile installation, with minimum of five years of documented experience.

#### 1.08 DELIVERY, STORAGE, AND HANDLING

- A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

## 1.09 FIELD CONDITIONS

- A. Do not install solvent-based products in an unventilated environment.
- 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](http://www.americanolean.com).
  - 2. Dal-Tile Corporation: [www.daltile.com](http://www.daltile.com).
  - 3. Emser Tile, LLC: [www.emser.com](http://www.emser.com).
  - 4. Or approved equal.
- B. Ceramic Mosaic Floor Tile: ANSI A137.1, standard grade.
  - 1. Size: 2 by 2 inch, nominal.
  - 2. Shape: Hexagon.
  - 3. Edges: Square.
  - 4. Surface Finish: Matte glazed.
  - 5. Color(s): To be selected by Architect from manufacturer's standard range.
- C. Glazed Wall Tile: ANSI A137.1, standard grade.
  - 1. Size: Field tile, 3 by 6 inch, nominal.
  - 2. Edges: Square.
  - 3. Colors: Field tile color and contrasting trim tile color 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 SETTING MATERIALS

- A. Manufacturers:
  - 1. ARDEX Engineered Cements: [www.ardexamericas.com](http://www.ardexamericas.com).
  - 2. Bostik Inc: [www.bostik-us.com](http://www.bostik-us.com).
  - 3. Custom Building Products: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
  - 4. LATICRETE International, Inc: [www.laticrete.com](http://www.laticrete.com).
  - 5. Merkrete, by Parex USA, Inc: [www.merkrete.com](http://www.merkrete.com).
  - 6. ProSpec, an Oldcastle brand: [www.prospec.com](http://www.prospec.com).
  - 7. Or approved equal.
- B. Latex-Portland Cement Mortar Bond Coat: ANSI A118.4 or ANSI A118.15.

1. Applications: Use this type of bond coat where indicated and where no other type of bond coat is indicated.
2. Products:
  - a. ARDEX Engineered Cements; ARDEX X 77 MICROTEC: [www.ardexamericas.com](http://www.ardexamericas.com).
  - b. AVM Industries, Inc; Thin-Set 780: [www.avmindustries.com](http://www.avmindustries.com).
  - c. Custom Building Products; Complete Contact-LFT Premium Rapid Setting Large Format Tile Mortar, with Multi-Surface Bonding Primer: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
  - d. LATICRETE International, Inc; LATICRETE 254 Platinum: [www.laticrete.com](http://www.laticrete.com).
  - e. Merkrete, by Parex USA, Inc; Merkrete 720 Marble Pro: [www.merkrete.com](http://www.merkrete.com).
  - f. ProSpec, an Oldcastle brand; Permalastic System: [www.prospec.com](http://www.prospec.com).
  - g. 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](http://www.laticrete.com).
    - b. Merkrete, by Parex USA, Inc.; Merkrete Underlay C: [www.merkrete.com](http://www.merkrete.com).
    - c. Proflex Products, Inc; MSI - Mud Set Installation: [www.proflex.us](http://www.proflex.us).
    - d. Or approved equal.

## 2.03 GROUTS

- A. Manufacturers:
  1. ARDEX Engineered Cements: [www.ardexamericas.com](http://www.ardexamericas.com).
  2. Bostik Inc: [www.bostik-us.com](http://www.bostik-us.com).
  3. Custom Building Products: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
  4. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: [www.laticrete.com](http://www.laticrete.com).
  5. Merkrete, by Parex USA, Inc; Merkrete Non-Sanded Color Grout: [www.merkrete.com](http://www.merkrete.com).
  6. ProSpec, an Oldcastle brand; ProColor Sanded Tile Grout: [www.prospec.com](http://www.prospec.com).
  7. Or approved equal.
- B. 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. ARDEX Engineered Cements; ARDEX FG-C MICROTEC:  
[www.ardexamericas.com](http://www.ardexamericas.com).
- b. Bostik Inc: [www.bostik-us.com](http://www.bostik-us.com).
- c. Custom Building Products; Fusion Pro Single Component Grout:  
[www.custombuildingproducts.com](http://www.custombuildingproducts.com).
- d. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout:  
[www.laticrete.com](http://www.laticrete.com).
- e. Merkrete, by Parex USA, Inc; Merkrete Non-Sanded Color Grout:  
[www.merkrete.com](http://www.merkrete.com).
- f. ProSpec, an Oldcastle brand; ProColor Sanded Tile Grout: [www.prospec.com](http://www.prospec.com).
- g. Or approved equal.

#### 2.04 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](http://www.ardexamericas.com).
    - b. Custom Building Products; Commercial 100% Silicone Caulk:  
[www.custombuildingproducts.com](http://www.custombuildingproducts.com).
    - c. LATICRETE International, Inc; LATICRETE LATASIL: [www.laticrete.com](http://www.laticrete.com).
    - d. Merkrete, by Parex USA, Inc; Merkrete Colored Caulking: [www.merkrete.com](http://www.merkrete.com).
    - e. ProSpec, an Oldcastle brand; ProColor Advantage Caulk: [www.prospec.com](http://www.prospec.com).
    - f. 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.

#### 2.05 ACCESSORY MATERIALS

- A. Backer Board: Cementitious type complying with ANSI A118.9; high density, glass fiber reinforced, 1/2 inch thick; 2 inch wide coated glass fiber tape for joints and corners.
- B. Mesh Tape: 2 inch wide self-adhesive fiberglass mesh tape.

### 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. Install backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of setting material to a feather edge.
- E. 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. Keep control and expansion joints free of mortar, grout, and adhesive.
- I. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- J. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
- K. 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. Mortar Bed Thickness: 5/8 inch, unless otherwise indicated.

### 3.05 CLEANING

- A. Clean tile and grout surfaces.

### 3.06 PROTECTION

- A. Do not permit traffic over finished floor surface for 4 days after installation.

### 3.07 SCHEDULE

- A. Restroom Floors:

CITY OF SOMERVILLE  
CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
CBI JOB NO.:15036-C

CBI Consulting Inc.  
Boston, Massachusetts  
Tel: (617) 268-8977  
Fax: (617) 464-2971

1. Tile: Ceramic.
  - a. Size: 1 by 1 inch.
  - b. Color: Color No. 1 for tile; Color No. 2 for base.
2. Installation Method: Mortar bed.

**END OF SECTION**

## **SECTION 09 51 00**

### **SUSPENDED 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 WORK TO BE PERFORMED**

- A. Provide all the Suspended Acoustical Ceilings work required to complete the work of the contract including all the Suspended Acoustical Ceilings work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Suspended Acoustical Ceilings work with all the other trades for the project. Provide all demolition and disposal work to complete the Suspended Acoustical Ceilings 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
    - a. Front Entry
      - 1) NA
    - b. Stairs
      - 1) NA
    - c. Women's Restroom, and Women's Restroom Vestibule
      - 1) Furnish and Install acoustic tiles in existing acoustic tile grid for the Women's Restroom.



- d. Food Pantry
      - 1) NA
    - 2. Alternate Work
      - a. Add Alternate No. 1: Renovation of Men's Restroom and Men's Restroom Vestibule.
        - 1) Furnish and Install acoustic tiles in existing acoustic tile grid for the Men's Restroom.
  - C. Alternate Work:
    - 1. Add Alternate No. 1: Renovation of Men's Restroom and Men's Restroom Vestibule.
      - a. Furnish and Install acoustic tiles in existing acoustic tile grid for the Men's Restroom.
  - D.
- 1.03 SECTION INCLUDES
- A. Acoustical units.
- 1.04 REFERENCE STANDARDS
- A. 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 and mechanical and electrical items installed in the ceiling.
  - 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 Panels:**

1. Armstrong World Industries, Inc: [www.armstrong.com](http://www.armstrong.com).
2. CertainTeed Corporation: [www.certainteed.com](http://www.certainteed.com).
3. Hunter Douglas Contract: [www.hunterdouglascontract.com](http://www.hunterdouglascontract.com).
4. USG: [www.usg.com](http://www.usg.com).
5. Or approved equal..

### **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 48 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.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

#### **A. Verify existing conditions before starting work.**

### **3.02 INSTALLATION - SUSPENSION SYSTEM**

#### **A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.**

- B. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.
- C. 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.
- D. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- E. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
- F. Do not eccentrically load system or induce rotation of runners.

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. Make field cut edges of same profile as factory edges.
  - 2. Double cut and field paint exposed reveal edges.

**END OF SECTION**

## **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 WORK TO BE PERFORMED**

- 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 specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Resilient Flooring work with all the other trades for the project. Provide all demolition and disposal work 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. Patch existing flooring at areas of wall work.
  - 4. Food Pantry
    - a. Furnish and install resilient flooring work onto existing concrete slab at hall to Food Pantry.

- b. Furnish and install resilient flooring work onto new handicap access ramp with plywood sub-floor.

C. Alternate Work

1. Add Alternate No. 1: Renovation of Men's Restroom and Men's Restroom Vestibule.

- a. Patch existing flooring at areas of wall work.

1.03 REFERENCE STANDARDS

- A. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile; 2004 (Reapproved 2014)e1.
- B. ASTM F1861 - Standard Specification for Resilient Wall Base; 2008 (Reapproved 2012)e1.
- C. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; Resilient Floor Covering Institute; October 2011.

1.04 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. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.05 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.

1.06 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:
  - a. To Match existing at location where patching at Restroom Vestibule.
  - b. To be selected by Owner and the Architect.
6. Manufacturers:
  - a. Armstrong World Industries, Inc: [www.armstrong.com](http://www.armstrong.com).
  - b. Johnsonite, a Tarkett Company: [www.johnsonite.com](http://www.johnsonite.com).
  - c. Mannington Mills, Inc: [www.mannington.com](http://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 thick.
  3. Finish: Satin.
  4. Length: Roll.
  5. Color: Color as selected from manufacturer's standards.
  6. Accessories: Premolded external corners and end stops.
  7. Manufacturers:
    - a. Burke Flooring: [www.burkemercer.com](http://www.burkemercer.com).
    - b. Johnsonite, a Tarkett Company: [www.johnsonite.com](http://www.johnsonite.com).
    - c. Roppe Corp: [www.roppe.com](http://www.roppe.com).
    - d. Approved Equal.

## 2.03 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.
- B. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.
- C. Moldings, Transition and Edge Strips: Same material as flooring.
- D. Sealer and Wax: Types recommended by flooring manufacturer.

# PART 3 EXECUTION

## 3.01 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.
- 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 resilient base.

### 3.02 PREPARATION

- A. Remove existing resilient flooring and flooring adhesives; follow the recommendations of RFCI (RWP).
- B. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- C. 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.
- D. Prohibit traffic until filler is fully cured.
- E. Clean substrate.
- F. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

### 3.03 INSTALLATION

- A. Starting installation constitutes acceptance of sub-floor conditions.
- B. Install in accordance with manufacturer's written instructions.
- C. Spread only enough adhesive to permit installation of materials before initial set.
- D. Fit joints and butt seams tightly.
- E. Set flooring in place, press with heavy roller to attain full adhesion.
- F. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.
- G. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
  - 1. Resilient Strips: Attach to substrate using adhesive.
- H. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

### 3.04 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 tile pattern.

### 3.05 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.

### 3.06 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**

CITY OF SOMERVILLE  
CROSS STREET SENIOR CENTER RENOVATIONS  
SOMERVILLE, MA  
CBI JOB NO.:15036-C

CBI Consulting Inc.  
Boston, Massachusetts  
Tel: (617) 268-8977  
Fax: (617) 464-2971



## **SECTION 09 91 13**

### **EXTERIOR PAINTING**

#### **PART 1 GENERAL**

##### **1.01 GENERAL REQUIREMENTS**

- A. Include the General Conditions, Modifications to the General Conditions, and applicable parts of Division 01 as part of this Section.
- B. 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.
- 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 WORK TO BE PERFORMED**

- A. Provide all the Exterior Painting work required to complete the work of the contract including all the Exterior Painting work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Exterior Painting work with all the other trades for the project. Provide all demolition and disposal work to complete the Exterior 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA
  - 4. Food Pantry
    - a. Paint existing exterior T-111 Plywood siding and wood trim.
    - b. Paint steel bollards at walkway at Food Pantry entry.

### 1.03 RELATED REQUIREMENTS

- A. Section 09 91 23 - Interior Painting.

### 1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- 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.
  - 4. Manufacturer's installation instructions.
- 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.

### 1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

### 1.06 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.

### 1.07 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. 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](http://www.behr.com).

2. Benjamin Moore & Co: [www.benjaminmoore.com](http://www.benjaminmoore.com).
3. Cloverdale Paint, Brand Products of Rodda Paint Company:  
[www.cloverdalepaint.com](http://www.cloverdalepaint.com).

## 2.02 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready mixed, unless required 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. Supply each paint material in quantity required to complete entire project's work from a single production run.
  3. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

## 2.03 PAINT SYSTEMS - EXTERIOR

- A. Paint E-OP - Exterior Surfaces to be Painted, Unless Otherwise Indicated: Including primed wood and primed metal.
  1. Two top coats and one coat primer.
  2. Top Coat(s): Exterior Latex; MPI #10, 11, 15, 119, or 214.
    - a. Products:
      - 1) Behr Marquee Exterior Satin Enamel [No. 9450]. (MPI #15)
      - 2) Behr Marquee Exterior Semi-Gloss Enamel [No. 5450]. (MPI #11)
  3. Top Coat Sheen:
    - a. Velvet: MPI gloss level 2; use this sheen at wood trim.
    - b. Semi-Gloss: MPI gloss level 5; use this sheen at metal bollards.

## 2.04 PRIMERS

- A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
  1. Alkali Resistant Water Based Primer; MPI #3.
    - a. Products:
      - 1) Behr Premium Plus Interior/Exterior Multi-Surface Primer and Sealer [No. 436]. (MPI #3)
  2. Anti-Corrosive Alkyd Primer for Metal; MPI #79.
    - a. Products:
      - 1) Pratt & Lambert Rust Inhibitive Metal Primer.

## 2.05 ACCESSORY MATERIALS

- A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.
- C. Test shop-applied primer for compatibility with subsequent cover materials.
- D. 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. Exterior 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 mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces for finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Ferrous Metal:
  - 1. Solvent clean according to SSPC-SP1.
  - 2. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 "Commercial Blast Cleaning". Protect from corrosion until coated.
- G. Exterior Wood Surfaces to Receive Opaque Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior calking compound after prime coat has been applied. Back prime concealed surfaces before installation.

### **3.03 APPLICATION**

- A. Exterior Wood to Receive Opaque Finish: If final painting must be delayed more than 2 weeks after installation of woodwork, apply primer within 2 weeks and final coating within 4 weeks.
- B. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".
- C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- D. Apply each coat to uniform appearance.
- E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

- F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for field inspection.

3.05 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.06 PROTECTION

- A. Protect finishes until completion of project.
- B. Touch-up damaged finishes after Substantial Completion.

**END OF SECTION**

## **SECTION 09 91 23**

### **INTERIOR PAINTING**

#### **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 WORK TO BE PERFORMED**

- 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 specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Interior Painting work with all the other trades for the project. Provide all demolition and disposal work 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NONE
  - 2. Stairs
    - a. Paint steel handrails at Stair to second floor.
  - 3. Restroom
    - a. Paint gypsum board walls, wood trim, ceilings, doors and frames.
    - b. Men's Restroom - ADD ALTERNATE #1.
- C. Alternate Work
  - 1. Add Alternate No. 1: Renovation of Men's Restroom and Men's Restroom Vestibule.

- a. Paint gypsum board walls, wood trim, Food Pantry and Hall ceilings, doors and frames.

D. Food Pantry

1. Paint gypsum board walls and ceilings, wood trim, ceilings, doors and frames.

1.03 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints, stains, and varnishes.
- C. Scope: 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. Glass.
  8. Concealed pipes, ducts, and conduits.

1.04 RELATED REQUIREMENTS

- A. Section 05 50 00 - Metal Fabrications: Shop-primed items.

1.05 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this section.

1.06 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. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; current edition, [www.paintinfo.com](http://www.paintinfo.com).

1.07 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

INTERIOR PAINTING

- 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.

#### 1.08 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.

#### 1.09 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.

#### 1.10 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. Benjamin Moore & Co: [www.benjaminmoore.com](http://www.benjaminmoore.com).
  - 2. Sherwin-Williams Company: [www.sherwin-williams.com](http://www.sherwin-williams.com).
  - 3. Or approved equal.
- C. 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.

## 2.03 PAINT SYSTEMS - INTERIOR

- A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, wood, and plaster.
  - 1. Two top coats and one coat primer.
  - 2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, or 141.
    - a. Products:
      - 1) Sherwin-Williams Pre-Catalyzed Waterbased Epoxy, Eg-Shel. (MPI #139)
      - 2) Sherwin-Williams Pre-Catalyzed Waterbased Epoxy, Semi-Gloss. (MPI #141)
  - 3. Top Coat Sheen:
    - a. Flat: MPI gloss level 1; use this sheen for ceilings and other overhead surfaces.
    - b. Eggshell: MPI gloss level 3; use this sheen at all locations.
  - 4. Primer: As recommended by top coat manufacturer for specific substrate.

## PART 3 EXECUTION

### 3.01 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 mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Masonry:
- F. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.
- G. 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.
- H. 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.
- I. 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.

### 3.02 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. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- D. Apply each coat to uniform appearance in thicknesses specified by manufacturer.
- E. Sand wood and metal surfaces lightly between coats to achieve required finish.
- F. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- G. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- H. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

### 3.03 SCHEDULE - PAINT SYSTEMS

#### **END OF SECTION**

## **SECTION 09 96 00**

### **HIGH-PERFORMANCE COATINGS**

#### **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 WORK TO BE PERFORMED**

- A. Provide all High Performance Coatings work required to complete the work of the contract including all the High Performance Coatings work shown in the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning and finishes. Coordinate the High Performance Coatings with all the other trades of the project. Provide all demolition and disposal work to complete the High Performance Coatings work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. Is it the General Contractor's responsibility to review all work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA
  - 4. Food Pantry
    - a. Seal existing concrete flooring with primer and finish coat.

1.03 REFERENCE STANDARDS

- A. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2005 (Reapproved 2012).
- B. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; current edition, [www.paintinfo.com](http://www.paintinfo.com).
- C. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; current edition, [www.paintinfo.com](http://www.paintinfo.com).
- D. SSPC-SP 13 - Surface Preparation of Concrete; Society for Protective Coatings; 2003 (Reaffirmed 2015).

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide complete list of all 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 coating system(s) product is to be used in; include description of each system.
  - 4. Manufacturer's installation instructions.
  - 5. If proposal of substitutions is allowed under submittal procedures, explanation of all substitutions proposed.
- C. Maintenance Data: Include cleaning procedures and repair and patching techniques.

1.05 QUALITY ASSURANCE

- A. Maintain one copy of each referenced document that applies to application on site.

1.06 MOCK-UP

- A. See Section 01 40 00 - Quality Requirements, for general requirements for mock-up.
- B. Provide mock-up of primer and finish coat, 2'-0" feet long by 2'-0" feet wide, illustrating coating, for each specified coating.
- C. Locate where directed.
- D. Mock-up may remain as part of the work.

1.07 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 coating, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

- C. Coating 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.

#### 1.08 FIELD CONDITIONS

- A. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- B. Do not install materials when temperature is below 55 degrees F or above 90 degrees F.
- C. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.
- D. Restrict traffic from area where coating is being applied or is curing.

#### 1.09 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

### **PART 2 PRODUCTS**

#### 2.01 MANUFACTURERS

- A. High-Performance Coatings:
  - 1. COROTECH HIGH PERFORMANCE; [www.corotechcoatings.com](http://www.corotechcoatings.com).
  - 2. Substitutions: Section 01 60 00 - Product Requirements.

#### 2.02 TOP COAT MATERIALS

- A. Coatings - General: Provide complete multi-coat systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated; number of coats specified does not include primer or filler coat.
- B. Epoxy Coating for concrete floors:
  - 1. Number of coats: Two.
  - 2. Top Coat(s): Amine Epoxy.
    - a. Sheen: Gloss.
    - b. Products:
      - 1) COROTECH High Performance, Waterborne Amine Epoxy V440.
      - 2) Substitutions: Section 01 60 00 - Product Requirements.
- C. Shellac: Pure, white type.

#### 2.03 PRIMERS

- A. Primers: Provide the following unless other primer is required or recommended by coating manufacturer.
  - 1. Primer Sealer, Latex, Interior; MPI #50.
    - a. Products:
      - 1) COROTECH HGH PERFORMANCE, Moisture Tolerant Quick Set Epoxy Sealer V156.
      - 2) Substitutions: Section 01 60 00 - Product Requirements.

## 2.04 ACCESSORY MATERIALS

- A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of coated surfaces.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Do not begin application of coatings until substrates have been properly prepared.
- C. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.
- D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- E. Proceed with coating application only after unacceptable conditions have been corrected.

### 3.02 PREPARATION

- A. Clean surfaces of loose foreign matter.
- B. Remove substances that would bleed through finished coatings. If unremovable, seal surface with shellac.
- C. Remove finish hardware, fixture covers, and accessories and store.
- D. Concrete:
  - 1. Prepare surface as recommended by coating manufacturer and according to SSPC-SP 13.
- E. Protect adjacent surfaces and materials not receiving coating from spatter and overspray; mask if necessary to provide adequate protection. Repair damage.

### 3.03 PRIMING

- A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

### 3.04 COATING APPLICATION

- A. Apply coatings in accordance with manufacturer's written instructions, to thicknesses specified and recommendations in "MPI Architectural Painting and Specification Manual".
- B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

### 3.05 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

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- B. Clean surfaces immediately of overspray, splatter, and excess material.
- C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.06 PROTECTION

- A. Protect finished work from damage.

**END OF SECTION**



## **SECTION 10 21 13.19**

### **PLASTIC TOILET COMPARTMENTS**

#### **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 WORK TO BE PERFORMED**

- A. Provide all the Plastic Toilet Compartments work required to complete the work of the contract including all the Plastic Toilet Compartments work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Plastic Toilet Compartments work with all the other trades for the project. Provide all demolition and disposal work to complete the Plastic Toilet Compartments 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NONE
  - 2. Stairs
    - a. NONE
  - 3. Restroom
    - a. NONE
- C. Alternate Work

1. Add Alternate No. 1: Renovation of Men's Restroom and Men's Restroom Vestibule.
  - a. Provide urinal screens.
- D. Food Pantry
  1. NONE
- 1.03 SECTION INCLUDES
  - A. Solid plastic toilet compartments.
  - B. Urinal screens.
- 1.04 RELATED REQUIREMENTS
  - A. Section 06 10 00 - Rough Carpentry: Blocking and supports.
- 1.05 REFERENCE STANDARDS
- 1.06 ADMINISTRATIVE REQUIREMENTS
  - A. Coordination: Coordinate the work with placement of support framing and anchors in walls.
- 1.07 SUBMITTALS
  - A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
  - B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings.
  - C. Product Data: Provide data on panel construction, hardware, and accessories.
  - D. Samples: Submit two samples of partition panels, 4 by 4 inch in size illustrating panel finish, color, and sheen.
  - E. Manufacturer's Installation Instructions: Indicate special procedures.

## **PART 2 PRODUCTS**

## **PART 3 EXECUTION**

- 3.01 EXAMINATION
  - A. Verify that field measurements are as indicated.
  - B. Verify correct spacing of and between plumbing fixtures.
  - C. Verify correct location of built-in framing, anchorage, and bracing.
- 3.02 INSTALLATION
  - A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.
  - B. Maintain 3/8 to 1/2 inch space between wall and panels and between wall and end pilasters.
  - C. Attach panel brackets securely to walls using anchor devices.

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- D. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.03 TOLERANCES

- A. Maximum Variation From True Position: 1/4 inch.
- B. Maximum Variation From Plumb: 1/8 inch.

**END OF SECTION**

## **SECTION 10 26 01**

### **WALL COVERINGS AND CORNER GUARDS**

#### **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 WORK TO BE PERFORMED**

- A. Provide all the Wall Coverings and Corner Guards work required to complete the work of the contract including all the Wall Coverings and Corner Guards work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Wall Coverings and Corner Guards work with all the other trades for the project. Provide all demolition and disposal work to complete the Wall Coverings and Corner Guards 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. Please refer to Section 01010.C for overall Scope.
- B. Work included, but not limited to:
  - 1. Front Entry
    - a. NONE
  - 2. Stairs
    - a. NONE
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NONE
  - 4. Food Pantry
    - a. Provide corner guards to protect the outside corners of walls to 72" above the finish floor at the Food Pantry walls.

- b. Provide fiberglass reinforced plastic wall covering to protect the walls to 72" above the finish floor at the Food Pantry walls.

#### 1.03 RELATED REQUIREMENTS

- A. Section 06 20 00 - Finish Carpentry: Blocking for wall and corner guard anchors.
- B. Section 09 72 00 - Wall Coverings: Terminating wall covering at corner guard.

#### 1.04 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2015.

#### 1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate physical dimensions, features, anchorage details, and rough-in measurements.
- C. Samples: Submit two sections of bumper rail, 24 inch long, illustrating component design, configuration, color and finish.
- D. Samples: Submit two sections of plastic laminate, 24 inch long, illustrating component design, configuration, color and finish.
- E. Manufacturer's Instructions: Indicate special procedures, perimeter conditions requiring special attention, and mounting recommendations.

### **PART 2 PRODUCTS**

#### 2.01 MANUFACTURERS

- A. Corner Guards:
  - 1. Babcock-Davis; Brooklyn Park, MN: [www.babcockdavis.com](http://www.babcockdavis.com).
  - 2. Construction Specialties, Inc; Cranford, NJ: [www.c-sgroup.com](http://www.c-sgroup.com).
  - 3. Inpro; Muskego, WI: [www.inprocorp.com](http://www.inprocorp.com).
- B. Wall Covering:
  - 1. NUDO; Springfield, IL: [www.nudo.com](http://www.nudo.com).
  - 2. Marlite; Dover, Ohio: [www.marlite.com](http://www.marlite.com).
  - 3. Crane Composites; Channahon, IL: [www.cranecomposites.com](http://www.cranecomposites.com).

#### 2.02 COMPONENTS

- A. Corner Guards - Flush Mounted: High impact vinyl with extruded aluminum full height retainer and integral impact absorbing device.
  - 1. Size: 3 inches.
  - 2. Corner: Square.
  - 3. Color: to match the color of the FRP wall covering.

4. Length: one piece.
- B. Wall Panels - Vertical Services Mounted:
  1. Fiberglass Reinforced Plastic-: Provide durable, decorative wall panels which have been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.
  2. Basic for Design: Nudo Fiberlite:
    - a. Class C
    - b. Thickness: (.090 inches)
    - c. Surface burning characteristics in accordance with ASTM E84.
    - d. Finish: Pebble
    - e. Color: Khaki (203)
    - f. PVC Molding: Match FRP in color and finish
  3. Accessory Materials: Adhesive Bonding Plastic Laminate: Unpigmented contact cement. Bonding Edge Molding, provide type as specified in manufacturers written installation instructions.

## 2.03 FABRICATION

- A. Fabricate components with tight joints, corners and seams.
- B. Pre-drill holes for attachment.
- C. Form end trim closure by capping and finishing smooth.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify that rough openings, concealed blocking, and anchors are correctly sized and located.
- B. Verify that field measurements are as indicated on Drawings.

### 3.02 INSTALLATION

- A. Install components in accordance with manufacturer's instructions, level and plumb, secured rigidly in position to wall framing members only.
- B. Coordinate installation of fiberglass reinforced plastic wall panels with corner guard frame and cover.
- C. Install wall panels Using PVC Trims:
  1. Start in the corner. Mark plumb line 48 1/8 inches from corner.
  2. Apply adhesive directly to entire back of composite wall panel using correct trowel with 100% adhesive coverage using crosshatch pattern. Apply adhesive to within 1/2 inch of all edges of panel.
  3. Slide panel into molding and withdraw [1/8 inch for PVC moldings] [1/16 inch for aluminum moldings] to provide appropriate gap. Align with plumb line.
  4. Begin in top corner nearest molding with laminate roller, rolling down and out toward the edge without molding.

5. Continue rolling down and out working across panel away from previously installed panel or initial molding. Remove all trapped air.
6. Install one-piece division bar and caps or next molding by sliding onto panel.
7. Repeat process, working in one direction around room.
8. Immediately remove all adhesive residue. To remove, clean with nonabrasive cotton cloth and warm water. If necessary, use a mild nonabrasive detergent. For cleanup with solvent based adhesives, use mineral spirits or acetone to remove residue.

3.03 TOLERANCES

- A. Maximum Variation From Required Height: 1/4 inch.
- B. Maximum Variation From Level or Plane For Visible Length: 1/4 inch.

3.04 SCHEDULE

- A. Receiving 145: Corner guards, color to match FRP, to external wall corners as indicated on Drawings.

**END OF SECTION**

## **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 WORK TO BE PERFORMED**

- 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 specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Toilet, Bath, and Laundry Accessories work with all the other trades for the project. Provide all demolition and disposal work 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. Provide new grab bars, toilet paper holders and mirrors at Women's Restroom.
  - 4. Food Pantry
    - a. NA



- C. Alternate Work
  - 1. Add Alternate No. 1: Renovation of Men's Restroom and Men's Restroom Vestibule.
    - a. Provide new grab bars, toilet paper holders and mirrors at Men's Restroom.
- 1.03 SECTION INCLUDES
  - A. Accessories for toilet rooms.
  - B. Grab bars.
- 1.04 RELATED REQUIREMENTS
  - A. Section 09 30 00 - Tiling: Ceramic washroom accessories.
  - B. Section 10 21 13.19 - Plastic Toilet Compartments.
- 1.05 REFERENCE STANDARDS
  - A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- 1.06 ADMINISTRATIVE REQUIREMENTS
  - A. Coordinate the work with the placement of internal wall reinforcement and reinforcement of toilet partitions to receive anchor attachments.
- 1.07 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. Toilet Accessories:
    - 1. AJW Architectural Products: [www.ajw.com](http://www.ajw.com).
    - 2. ASI - American Specialties, Inc: [www.americanspecialties.com](http://www.americanspecialties.com).
    - 3. Bradley Corporation: [www.bradleycorp.com](http://www.bradleycorp.com).
    - 4. Approved Equal.

## **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 the drawings.
  - 2. Mirrors: 40 inches maximum above finished floor, measured to bottom of mirrored surface.

3.03 PROTECTION

- A. Protect installed accessories from damage due to subsequent construction operations.

**END OF SECTION**

## **SECTION 12 36 00**

### **COUNTERTOPS**

#### **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 WORK TO BE PERFORMED**

- A. Provide all the Countertops work required to complete the work of the contract including all the Countertops work shown on the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning, and finishes. Coordinate the Countertops work with all the other trades for the project. Provide all demolition and disposal work to complete the Countertops 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. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. NA
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. Install plastic laminate vanity top at women's toilet.
  - 4. Food Pantry
    - a. NA

1.03 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard; 2009.
- B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.
- C. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.
- D. PS 1 - Structural Plywood; 2009.

1.04 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.

1.05 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.

1.06 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).
- B. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.
  - 1. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inchHGP, for postforming, 0.039 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](http://www.formica.com).
      - 2) Panolam Industries International, Inc\Pionite: [www.pionitelaminates.com](http://www.pionitelaminates.com).

- 3) Wilsonart, LLC: [www.wilsonart.com](http://www.wilsonart.com).
- 4) Or approved equal.
2. Exposed Edge Treatment: Postformed laminate; front edge substrate built up to minimum 1-1/4 inch thick with radiused edge, integral coved backsplash with radiused top edge.
3. Back and End Splashes: Same material, same construction.
4. Fabricate in accordance with AWI/AWMAC/WI (AWS), Section 11 - Countertops, Custom Grade.

## 2.02 ACCESSORY MATERIALS

- A. Plywood for Supporting Substrate of stainless panels: 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.
- E. Joint Sealant: Mildew-resistant silicone sealant, clear.

## 2.03 FABRICATION

- A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
  1. Join lengths of tops using best method recommended by manufacturer.
  2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall.
  3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.
- B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
  1. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.
  2. Height: 4 inches, unless otherwise indicated.

# 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 and outlets are installed in proper locations.

3.02 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. Seal joint between back/end splashes and vertical surfaces.

3.03 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.

3.04 CLEANING

- A. Clean countertops surfaces thoroughly.

3.05 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**

## **SECTION 22 00 00**

### **PLUMBING**

#### **PART 1 GENERAL**

##### **1.01 GENERAL PROVISIONS**

- A. PART A and DIVISION 01 of PART B, as listed in the TABLE OF CONTENTS, are hereby made part of this SECTION by reference thereto.
- B. After inspecting existing conditions at the site, examine the various trade SECTIONS of the Specifications and be thoroughly familiar with all provisions regarding work included herein.
- C. The work to be done under this SECTION 22 00 00-PLUMBING is shown on the drawings numbered: P001, P100, P101, P102 & P103.

##### **1.02 RELATED DOCUMENTS**

- A. Examine all drawings and all other Sections of the Specifications for requirements therein affecting the work of this Section.
- B. Section 230000 – Heating, Ventilating and Cooling
- C. Section 260000 – Electrical

##### **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.
- D. The alteration to the men's bathroom shall be carried as alternate #001. Contractor shall coordinate with the architect before any work is started in this area.

## 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 all 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. Pressure Gauges: U.S. Gauge P1525, Marsh, Terice or approved equal. 2" dial, stainless steel bulb, range 0 to 100. Install with stop cock.
- B. 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.
- C. 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 pattern 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 type "L" 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. Type "K" for all below ground piping.

**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, Toto, 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 23 00 00**

**HEATING, VENTILATING AND AIR CONDITIONING**

**PART 1 GENERAL**

**1.01 GENERAL**

- A. The City of Somerville "Owner-Contractor Agreement for Public Building Construction or Renovation", together with all Amendments and Supplements as hereinbefore listed, shall apply and are hereby made a part of this section of the Specifications.
- B. The sections of these specifications entitled "Special Conditions", "Minimum Wage Determination", and Division 01, "General Requirements" shall apply and are hereby made a part of this section of the Specifications.
- C. Examine all Drawings and all other Sections of the Specifications for requirements and provisions affecting the work of this Section.
- D. The Contractor shall examine all Drawings and all Sections of the Specifications and shall be responsible for all work included. The Contractor shall be DCAM certified for heating, ventilation and air conditioning work.

**1.02 LOCATION**

- A. The Work of this Contract shall be performed at the City of Somerville, Somerville Cross Street Senior Center, Somerville, Massachusetts.

**1.03 SCOPE OF WORK**

- A. Furnish all labor, materials, equipment and incidentals necessary to provide complete heating, ventilating and air conditioning systems and general contracting work, as shown on the Drawings and as specified herein.
- B. Furnish all labor and materials to perform demolition work as shown on the Drawings, as required for the installation of new work, and as specified hereinafter.
- C. ALTERNATE NO. 1: HVAC renovations to Men room.

**1.04 DESCRIPTION OF WORK**

- A. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Cross Street Senior Center – Toilet Room renovation including replacing baseboard radiation and adding new exhaust fans. Pantry renovation includes replacing baseboard radiation with new.

#### 1.05 CODES, ORDINANCES, AND PERMITS

- A. Installation of systems and equipment provided under this section shall be done in strict accordance with Massachusetts Department of Public Safety Codes, Massachusetts Department of Environmental Protection, Massachusetts State Building Code and City of Somerville Regulations having jurisdiction.
- B. All work, where applicable, shall conform to NFPA codes and all material shall be U.L. approved.
- C. All electrical apparatus furnished under this section shall be approved by the U.L. and shall be so labeled or listed where such is applicable. Where custom-built equipment is specified and the U.L. label or listing is not applicable to the completed product, all components used in the construction of such equipment shall be labeled or listed by U.L. where such is applicable to the component.
- D. Give notices, file plans, obtain permits and licenses, pay fees and obtain necessary approvals from authorities having jurisdiction. Deliver certificates of inspection to Engineer. No work shall be covered before examination and approval by Engineer, inspectors, and authorities having jurisdiction. Replace imperfect or condemned work conforming to requirements, satisfactory to Engineer, 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.

#### 1.06 RECORD DRAWINGS

- A. Refer to DIVISION 01 of the Specifications for record drawings and procedures to be provided under this section.

#### 1.07 CLEANING

- A. During the progress of the heating work, clean up and remove all oil, grease and other debris. At completion, clean all equipment, piping and duct systems and leave all work in perfect operating condition.

#### 1.08 COORDINATION AND 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 Contractor. The Contractor 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. The Contractor shall be responsible for the work and equipment furnished and installed 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 the Owner.

#### 1.09 PROTECTION OF MATERIALS, WORK, AND GROUNDS

### **HEATING, VENTILATING AND AIR CONDITIONING**

- A. Materials, fixtures and equipment shall be properly protected and all pipe and duct 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.

#### 1.10 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, including his shop drawings, in laying out work and shall check the 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 ducts and 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. 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 piping.

#### 1.11 SHOP DRAWINGS

- A. Provide six (6) sets of shop drawings for the following in accordance with Division 01:
  - 1. Fans
  - 2. Finned Tube Radiation
  - 3. Pipe and Pipeline Accessories, each
  - 4. Ductwork and Accessories
  - 5. Insulation, each type

#### 1.12 OPERATING AND MAINTENANCE INSTRUCTIONS

- A. Submit operation and maintenance data complete with at least the following:
1. Table of Contents:
  2. Introduction:
    - a. Explanation of manual and its use
    - b. Description of all systems
  3. Plant Operation:
    - a. Operating instructions for all apparatus.
  4. Maintenance
    - a. Maintenance and lubricating chart: Furnish three sets of charts indicating equipment tag number, location of equipment, equipment service, greasing and lubricating requirements, lubricants and intervals of lubrication.
    - b. Recommended list of spare parts: Furnish two typed sets of instructions for ordering spare parts with sectional views of the fittings or equipment showing parts numbered or labeled to facilitate ordering replacements, including a list with itemized prices of those parts recommended to be kept on hand as spares, as well as the name and address of where they may be obtained.
  5. Manufacturer's Literature:
    - a. Fans
    - b. Finned Tube Radiation
    - c. Automatic Temperature Controls

#### 1.13 UNDERWRITERS' LABEL AND LISTING

- A. All electrical apparatus furnished under this Section shall be approved by the UL and shall be labeled or listed where such is applicable. Where custom-built equipment is specified and the UL label or listing is not applicable to the completed product, all components used in the construction of such equipment shall be labeled or listed by UL where such is applicable to the component.

#### 1.14 CUTTING AND PATCHING

- A. All cutting and patching necessary for the proper installation of work to be performed under this Section and subsections shall be performed by the Contractor.

- B. All work shall be fully coordinated with all phases of construction, in order to minimize the requirements for cutting and patching.
- C. The Contractor shall form all chases or openings for the installation of his own or any other Contractor's or Subcontractor's work, or shall cut the same in existing work and shall see that all sleeves or forms are in the work and properly set in ample time to prevent delays. He shall see that all such chases, openings, and sleeves are located accurately and are of the proper size and shape and shall consult with the Engineer and the Contractors or subcontractors concerned in reference to this work. In so doing, he shall confine the cutting to the smallest extent possible consistent with the work to be done. In no case shall piers or structural members be cut without the approval of the Engineer.
- D. The Contractor shall carefully fit around, close up, repair, patch, and point around the work specified herein to the entire satisfaction of the Engineer.
- E. The Contractor shall fill and patch all openings or holes left in the existing structures by the removal of existing equipment by himself, his subcontractors or other filed subcontractors.
- F. All of this work shall be carefully done by workmen competent to do such work and with the proper and smallest tools applicable.
- G. Any cost caused by defective or ill-timed work shall be borne by the contractor responsible therefore.

#### 1.15 GUARANTEE

- A. The Contractor shall guarantee, in writing, all work and all materials provided under this Section 23 00 00, in accordance with the provisions of the printed form of Contract and the General Conditions.

#### 1.16 ELECTRICAL

- A. All electrical apparatus and controls furnished as a part of this Section shall conform to applicable requirements under DIVISION 26 - ELECTRICAL.
- B. All motors furnished under this Section shall be furnished by the manufacturer of the equipment served, shall be premium efficiency type for inverter duty and shall be mounted and aligned so as to run free and true. Each motor shall be built to conform to the latest applicable NEMA, ANSI and IEEE standards for the type and duty of service it is to perform.
- C. Each motor shall be designed to operate on 60 Hz, and each shall be expressly wound for the voltage specified. Each motor shall operate satisfactorily at rated load and frequency with a voltage variation no greater than plus or minus 10% of voltage specified. Dual voltage 208/220 motors will not be accepted.
- D. All motors shall be provided with adequate starting and protective equipment as specified and each shall have a terminal box of adequate size to accommodate the required conduit and wires.

- E. Motor controllers shall be equipped with all poles, auxiliary contacts and other devices necessary to permit the interlocking and control sequences required. Controller operating coils shall be generally designed for 120 volt operation, and 3 phase motors shall be provided with thermal overload protection in all phases.
- F. The Contractor shall furnish all magnetic starters for each and every motor furnished under this section of the specification, except where otherwise indicated. All starters for motors over 10 HP shall be solid state with reduced inrush design. The maximum allowable inrush shall be 2.5 times running load amperage. All starters for fractional HP motors shall be provided with manufacturer's standard motor starter.
- G. The Contractor shall furnish and install all low voltage and/or line voltage control wiring for the boiler/burner units. All wiring shall be preformed by a licensed electrician.

#### 1.17 VERIFYING EXISTING 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 therefrom 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.
- D. Where field conditions require, the Contractor shall arrange for equipment to be shipped to the job, dismantled and assembled in place.
- E. Remove walls, window assemblies/glass and floor structures where necessary to install and remove equipment as shown. The Contractor shall reinstall such displaced structures to their original condition.

#### 1.18 STANDARDS

- A. The latest published issue of the 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. AMCA Air Moving and Conditioning Association
  - 2. ANSI American National Standards Institute



- |     |        |   |
|-----|--------|---|
| 3.  | ASHRAE | American Society for Heating, Refrigerating, and Air Conditioning Engineers |
| 4.  | ASME   | American Society of Mechanical Engineers                                    |
| 5.  | ASTM   | American Society for Testing and Materials                                  |
| 6.  | FIA    | Factory Insurance Association   |
| 7.  | IEEE   | Institute of Electrical and Electronic Engineers                            |
| 8.  | MCAA   | Mechanical Contractors Association of America                               |
| 9.  | NEMA   | National Electrical Manufacturers Association                               |
| 10. | NFPA   | National Fire Protection Association  |
| 11. | SMACNA | Sheet Metal and Air Conditioning Contractors' National Association          |
| 12. | UL     | Underwriters' Laboratories, Inc.  |
| 13. | OSHA   | Occupational Safety and Health Act  |
| 14. | NEC    | National Electric Code  |

#### 1.19 COOPERATION WITH OTHER TRADES

- A. The work shall be so performed that the progress of the entire building construction, including all other trades, shall not be delayed or interfered with. Materials and apparatus shall be installed as fast as conditions permit and must be installed promptly when and as desired.
- 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 Engineer for decision to prevent delay in installation of work. All work and materials placed in violation of this clause shall be readjusted to the Engineer'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. If so directed, prepare and submit for approval 3/8" 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.

#### 1.20 WORKING CONDITIONS AND SAFETY

- A. Whereas the building may be occupied during the construction period, it is of utmost importance that the occupant's safety and the building's normal process be maintained. The

Contractor shall not disrupt the normal operations of the building and shall be required to cease work during occupied hours if, in the opinion of the Owner, the work creates a disruption to the building's occupants. The Contractor will then be required to perform such disruptive work during non-occupied hours.

#### 1.21 SEISMIC RESTRAINT REQUIREMENTS

- A. For each seismic restraint, provide certified calculations to verify adequacy to meet the following design requirements:
  - 1. Ability to accommodate relative seismic displacements of supported item between points of support.
  - 2. Ability to accommodate the required seismic forces.
- B. For each respective set of anchor bolts provide calculations to verify adequacy to meet combined seismic-induced shear and tension forces.
- C. For each weldment between structure and item subject to seismic force, provide calculations to verify adequacy.
- D. Calculations shall be stamped by a professional engineer who is registered in the Commonwealth of Massachusetts and has specific experience in seismic calculations.
- E. Restraints shall maintain the restrained item in a captive position without short circuiting the vibration isolation.
- F. Provide seismic restraints for all piping, ductwork and equipment in accordance with the requirements of the Massachusetts State Building Code, 780 CMR, latest edition, and referenced requirements of BOCA and NFPA.

#### 1.22 FINAL ACCEPTANCE

- A. Final acceptance of Ownership of the HVAC system installed within this scope of work shall be contingent on passing a satisfactory system pressure test, mechanical performance test and cooling and heating function test to determine that the system will perform according to the contract requirements. The above tests shall be witnessed by the Engineer and the Owner; acceptance will only be granted in writing by the Owner after receipt of certification from the Engineer and Commissioning Agent that the design criteria have been met.

### **PART 2 PRODUCTS**

#### 2.01 PIPE AND FITTINGS

- A. Furnish all pipe and fittings required for the HVAC systems, including hot water supply (HWS) & hot water return (HWR).

- B. All piping 2" and below shall be Type L hard drawn copper, ASTM B88 with 95/5 solder fittings, Schedule 40 seamless steel welding fittings.

## 2.02 PIPE HANGERS, SUPPORTS, INSERTS

- A. Carpenter and Patterson, Grinnell, Calco, or approved equal. Figure numbers listed are Carpenter and Patterson numbers.
- B. General: Piping systems shall be supported in accordance with ANSI B31.1 so as to maintain required pitch of lines, prevent vibration, and provide for expansion and contraction movement.
- C. Piping hangers and supports shall be furnished and installed for piping. Provide all components (i.e., inserts, rods, clamps, hangers, washer, lock nuts, rollers, etc.) necessary for a complete installation.

## 2.03 SLEEVES

- A. Furnish pipe sleeves for all pipes which pass through masonry floors and walls. Sleeves shall be Schedule 10 steel pipe. Sleeves shall be of the first possible size larger than the outside of the insulation jacket on covered piping and the first possible size larger than the outside of the piping on uncovered pipes.
- B. Sleeves shall be of sufficient length so as to be flush on either side of masonry walls, flush on underside of masonry floor and extend 2" above the finished floor.

## 2.04 ESCUTCHEON PLATES

- A. Escutcheon plates shall be chromium plated, cast brass split type escutcheons.

## 2.05 FIN TUBE RADIATION

- A. Furnish and install where shown on all plans/ drawings, Finned-Tube Assemblies as described in the specifications below or approved equal quality and capacity. Approved I=B=R ratings must be submitted as required.
- B. Heating Elements
  - 1. ¾ inch (20mm) ID copper tubing, mechanically expanded into evenly spaced aluminum fins with turbulated "scrub board" patterned fin surfaces, one end of each tube belled. 2-pipe design, with 2 copper tubes stacked vertically in a single heating element, allowing field piping as either a supply and reverse return or 2 parallel supply paths, with continuous aluminum fins connecting both tubes. Assembled in a "coil block" design in which the fin outer edges make contact with the front enclosure panel for conductive heat transfer.
- C. Enclosure
  - 1. Minimum 20 gauge (0.91 mm) steel cover, EZ Hanger backplate. Separate floor starter strip, to provide minimum required air gap of 1.25 in. (31.8 mm) when baseboard is mounted near the floor, not required when element and front cover are mounted at more than 2 in. (50 mm) above

finished floor. Perforated upper sloped surface with pencil-proof openings less than ¼ in. (6.4 mm).

D. Finish

1. Factory-applied 2-part rust-resistant paint on surfaces including edges and openings.

E. Snap-Together Assembly

1. Starter strip (if required) is screwed to wall. Backplate is inserted into starter strip (if used) and screwed to wall. Element snaps into backplate, which has a bottom bend to fit into notch on bottom of element. Enclosure cover snaps into notch on bottom of element and onto top of backplate.

F. Capacity

1. As scheduled, based on 65°F (18°C) entering air temperature.

2.06 EXHAUST FANS

A. Inline Exhaust Fan

1. Ventilation fan shall be low sone ceiling mount rated for continuous run. Fan shall be ENERGY STAR® rated and certified by the Home Ventilating Institute (HVI). Evaluated by Underwriters Laboratories and conform to both UL and cUL safety standards.
2. Motor/Blower
  - a. Enclosed DC brushless motor technology rated for continuous run.
  - b. Fan ventilation rates shall be manually adjustable for 50-80-110 CFM.
  - c. Power rating shall be 120 volts and 60Hz.
  - d. Fan shall be UL listed for tub/shower enclosure when used with a GFCI protected circuit and used in insulated ceiling (TYPE I.C.).
  - e. Fan equipped with a thermal cutoff fuse.
  - f. Removable, permanently lubricated, plug-in motor.
3. Housing
  - a. Rust proof paint, galvanized steel body.
  - b. Integrated dual 4" or 6" diameter duct adapter.
  - c. Built-in metal flange provides blocking for penetrations through drywall as an Air Barrier, and assists with the decrease in leakage in the Building Envelope during blower door testing.
  - d. Built-in backdraft damper.
  - e. Articulating and expandable installation bracket up to 24".
4. Grille

- a. Attractive design using Poly Pro material.
    - b. Attached directly to housing with torsion springs.
  - 5. Power Consumption
    - a. Power Consumption shall be no greater than 3.5/5.5/9.8 watts at 0.1 w.g. and 15.1/15.3/11.5 watts at 0.25 w.g. ENERGY STAR® rated with efficiency of no less than 15.1/15.3/11.5 CFM/watt at 0.1 w.g. and 8.1/8.4/7.2 CFM/watt at 0.25 w.g.
  - 6. Plug 'N Play™ Modules
    - a. Provide Motion Sensor
- B.

### **PART 3 EXECUTION**

#### **3.01 HOISTING, SCAFFOLDING, STAGING AND PLANKING**

- A. Provide, set up and maintain all required derricks, hoisting machinery, scaffolding, staging and planking. Perform all hoisting required to complete the work of this section as indicated and specified.
- B. Scaffolding is to have solid backs and flows to prevent dropping material therefrom to the floors or ground.
- C. All items of existing work indicated to be removed or are necessary to remove to permit proper installation of new work to be taken down and be immediately removed from the premises.

#### **3.02 DEMOLITION**

- A. The existing facility will continue to operate during all phases of the demolition work and subsequent construction. No interruption of the systems will be permitted without prior approval of the Owner.
- B. Perform all demolition while ensuring minimum interference with adjacent occupied areas.
- C. Where sections of a system are to be removed and the system serves other areas of the building that are outside the scope of the work, perform the following:
  - 1. Coordinate the temporary shut down of the system with the Owner's representative.
  - 2. Install supports in the remaining active sections of the system as required by the removal of nearby supports associated with the demolition.
  - 3. Isolate the system.
  - 4. Cap the remaining system section, leaving the remainder of the system active.

- D. Provide temporary shoring or bracing during the demolition work to prevent movement, settlement, or collapse of the system or adjacent systems due to the work.
- E. Promptly repair any damage caused to adjacent facilities or areas that are designated to remain at no additional cost to the Owner.
- F. Equipment:
  - 1. Coordinate with all Contractors and Subcontractors to provide disconnection prior to equipment removal.
  - 2. Remove equipment by unfastening at the supports or attachments. Then remove the attachments from the building, leaving no component of the original installation.
  - 3. The Owner shall have the option to choose to take possession of the equipment or not. If the Owner chooses not to take possession of the equipment, the Contractor shall remove and dispose of the equipment in accordance with the paragraph below.
  - 4. Exercise care with equipment that is to be relocated or turned over to the Owner, examine the equipment before removal in the presence of the Owner's representative to determine its condition. Make a record of any marks, etc. by a photograph or videotape acknowledged by the Owner's representative.
  - 5. Install relocated equipment to ensure no damage.
  - 6. Equipment to be turned over to the Owner: Deliver to an on-site location designated by the Owner, and obtain acknowledgment of receipt in good condition the following equipment.
- G. All equipment, etc., not turned over to the Owner shall be put into the dumpsters; become the property of the Contractor, and shall be removed from the site by the Contractor.
- H. Remove existing equipment and appurtenances as indicated on demolition plans and as required to install the new systems.

### 3.03 GENERAL

- A. Install all items specified under PART 2 - PRODUCTS, according to the applicable manufacturer's recommendations and shop drawings, the details shown on the Drawings and as specified under this section. Provide all required hangers and supports.
- B. Equipment base mounted on concrete or masonry slabs, pads and piers, or mounted on stands, gratings, platforms, or other, shall not be set in any manner, except on the finished and permanent support.
- C. Support of equipment on studs, or other means, and the placing or building of the supporting slab, pad, pier, stand, grating, or other "to the equipment", is prohibited.

- D. Concrete and masonry supporting structures shall have been constructed and cured a minimum of 14 days before equipment is mounted.

#### 3.04 PIPING

- A. Provide and erect in a workmanlike manner according to the best practices of the trade, all piping shown on the plans or required to complete the installation intended by these specifications.
- B. This contractor shall inform himself from the Engineer's specifications and detailed drawings of the exact dimensions of finished work in all rooms where equipment or pipes are to be placed, and arrange his work accordingly, assuming all responsibility for conformity with the surrounding work.
- C. Keep plugged or capped all openings in pipes or fittings.
- D. Make such offsets as are shown or required to place pipes on risers in proper position or to avoid other work. Make such offsets neatly and properly locate them to the satisfaction of the Engineer.
- E. All pipe lines are to be provided with sufficient number of flange fittings or unions to make possible the taking down of the pipes without breakage of fittings. Lines 2" in diameter and less may be connected by R & L couplings, unless otherwise required by the Engineer. All of the piping shall be erected so as to provide for the easy flow of water and noiseless circulation. Whenever pipes are cut, three wheel cutters are to be used and the pipes are to be carefully reamed out.
- F. Install air vents on all high points and drawoff valves on all low points throughout the entire system.
- G. The entire piping system shall be provided with shutoff valves and drawoff valves so that sections of the system may be drained without interrupting the entire system.
- H. Extreme care shall be exercised in the location of all piping.
- I. No crosses or bull head tees shall be used in any part of the work.
- J. Piping connections to all equipment shall be made with companion flanges or unions for ease in removal of equipment.
- K. Provide approved pipe identification markers and flow direction arrows on all piping. Markers to be at 30 foot intervals, except in boiler room where they shall be at 10 foot intervals.

#### 3.05 VALVES

- A. Valves shall be installed where shown on plans and elsewhere as necessary for the proper operation or balancing of the systems.

- B. At completion, this contractor shall install stamped brass tag on each valve held on with brass drain (except on fan-coil unit valves) with numbers. This contractor is to make up schedule with number of each valve. Schedule to describe use of each valve. One copy of schedule to be framed under glass and hung in boiler room. Two more copies are to be supplied to the Engineer.

### 3.06 SLEEVES

- A. Sleeves shall be installed for each pipe passing through masonry floors or walls.

### 3.07 ESCUTCHEON PLATES

- A. Escutcheon plates shall be installed on all piping passing through finished floors, walls or ceilings. Escutcheon plates shall be sized for outside diameter of insulation and installed after insulation is completed.

### 3.08 EQUIPMENT

- A. All equipment shall be installed in strict accordance with manufacturer's written installation instructions.

### 3.09 VIBRATION ABSORPTION

- A. All equipment and piping shall operate without objectionable or unusual noise or vibration, as judged by the Engineer.
- B. Rotating equipment shall be fitted with such vibration-absorbing facilities as will be required to limit the transmission of vibration to the building and to the attached piping and breaching. The facilities shall be generally designed to limit this transmission to a maximum of 2%, but a greater amount will be allowed if it does not prove objectionable. The facilities shall also be designed to limit equipment floor loadings to 500 lb/sq. ft. or less. If, in order to accomplish this, the equipment requires the job installation of isolation mountings, inertia blocks, special hangers or other arrangements, these shall be carefully and specifically selected for each piece of equipment.
- C. Motor driven equipment shall have the motor, equipment and drive mounted on a common base. Hollow bed plates shall be grouted with a rich cement mortar.
- D. Mit shop drawing data for approval by the Engineer showing the make, type, and size of isolation mountings, flexible pipe connectors, and other facilities to be provided, including any concrete inertia blocks that may be required. The data shall clearly indicate that the isolating arrangements can and will limit the transmission of vibration as specified.

### 3.10 MISCELLANEOUS IRON AND STEEL

- A. Provide steel supports and hangers required to support pipe, ductwork, and other equipment or materials. Submit details of steel supports and method of fabrication for approval.



- B. All work shall be cut, assembled, welded and finished by skilled mechanics. Welds shall be ground smooth. Stands, brackets, and framework shall be properly sized and strongly constructed.
- C. Measurements shall be taken on the job and worked out to suit adjoining and connecting work. All work shall be by experienced metal working mechanics. Members shall be straight and true and accurately fitted. Scale, rust, and burrs shall be removed. Welded joints shall be ground smooth where exposed. Drilling, cutting and fitting shall be done as required to properly install the work and accommodate the work of other trades as directed by them.
- D. Members shall be generally welded, except that bolting may be used for field assembly where welding would be impractical. Welders shall be skilled.
- E. 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 and crevices.

### 3.11 BALANCING, ADJUSTING, OPERATING, AND INSTRUCTIONS

- A. The HVAC contractor shall engage the services of an independent firm to perform testing, adjusting and balancing of the HVAC systems. The HVAC contractor shall submit to the owner at least three (3) qualified firms for the owner's review and acceptance in accordance with Division I, start up and adjusting.
- B. Engage a balancing company to adjust, balance, and operate the heating, ventilating and air-conditioning system and thoroughly instruct the Owner's personnel in all phases of care and operation of the systems. The Balancing Company shall be certified by Associated Air Balance Council or by the National Environmental Balancing Bureau.
- C. The Balancing Company will not perform water systems balancing until after the systems have been cleaned and treated by the Contractor.
- D. The Contractor as a part of this contract shall provide all materials, labor, and service of all contractors for fulfillment of air and water balancing of all systems. The Balancing Company shall inform Contractor of all requirements ahead of time.
- E. All equipment shall be operated and adjusted and all water systems shall be adjusted and balanced, readings taken and recorded on an approved form submitted to the Engineer for approval, readjusted and rebalanced in accordance with the Engineer's review comments and resubmitted.
- F. Water System
  - 1. Water circulating system shall be adjusted and balanced by the Balancing Company so that water quantities circulated through all coils, pumps, equipment, etc., will be as specified.
  - 2. Where no meters are provided, the adjustment of individual coil circuits shall be based on return water temperature, provided air balancing and adjusting has been satisfactorily completed first. Temperature control valves on each branch shall be

## HEATING, VENTILATING AND AIR CONDITIONING

wide open during the balancing. Adjustment of water flows through coils shall be based on manufacturer's pressure drop data. Balancing cocks and valves shall be set. The settings of cocks, valves, etc., shall be permanently marked so that they can be restored if disturbed at any time.

3. The following shall be established and listed:
  - a. Temperatures and water flow at the pumps and each coil after each complete system has been balanced and adjusted.
  - b. Pressure drops, manufacturer's ratings, and water flow at each coil after each complete system has been balanced and adjusted.
  - c. Suction and discharge pressures at each pump and total water flow at each coil after each complete system has been balanced and adjusted.
  - d. Motor amperage for each phase and voltage at each pump.
- G. The Balancing Company shall provide all instruments and accessories required to perform the tests.
- H. The Contractor shall obtain from the manufacturer of each piece of equipment, five (5) copies of lubrication, operating and maintenance data sheets and control system drawings. He shall prepare five (5) complete sets of written coordinating operating and maintenance instructions into complete operating and maintenance manuals.

### 3.12 TESTING

- A. All water piping in whole or in part, prior to insulating and being closed in, shall be subject to a hydrostatic test pressure of 100 psig for eight hours without a pressure drop at the end of the test period. All leaks that occur shall be repaired by removing the joints in their entirety, rejoining, and test repeated as often as necessary until the piping system or systems are absolutely tight.
- B. Furnish all necessary equipment to conduct the testing of the piping system.
- C. Two pressure gauges shall be used whose range shall not exceed 0 to 150 psig, nor be less than 0 to 120 psig. Evidence of leakage or pressure drop shall be cause for rejection.
- D. A log of all tests shall be kept by the Contractor. The log shall provide a description of the test or inspection, the date performed, and the signatures of the responsible contractor's person performing the work and the witnessing engineer. This log shall form part of the final documentation. Failure to maintain this log will result in reinspection or testing at the Contractor's expense.

### 3.13 CLEANING AND WATER TREATMENT

- A. General:

1. Provide, where shown on the drawings and as specified hereinafter, the necessary apparatus to provide cleaning water treatment services for the water system.
- B. Closed Recirculation Systems:
1. The piping system shall be thoroughly flushed and cleaned with Dearborn BC-45 Cleaner, Dow, Barclay or approved equal, and charged with Dearborn B-329 Nitrite Corrosion Inhibitor, Dow, Barclay or approved equal, after cleaning. Control limits of 800 to 1,000 ppm shall be maintained.

**END OF SECTION**

## **SECTION 26 00 00**

### **ELECTRICAL**

#### **PART 1 - GENERAL**

##### **1.01 CONDITIONS**

- A. The GENERAL REQUIREMENTS, DIVISION 01, and BIDDING AND CONTRACT REQUIREMENTS, DIVISION 0, are hereby made a part of this Specification Section.
- B. The sections of these specifications entitled Division 01; "General Requirements" shall apply and are hereby made a part of this section of the Specifications.
- C. Review all Drawings and all Sections of the Specifications for requirements therein affecting the work and this Section. The exact scope of work of this bidder cannot be determined without a thorough review of all specification sections and other contract documents.
- D. Bids filed with the Awarding Authority shall be as accompanied by bid deposits in form of a bid bond, or cash, or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company, payable to the City of Somerville, MA. Amount of bid deposit shall be 5 percent of value bid.
- E. Additional Requirements:
  - 1. Bidder's attention is directed to Massachusetts G.L. Chapter 149 44H, as amended, which provides in part as follows:
  - 2. Each bidder list shall in Paragraph E of the "Form for Bids" the name and bid price of each person, firm or corporation performing each class of work or part thereof for which the Section of the Specifications for that subtrade requires such listing, provided that, in the absence of a contrary provision in the Specifications, any bidder may, without listing any bid price, list his own name or part thereof and perform that work with persons on his own payroll, if such bidders, after bid openings, shows to the satisfaction of the Awarding Authority that he does customarily perform such class of work with the persons on his own payroll and is qualified to do so. This Section of the Specifications requires that the following classes of work shall be listed in Paragraph # under the conditions indicated herein.
- F. List of Drawings: The work to be completed by the Electrical Sub-Contractor for the work of this section is shown on the following drawings. The Electrical Sub-Contractor shall carefully inspect all the listed drawings, not just those pertaining particularly to this subtrade unless specifically called out otherwise, regardless of where among the Drawings it appears:
  - 1. E001 - Legend and Notes

2. E100 - Electrical Existing and New Work Bathroom and Pantry Plans

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 E1.0 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. Safety disconnect switches (fused or unfused).
3. Fuses.
4. Lighting fixtures including lamps
5. Fluorescent and HID ballasts.
6. Conduit and raceways.
7. Wire and Cable.
8. Branch circuit wiring.
9. Existing Notifier System fire alarm system shall be reused. New devices to accommodate new architectural layout.
10. Pull boxes and cable troughs.
11. Grounding.
12. Supervision and approval.
13. Nameplates, labels and tags.
14. Testing
15. Electrical demolition.

1.03 **ALTERNATE NO. 1: Electrical renovations to Men's room.**

1.04 **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, HVAC, 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 of 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.

#### 1.05 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

#### 1.06 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.

#### 1.07 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.

#### 1.08 SEQUENCING AND SCHEDULING

- A. Construct work in sequence under provisions of Division 01.

#### 1.09 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.

#### 1.10 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.

#### 1.11 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.

#### 1.12 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.

#### 1.13 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.

#### 1.14 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.

#### 1.15 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.

#### 1.16 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.

#### 1.17 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.

#### 1.18 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.

#### 1.19 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.

#### 1.20 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. Lighting fixtures including lamps and fuses as required.
  - 2. Receptacles and Devices
  - 3. Fire alarm devices
  - 4. Disconnect switches
  - 5. Panelboards and circuit breakers
  - 6. Lighting controls including switches, occupancy sensors and emergency relays.

#### 1.21 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. Occupational Safety and Health Act |
| 5. | NEC  | National Electric Code  |

#### 1.22 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.

#### 1.23 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.

#### 1.24 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.

#### 1.25 SUPERVISION

- A. Supply the service of an experienced and competent supervisor who shall be in charge of the electrical work at the site.

#### 1.26 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.

#### 1.27 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. Wiring within light fixtures and other high-temperature equipment shall have 150°C insulation as required by NEC.
- E. 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>	<u>480/277 Volts</u>
Black	A	Brown

Red	B	Orange
Blue	C	Yellow
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.
3. Three-way shall be No. CSB230B, 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 SAFETY DISCONNECT SWITCHES

- A. Provide quick-make/quick-break safety switches: Type HD, heavy duty, Class 3, Design 3, unless specified otherwise. Provide NEMA 1 or NEMA 12 enclosure for dry applications. Switches shall be rated 240V minimum as required for voltage of associated circuit and shall be rated in horsepower. Fuses shall interrupt locked rotor current of associated motor or ten times full rates load current, whichever is greater.
- B. Mount switch parts on insulating bases to facilitate replacement from front of switch. Current-carrying parts shall be high-conductivity copper. Contacts shall be silver-tungsten or plated. Provide positive pressure fuse clips and switch operating mechanism suitable for continuous use at rated capacity without auxiliary springs in current path.
- C. Switches shall withstand available fault current or let-through current before operating, without damage or rating change.

2.11 FUSES

- A. Provide current limiting, high-interrupting-capacity fuses for equipment provided under this and other Sections.

- B. Switch sizes and fuse ratings shown on Drawings and specified represent general approximate values for each motor hp delineated. Coordinate fuse values with motor switch sizes. Obtain recommended fuse rating data from fuse manufacturer. In case of discrepancy between Contract Documents, the manufacturer's recommendations shall govern work. Revise switch size to accommodate recommended fuse values and revise assembled equipment as necessary. Furnish necessary change information to equipment manufacturers. Submit changes in switch sizes to Architect for approval. Certify that motor circuits have adequate short circuit protection with fuses provided.

## 2.12 LIGHTING FIXTURES

### A. General

- 1. Provide lighting fixtures, equipment and components where shown on Drawings, as listed in fixture schedules and as specified, wired and assembled. Provide approved aligner canopies, hangers and other appurtenances as required.

### B. Lamps

- 1. Provide lamps by General Electric, Phillips, Sylvania or equal, unless specified or shown on Drawings otherwise. Obtain most recently published performance criteria.
- 2. Lamps shall meet ANSI C78 requirements.
- 3. Guarantee lamps for 90 days after substantial completion by Architect. Replace lamps that fail during that time at no cost to Owner.
- 4. Lamps shall be new unless specified or shown on Drawings otherwise.
- 5. Do not operate lamps before final inspection by Architect except for initial testing. Initial lumen output shall not be measured before substantial completion.
- 6. Fluorescent lamps shall meet LM-9 and LM-40 IES testing and measurement requirements. Provide circuit interrupting lampholders. Compact fluorescent lamps shall have end of life sensing to turn off lamps.

### C. Ballasts

#### 1. General

- a. Provide ballasts by General Electric, Advance, Universal or approved equal. Ballasts shall be ETL-CMB and UL-listed unless specified or shown on Drawings otherwise.
- b. Ballasts shall have at least 0.9 power factor unless specified otherwise. Input voltage shall be as shown on Drawings.
- c. Furnish manufacturer's two-year warranty, including replacement parts and labor. Date of manufacture shall be stamped on nameplate.
- d. Ballasts shall not contain PCB.

2. Fluorescent Ballasts

- a. Ballasts shall be CBM certified and meet ANSI C82 and UL 935 requirements.
- b. No more than three lamps shall be served by one ballast, unless specified on Drawings otherwise.
- c. Ballasts shall have current leakage of less than 50 milliamperes.
- d. Furnish GLR fuse and fuse holder sized and installed by luminaire manufacturer, in addition to internal ballast thermal protection.
- e. Ballasts shall have sound rating A (20-25 dB) unless specified otherwise.
- f. Indoor ballasts shall have starting temperature of at least 50° F.
- g. Ballasts shall be electronic with a total harmonic distortion of less than 10% (THD <10%)

D. Luminaires

1. General

- a. Provide factory-wired luminaries that meet UL 57 and ANSI C81 requirements, of dimensions and in locations as shown on Drawings.
- b. Finish shall be uniform with no defects such as whirls, discoloration, sand or dust spots, cracks or chips. Steel rustproofing shall be by five stage cleaning cycle and iron or zinc phosphate coating with rust inhibitor.

2. Fluorescent Luminaries

- a. Provide factory-tested, 20 gauge (0.9 mm) or reinforced 22 gauge (0.8 mm) steel or aluminum fluorescent luminaries unless specified or shown on Drawings otherwise.
- b. Luminaries shall meet UL 542, UL 1570 and NEMA LE1-1974 requirements, as specified and shown on Drawings.
- c. Photometric testing shall meet LM-41 IES requirements.
- d. Recessed luminaries shall have provisions to replace ballast without removing luminaire from ceiling.
- e. Interior finish shall have at least 85% reflectance.
- f. Ballast sound rating shall be raised no more than 2 dB.

E. Verify ceiling constructions, and provide fixtures, ballasts, frames, rings and other accessories suitable for construction encountered.

F. Coordinate installation of fixtures with installation of ceiling materials and suspension system.

- 1. Ceiling-mounted fixtures shall be supported independent of hung ceiling with threaded rod or bow chain.
- 2. In no case shall lighting fixtures be suspended from hung ceiling, conduit or duct. Fixtures shall be supported from structural members only.

3. Investigate lighting fixture locations and supports to ensure that no interference exists between lighting fixture, supports and other equipment. Correct interferences as directed by Architect.

G. Refer to fixture schedule for specific lamp requirements.

## 2.13 PANELBOARDS

- A. Panelboards are existing and manufactured by Siemens. 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.

## 2.14 FIRE ALARM SYSTEM

- A. Scope: The Electrical Sub-Contractor shall reuse the existing Fire Alarm System which was manufactured by Notifier. 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 Boston 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 INSTALLATION OF LIGHT FIXTURES

- A. Coordinate installation of fixtures with installation of ceiling materials and suspension systems.
- B. Do not install fixtures until work of other trades that may damage fixtures is completed.
- C. Investigate lighting fixture locations and supports to ensure that no interference exists with hangers, ducts, sprinklers, pipes and other equipment.
- D. Provide plaster frames for fixtures recessed in gypsum board or plaster ceiling.
- E. Do not suspend or support lighting fixtures or safety chains from hung ceiling conduit or duct. Support fixtures with threaded rod from structural members only.
- F. Locate ceiling-mounted fixtures as shown on reflected ceiling plans.

### 3.08 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.)
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**



## **SECTION 31 23 16**

### **EXCAVATION**

#### **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 WORK TO BE PERFORMED**

- A. Provide all Excavation work required to complete the work of the contract including all the Excavation work shown in the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning and finishes. Coordinate the Excavation with all the other trades of the project. Provide all demolition and disposal work to complete the excavation work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. Is it the General Contractor's responsibility to review all work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Excavate for sidewalks. Refer to the Drawings for additional requirements.
  - 1. Front Entry
    - a. Excavate base for entry platforms, sloped sidewalks and curbs at the front of the building
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA
  - 4. Food Pantry
    - a. Excavate base for entry platforms, sloped sidewalks and curbs at the Food Pantry entry.
    - b. Excavate base for concrete pad for freezer.

## **PART 2 PRODUCTS - NOT USED**

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that survey bench mark and intended elevations for the work are as indicated.

### **3.02 PREPARATION**

- A. Identify required lines, levels, contours, and datum locations.
- B. Locate, identify, and protect utilities that remain and protect from damage.
- C. Protect existing structures, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

### **3.03 EXCAVATING**

- A. Excavate to accommodate sloped walkways and curbs.
- B. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- C. Do not interfere with 45 degree bearing splay of foundations.
- D. Hand trim excavations. Remove loose matter.
- E. Correct areas that are over-excavated and load-bearing surfaces that are disturbed.
- F. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- G. Remove excavated material that is unsuitable for re-use from site.
- H. Remove excess excavated material from site.

### **3.04 PROTECTION**

- A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.
- B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

## **END OF SECTION**

## **SECTION 32 11 23**

### **AGGREGATE BASE COURSES**

#### **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 WORK TO BE PERFORMED**

- A. Provide all Aggregate Base courses work required to complete the work of the contract including all the Aggregate Base courses work shown in the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning and finishes. Coordinate the Aggregate Base courses with all the other trades of the project. Provide all demolition and disposal work to complete the aggregate base courses work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. Is it the General Contractor's responsibility to review all work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following: Install aggregate base for sidewalks, pavers and pad. Refer to the Drawings for additional requirements.
  - 1. Front Entry
    - a. Install base for entry platform, sloped sidewalks and pavers at front entry.
  - 2. Stairs
    - a. NA
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NA
  - 4. Food Pantry

- a. Install base for entry platform, sloped sidewalks at Food Pantry entry.
- b. Install bollards.
- c. Install base for freezer pad.

1.03 RELATED REQUIREMENTS

- A. Section 32 13 13 - Concrete Paving: Finish concrete surface course.

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Coarse Aggregate : Coarse aggregate, conforming to State of Massachusetts Highway Department standard M2.01.3.

**PART 3 EXECUTION**

3.01 EXAMINATION

- A. Verify that survey bench marks and intended elevations for the work are as indicated.
- B. Verify substrate has been inspected, gradients and elevations are correct, and is dry.

3.02 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place aggregate on soft, muddy, or frozen surfaces.

3.03 INSTALLATION

- A. Spread aggregate over prepared substrate to a total compacted thickness of 12 inches.
- B. Place aggregate in maximum 4 inch layers and roller compact to specified density.
- C. Level and contour surfaces to elevations and gradients indicated.
- D. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.
- E. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- F. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

**END OF SECTION**

## **SECTION 32 12 16**

### **ASPHALT PAVING**

#### **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 WORK TO BE PERFORMED**

- A. Provide all Asphalt Paving work required to complete the work of the contract including all the Asphalt Paving work shown in the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning and finishes. Coordinate the Asphalt Paving with all the other trades of the project. Provide all demolition and disposal work to complete the Asphalt Paving work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. Is it the General Contractor's responsibility to review all work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. Patch asphalt paving adjacent to new concrete sidewalk.
  - 2. Stairs
    - a. NONE
  - 3. Restroom
    - a. NONE
  - 4. Food Pantry
    - a. Patch existing asphalt at new concrete pad for freezer.
    - b. Patch existing asphalt at new sloped concrete walkway.

1.03 RELATED REQUIREMENTS

- A. Section 32 11 23 - Aggregate Base Courses: Aggregate base course.
- B. Section 32 13 13 - Concrete Paving: Concrete substrate.
- C. Section 32 13 13 - Concrete Paving: Concrete curbs.
- D. Section 32 14 13 - Precast Concrete Unit Paving.

1.04 REFERENCE STANDARDS

- A. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types; The Asphalt Institute; 1997.
- B. AI MS-19 - A Basic Asphalt Emulsion Manual; The Asphalt Institute; Fourth Edition.
- C. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction; 2009a.

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with State of Massachusetts Highways standard.
- B. Mixing Plant: Conform to State of Massachusetts Highways standard.
- C. Obtain materials from same source throughout.

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Asphalt Cement: ASTM D946.

2.02 ASPHALT PAVING MIXES AND MIX DESIGN

**PART 3 EXECUTION**

3.01 EXAMINATION

- A. Verify that compacted subgrade is dry and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.

3.02 BASE COURSE

- A. See Section 32 11 23.

3.03 PLACING ASPHALT PAVEMENT - SINGLE COURSE

- A. Install Work in accordance with State of Massachusetts Highways standards.
- B. Place asphalt within 24 hours of applying primer or tack coat.
- C. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- D. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

3.04 SEAL COAT

- A. Apply seal coat to surface course and asphalt curbs in accordance with AI MS-19.

3.05 TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
- B. Compacted Thickness: Within 1/4 inch of specified or indicated thickness.
- C. Variation from True Elevation: Within 1/2 inch.

3.06 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for general requirements for quality control.
- B. Provide field inspection and testing. Take samples and perform tests in accordance with AI MS-2.

3.07 PROTECTION

- A. Immediately after placement, protect pavement from mechanical injury for 7 days or until surface temperature is less than 140 degrees F.

3.08 SCHEDULE

- A. Pavement at Parking Areas: Two courses; binder course of 2-1/2 inch compacted thickness and wearing course of 1 inch compacted thickness, fog seal coat.

**END OF SECTION**

## **SECTION 32 13 13**

### **CONCRETE PAVING**

#### **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 WORK TO BE PERFORMED**

- A. Provide all Concrete Paving work required to complete the work of the contract including all the Concrete Paving work shown in the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning and finishes. Coordinate the Concrete Paving with all the other trades of the project. Provide all demolition and disposal work to complete the Concrete Paving work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. Is it the General Contractor's responsibility to review all work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following: Install slab on grade walks, poured curbs and pad. Refer to the Drawings for additional requirements.
  - 1. Front Entry
    - a. Install entry platforms
    - b. Install sloped walks and adjacent curbs.
  - 2. Stairs
    - a. NONE
  - 3. Women's Restroom, and Women's Restroom Vestibule
    - a. NONE
  - 4. Food Pantry



- a. Install sloped walks and adjacent curbs.
- b. Install entry platforms.
- c. Install pad for freezer.

#### 1.03 REFERENCE STANDARDS

- A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2009).
- B. ACI 301 - Specifications for Structural Concrete; American Concrete Institute International; 2010 (Errata 2012).
- C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- D. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 2010.
- E. ACI 306R - Cold Weather Concreting; American Concrete Institute International; 2010.
- F. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2015.
- G. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2015.
- H. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.
- I. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2015a.
- J. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2015.
- K. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.
- L. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2014.
- M. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a.
- N. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2011.
- O. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2013.
- P. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2015.
- Q. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types); 2004 (Reapproved 2013).
- R. ASTM D1752 - Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction; 2004a (Reapproved 2013).

#### 1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

- B. Product Data: Provide data on preformed joint filler, admixtures, curing compound, and welded wire support chairs.

## **PART 2 PRODUCTS**

### **2.01 PAVING ASSEMBLIES**

- A. Comply with applicable requirements of ACI 301.
- B. Concrete Sidewalks and Curbs: 4,000 psi 28 day concrete, 5 inches thick at sidewalks, 6 inches wide at curbs, buff color Portland cement, broom textured finish.

### **2.02 FORM MATERIALS**

- A. Form Materials: Conform to ACI 301.
- B. Joint Filler: Preformed; non-extruding bituminous type (ASTM D1751) or sponge rubber or cork (ASTM D1752).

### **2.03 REINFORCEMENT**

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) yield strength; deformed billet steel bars; galvanized.
- B. Steel Welded Wire Reinforcement: Plain type, ASTM A1064/A1064M; in flat sheets; 6 inches by 6 inches - W2.9 x W2.9 unfinished.
- C. Supports for reinforcement: Provide supports for reinforcement including bolsters, spacers and other devices for spacing, supporting and fastening bars and welded wire reinforcement in place. Use wire bar type supports complying with CRSI recommendations, unless otherwise acceptable.
- D. Dowels: ASTM A615/A615M, Grade 60 - 60,000 psi yield strength; deformed billet steel bars; epoxy finish.

### **2.04 CONCRETE MATERIALS**

- A. Obtain cementitious materials from same source throughout.
- B. Cement: ASTM C150/C150M Normal - Type I portland type, grey color.
- C. Fine and Coarse Mix Aggregates: ASTM C33/C33M.
- D. Fly Ash: ASTM C618, Class C or F.
- E. Water: Clean, and not detrimental to concrete.
- F. Air-Entraining Admixtures: ASTM C260/C260M.
- G. Chemical Admixtures: ASTM C494/C494M, Type A - Water Reducing, Type F - Water Reducing, High Range, and Type G - Water Reducing, High Range and Retarding.

### **2.05 ACCESSORIES**

- A. Curing Compound: ASTM C309, Type 1, Class A. No materials containing wax or saponifiable materials will be permitted.
1. Acceptable Products:
- a. Master Builders: Master Seal
  - b. Symons: Cure and Seal
  - c. Sonneborn: Kure-N-Seal

d. Or approved equal

2.06 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Strength: Establish required average strength for concrete on the basis of field experience, as specified in ACI 301.
- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.
- D. Concrete Properties:
  - 1. Compressive strength, when tested in accordance with ASTM C39/C39M at 28 days; 4000 psi.
  - 2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
  - 3. Cement Content: Minimum 611 lb per cubic yard.
  - 4. Water-Cement Ratio: Maximum 40 percent by weight.
  - 5. Total Air Content: 7 percent, determined in accordance with ASTM C173/C173M.
  - 6. Maximum Slump: 3 inches to 5 inches.
  - 7. Maximum Aggregate Size: 3/4 inch.

2.07 MIXING

- A. Transit Mixers: Comply with ASTM C94/C94M.

**PART 3 EXECUTION**

3.01 EXAMINATION

- A. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.

3.02 SUBBASE

- A. See Section 32 11 23 for construction of base course for work of this Section.

3.03 PREPARATION

- A. Moisten base to minimize absorption of water from fresh concrete.

3.04 FORMING

- A. Place and secure forms to correct location, dimension, profile, and gradient.
- B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

3.05 REINFORCEMENT

- A. Place reinforcement at midheight of slabs-on-grade.
- B. Interrupt reinforcement at expansion joints.

- C. Place dowels to achieve pavement and curb alignment as detailed.
- D. Provide doweled joints 12 inch on center at joints with existing sidewalk, building foundation, and expansion joints.

### 3.06 COLD AND HOT WEATHER CONCRETING

- A. Follow recommendations of ACI 305R when concreting during hot weather.
- B. Follow recommendations of ACI 306R when concreting during cold weather.
- C. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

### 3.07 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Do not place concrete when base surface is wet.
- C. Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.
- D. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.
- E. Apply surface retarder to all exposed surfaces in accordance with manufacturer's instructions.

### 3.08 JOINTS

- A. Align curb and sidewalk joints.
- B. Place 3/8 inch wide expansion joints at 20 foot intervals and to separate paving from vertical surfaces and other components and in pattern indicated.
  - 1. Form joints with joint filler extending from bottom of pavement to within 1/2 inch of finished surface.
- C. Provide scored joints.
  - 1. At 3 feet intervals.
- D. Saw cut contraction joints 3/16 inch wide at an optimum time after finishing. Cut 1/3 into depth of slab.

### 3.09 FINISHING

- A. Area Paving: Light broom, texture perpendicular to pavement direction.
- B. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch radius.
- C. Place curing compound on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

### 3.10 TOLERANCES

- A. Maximum Variation of Surface Flatness: 1/8 inch in 10 ft and measured with a straightedge placed in any direction at any location.

### 3.11 PROTECTION

- A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.
- B. Do not permit pedestrian traffic over pavement for 7 days minimum after finishing.
- C. Under no circumstances shall the Contractor pour and leave fresh concrete open to vandalism while it is curing. Damaged concrete shall be subject to rejection by the Architect.

### 3.12 ACCEPTANCE STANDARDS

- A. The following acceptance standards shall be applied to this Contract. Any portion of the concrete paving that does not meet these required acceptance standards shall be removed at the direction of the Owner's Representative and replaced by the Contractor at no additional cost. Saw cut pavement at nearest adjacent control joint, remove concrete pavement and dispose of off site in a legal manner and replace with new concrete pavement meeting the requirements of this Section.
  - 1. Pavement surfaces shall be free of all cracking outside control joints.
  - 2. Pavement surfaces shall not pond water.
  - 3. Pavement surfaces shall be free of visible high and low spots.
  - 4. Steel mesh reinforcing shall not penetrate the surfaces of sides of the concrete work.
  - 5. Sawcut joints and all expansion joints shall be straight, true, uniform in width and free from twists, bends, kinks and misalignments.
  - 6. Edges and the associated edging patterns shall be consistent, true, crisp and complete.
  - 7. Pavement shall show no graffiti. Pavement shall show no rubbed surfaces indicative of attempts to erase graffiti.
  - 8. Expansion joints and score joints shall be placed as required by the Contract Documents.
  - 9. Concrete surfaces shall be free of all stains, including those created during the course of the construction by the Contractor, caused by natural events, or caused by vandalism.
  - 10. All sawcut joints and expansion joints shall be flush.
  - 11. Successive pours shall not be different in color as determined by the Owner's Representative.
  - 12. Pours shall have expansion joints cast into them.
  - 13. Pours shall conform to the contract documents.
  - 14. All forms and related materials shall be removed from the site.

### **END OF SECTION**

## **SECTION 32 14 13**

### **PRECAST CONCRETE UNIT PAVING**

#### **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 WORK TO BE PERFORMED**

- A. Provide all Precast Concrete Unit Paving work required to complete the work of the contract including all the Precast Concrete Unit Paving work shown in the plans, listed in the specification, and needed to install a complete assembly in every way, with all reinforcing, pinning and finishes. Coordinate the Precast Concrete Unit Paving with all the other trades of the project. Provide all demolition and disposal work to complete the Precast Concrete Unit Paving work. Patch to match all adjacent surfaces that are disturbed, left exposed, or unfinished. All work of the contract is related. Is it the General Contractor's responsibility to review all work of each section, each sub-contractor, and each file sub-bidder for the entire project so that all work can be properly and completely performed. Please refer to Section 01 10 00, 1.03, G., for overall scope.
- B. Work included, but not limited to: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
  - 1. Front Entry
    - a. Prepare setting bed and reinstall salvaged pavers around new sloped walk and entry platform.
  - 2. Stairs
    - a. NONE
  - 3. Restroom
    - a. NONE
  - 4. Food Pantry

- a. NONE

1.03 REFERENCE STANDARDS

- A. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Concrete Pavers: existing pavers salvaged from site during selective demolition.  
1. Style: Rectangular.
- B. Sand for Setting Bed: Clean washed natural sand or crushed stone complying with gradation requirements of ASTM C33/C33M for fine aggregates.
- C. Sand for Joints: Fine washed sand with 100 percent passing No. 16 sieve and not more than 10 percent passing No. 200 sieve.

**PART 3 EXECUTION**

3.01 EXAMINATION

- A. Verify that substrate is level or to correct gradient, smooth, capable of supporting pavers and imposed loads, and ready to receive work of this Section.
- B. Verify gradients and elevations of substrate are correct.

3.02 INSTALLATION OF SOLID PAVER UNITS

- A. Spread sand evenly over prepared substrate surface to a maximum thickness of 1-1/2 inch.
- B. Dampen and roller compact sand to level and even surface.
- C. Screed and scarify top 1/2 inch of sand.
- D. Place paver units in running bond field pattern with a stacked border pattern, from straight reference edge.
- E. Cut paver units at edges with masonry saw.
- F. Place half units at edge and interruptions. Maintain tight joints.
- G. Sprinkle sand over surface and sweep into joints. Moisten joints and recover with additional sand until firm joints are achieved. Remove excess sand.
- H. Tamp and level paver units with mechanical vibrator until units are firmly bedded, level, and to correct elevation and gradients. Do not tamp unrestrained edges.

**END OF SECTION**