

INVITATION FOR BIDS

(IFB 15-54)

Somerville Fire Station #7 Roof Replacement

Bid Opening: **Filed Sub-bids due December 24, 2014 at 11:00 a.m.**
 General Bids due January 6, 2015 at 11:00 a.m.



CITY OF SOMERVILLE, MASSACHUSETTS

Joseph A. Curtatone, Mayor

Purchasing Department
Angela M. Allen, Purchasing Director
City Hall
93 Highland Avenue
Somerville, MA 02143

Stephen Vitello
Capital Projects & Planning
City of Somerville
1 Franey Road
Somerville, MA 02145

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All of the requirements of this Division 2 shall be in conformance with the Commonwealth of Massachusetts Highway Department "Standard Specifications for

*Denotes Filed Sub-Bid Section

Highway and Bridges (1998)" as amended by the Supplemental Specifications dated December 23, 1998 hereinafter referred to as the Standard Specifications and as modified by the following sections in these Technical Specifications.

NOTE: Bidders shall check the attached documents with the above list to verify all parts are included before submitting a bid.

PART 1 SECTION 000200:

**CITY OF SOMERVILLE MASSACHUSETTS
INVITATION TO BID
SOMERVILLE FIRE STATION #7
ROOF REPLACEMENT
(IFB# 15-54)**

Enclosed you will find an invitation to bid for: **Somerville Fire Station #7 Roof Replacement, 265 Highland Avenue, Somerville, MA 02143.**

Plans and specifications will be available online from the City's Purchasing Department web page: <http://www.somervillema.gov/departments/finance/purchasing/bids> and via email by request to odeluca@somervillema.gov. Bid documents may be printed upon request upon deposit of \$ 50.00 for each set in the form of a check made payable to the City of Somerville. **The deposit will be refundable, upon return of the plans and specifications in good condition.** Any person requesting additional sets will be required to pay an additional fee, for each additional set, in the amount of \$ 50.00 per set. Bidders must allow up to three business days from time of request before printed documents will be available.

A Pre-Bid Conference and site visit, will be held on Tuesday, December 16, 2014, Somerville Fire Station #7, 265 Highland Avenue Somerville, MA 02143. Participants shall convene at the main entrance at this address: 11:00 AM

Sealed Filed Sub-Bids for:
070000 – Roofing

Will be received at the Purchasing Department, 1st Floor, City Hall, 93 Highland Avenue, Somerville, MA 02143 until **Wednesday, December 24, 2014 at 11:00 a.m.**, at which time all filed sub-bids will be publicly opened and read aloud.

Sealed general bids will be received at the Purchasing Department, 1st Floor, City Hall, 93 Highland Avenue, Somerville, MA 02143 until **Tuesday, January 6, 2015 at 11:00 a.m.**, at which time all general bids will be publicly opened and read aloud.

Please mark the outside of all sealed bid envelopes (for filed sub-bids and general bids) with the following: **"IFB# 15-54."** Filed sub-bidders shall also indicate on the envelope which trade(s) are included in the enclosed bid(s).

BIDS SUBMITTED MUST BE AN ORIGINAL.

The completion of the forms provided and listed in Part 1, Section 3 is necessary for consideration of a potential contract award. When submitting bid documents, please refer to the Bidder's Checklist and retain the order of documents as originally provided.

PART 1, SECTION 2:

INSTRUCTIONS TO BIDDERS

(Chapter 149M – Construction- Competitive Sealed Bids)

1. NAME OF PROJECT

Somerville Fire Station #7 Roof Replacement

2. AWARDING AUTHORITY

The City of Somerville (City), acting by and through the Purchasing Department, invites sealed bids for the roof replacement at the Somerville Fire Station #7 in accordance with the Contract Documents.

Contact:

Orazio DeLuca
Purchasing
City of Somerville
93 Highland Avenue
Somerville, MA 02143
Phone (617) 625-6600 x3407

Stephen Vitello
Capital Projects & Planning
City of Somerville
One Franey Road
Somerville, MA 02145
Phone (617) 625-6600 x5123

3. ARCHITECT:

CDR Maguire, Inc.
211 Congress Street, 11th Floor
Boston, MA 02110

Contact: Fabrizio Caruso, Project Manager
Phone: (617) 778 - 1464
Fax: (617) 348 - 2413

4. LOCATION OF PROJECT

The location of the Somerville Fire Station #7 is at 265 Highland Avenue, Somerville, MA.

5. BRIEF DESCRIPTION OF WORK MORE PARTICULARLY DESCRIBED IN THE PLANS AND SPECIFICATIONS INCLUDED AS PART OF THIS BID PACKAGE.

The City seeks construction services for a roof replacement at the Somerville Fire Station #7, located at 265 Highland Avenue, Somerville, MA 02143. The project consists of demolition of the existing roof over the atrium part of the building and replacement with a new mechanically fastened PVC roofing system.

6. ESTIMATED CONSTRUCTION COST OF THE PROJECT

The estimated cost for the project is \$75,000

7. PROJECT SCHEDULE:

Construction Start: Spring 2015

Date of Substantial Completion: May 15, 2015

Date of Final Completion: June 1, 2015
100% completion of all work.

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.

8. GOVERNING LAW

Massachusetts General Laws, c. 149M.

9. 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.

10. PERMIT FEES

Contractor is responsible for all permits. Fees for City of Somerville permits are waived.

11. MINIMUM BID CRITERIA

- All bidders must have been conducting business, in this specified field, for a minimum of five (5) years.
- All bidders must have successfully constructed a minimum of three projects similar in magnitude within the last six (6) years.
- All bidders must be DCAMM certified for general construction (applies only to contracts valued at \$100,000 or more). This project is not anticipated to require DCAMM certification.

12. PRE-BID CONFERENCE QUESTIONS AND INFORMATION

A Pre-Bid Conference and site visit, will be held on Tuesday, December 16, 2014 at 11:00 a.m., Somerville Fire Station #7, 265 Highland Avenue, Somerville MA 02143.

All questions regarding the project and this Invitation to Bid should be in writing, submitted to Angela M. Allen, Procurement Manager, Purchasing Department, Somerville City Hall, First Floor, 93 Highland Avenue, Somerville, Massachusetts, 02143. Questions may be submitted either by mail, or email to amallen@somervillema.gov.

Questions must be submitted in writing by 12:00 noon on Friday, December 19, 2014 and they will be answered in writing to all holders of the bid proposals. Bidders must submit e-mail address (preferred) or a fax number with their inquiries. If any bidders contact any other person or department outside of Purchasing with inquiries, they may be disqualified from the bidding process.

Continued on next page.....

Key Dates:

Pre-bid Conference	11:00 a.m.	December 16, 2014
Deadline for Questions	12:00 noon	December 19, 2014
Filed Sub-bids Due and Opened	11:00 a.m.	December 24, 2014
General Bids Due and Opened	11:00 a.m.	January 6, 2015
Evaluation of Bid Documentation Begins		January 6, 2015
Anticipated Contract Award		February 1, 2015
Anticipated Notice to Proceed		February 15, 2015
Commencement of Work		Spring 2015

13. BID SUBMISSION TIME AND PLACE OF BID OPENING

Sealed bids (clearly identified as a bid and endorsed with the name and address of the bidder) must be received **no later than 11:00 a.m.** by the Purchasing Department, first floor, City Hall, 93 Highland Avenue, Somerville, MA, 02143 on or before **December 24, 2014 for Filed Sub-bids and January 6, 2015 for general bids**, at which time they will be publicly opened and read aloud. In the event City Hall is closed, the deadline shall be 11:30 a.m. on the next day City Hall is open for business.

ADDITIONAL REQUIREMENTS: PLEASE READ CAREFULLY, FAILURE TO MEET THESE REQUIREMENTS COULD RESULT IN REJECTION OF A BID.

14. BID SUBMISSION REQUIREMENTS

Bid Signature

A bid must be signed as follows: 1) if the bidder is an individual, by her/him personally; 2) if the bidder is a partnership, by the name of the partnership, followed by the signature of each general partner; and 3) if the bidder is a corporation, by the authorized officer, whose signature must be a person named on the Corporate Secretary's Certificate of Authority.

Changes and Addenda

If any changes are made to this IFB, an addendum will be issued. Addenda will be posted on the city's purchasing web-page (<http://www.somervillema.gov/departments/finance/purchasing/bids>) e-mailed to all bidders on record as having picked up the IFB. No changes may be made to the bid documents, except as authorized in an addendum from the Purchasing Department.

Modification or Withdrawal of Bids, Mistakes, and Minor Informalities

A bidder 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 part one of this section. Each modification must be numbered in sequence, and must reference the original IFB.

After the bid opening, a bidder 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 bidder will be allowed to correct them. If a mistake and the intended correct bid are clearly evident on the face of the bid document, the mistake will be corrected to reflect the intended correct bid, and the bidder will be notified in writing; the bidder may not withdraw the bid. A bidder 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 IFB, 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.

Bid Prices to Remain Firm

All bid prices submitted in response to this IFB must remain firm for 60 days following the bid opening.

Unbalanced Bids

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

Documents to be Submitted as part of Bid:

The following documents must be submitted with the complete signed bid package:

- Form for General Bid (Section 003000)
- Bid Form for Alternates (Section 003100)
- Living Wage Form (Section 003200)
- Responsible Employer Ordinance (Section 003250)
- Acknowledgement of Notice to Bidders (Section 003300)
- Quality Requirements Form (Section 003350)
- Certificate of Non-Collusion and Tax Compliance (Section 003400)
- Signature Form (Section 003600)
- Certificate of Signature Authority (Section 003560)
- Reference Form (Section 003700)

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% Statutory 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.

For successful bidder: Certificate of Good Standing: If the bidder is a corporation, a Certificate of Good Standing should accompany the signed contract. Certificate available online at: http://corp.sec.state.ma.us/corp/Certificates/Certificate_Request.asp or call Tel: (617) 727-9640 for more information.

15. APPLICABLE WAGE RATES:

The contractor shall pay State prevailing wage rates. The applicable wage rates are attached as part of this bid package and will be included as Appendix J in the contract. A signed Compliance Form must be included with the bid package, Form included.

16. SAMPLE CONSTRUCTION CONTRACT

The successful bidder shall execute with the City of Somerville a Contract ("Contract") in substantially the same form as the sample contract included in this bid package. In addition to the items submitted with the bid, the contract includes certain other documents which may be executed by the Bidder selected as contractor and which are included as Appendices to the Sample Construction Contract (see Part 2) include:

Certificate of Authority (for corporations if the contract is signed by other than the President, there must be a current Certificate of Vote signed by the corporate clerk or secretary stating who is authorized to sign contracts on the Corporations behalf) – not an Appendix

Appendix D: Insurance Certificates– evidencing minimum coverage as follows:

General Liability - \$1,000,000 per occurrence, \$2,000,000 aggregate

Automobile Liability: \$500,000 per occurrence, \$1,000,000 aggregate

Workman's Compensation: statutory coverage

Appendix F: Certificate of Good Standing: Certificate available online at http://corp.sec.state.ma.us/corp/Certificates/Certificate_Request.asp or call Tel: (617) 727-9640 for more information.

Appendix H: Statement of Management (for contracts over \$100,000.00)

Appendix I: Performance and Payment Bonds for 100% of the contract sum

All paperwork required for the contract shall be completed and delivered to the Purchasing Department no later than five (5) working days after the Award of the Contract.

ITEMS OF SPECIAL CONSIDERATION

The Contractor's attention is specifically drawn to the following items of special consideration relative to this project, most of which are also addressed in the Technical Specifications.

- a. The Contractor must provide police details at the Contractor's expense.
- b. The Contractor must obtain all permits as necessary.

19. RESERVATION OF RIGHTS

The City reserves the right to extend the deadline for submission of bids, to request supplemental information, to waive minor informalities, and reserves the right 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.

20. RULE FOR AWARD

A contract will be awarded to the lowest responsible and eligible bidder. All required bid documents must be provided to be deemed responsive and eligible.

PART 1 SECTION 3

Bidder's Checklist Somerville Fire Station #7 Roof Replacement (IFB #15-54)

BID SUBMISSION DOCUMENTS

BIDDERS NAME: _____

This Bid Submission includes the following:

- ____ Form for General Bid
- ____ Quality Requirements
- ____ Somerville Living Wage Form
- ____ Responsible Employer Ordinance Form (applicable for projects \$100K and more)
- ____ Acknowledgement of Notice to Bidders
- ____ Certificate of Non-Collusion and Tax Compliance
- ____ Certificate of Signature Authority
- ____ Signature Form
- ____ Reference Form
- ____ 5% Statutory Bid Bond or Guaranty
- ____ Prevailing Wage Compliance Form
- ____ DCAMM Certificate of Eligibility and Update Statement
(not applicable for projects under \$100,000)

Part 1 Section 3: Bid Submission Documents

**Part 1 Section 003050: FORM FOR GENERAL BID
FOR CONSTRUCTION CONTRACT**

To the Awarding Authority:

- A. The undersigned proposes to furnish all labor and materials required for:

Somerville Fire Station #7 Roof Replacement

in accordance with the accompanying plans and specifications prepared by

**CDR Maguire, Inc.
211 Congress Street, 11th Floor
Boston, MA 02110**

Contact: Fabrizio Caruso, Project Manager
Phone: (617) 778 - 1440
Fax: (617) 348 - 2143

specified below, subject to additions and deductions according to the terms of the specifications.

- B. This bid includes addenda #1 _____, #2 _____, #3 _____, #4 _____.

- C. The proposed contract price is:

\$ _____
(total bid in figures)

_____ DOLLARS
(total bid in words)

- D. While the proposed contract price does not include the items listed on the attached "Bid Form for Alternates," the bidder understands that the project construction cost estimate provided by the city is inclusive of all the work described in this form.
- E. The Undersigned Bidder agrees that, if it is selected as general contractor, it will within five working 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, including furnishing a 100% performance bond and a 100% labor and materials or payment bond, each of a surety company qualified to do business under the laws of the Commonwealth of Massachusetts 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; and, in addition, furnishing a certificate of good standing and insurance certificates as required by the bid documents.

- F. The Undersigned Bidder hereby certifies that it is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Project and that it will comply fully with all laws and regulations applicable to this Award, including applicable provisions of MGL Chapter 30, ss. 39M et seq.
- G. The Undersigned Bidder further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made 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.
- H. The Undersigned Bidder certifies under the penalties of perjury that:
- (1) Pursuant to M.G.L. c. 62C, §49A, to the best of the signatories knowledge and belief, that the Undersigned Bidder is 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), and
- (2) the Federal Employer Identification Number (EIN) of the Bidder is # _____, and that it is in compliance with all federal, state, and local laws regarding taxation.
- I. The Undersigned Bidder certifies under penalties of perjury that the Bidder is not presently debarred from doing federal or state public construction work, that the Bidder has not had its low bid rejected by any municipality in the previous two years, except _____
in which case the reasons for rejection were as follows: _____
- J. The Undersigned Bidder has submitted the information on the Reference Form:
- (00370-1), requesting three references for municipal park projects completed during the previous six (6) years. The Undersigned Bidder understands that the contractor and subcontractors will be required to pay prevailing wages to laborers and mechanics, and that if the Undersigned's bid is significantly below the

average bid, the Awarding Authority may require the Bidder to substantiate that the bid is based on payment of wages at prevailing rates.

M. The Undersigned Bidder certifies that it can achieve substantial completion by: 90 calendar days from Notice to Proceed and achieve Final Completion by: To Be Determined.

N. Unit Price Form

1. Should certain additional work be required, or should the quantities of certain classes of work be increased or decreased from those required by the Contract Documents, by authorization of the City, unit prices listed on the attached "Unit Price Form" shall at the option of the City be the basis of payment to the Contractor or credit to the City, for such increase or decrease in the work. The unit prices shall represent the exact net amount per unit to be paid the Contractor (in the case of addition or increase) or to be refunded the City (in the case of decrease). Contractually noted adjustments will be allowed for overhead, profit, insurance or other direct or indirect expenses of the Contractor or Subcontractors.
2. The unit prices shall include cost of fuel, all labor, materials, equipment, overhead, profit, insurance, etc. to cover the finished work of the several kinds called for. Changes shall be processed in accordance with the provisions of the General Conditions governing changes in the work.

Executed this _____ day of _____ 2014.

On behalf of:

(Undersigned Bidder Business Name)

(Business Address) and (Telephone)

By:

(Name and Address of Person Signing Bid)

(Title of Person Signing bid)

**FORM FOR SUB-BID
FOR CONSTRUCTION CONTRACT**

To the Awarding Authority:

- A. The undersigned proposes to furnish all labor and materials required for:

Engine 7 – Repairs to Roof

in accordance with the accompanying plans and specifications prepared by

**CDR Maguire, Inc.
211 Congress Street, 11th Floor
Boston, MA 02110**

Contact: Fabrizio Caruso, Project Manager

Phone: (617) 778 - 1464

Fax: (617) 348 - 2413

specified below, subject to additions and deductions according to the terms of the specifications.

- B. This bid includes addenda #1_____, #2 _____, #3 _____, #4 _____.

- C. The proposed contract price is:

\$_____.

(total bid in figures)

_____ DOLLARS

(total bid in words)

- D. While the proposed contract price does not include the items listed on the attached "Bid Form for Alternates," the bidder understands that the project construction cost estimate provided by the city is inclusive of all the work described in this form.
- E. The Undersigned Bidder agrees that, if it is selected as general contractor, it will within five working 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, including furnishing a 100% performance bond and a 100% labor and materials or payment bond, each of a surety company qualified to do business under the laws of the Commonwealth of Massachusetts 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; and, in addition, furnishing a certificate of good standing and insurance certificates as required by the bid documents.

- F. The Undersigned Bidder hereby certifies that it is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Project and that it will comply fully with all laws and regulations applicable to this Award, including applicable provisions of MGL Chapter 30, ss. 39M et seq.
- G. The Undersigned Bidder further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made 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.
- H. The Undersigned Bidder certifies under the penalties of perjury that:
- (1) Pursuant to M.G.L. c. 62C, §49A, to the best of the signatories knowledge and belief, that the Undersigned Bidder is 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), and
 - (2) the Federal Employer Identification Number (EIN) of the Bidder is # _____, and that it is in compliance with all federal, state, and local laws regarding taxation.
- I. The Undersigned Bidder certifies under penalties of perjury that the Bidder is not presently debarred from doing federal or state public construction work, that the Bidder has not had its low bid rejected by any municipality in the previous two years, except
- _____
- in which case the reasons for rejection were as follows:
- _____
- J. The Undersigned Bidder has submitted the information on the Reference Form:
- requesting three references for municipal park projects completed during the previous six (6) years. The Undersigned Bidder understands that the contractor and subcontractors will be required to pay prevailing wages to laborers and mechanics, and that if the Undersigned's bid is significantly below the average bid, the Awarding Authority may require the Bidder to substantiate that the bid is based on payment of wages at prevailing rates.
- M. The Undersigned Bidder certifies that it can achieve Final Completion by: thirty (30) days from Notice to Proceed.

N. Unit Price Form (Not Applicable to this bid)

1. Should certain additional work be required, or should the quantities of certain classes of work be increased or decreased from those required by the Contract Documents, by authorization of the City, unit prices listed on the attached "Unit Price Form" shall at the option of the City be the basis of payment to the Contractor or credit to the City, for such increase or decrease in the work. The unit prices shall represent the exact net amount per unit to be paid the Contractor (in the case of addition or increase) or to be refunded the City (in the case of decrease). Contractually noted adjustments will be allowed for overhead, profit, insurance or other direct or indirect expenses of the Contractor or Subcontractors.
2. The unit prices shall include cost of fuel, all labor, materials, equipment, overhead, profit, insurance, etc. to cover the finished work of the several kinds called for. Changes shall be processed in accordance with the provisions of the General Conditions governing changes in the work.

Executed this _____ day of _____ 20 .

On behalf of :

(Undersigned Bidder Business Name)

(Business Address) and (Telephone)

By:

(Name and Address of Person Signing Bid)

(Title of Person Signing bid)

Part 1 Section 3: BID SUBMISSION DOCUMENTS

**NOTICE TO BIDDERS
(IFB #_15-54)**

All bids must be in accordance with terms and conditions set forth herein as stated.

SECTION A. **Sealed filed sub-bids for Somerville Fire Station #7 Roof Replacement** shall be received by the Purchasing Department no later than **December 24, 2014 at 11:00 a.m.** **Sealed General Bids** will be received at the office of the Purchasing Director, Somerville City Hall, 93 Highland Avenue, Somerville, MA. 02143 no later than **January 6, 2015 at 11:00 a.m.** at which time and place they will be publicly opened and read.

A Pre-Bid Conference and site visit, will be held on Tuesday, December 16, 2014 at 11:00 a.m., Somerville Fire Station #7, 265 Highland Avenue, Somerville MA 02143.

SECTION B. Forms of price bid, specifications and terms of contract can be obtained at the Purchasing Department office on or after **December 10, 2014.**

SECTION C. Bid envelopes shall be clearly marked as follows: **“(IFB 15-54)
Bid for Somerville Fire Station #7 Roof Replacement”.**

SECTION D. If **awarded** vendor is a Corporation, vendor must comply with request for “Certificate of Good Standing”. See attached instructions.

SECTION E. **INSURANCE: Awarded Vendor** must comply with insurance requirements as stated in the bid package.

SECTION F. Living Wage - see Somerville Living Wage Form (003200)
Prevailing Wage Rates
Responsible Employer Ordinance (N/A for projects under \$100,000)

SECTION G. The requirements in Section E or F will be waived if the words "Non-Applicable" (N/A) are inserted in the space designated.

SECTION H. The copy of the bid deposited with the City will be accompanied by a bid guarantee in the amount of 5% of the proposed bid amount. The estimated contract amount is \$75,000.00. A Bid bond, Certified Check, Treasurer's Check, or Cashier's Check made payable to the City must be submitted with each bid. Said bid guarantee will become the property of the City of Somerville if the proposal is accepted and the bidder either neglects or refuses to comply with the terms of the proposal. Bid guarantee will be returned within 30 days to all unsuccessful bidders.

SECTION I. A Performance Bond and a Labor and Materials Bond in the amount of 100% of the total contract price will be required by the City.

Somerville Fire Station #7
Roof Replacement

Somerville, Massachusetts
December 2014

Part 1 Section 3: BID SUBMISSION DOCUMENTS

SECTION J. The Purchasing Director reserves the right to accept or reject any or all bids, to waive any minor informalities, if in her sole judgment, the best interest of the City of Somerville would be served by so doing.

SECTION K. The City reserves the right to cancel a contract, if awarded bidder does not respond to all necessary documents and required signature forms within ten (10) working days of receipt of contract.

SECTION L. The Vendor must certify that all employees to be provided have successfully completed at least ten (10) hours of OSHA approved training in Construction Safety and Health.

Signature: _____

Company: _____

By: _____ Title: _____

Date: _____ Tel. No: _____ Fax: _____

Applicable to Corporations:

I hereby attest that the signatory to this bid has the authority to sign and submit bids for the Corporation.

ATTEST: _____
Secretary

QUALITY REQUIREMENTS

Please respond to the following questions. A negative response to any of the first three questions will automatically disqualify the Bidder. A negative response to the fourth question about SOMWBA will not disqualify the Bidder.

	Yes	No
Has the contractor been established in this specified field for at least 5 years?		
Has the contractor successfully completed a minimum of three (3) similar projects within the past six (6) years?		
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?		
Optional: Vendor: Are you a State Office for Minority and Women Owned Business Assistance (SOMWBA) certified minority- or woman- owned business?		



SOMERVILLE LIVING WAGE ORDINANCE CERTIFICATION FORM
CITY OF SOMERVILLE CODE OF ORDINANCES SECTION 2-397 et seq¹

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 7/1/2014 "Living Wage" shall be deemed to be an hourly wage of no less than **\$12.05** 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

¹Copies of the Ordinance are available upon request to the Purchasing Department.

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 7/1/2014 is \$12.05 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.

Part 1 Section 3: BID SUBMISSION DOCUMENTS
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,

Part 1 Section 3: BID SUBMISSION DOCUMENTS

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 _____, 20_____.

Name of Vendor

By: _____

Name

Its: _____

Title

Signature

Part 1 Section 3: BID SUBMISSION DOCUMENTS
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



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
(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)



**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: _____

CITY OF SOMERVILLE

SIGNATURE FORM

NAME OF COMPANY: _____

ADDRESS: _____

TELEPHONE #: _____ FAX #: _____

DATE: _____ EMAIL: _____

SIGNATURE OF AUTHORIZED CONTRACTING OFFICIAL: _____

TITLE: _____

RESIDENCE: _____

IF COMPANY IS A PARTNERSHIP:

FULL NAME AND RESIDENCE OF EACH PARTNER:

IF COMPANY IS A CORPORATION:

THE CORPORATE NAME IS: _____

THE CORPORATION IS ORGANIZED UNDER THE LAWS OF: _____

THE PRESIDENT IS: _____

THE TREASURER IS: _____

THE CLERK/SECRETARY OR ASSISTANT CLERK/SECRETARY WHO WILL EXECUTE THE
CONTRACT AND SIGN THE CERTIFICATE OF AUTHORITY IS:

NAME OF CORPORATION THAT WILL APPEAR ON A POTENTIAL CONTRACTUAL
AGREEMENT IF DIFFERENT FROM ABOVE: _____

NAME AND TITLE OF PERSON WHO WILL BE THE PRINCIPAL SIGNATORY ON THE
CONTRACT IF OTHER THAN THE PRESIDENT:

NAME: _____ TITLE: _____

REFERENCE FORM

Bidder: _____

IFB Title: **Somerville Fire Station #7 Roof Replacement**

Bidder must provide references from three municipalities for similar projects completed during the previous six (6) years.

Reference: _____ Contact: _____

Address: _____ Phone: _____

_____ Fax: _____

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

Reference: _____ Contact: _____

Address: _____ Phone: _____

_____ Fax: _____

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

Reference: _____ Contact: _____

Address: _____ Phone: _____

_____ Fax: _____

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



CITY OF SOMERVILLE, MASSACHUSETTS

JOSEPH A. CURTATONE
MAYOR

Vendor Certification

The vendor certifies that it has provided the City of Somerville with an accurate tax identification number (TIN). In the event that the City is fined by the IRS for an incorrect TIN provided by the vendor, the vendor agrees to reimburse the City for the amount of the fine.

TIN

Signature

Printed Name of Person signing

Company

Date



Somerville City Hall • 93 Highland Avenue • Somerville, Massachusetts 02143
(617) 625-6600, Ext. 3400 • TTY: (617) 666-0001 • Fax: (617) 625-1344
www.somervillema.gov



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.	Name (as shown on your income tax return)	
	Business name/disregarded entity name, if different from above	
	Check appropriate box for federal tax classification: <input type="checkbox"/> Individual/sole proprietor <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ <input type="checkbox"/> Other (see instructions) ▶ _____	
	<input type="checkbox"/> Exempt payee	
	Address (number, street, and apt. or suite no.) City, state, and ZIP code List account number(s) here (optional)	
Requester's name and address (optional)		

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is 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 chart on page 4 for guidelines on whose number to enter.

Social security number								
Employer identification number								

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).

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 4.

Sign Here	Signature of U.S. person ▶	Date ▶
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General Instructions

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

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- 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.

Note. If 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 on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the 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 withholding on your share of partnership income.

Documentation of OSHA compliance

(to be inserted by bidder)

Somerville Fire Station #7
Roof Replacement

Somerville, Massachusetts
December 2014

BID BOND OR GUARANTY

BIDDER TO INSERT HERE

Somerville Fire Station #7
Roof Replacement

Somerville, Massachusetts
December 2014

Division of Labor and Industries Wage Rates



DEVAL L. PATRICK
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

RACHEL KAPRIELIAN
Secretary
HEATHER E. ROWE
Director

Awarding Authority: City of Somerville

Contract Number:

City/Town: SOMERVILLE

Description of Work: Fire Engine 7 Roof Repairs

Job Location: 265 Highland Ave, Somerville Ma

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 Division of Apprentice Standards (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. **If an apprentice rate is not listed on the prevailing wage schedule for the trade in which an apprentice is registered with the DAS, the apprentice 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 criminal penalties.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2014	\$32.40	\$9.91	\$9.33	\$0.00	\$51.64
	06/01/2015	\$32.75	\$9.91	\$9.33	\$0.00	\$51.99
	08/01/2015	\$32.75	\$10.41	\$9.33	\$0.00	\$52.49
	12/01/2015	\$32.75	\$10.41	\$10.08	\$0.00	\$53.24
	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 TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2014	\$32.47	\$9.91	\$9.33	\$0.00	\$51.71
	06/01/2015	\$32.82	\$9.91	\$9.33	\$0.00	\$52.06
	08/01/2015	\$32.82	\$10.41	\$9.33	\$0.00	\$52.56
	12/01/2015	\$32.82	\$10.41	\$10.08	\$0.00	\$53.31
	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 TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2014	\$32.59	\$9.91	\$9.33	\$0.00	\$51.83
	06/01/2015	\$32.94	\$9.91	\$9.33	\$0.00	\$52.18
	08/01/2015	\$32.94	\$10.41	\$9.33	\$0.00	\$52.68
	12/01/2015	\$32.94	\$10.41	\$10.08	\$0.00	\$53.43
	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 PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2014	\$87.36	\$9.80	\$18.17	\$0.00	\$115.33
	08/01/2015	\$90.51	\$9.80	\$18.17	\$0.00	\$118.48
AIR TRACK OPERATOR LABORERS - ZONE 1	12/01/2014	\$35.60	\$7.30	\$12.70	\$0.00	\$55.60
	06/01/2015	\$36.35	\$7.30	\$12.70	\$0.00	\$56.35
	12/01/2015	\$37.10	\$7.30	\$12.70	\$0.00	\$57.10
	06/01/2016	\$37.85	\$7.30	\$12.70	\$0.00	\$57.85
	12/01/2016	\$38.85	\$7.30	\$12.70	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	12/01/2014	\$32.48	\$10.40	\$5.95	\$0.00	\$48.83
	06/01/2015	\$33.43	\$10.40	\$5.95	\$0.00	\$49.78
	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER LABORERS - ZONE 1	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE OPERATING ENGINEERS LOCAL 4	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.60	\$7.30	\$12.70	\$0.00	\$55.60
	06/01/2015	\$36.35	\$7.30	\$12.70	\$0.00	\$56.35
	12/01/2015	\$37.10	\$7.30	\$12.70	\$0.00	\$57.10
	06/01/2016	\$37.85	\$7.30	\$12.70	\$0.00	\$57.85
	12/01/2016	\$38.85	\$7.30	\$12.70	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2010	\$37.70	\$6.97	\$11.18	\$0.00	\$55.85

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2010

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$24.51	\$6.97	\$11.18	\$0.00	\$42.66
2	65	\$24.51	\$6.97	\$11.18	\$0.00	\$42.66
3	70	\$26.39	\$6.97	\$11.18	\$0.00	\$44.54
4	75	\$28.28	\$6.97	\$11.18	\$0.00	\$46.43
5	80	\$30.16	\$6.97	\$11.18	\$0.00	\$48.31
6	85	\$32.05	\$6.97	\$11.18	\$0.00	\$50.20
7	90	\$33.93	\$6.97	\$11.18	\$0.00	\$52.08
8	95	\$35.82	\$6.97	\$11.18	\$0.00	\$53.97

Notes:

Apprentice to Journeyworker Ratio:1:5

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (BOSTON)</i>	08/01/2014	\$48.96	\$10.18	\$18.22	\$0.00	\$77.36
	02/01/2015	\$49.52	\$10.18	\$18.22	\$0.00	\$77.92
	08/01/2015	\$50.42	\$10.18	\$18.29	\$0.00	\$78.89
	02/01/2016	\$50.99	\$10.18	\$18.29	\$0.00	\$79.46
	08/01/2016	\$51.89	\$10.18	\$18.37	\$0.00	\$80.44
	02/01/2017	\$52.46	\$10.18	\$18.37	\$0.00	\$81.01

Classification

Effective Date

Base Wage

Health

Pension

Supplemental
Unemployment

Total Rate

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

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.48	\$10.18	\$18.22	\$0.00	\$52.88
2	60	\$29.38	\$10.18	\$18.22	\$0.00	\$57.78
3	70	\$34.27	\$10.18	\$18.22	\$0.00	\$62.67
4	80	\$39.17	\$10.18	\$18.22	\$0.00	\$67.57
5	90	\$44.06	\$10.18	\$18.22	\$0.00	\$72.46

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$10.18	\$18.22	\$0.00	\$53.16
2	60	\$29.71	\$10.18	\$18.22	\$0.00	\$58.11
3	70	\$34.66	\$10.18	\$18.22	\$0.00	\$63.06
4	80	\$39.62	\$10.18	\$18.22	\$0.00	\$68.02
5	90	\$44.57	\$10.18	\$18.22	\$0.00	\$72.97

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER

OPERATING ENGINEERS LOCAL 4

12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN

LABORERS - FOUNDATION AND MARINE

12/01/2014	\$35.95	\$7.30	\$12.90	\$0.00	\$56.15
06/01/2015	\$36.70	\$7.30	\$12.90	\$0.00	\$56.90
12/01/2015	\$37.45	\$7.30	\$12.90	\$0.00	\$57.65
06/01/2016	\$38.20	\$7.30	\$12.90	\$0.00	\$58.40
12/01/2016	\$39.20	\$7.30	\$12.90	\$0.00	\$59.40

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER

LABORERS - FOUNDATION AND MARINE

12/01/2014	\$34.80	\$7.30	\$12.90	\$0.00	\$55.00
06/01/2015	\$35.55	\$7.30	\$12.90	\$0.00	\$55.75
12/01/2015	\$36.30	\$7.30	\$12.90	\$0.00	\$56.50
06/01/2016	\$37.05	\$7.30	\$12.90	\$0.00	\$57.25
12/01/2016	\$38.05	\$7.30	\$12.90	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$34.80	\$7.30	\$12.90	\$0.00	\$55.00
	06/01/2015	\$35.55	\$7.30	\$12.90	\$0.00	\$55.75
	12/01/2015	\$36.30	\$7.30	\$12.90	\$0.00	\$56.50
	06/01/2016	\$37.05	\$7.30	\$12.90	\$0.00	\$57.25
	12/01/2016	\$38.05	\$7.30	\$12.90	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 1 (Metro Boston)</i>	09/01/2014	\$41.65	\$9.80	\$16.11	\$0.00	\$67.56
	03/01/2015	\$42.67	\$9.80	\$16.11	\$0.00	\$68.58

Apprentice - CARPENTER - Zone 1 Metro Boston

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.83	\$9.80	\$1.57	\$0.00	\$32.20
2	60	\$24.99	\$9.80	\$1.57	\$0.00	\$36.36
3	70	\$29.16	\$9.80	\$11.40	\$0.00	\$50.36
4	75	\$31.24	\$9.80	\$11.40	\$0.00	\$52.44
5	80	\$33.32	\$9.80	\$12.97	\$0.00	\$56.09
6	80	\$33.32	\$9.80	\$12.97	\$0.00	\$56.09
7	90	\$37.49	\$9.80	\$14.54	\$0.00	\$61.83
8	90	\$37.49	\$9.80	\$14.54	\$0.00	\$61.83

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.34	\$9.80	\$1.57	\$0.00	\$32.71
2	60	\$25.60	\$9.80	\$1.57	\$0.00	\$36.97
3	70	\$29.87	\$9.80	\$11.40	\$0.00	\$51.07
4	75	\$32.00	\$9.80	\$11.40	\$0.00	\$53.20
5	80	\$34.14	\$9.80	\$12.97	\$0.00	\$56.91
6	80	\$34.14	\$9.80	\$12.97	\$0.00	\$56.91
7	90	\$38.40	\$9.80	\$14.54	\$0.00	\$62.74
8	90	\$38.40	\$9.80	\$14.54	\$0.00	\$62.74

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (BOSTON)</i>	07/01/2014	\$43.77	\$10.90	\$18.71	\$1.30	\$74.68
	01/01/2015	\$44.69	\$10.90	\$18.71	\$1.30	\$75.60
	07/01/2015	\$45.29	\$10.90	\$18.71	\$1.30	\$76.20
	01/01/2016	\$46.21	\$10.90	\$18.71	\$1.30	\$77.12

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Boston)
Effective Date - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.89	\$10.90	\$12.21	\$1.30	\$46.30
2	60	\$26.26	\$10.90	\$13.71	\$1.30	\$52.17
3	65	\$28.45	\$10.90	\$14.71	\$1.30	\$55.36
4	70	\$30.64	\$10.90	\$15.71	\$1.30	\$58.55
5	75	\$32.83	\$10.90	\$16.71	\$1.30	\$61.74
6	80	\$35.02	\$10.90	\$17.71	\$1.30	\$64.93
7	90	\$39.39	\$10.90	\$18.71	\$1.30	\$70.30

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.35	\$10.90	\$12.21	\$1.30	\$46.76
2	60	\$26.81	\$10.90	\$13.71	\$1.30	\$52.72
3	65	\$29.05	\$10.90	\$14.71	\$1.30	\$55.96
4	70	\$31.28	\$10.90	\$15.71	\$1.30	\$59.19
5	75	\$33.52	\$10.90	\$16.71	\$1.30	\$62.43
6	80	\$35.75	\$10.90	\$17.71	\$1.30	\$65.66
7	90	\$40.22	\$10.90	\$18.71	\$1.30	\$71.13

Notes:

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

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
LABORERS - ZONE 1	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	12/01/2014	\$43.39	\$10.00	\$14.30	\$0.00	\$67.69
OPERATING ENGINEERS LOCAL 4	06/01/2015	\$44.14	\$10.00	\$14.30	\$0.00	\$68.44
	12/01/2015	\$45.39	\$10.00	\$14.30	\$0.00	\$69.69
	06/01/2016	\$46.14	\$10.00	\$14.30	\$0.00	\$70.44
	12/01/2016	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	06/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
	12/01/2017	\$49.39	\$10.00	\$14.30	\$0.00	\$73.69

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$29.40	\$10.00	\$14.30	\$0.00	\$53.70
	06/01/2015	\$29.92	\$10.00	\$14.30	\$0.00	\$54.22
	12/01/2015	\$30.79	\$10.00	\$14.30	\$0.00	\$55.09
	06/01/2016	\$31.31	\$10.00	\$14.30	\$0.00	\$55.61
	12/01/2016	\$32.18	\$10.00	\$14.30	\$0.00	\$56.48
	06/01/2017	\$32.87	\$10.00	\$14.30	\$0.00	\$57.17
	12/01/2017	\$33.56	\$10.00	\$14.30	\$0.00	\$57.86

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 1</i>	07/01/2014	\$46.76	\$7.85	\$16.10	\$0.00	\$70.71
	01/01/2015	\$47.66	\$7.85	\$16.10	\$0.00	\$71.61
	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	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 - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$7.85	\$0.00	\$0.00	\$31.23
2	55	\$25.72	\$7.85	\$3.66	\$0.00	\$37.23
3	60	\$28.06	\$7.85	\$3.99	\$0.00	\$39.90
4	65	\$30.39	\$7.85	\$4.32	\$0.00	\$42.56
5	70	\$32.73	\$7.85	\$14.11	\$0.00	\$54.69
6	75	\$35.07	\$7.85	\$14.44	\$0.00	\$57.36
7	80	\$37.41	\$7.85	\$14.77	\$0.00	\$60.03
8	90	\$42.08	\$7.85	\$15.44	\$0.00	\$65.37

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.83	\$7.85	\$0.00	\$0.00	\$31.68
2	55	\$26.21	\$7.85	\$3.66	\$0.00	\$37.72
3	60	\$28.60	\$7.85	\$3.99	\$0.00	\$40.44
4	65	\$30.98	\$7.85	\$4.32	\$0.00	\$43.15
5	70	\$33.36	\$7.85	\$14.11	\$0.00	\$55.32
6	75	\$35.75	\$7.85	\$14.44	\$0.00	\$58.04
7	80	\$38.13	\$7.85	\$14.77	\$0.00	\$60.75
8	90	\$42.89	\$7.85	\$15.44	\$0.00	\$66.18

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.00	\$7.30	\$12.70	\$0.00	\$55.00
	06/01/2015	\$35.75	\$7.30	\$12.70	\$0.00	\$55.75
	12/01/2015	\$36.50	\$7.30	\$12.70	\$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>	12/01/2014	\$36.00	\$7.30	\$12.70	\$0.00	\$56.00
	06/01/2015	\$36.75	\$7.30	\$12.70	\$0.00	\$56.75
	12/01/2015	\$37.50	\$7.30	\$12.70	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.75	\$7.30	\$12.70	\$0.00	\$55.75
	06/01/2015	\$36.50	\$7.30	\$12.70	\$0.00	\$56.50
	12/01/2015	\$37.25	\$7.30	\$12.70	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 1</i>	12/01/2014	\$36.00	\$7.30	\$12.70	\$0.00	\$56.00
	06/01/2015	\$36.75	\$7.30	\$12.70	\$0.00	\$56.75
	12/01/2015	\$37.50	\$7.30	\$12.70	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.75	\$7.30	\$12.70	\$0.00	\$55.75
	06/01/2015	\$36.50	\$7.30	\$12.70	\$0.00	\$56.50
	12/01/2015	\$37.25	\$7.30	\$12.70	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.00	\$7.30	\$12.70	\$0.00	\$55.00
	06/01/2015	\$35.75	\$7.30	\$12.70	\$0.00	\$55.75
	12/01/2015	\$36.50	\$7.30	\$12.70	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$58.24	\$9.80	\$18.17	\$0.00	\$86.21
	08/01/2015	\$60.34	\$9.80	\$18.17	\$0.00	\$88.31
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$41.60	\$9.80	\$18.17	\$0.00	\$69.57
	08/01/2015	\$43.10	\$9.80	\$18.17	\$0.00	\$71.07
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$62.40	\$9.80	\$18.17	\$0.00	\$90.37
	08/01/2015	\$64.65	\$9.80	\$18.17	\$0.00	\$92.62
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2014	\$87.36	\$9.80	\$18.17	\$0.00	\$115.33
	08/01/2015	\$90.51	\$9.80	\$18.17	\$0.00	\$118.48
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	09/01/2014	\$44.79	\$13.00	\$15.04	\$0.00	\$72.83
	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2014	\$44.79	\$13.00	\$15.04	\$0.00	\$72.83
	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103
Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.92	\$13.00	\$0.54	\$0.00	\$31.46
2	40	\$17.92	\$13.00	\$0.54	\$0.00	\$31.46
3	45	\$20.16	\$13.00	\$11.33	\$0.00	\$44.49
4	45	\$20.16	\$13.00	\$11.33	\$0.00	\$44.49
5	50	\$22.40	\$13.00	\$11.67	\$0.00	\$47.07
6	55	\$24.63	\$13.00	\$12.01	\$0.00	\$49.64
7	60	\$26.87	\$13.00	\$12.35	\$0.00	\$52.22
8	65	\$29.11	\$13.00	\$12.68	\$0.00	\$54.79
9	70	\$31.35	\$13.00	\$13.02	\$0.00	\$57.37
10	75	\$33.59	\$13.00	\$13.36	\$0.00	\$59.95

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.07	\$13.00	\$0.54	\$0.00	\$31.61
2	40	\$18.07	\$13.00	\$0.54	\$0.00	\$31.61
3	45	\$20.33	\$13.00	\$11.63	\$0.00	\$44.96
4	45	\$20.33	\$13.00	\$11.63	\$0.00	\$44.96
5	50	\$22.59	\$13.00	\$11.97	\$0.00	\$47.56
6	55	\$24.84	\$13.00	\$12.32	\$0.00	\$50.16
7	60	\$27.10	\$13.00	\$12.66	\$0.00	\$52.76
8	65	\$29.36	\$13.00	\$13.00	\$0.00	\$55.36
9	70	\$31.62	\$13.00	\$13.34	\$0.00	\$57.96
10	75	\$33.88	\$13.00	\$13.69	\$0.00	\$60.57

Notes: :

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

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2012	\$52.45	\$8.78	\$6.96	\$0.00	\$68.19
ELEVATOR CONSTRUCTORS LOCAL 4						

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - ELEVATOR CONSTRUCTOR - Local 4
Effective Date - 01/01/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.23	\$8.78	\$0.00	\$0.00	\$35.01
2	55	\$28.85	\$8.78	\$6.96	\$0.00	\$44.59
3	65	\$34.09	\$8.78	\$6.96	\$0.00	\$49.83
4	70	\$36.72	\$8.78	\$6.96	\$0.00	\$52.46
5	80	\$41.96	\$8.78	\$6.96	\$0.00	\$57.70

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	01/01/2012	\$38.59	\$8.78	\$6.96	\$0.00	\$54.33
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR LABORERS - ZONE 1	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY OPERATING ENGINEERS LOCAL 4	05/01/2014	\$38.87	\$10.00	\$14.18	\$0.00	\$63.05
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY OPERATING ENGINEERS LOCAL 4	05/01/2014	\$40.29	\$10.00	\$14.18	\$0.00	\$64.47
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY OPERATING ENGINEERS LOCAL 4	05/01/2014	\$20.92	\$10.00	\$14.18	\$0.00	\$45.10
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER ELECTRICIANS LOCAL 103	09/01/2014	\$44.79	\$13.00	\$15.04	\$0.00	\$72.83
	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONINGELECTRICIANS LOCAL 103	09/01/2014	\$33.59	\$13.00	\$13.36	\$0.00	\$59.95
	03/01/2015	\$33.88	\$13.00	\$13.70	\$0.00	\$60.58
	09/01/2015	\$34.60	\$13.00	\$13.72	\$0.00	\$61.32
	03/01/2016	\$35.31	\$13.00	\$13.74	\$0.00	\$62.05
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIREMAN (ASST. ENGINEER) OPERATING ENGINEERS LOCAL 4	12/01/2014	\$35.33	\$10.00	\$14.30	\$0.00	\$59.63
	06/01/2015	\$35.95	\$10.00	\$14.30	\$0.00	\$60.25
	12/01/2015	\$37.00	\$10.00	\$14.30	\$0.00	\$61.30
	06/01/2016	\$37.62	\$10.00	\$14.30	\$0.00	\$61.92
	12/01/2016	\$38.66	\$10.00	\$14.30	\$0.00	\$62.96
	06/01/2017	\$39.50	\$10.00	\$14.30	\$0.00	\$63.80
	12/01/2017	\$40.33	\$10.00	\$14.30	\$0.00	\$64.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER LABORERS - ZONE 1	12/01/2014	\$20.50	\$7.30	\$12.70	\$0.00	\$40.50
	06/01/2015	\$20.50	\$7.30	\$12.70	\$0.00	\$40.50
	12/01/2015	\$20.50	\$7.30	\$12.70	\$0.00	\$40.50
	06/01/2016	\$20.50	\$7.30	\$12.70	\$0.00	\$40.50
	12/01/2016	\$20.50	\$7.30	\$12.70	\$0.00	\$40.50
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER FLOORCOVERERS LOCAL 2168 ZONE 1	09/01/2014	\$40.40	\$9.80	\$17.21	\$0.00	\$67.41

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.20	\$9.80	\$1.79	\$0.00	\$31.79
2	55	\$22.22	\$9.80	\$1.79	\$0.00	\$33.81
3	60	\$24.24	\$9.80	\$11.84	\$0.00	\$45.88
4	65	\$26.26	\$9.80	\$11.84	\$0.00	\$47.90
5	70	\$28.28	\$9.80	\$13.63	\$0.00	\$51.71
6	75	\$30.30	\$9.80	\$13.63	\$0.00	\$53.73
7	80	\$32.32	\$9.80	\$15.42	\$0.00	\$57.54
8	85	\$34.34	\$9.80	\$15.42	\$0.00	\$59.56

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER OPERATING ENGINEERS LOCAL 4	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$29.40	\$10.00	\$14.30	\$0.00	\$53.70
	06/01/2015	\$29.92	\$10.00	\$14.30	\$0.00	\$54.22
	12/01/2015	\$30.79	\$10.00	\$14.30	\$0.00	\$55.09
	06/01/2016	\$31.31	\$10.00	\$14.30	\$0.00	\$55.61
	12/01/2016	\$32.18	\$10.00	\$14.30	\$0.00	\$56.48
	06/01/2017	\$32.87	\$10.00	\$14.30	\$0.00	\$57.17
	12/01/2017	\$33.56	\$10.00	\$14.30	\$0.00	\$57.86
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 1)</i>	07/01/2014	\$42.05	\$7.85	\$16.10	\$0.00	\$66.00
	01/01/2015	\$42.95	\$7.85	\$16.10	\$0.00	\$66.90
	07/01/2015	\$43.85	\$7.85	\$16.10	\$0.00	\$67.80
	01/01/2016	\$44.80	\$7.85	\$16.10	\$0.00	\$68.75
	07/01/2016	\$45.75	\$7.85	\$16.10	\$0.00	\$69.70
	01/01/2017	\$46.70	\$7.85	\$16.10	\$0.00	\$70.65

Apprentice - GLAZIER - Local 35 Zone 1

Effective Date - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.03	\$7.85	\$0.00	\$0.00	\$28.88
2	55	\$23.13	\$7.85	\$3.66	\$0.00	\$34.64
3	60	\$25.23	\$7.85	\$3.99	\$0.00	\$37.07
4	65	\$27.33	\$7.85	\$4.32	\$0.00	\$39.50
5	70	\$29.44	\$7.85	\$14.11	\$0.00	\$51.40
6	75	\$31.54	\$7.85	\$14.44	\$0.00	\$53.83
7	80	\$33.64	\$7.85	\$14.77	\$0.00	\$56.26
8	90	\$37.85	\$7.85	\$15.44	\$0.00	\$61.14

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.48	\$7.85	\$0.00	\$0.00	\$29.33
2	55	\$23.62	\$7.85	\$3.66	\$0.00	\$35.13
3	60	\$25.77	\$7.85	\$3.99	\$0.00	\$37.61
4	65	\$27.92	\$7.85	\$4.32	\$0.00	\$40.09
5	70	\$30.07	\$7.85	\$14.11	\$0.00	\$52.03
6	75	\$32.21	\$7.85	\$14.44	\$0.00	\$54.50
7	80	\$34.36	\$7.85	\$14.77	\$0.00	\$56.98
8	90	\$38.66	\$7.85	\$15.44	\$0.00	\$61.95

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.31	\$10.00	\$0.00	\$0.00	\$33.31
2	60	\$25.43	\$10.00	\$14.30	\$0.00	\$49.73
3	65	\$27.55	\$10.00	\$14.30	\$0.00	\$51.85
4	70	\$29.67	\$10.00	\$14.30	\$0.00	\$53.97
5	75	\$31.79	\$10.00	\$14.30	\$0.00	\$56.09
6	80	\$33.91	\$10.00	\$14.30	\$0.00	\$58.21
7	85	\$36.03	\$10.00	\$14.30	\$0.00	\$60.33
8	90	\$38.15	\$10.00	\$14.30	\$0.00	\$62.45

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.73	\$10.00	\$0.00	\$0.00	\$33.73
2	60	\$25.88	\$10.00	\$14.30	\$0.00	\$50.18
3	65	\$28.04	\$10.00	\$14.30	\$0.00	\$52.34
4	70	\$30.20	\$10.00	\$14.30	\$0.00	\$54.50
5	75	\$32.36	\$10.00	\$14.30	\$0.00	\$56.66
6	80	\$34.51	\$10.00	\$14.30	\$0.00	\$58.81
7	85	\$36.67	\$10.00	\$14.30	\$0.00	\$60.97
8	90	\$38.83	\$10.00	\$14.30	\$0.00	\$63.13

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	08/01/2014	\$42.79	\$9.82	\$20.54	\$2.19	\$75.34
	02/01/2015	\$43.69	\$9.82	\$20.54	\$2.19	\$76.24
	08/01/2015	\$44.69	\$9.82	\$20.54	\$2.19	\$77.24
	02/01/2016	\$45.69	\$9.82	\$20.54	\$2.19	\$78.24
	08/01/2016	\$46.84	\$9.82	\$20.54	\$2.19	\$79.39
	02/01/2017	\$47.94	\$9.82	\$20.54	\$2.19	\$80.49
	08/01/2017	\$49.04	\$9.82	\$20.54	\$2.19	\$81.59
	02/01/2018	\$50.19	\$9.82	\$20.54	\$2.19	\$82.74

For apprentice rates see "Apprentice- SHEET METAL WORKER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i>	09/01/2014	\$44.79	\$13.00	\$15.04	\$0.00	\$72.83
	03/01/2015	\$45.17	\$13.00	\$15.40	\$0.00	\$73.57
	09/01/2015	\$46.13	\$13.00	\$15.43	\$0.00	\$74.56
	03/01/2016	\$47.08	\$13.00	\$15.46	\$0.00	\$75.54
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	08/01/2014	\$42.79	\$9.82	\$20.54	\$2.19	\$75.34
	02/01/2015	\$43.69	\$9.82	\$20.54	\$2.19	\$76.24
	08/01/2015	\$44.69	\$9.82	\$20.54	\$2.19	\$77.24
	02/01/2016	\$45.69	\$9.82	\$20.54	\$2.19	\$78.24
	08/01/2016	\$46.84	\$9.82	\$20.54	\$2.19	\$79.39
	02/01/2017	\$47.94	\$9.82	\$20.54	\$2.19	\$80.49
	08/01/2017	\$49.04	\$9.82	\$20.54	\$2.19	\$81.59
	02/01/2018	\$50.19	\$9.82	\$20.54	\$2.19	\$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i>	09/01/2014	\$48.69	\$9.20	\$16.64	\$0.00	\$74.53
	03/01/2015	\$49.69	\$9.20	\$16.64	\$0.00	\$75.53
	09/01/2015	\$50.69	\$9.20	\$16.64	\$0.00	\$76.53
	03/01/2016	\$51.69	\$9.20	\$16.64	\$0.00	\$77.53
	09/01/2016	\$52.69	\$9.20	\$16.64	\$0.00	\$78.53
	03/01/2017	\$53.69	\$9.20	\$16.64	\$0.00	\$79.53
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	09/01/2014	\$48.69	\$9.20	\$16.64	\$0.00	\$74.53
	03/01/2015	\$49.69	\$9.20	\$16.64	\$0.00	\$75.53
	09/01/2015	\$50.69	\$9.20	\$16.64	\$0.00	\$76.53
	03/01/2016	\$51.69	\$9.20	\$16.64	\$0.00	\$77.53
	09/01/2016	\$52.69	\$9.20	\$16.64	\$0.00	\$78.53
	03/01/2017	\$53.69	\$9.20	\$16.64	\$0.00	\$79.53
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.60	\$7.30	\$12.70	\$0.00	\$55.60
	06/01/2015	\$36.35	\$7.30	\$12.70	\$0.00	\$56.35
	12/01/2015	\$37.10	\$7.30	\$12.70	\$0.00	\$57.10
	06/01/2016	\$37.85	\$7.30	\$12.70	\$0.00	\$57.85
	12/01/2016	\$38.85	\$7.30	\$12.70	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2014	\$43.31	\$11.25	\$12.60	\$0.00	\$67.16

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston
Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.66	\$11.25	\$9.35	\$0.00	\$42.26
2	60	\$25.99	\$11.25	\$10.00	\$0.00	\$47.24
3	70	\$30.32	\$11.25	\$10.65	\$0.00	\$52.22
4	80	\$34.65	\$11.25	\$11.30	\$0.00	\$57.20

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER	03/16/2014	\$41.19	\$7.70	\$19.25	\$0.00	\$68.14
IRONWORKERS LOCAL 7 (BOSTON AREA)						

Apprentice - IRONWORKER - Local 7 Boston
Effective Date - 03/16/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.71	\$7.70	\$19.25	\$0.00	\$51.66
2	70	\$28.83	\$7.70	\$19.25	\$0.00	\$55.78
3	75	\$30.89	\$7.70	\$19.25	\$0.00	\$57.84
4	80	\$32.95	\$7.70	\$19.25	\$0.00	\$59.90
5	85	\$35.01	\$7.70	\$19.25	\$0.00	\$61.96
6	90	\$37.07	\$7.70	\$19.25	\$0.00	\$64.02

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
LABORERS - ZONE 1						
	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

LABORER	12/01/2014	\$34.85	\$7.30	\$12.70	\$0.00	\$54.85
LABORERS - ZONE 1						
	06/01/2015	\$35.60	\$7.30	\$12.70	\$0.00	\$55.60
	12/01/2015	\$36.35	\$7.30	\$12.70	\$0.00	\$56.35
	06/01/2016	\$37.10	\$7.30	\$12.70	\$0.00	\$57.10
	12/01/2016	\$38.10	\$7.30	\$12.70	\$0.00	\$58.10

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - LABORER - Zone 1

Effective Date - 12/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$20.91	\$7.30	\$12.70	\$0.00	\$40.91
2	70	\$24.40	\$7.30	\$12.70	\$0.00	\$44.40
3	80	\$27.88	\$7.30	\$12.70	\$0.00	\$47.88
4	90	\$31.37	\$7.30	\$12.70	\$0.00	\$51.37

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.36	\$7.30	\$12.70	\$0.00	\$41.36
2	70	\$24.92	\$7.30	\$12.70	\$0.00	\$44.92
3	80	\$28.48	\$7.30	\$12.70	\$0.00	\$48.48
4	90	\$32.04	\$7.30	\$12.70	\$0.00	\$52.04

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER	12/01/2014	\$34.85	\$7.30	\$12.70	\$0.00	\$54.85
LABORERS - ZONE 1	06/01/2015	\$35.60	\$7.30	\$12.70	\$0.00	\$55.60
	12/01/2015	\$36.35	\$7.30	\$12.70	\$0.00	\$56.35
	06/01/2016	\$37.10	\$7.30	\$12.70	\$0.00	\$57.10
	12/01/2016	\$38.10	\$7.30	\$12.70	\$0.00	\$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER	12/01/2014	\$34.85	\$7.30	\$12.70	\$0.00	\$54.85
LABORERS - ZONE 1	06/01/2015	\$35.60	\$7.30	\$12.70	\$0.00	\$55.60
	12/01/2015	\$36.35	\$7.30	\$12.70	\$0.00	\$56.35
	06/01/2016	\$37.10	\$7.30	\$12.70	\$0.00	\$57.10
	12/01/2016	\$38.10	\$7.30	\$12.70	\$0.00	\$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER	12/01/2014	\$35.00	\$7.30	\$12.70	\$0.00	\$55.00
LABORERS - ZONE 1	06/01/2015	\$35.75	\$7.30	\$12.70	\$0.00	\$55.75
	12/01/2015	\$36.50	\$7.30	\$12.70	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
LABORERS - ZONE 1	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
LABORER: MULTI-TRADE TENDER	12/01/2014	\$34.85	\$7.30	\$12.70	\$0.00	\$54.85
LABORERS - ZONE 1	06/01/2015	\$35.60	\$7.30	\$12.70	\$0.00	\$55.60
	12/01/2015	\$36.35	\$7.30	\$12.70	\$0.00	\$56.35
	06/01/2016	\$37.10	\$7.30	\$12.70	\$0.00	\$57.10
	12/01/2016	\$38.10	\$7.30	\$12.70	\$0.00	\$58.10

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER	12/01/2014	\$34.85	\$7.30	\$12.70	\$0.00	\$54.85
LABORERS - ZONE 1	06/01/2015	\$35.60	\$7.30	\$12.70	\$0.00	\$55.60
	12/01/2015	\$36.35	\$7.30	\$12.70	\$0.00	\$56.35
	06/01/2016	\$37.10	\$7.30	\$12.70	\$0.00	\$57.10
	12/01/2016	\$38.10	\$7.30	\$12.70	\$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	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
LABORERS - ZONE 1	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
MARBLE & TILE FINISHERS	08/01/2014	\$37.37	\$10.18	\$16.90	\$0.00	\$64.45
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2015	\$37.82	\$10.18	\$16.90	\$0.00	\$64.90
	08/01/2015	\$38.53	\$10.18	\$16.97	\$0.00	\$65.68
	02/01/2016	\$38.98	\$10.18	\$16.97	\$0.00	\$66.13
	08/01/2016	\$39.68	\$10.18	\$17.05	\$0.00	\$66.91
	02/01/2017	\$40.14	\$10.18	\$17.05	\$0.00	\$67.37

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

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.69	\$10.18	\$16.90	\$0.00	\$45.77
2	60	\$22.42	\$10.18	\$16.90	\$0.00	\$49.50
3	70	\$26.16	\$10.18	\$16.90	\$0.00	\$53.24
4	80	\$29.90	\$10.18	\$16.90	\$0.00	\$56.98
5	90	\$33.63	\$10.18	\$16.90	\$0.00	\$60.71

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.91	\$10.18	\$16.90	\$0.00	\$45.99
2	60	\$22.69	\$10.18	\$16.90	\$0.00	\$49.77
3	70	\$26.47	\$10.18	\$16.90	\$0.00	\$53.55
4	80	\$30.26	\$10.18	\$16.90	\$0.00	\$57.34
5	90	\$34.04	\$10.18	\$16.90	\$0.00	\$61.12

Notes:

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MARBLE MASONS, TILELAYERS & TERRAZZO MECH <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2014	\$49.00	\$10.18	\$18.22	\$0.00	\$77.40
	02/01/2015	\$49.56	\$10.18	\$18.22	\$0.00	\$77.96
	08/01/2015	\$50.46	\$10.18	\$18.29	\$0.00	\$78.93
	02/01/2016	\$51.03	\$10.18	\$18.29	\$0.00	\$79.50
	08/01/2016	\$51.93	\$10.18	\$18.37	\$0.00	\$80.48
	02/01/2017	\$52.50	\$10.18	\$18.37	\$0.00	\$81.05

Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.50	\$10.18	\$18.22	\$0.00	\$52.90
2	60	\$29.40	\$10.18	\$18.22	\$0.00	\$57.80
3	70	\$34.30	\$10.18	\$18.22	\$0.00	\$62.70
4	80	\$39.20	\$10.18	\$18.22	\$0.00	\$67.60
5	90	\$44.10	\$10.18	\$18.22	\$0.00	\$72.50

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.78	\$10.18	\$18.22	\$0.00	\$53.18
2	60	\$29.74	\$10.18	\$18.22	\$0.00	\$58.14
3	70	\$34.69	\$10.18	\$18.22	\$0.00	\$63.09
4	80	\$39.65	\$10.18	\$18.22	\$0.00	\$68.05
5	90	\$44.60	\$10.18	\$18.22	\$0.00	\$73.00

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	10/01/2014	\$36.68	\$9.80	\$16.21	\$0.00	\$62.69
	04/01/2015	\$37.64	\$9.80	\$16.21	\$0.00	\$63.65

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 10/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$20.17	\$9.80	\$4.48	\$0.00	\$34.45
2	65	\$23.84	\$9.80	\$13.36	\$0.00	\$47.00
3	75	\$27.51	\$9.80	\$14.18	\$0.00	\$51.49
4	85	\$31.18	\$9.80	\$14.99	\$0.00	\$55.97

Effective Date - 04/01/2015

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

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
LABORERS - ZONE 1	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS)	12/01/2014	\$21.90	\$10.00	\$14.30	\$0.00	\$46.20
OPERATING ENGINEERS LOCAL 4	06/01/2015	\$22.28	\$10.00	\$14.30	\$0.00	\$46.58
	12/01/2015	\$22.93	\$10.00	\$14.30	\$0.00	\$47.23
	06/01/2016	\$23.32	\$10.00	\$14.30	\$0.00	\$47.62
	12/01/2016	\$23.97	\$10.00	\$14.30	\$0.00	\$48.27
	06/01/2017	\$24.48	\$10.00	\$14.30	\$0.00	\$48.78
	12/01/2017	\$25.00	\$10.00	\$14.30	\$0.00	\$49.30

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	12/01/2014	\$25.54	\$10.00	\$14.30	\$0.00	\$49.84
OPERATING ENGINEERS LOCAL 4	06/01/2015	\$25.99	\$10.00	\$14.30	\$0.00	\$50.29
	12/01/2015	\$26.74	\$10.00	\$14.30	\$0.00	\$51.04
	06/01/2016	\$27.20	\$10.00	\$14.30	\$0.00	\$51.50
	12/01/2016	\$27.95	\$10.00	\$14.30	\$0.00	\$52.25
	06/01/2017	\$28.55	\$10.00	\$14.30	\$0.00	\$52.85
	12/01/2017	\$29.16	\$10.00	\$14.30	\$0.00	\$53.46

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
OPERATING ENGINEERS LOCAL 4	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS)	07/01/2014	\$46.76	\$7.85	\$16.10	\$0.00	\$70.71
PAINTERS LOCAL 35 - ZONE 1	01/01/2015	\$47.66	\$7.85	\$16.10	\$0.00	\$71.61
	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	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 - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$7.85	\$0.00	\$0.00	\$31.23
2	55	\$25.72	\$7.85	\$3.66	\$0.00	\$37.23
3	60	\$28.06	\$7.85	\$3.99	\$0.00	\$39.90
4	65	\$30.39	\$7.85	\$4.32	\$0.00	\$42.56
5	70	\$32.73	\$7.85	\$14.11	\$0.00	\$54.69
6	75	\$35.07	\$7.85	\$14.44	\$0.00	\$57.36
7	80	\$37.41	\$7.85	\$14.77	\$0.00	\$60.03
8	90	\$42.08	\$7.85	\$15.44	\$0.00	\$65.37

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.83	\$7.85	\$0.00	\$0.00	\$31.68
2	55	\$26.21	\$7.85	\$3.66	\$0.00	\$37.72
3	60	\$28.60	\$7.85	\$3.99	\$0.00	\$40.44
4	65	\$30.98	\$7.85	\$4.32	\$0.00	\$43.15
5	70	\$33.36	\$7.85	\$14.11	\$0.00	\$55.32
6	75	\$35.75	\$7.85	\$14.44	\$0.00	\$58.04
7	80	\$38.13	\$7.85	\$14.77	\$0.00	\$60.75
8	90	\$42.89	\$7.85	\$15.44	\$0.00	\$66.18

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (SPRAY OR SANDBLAST, NEW) *	07/01/2014	\$43.45	\$7.85	\$16.10	\$0.00	\$67.40
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1	01/01/2015	\$44.35	\$7.85	\$16.10	\$0.00	\$68.30
	07/01/2015	\$45.25	\$7.85	\$16.10	\$0.00	\$69.20
	01/01/2016	\$46.20	\$7.85	\$16.10	\$0.00	\$70.15
	07/01/2016	\$47.15	\$7.85	\$16.10	\$0.00	\$71.10
	01/01/2017	\$48.10	\$7.85	\$16.10	\$0.00	\$72.05

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

Effective Date - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.73	\$7.85	\$0.00	\$0.00	\$29.58
2	55	\$23.90	\$7.85	\$3.66	\$0.00	\$35.41
3	60	\$26.07	\$7.85	\$3.99	\$0.00	\$37.91
4	65	\$28.24	\$7.85	\$4.32	\$0.00	\$40.41
5	70	\$30.42	\$7.85	\$14.11	\$0.00	\$52.38
6	75	\$32.59	\$7.85	\$14.44	\$0.00	\$54.88
7	80	\$34.76	\$7.85	\$14.77	\$0.00	\$57.38
8	90	\$39.11	\$7.85	\$15.44	\$0.00	\$62.40

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.18	\$7.85	\$0.00	\$0.00	\$30.03
2	55	\$24.39	\$7.85	\$3.66	\$0.00	\$35.90
3	60	\$26.61	\$7.85	\$3.99	\$0.00	\$38.45
4	65	\$28.83	\$7.85	\$4.32	\$0.00	\$41.00
5	70	\$31.05	\$7.85	\$14.11	\$0.00	\$53.01
6	75	\$33.26	\$7.85	\$14.44	\$0.00	\$55.55
7	80	\$35.48	\$7.85	\$14.77	\$0.00	\$58.10
8	90	\$39.92	\$7.85	\$15.44	\$0.00	\$63.21

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	07/01/2014	\$41.51	\$7.85	\$16.10	\$0.00	\$65.46
PAINTERS LOCAL 35 - ZONE 1	01/01/2015	\$42.41	\$7.85	\$16.10	\$0.00	\$66.36
	07/01/2015	\$43.31	\$7.85	\$16.10	\$0.00	\$67.26
	01/01/2016	\$44.26	\$7.85	\$16.10	\$0.00	\$68.21
	07/01/2016	\$45.21	\$7.85	\$16.10	\$0.00	\$69.16
	01/01/2017	\$46.16	\$7.85	\$16.10	\$0.00	\$70.11

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - Repaint
Effective Date - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.76	\$7.85	\$0.00	\$0.00	\$28.61
2	55	\$22.83	\$7.85	\$3.66	\$0.00	\$34.34
3	60	\$24.91	\$7.85	\$3.99	\$0.00	\$36.75
4	65	\$26.98	\$7.85	\$4.32	\$0.00	\$39.15
5	70	\$29.06	\$7.85	\$14.11	\$0.00	\$51.02
6	75	\$31.13	\$7.85	\$14.44	\$0.00	\$53.42
7	80	\$33.21	\$7.85	\$14.77	\$0.00	\$55.83
8	90	\$37.36	\$7.85	\$15.44	\$0.00	\$60.65

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.21	\$7.85	\$0.00	\$0.00	\$29.06
2	55	\$23.33	\$7.85	\$3.66	\$0.00	\$34.84
3	60	\$25.45	\$7.85	\$3.99	\$0.00	\$37.29
4	65	\$27.57	\$7.85	\$4.32	\$0.00	\$39.74
5	70	\$29.69	\$7.85	\$14.11	\$0.00	\$51.65
6	75	\$31.81	\$7.85	\$14.44	\$0.00	\$54.10
7	80	\$33.93	\$7.85	\$14.77	\$0.00	\$56.55
8	90	\$38.17	\$7.85	\$15.44	\$0.00	\$61.46

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS)	12/01/2014	\$34.85	\$7.30	\$12.70	\$0.00	\$54.85
LABORERS - ZONE 1	06/01/2015	\$35.60	\$7.30	\$12.70	\$0.00	\$55.60
	12/01/2015	\$36.35	\$7.30	\$12.70	\$0.00	\$56.35
	06/01/2016	\$37.10	\$7.30	\$12.70	\$0.00	\$57.10
	12/01/2016	\$38.10	\$7.30	\$12.70	\$0.00	\$58.10
For Apprentice rates see "Apprentice- LABORER"						
PAINTER / TAPER (BRUSH, NEW) *	07/01/2014	\$42.05	\$7.85	\$16.10	\$0.00	\$66.00
* If 30% or more of surfaces to be painted are new construction,	01/01/2015	\$42.95	\$7.85	\$16.10	\$0.00	\$66.90
NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1	07/01/2015	\$43.85	\$7.85	\$16.10	\$0.00	\$67.80
	01/01/2016	\$44.80	\$7.85	\$16.10	\$0.00	\$68.75
	07/01/2016	\$45.75	\$7.85	\$16.10	\$0.00	\$69.70
	01/01/2017	\$46.70	\$7.85	\$16.10	\$0.00	\$70.65

Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW**Effective Date - 07/01/2014**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.03	\$7.85	\$0.00	\$0.00	\$28.88
2	55	\$23.13	\$7.85	\$3.66	\$0.00	\$34.64
3	60	\$25.23	\$7.85	\$3.99	\$0.00	\$37.07
4	65	\$27.33	\$7.85	\$4.32	\$0.00	\$39.50
5	70	\$29.44	\$7.85	\$14.11	\$0.00	\$51.40
6	75	\$31.54	\$7.85	\$14.44	\$0.00	\$53.83
7	80	\$33.64	\$7.85	\$14.77	\$0.00	\$56.26
8	90	\$37.85	\$7.85	\$15.44	\$0.00	\$61.14

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.48	\$7.85	\$0.00	\$0.00	\$29.33
2	55	\$23.62	\$7.85	\$3.66	\$0.00	\$35.13
3	60	\$25.77	\$7.85	\$3.99	\$0.00	\$37.61
4	65	\$27.92	\$7.85	\$4.32	\$0.00	\$40.09
5	70	\$30.07	\$7.85	\$14.11	\$0.00	\$52.03
6	75	\$32.21	\$7.85	\$14.44	\$0.00	\$54.50
7	80	\$34.36	\$7.85	\$14.77	\$0.00	\$56.98
8	90	\$38.66	\$7.85	\$15.44	\$0.00	\$61.95

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)

PAINTERS LOCAL 35 - ZONE 1

07/01/2014	\$40.11	\$7.85	\$16.10	\$0.00	\$64.06
01/01/2015	\$41.01	\$7.85	\$16.10	\$0.00	\$64.96
07/01/2015	\$41.91	\$7.85	\$16.10	\$0.00	\$65.86
01/01/2016	\$42.86	\$7.85	\$16.10	\$0.00	\$66.81
07/01/2016	\$43.81	\$7.85	\$16.10	\$0.00	\$67.76
01/01/2017	\$44.76	\$7.85	\$16.10	\$0.00	\$68.71

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 1 - BRUSH REPAINT
Effective Date - 07/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.06	\$7.85	\$0.00	\$0.00	\$27.91
2	55	\$22.06	\$7.85	\$3.66	\$0.00	\$33.57
3	60	\$24.07	\$7.85	\$3.99	\$0.00	\$35.91
4	65	\$26.07	\$7.85	\$4.32	\$0.00	\$38.24
5	70	\$28.08	\$7.85	\$14.11	\$0.00	\$50.04
6	75	\$30.08	\$7.85	\$14.44	\$0.00	\$52.37
7	80	\$32.09	\$7.85	\$14.77	\$0.00	\$54.71
8	90	\$36.10	\$7.85	\$15.44	\$0.00	\$59.39

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.51	\$7.85	\$0.00	\$0.00	\$28.36
2	55	\$22.56	\$7.85	\$3.66	\$0.00	\$34.07
3	60	\$24.61	\$7.85	\$3.99	\$0.00	\$36.45
4	65	\$26.66	\$7.85	\$4.32	\$0.00	\$38.83
5	70	\$28.71	\$7.85	\$14.11	\$0.00	\$50.67
6	75	\$30.76	\$7.85	\$14.44	\$0.00	\$53.05
7	80	\$32.81	\$7.85	\$14.77	\$0.00	\$55.43
8	90	\$36.91	\$7.85	\$15.44	\$0.00	\$60.20

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER	12/01/2014	\$32.23	\$9.91	\$9.33	\$0.00	\$51.47
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	06/01/2015	\$32.58	\$9.91	\$9.33	\$0.00	\$51.82
	08/01/2015	\$32.58	\$10.41	\$9.33	\$0.00	\$52.32
	12/01/2015	\$32.58	\$10.41	\$10.08	\$0.00	\$53.07
	06/01/2016	\$33.08	\$10.41	\$10.08	\$0.00	\$53.57
	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)	08/01/2014	\$41.60	\$9.80	\$18.17	\$0.00	\$69.57
PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2015	\$43.10	\$9.80	\$18.17	\$0.00	\$71.07
PILE DRIVER	08/01/2014	\$41.60	\$9.80	\$18.17	\$0.00	\$69.57
PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2015	\$43.10	\$9.80	\$18.17	\$0.00	\$71.07

Apprentice - *PILE DRIVER - Local 56 Zone 1*

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.80	\$9.80	\$18.17	\$0.00	\$48.77
2	60	\$24.96	\$9.80	\$18.17	\$0.00	\$52.93
3	70	\$29.12	\$9.80	\$18.17	\$0.00	\$57.09
4	75	\$31.20	\$9.80	\$18.17	\$0.00	\$59.17
5	80	\$33.28	\$9.80	\$18.17	\$0.00	\$61.25
6	80	\$33.28	\$9.80	\$18.17	\$0.00	\$61.25
7	90	\$37.44	\$9.80	\$18.17	\$0.00	\$65.41
8	90	\$37.44	\$9.80	\$18.17	\$0.00	\$65.41

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.55	\$9.80	\$18.17	\$0.00	\$49.52
2	60	\$25.86	\$9.80	\$18.17	\$0.00	\$53.83
3	70	\$30.17	\$9.80	\$18.17	\$0.00	\$58.14
4	75	\$32.33	\$9.80	\$18.17	\$0.00	\$60.30
5	80	\$34.48	\$9.80	\$18.17	\$0.00	\$62.45
6	80	\$34.48	\$9.80	\$18.17	\$0.00	\$62.45
7	90	\$38.79	\$9.80	\$18.17	\$0.00	\$66.76
8	90	\$38.79	\$9.80	\$18.17	\$0.00	\$66.76

Notes:

Apprentice to Journeyworker Ratio:1:3

PIPEFITTER & STEAMFITTER

PIPEFITTERS LOCAL 537

09/01/2014	\$48.69	\$9.20	\$16.64	\$0.00	\$74.53
03/01/2015	\$49.69	\$9.20	\$16.64	\$0.00	\$75.53
09/01/2015	\$50.69	\$9.20	\$16.64	\$0.00	\$76.53
03/01/2016	\$51.69	\$9.20	\$16.64	\$0.00	\$77.53
09/01/2016	\$52.69	\$9.20	\$16.64	\$0.00	\$78.53
03/01/2017	\$53.69	\$9.20	\$16.64	\$0.00	\$79.53

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - PIPEFITTER - Local 537

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.48	\$9.20	\$7.50	\$0.00	\$36.18
2	45	\$21.91	\$9.20	\$16.64	\$0.00	\$47.75
3	60	\$29.21	\$9.20	\$16.64	\$0.00	\$55.05
4	70	\$34.08	\$9.20	\$16.64	\$0.00	\$59.92
5	80	\$38.95	\$9.20	\$16.64	\$0.00	\$64.79

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.88	\$9.20	\$7.50	\$0.00	\$36.58
2	45	\$22.36	\$9.20	\$16.64	\$0.00	\$48.20
3	60	\$29.81	\$9.20	\$16.64	\$0.00	\$55.65
4	70	\$34.78	\$9.20	\$16.64	\$0.00	\$60.62
5	80	\$39.75	\$9.20	\$16.64	\$0.00	\$65.59

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

12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

PLUMBERS & GASFITTERS
PLUMBERS & GASFITTERS LOCAL 12

09/01/2014	\$49.66	\$10.32	\$14.54	\$0.00	\$74.52
03/01/2015	\$50.66	\$10.32	\$14.54	\$0.00	\$75.52
09/01/2015	\$51.66	\$10.32	\$14.54	\$0.00	\$76.52
03/01/2016	\$52.81	\$10.32	\$14.54	\$0.00	\$77.67
09/01/2016	\$53.86	\$10.32	\$14.54	\$0.00	\$78.72
03/01/2017	\$54.86	\$10.32	\$14.54	\$0.00	\$79.72

Classification

Effective Date

Base Wage

Health

Pension

Supplemental
Unemployment

Total Rate

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.38	\$10.32	\$5.42	\$0.00	\$33.12
2	40	\$19.86	\$10.32	\$6.13	\$0.00	\$36.31
3	55	\$27.31	\$10.32	\$8.23	\$0.00	\$45.86
4	65	\$32.28	\$10.32	\$9.64	\$0.00	\$52.24
5	75	\$37.25	\$10.32	\$11.04	\$0.00	\$58.61

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.73	\$10.32	\$5.42	\$0.00	\$33.47
2	40	\$20.26	\$10.32	\$6.11	\$0.00	\$36.69
3	55	\$27.86	\$10.32	\$8.22	\$0.00	\$46.40
4	65	\$32.93	\$10.32	\$9.62	\$0.00	\$52.87
5	75	\$38.00	\$10.32	\$11.03	\$0.00	\$59.35

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$55.42 Step5 with lic\$61.79

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.)

PIPEFITTERS LOCAL 537

09/01/2014	\$48.69	\$9.20	\$16.64	\$0.00	\$74.53
03/01/2015	\$49.69	\$9.20	\$16.64	\$0.00	\$75.53
09/01/2015	\$50.69	\$9.20	\$16.64	\$0.00	\$76.53
03/01/2016	\$51.69	\$9.20	\$16.64	\$0.00	\$77.53
09/01/2016	\$52.69	\$9.20	\$16.64	\$0.00	\$78.53
03/01/2017	\$53.69	\$9.20	\$16.64	\$0.00	\$79.53

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

PNEUMATIC DRILL/TOOL OPERATOR

LABORERS - ZONE 1

12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER

LABORERS - ZONE 1

12/01/2014	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
06/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
12/01/2015	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
06/01/2016	\$38.10	\$7.30	\$12.70	\$0.00	\$58.10
12/01/2016	\$39.10	\$7.30	\$12.70	\$0.00	\$59.10

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$29.40	\$10.00	\$14.30	\$0.00	\$53.70
	06/01/2015	\$29.92	\$10.00	\$14.30	\$0.00	\$54.22
	12/01/2015	\$30.79	\$10.00	\$14.30	\$0.00	\$55.09
	06/01/2016	\$31.31	\$10.00	\$14.30	\$0.00	\$55.61
	12/01/2016	\$32.18	\$10.00	\$14.30	\$0.00	\$56.48
	06/01/2017	\$32.87	\$10.00	\$14.30	\$0.00	\$57.17
	12/01/2017	\$33.56	\$10.00	\$14.30	\$0.00	\$57.86
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>	07/01/2014	\$27.73	\$7.73	\$8.65	\$0.00	\$44.11
	05/01/2015	\$27.88	\$7.73	\$8.92	\$0.00	\$44.53
	07/01/2015	\$27.88	\$7.98	\$8.92	\$0.00	\$44.78
	05/01/2016	\$28.03	\$7.98	\$9.31	\$0.00	\$45.32
	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>	07/01/2014	\$30.99	\$7.73	\$8.65	\$0.00	\$47.37
	05/01/2015	\$31.14	\$7.73	\$8.92	\$0.00	\$47.79
	07/01/2015	\$31.14	\$7.98	\$8.92	\$0.00	\$48.04
	05/01/2016	\$31.29	\$7.98	\$9.31	\$0.00	\$48.58
	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>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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>	05/01/2011	\$27.49	\$6.34	\$6.23	\$0.00	\$40.06

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

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>	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofers Waterproofing &Roofers Damproofg) <i>ROOFERS LOCAL 33</i>	08/01/2014	\$39.21	\$10.50	\$11.60	\$0.00	\$61.31
	02/01/2015	\$40.11	\$10.50	\$11.60	\$0.00	\$62.21
	08/01/2015	\$41.01	\$10.50	\$11.60	\$0.00	\$63.11
	02/01/2016	\$41.91	\$10.50	\$11.60	\$0.00	\$64.01

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - ROOFER - Local 33

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.61	\$10.50	\$3.38	\$0.00	\$33.49
2	60	\$23.53	\$10.50	\$11.60	\$0.00	\$45.63
3	65	\$25.49	\$10.50	\$11.60	\$0.00	\$47.59
4	75	\$29.41	\$10.50	\$11.60	\$0.00	\$51.51
5	85	\$33.33	\$10.50	\$11.60	\$0.00	\$55.43

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.06	\$10.50	\$3.38	\$0.00	\$33.94
2	60	\$24.07	\$10.50	\$11.60	\$0.00	\$46.17
3	65	\$26.07	\$10.50	\$11.60	\$0.00	\$48.17
4	75	\$30.08	\$10.50	\$11.60	\$0.00	\$52.18
5	85	\$34.09	\$10.50	\$11.60	\$0.00	\$56.19

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	08/01/2014	\$39.46	\$10.50	\$11.60	\$0.00	\$61.56
ROOFERS LOCAL 33	02/01/2015	\$40.36	\$10.50	\$11.60	\$0.00	\$62.46
	08/01/2015	\$41.26	\$10.50	\$11.60	\$0.00	\$63.36
	02/01/2016	\$42.16	\$10.50	\$11.60	\$0.00	\$64.26
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER	08/01/2014	\$42.79	\$9.82	\$20.54	\$2.19	\$75.34
SHEETMETAL WORKERS LOCAL 17 - A	02/01/2015	\$43.69	\$9.82	\$20.54	\$2.19	\$76.24
	08/01/2015	\$44.69	\$9.82	\$20.54	\$2.19	\$77.24
	02/01/2016	\$45.69	\$9.82	\$20.54	\$2.19	\$78.24
	08/01/2016	\$46.84	\$9.82	\$20.54	\$2.19	\$79.39
	02/01/2017	\$47.94	\$9.82	\$20.54	\$2.19	\$80.49
	08/01/2017	\$49.04	\$9.82	\$20.54	\$2.19	\$81.59
	02/01/2018	\$50.19	\$9.82	\$20.54	\$2.19	\$82.74

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A
Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.12	\$9.82	\$4.58	\$0.00	\$31.52
2	40	\$17.12	\$9.82	\$4.58	\$0.00	\$31.52
3	45	\$19.26	\$9.82	\$9.09	\$1.15	\$39.32
4	45	\$19.26	\$9.82	\$9.09	\$1.15	\$39.32
5	50	\$21.40	\$9.82	\$9.91	\$1.23	\$42.36
6	50	\$21.40	\$9.82	\$10.16	\$1.24	\$42.62
7	60	\$25.67	\$9.82	\$11.55	\$1.41	\$48.45
8	65	\$27.81	\$9.82	\$12.38	\$1.50	\$51.51
9	75	\$32.09	\$9.82	\$14.02	\$1.68	\$57.61
10	85	\$36.37	\$9.82	\$15.16	\$1.84	\$63.19

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.48	\$9.82	\$4.58	\$0.00	\$31.88
2	40	\$17.48	\$9.82	\$4.58	\$0.00	\$31.88
3	45	\$19.66	\$9.82	\$9.09	\$1.16	\$39.73
4	45	\$19.66	\$9.82	\$9.09	\$1.16	\$39.73
5	50	\$21.85	\$9.82	\$9.91	\$1.25	\$42.83
6	50	\$21.85	\$9.82	\$10.16	\$1.25	\$43.08
7	60	\$26.21	\$9.82	\$11.55	\$1.43	\$49.01
8	65	\$28.40	\$9.82	\$12.38	\$1.52	\$52.12
9	75	\$32.77	\$9.82	\$14.02	\$1.70	\$58.31
10	85	\$37.14	\$9.82	\$15.16	\$1.86	\$63.98

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
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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

SPECIALIZED EARTH MOVING EQUIP < 35 TONS

TEAMSTERS JOINT COUNCIL NO. 10 ZONE A

12/01/2014	\$32.69	\$9.91	\$9.33	\$0.00	\$51.93
06/01/2015	\$33.04	\$9.91	\$9.33	\$0.00	\$52.28
08/01/2015	\$33.04	\$10.41	\$9.33	\$0.00	\$52.78
12/01/2015	\$33.04	\$10.41	\$10.08	\$0.00	\$53.53
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

SPECIALIZED EARTH MOVING EQUIP > 35 TONS

TEAMSTERS JOINT COUNCIL NO. 10 ZONE A

12/01/2014	\$32.98	\$9.91	\$9.33	\$0.00	\$52.22
06/01/2015	\$33.33	\$9.91	\$9.33	\$0.00	\$52.57
08/01/2015	\$33.33	\$10.41	\$9.33	\$0.00	\$53.07
12/01/2015	\$33.33	\$10.41	\$10.08	\$0.00	\$53.82
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

SPRINKLER FITTER

SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1

10/01/2014	\$53.73	\$8.42	\$14.60	\$0.00	\$76.75
01/01/2015	\$53.73	\$8.42	\$14.75	\$0.00	\$76.90
03/01/2015	\$54.73	\$8.42	\$14.75	\$0.00	\$77.90
10/01/2015	\$55.88	\$8.42	\$14.75	\$0.00	\$79.05
01/01/2016	\$55.88	\$8.67	\$14.90	\$0.00	\$79.45
03/01/2016	\$56.88	\$8.67	\$14.90	\$0.00	\$80.45
10/01/2016	\$58.03	\$8.67	\$14.90	\$0.00	\$81.60
03/01/2017	\$59.03	\$8.67	\$14.90	\$0.00	\$82.60

Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1**Effective Date - 10/01/2014**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.81	\$8.42	\$8.25	\$0.00	\$35.48
2	40	\$21.49	\$8.42	\$8.25	\$0.00	\$38.16
3	45	\$24.18	\$8.42	\$8.25	\$0.00	\$40.85
4	50	\$26.87	\$8.42	\$8.25	\$0.00	\$43.54
5	55	\$29.55	\$8.42	\$8.25	\$0.00	\$46.22
6	60	\$32.24	\$8.42	\$8.25	\$0.00	\$48.91
7	65	\$34.92	\$8.42	\$8.25	\$0.00	\$51.59
8	70	\$37.61	\$8.42	\$8.25	\$0.00	\$54.28
9	75	\$40.30	\$8.42	\$8.25	\$0.00	\$56.97
10	80	\$42.98	\$8.42	\$8.25	\$0.00	\$59.65

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.81	\$8.42	\$8.40	\$0.00	\$35.63
2	40	\$21.49	\$8.42	\$8.40	\$0.00	\$38.31
3	45	\$24.18	\$8.42	\$8.40	\$0.00	\$41.00
4	50	\$26.87	\$8.42	\$8.40	\$0.00	\$43.69
5	55	\$29.55	\$8.42	\$8.40	\$0.00	\$46.37
6	60	\$32.24	\$8.42	\$8.40	\$0.00	\$49.06
7	65	\$34.92	\$8.42	\$8.40	\$0.00	\$51.74
8	70	\$37.61	\$8.42	\$8.40	\$0.00	\$54.43
9	75	\$40.30	\$8.42	\$8.40	\$0.00	\$57.12
10	80	\$42.98	\$8.42	\$8.40	\$0.00	\$59.80

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	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
OPERATING ENGINEERS LOCAL 4	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN OPERATING ENGINEERS LOCAL 4	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN ELECTRICIANS LOCAL 103	09/01/2014	\$33.59	\$13.00	\$13.36	\$0.00	\$59.95
	03/01/2015	\$33.88	\$13.00	\$13.70	\$0.00	\$60.58
	09/01/2015	\$34.60	\$13.00	\$13.72	\$0.00	\$61.32
	03/01/2016	\$35.31	\$13.00	\$13.74	\$0.00	\$62.05

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.44	\$13.00	\$0.40	\$0.00	\$26.84
2	40	\$13.44	\$13.00	\$0.40	\$0.00	\$26.84
3	45	\$15.12	\$13.00	\$10.57	\$0.00	\$38.69
4	45	\$15.12	\$13.00	\$10.57	\$0.00	\$38.69
5	50	\$16.80	\$13.00	\$10.83	\$0.00	\$40.63
6	55	\$18.47	\$13.00	\$11.08	\$0.00	\$42.55
7	60	\$20.15	\$13.00	\$11.33	\$0.00	\$44.48
8	65	\$21.83	\$13.00	\$11.59	\$0.00	\$46.42
9	70	\$23.51	\$13.00	\$11.85	\$0.00	\$48.36
10	75	\$25.19	\$13.00	\$12.10	\$0.00	\$50.29

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.55	\$13.00	\$0.41	\$0.00	\$26.96
2	40	\$13.55	\$13.00	\$0.41	\$0.00	\$26.96
3	45	\$15.25	\$13.00	\$10.87	\$0.00	\$39.12
4	45	\$15.25	\$13.00	\$10.87	\$0.00	\$39.12
5	50	\$16.94	\$13.00	\$11.13	\$0.00	\$41.07
6	55	\$18.63	\$13.00	\$11.38	\$0.00	\$43.01
7	60	\$20.33	\$13.00	\$11.64	\$0.00	\$44.97
8	65	\$22.02	\$13.00	\$11.89	\$0.00	\$46.91
9	70	\$23.72	\$13.00	\$12.15	\$0.00	\$48.87
10	75	\$25.41	\$13.00	\$12.41	\$0.00	\$50.82

Notes:

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2014	\$47.90	\$10.18	\$18.22	\$0.00	\$76.30
	02/01/2015	\$48.46	\$10.18	\$18.22	\$0.00	\$76.86
	08/01/2015	\$49.36	\$10.18	\$18.29	\$0.00	\$77.83
	02/01/2016	\$49.93	\$10.18	\$18.29	\$0.00	\$78.40
	08/01/2016	\$50.83	\$10.18	\$18.37	\$0.00	\$79.38
	02/01/2017	\$51.40	\$10.18	\$18.37	\$0.00	\$79.95

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.95	\$10.18	\$18.22	\$0.00	\$52.35
2	60	\$28.74	\$10.18	\$18.22	\$0.00	\$57.14
3	70	\$33.53	\$10.18	\$18.22	\$0.00	\$61.93
4	80	\$38.32	\$10.18	\$18.22	\$0.00	\$66.72
5	90	\$43.11	\$10.18	\$18.22	\$0.00	\$71.51

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.23	\$10.18	\$18.22	\$0.00	\$52.63
2	60	\$29.08	\$10.18	\$18.22	\$0.00	\$57.48
3	70	\$33.92	\$10.18	\$18.22	\$0.00	\$62.32
4	80	\$38.77	\$10.18	\$18.22	\$0.00	\$67.17
5	90	\$43.61	\$10.18	\$18.22	\$0.00	\$72.01

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$36.20	\$7.30	\$12.90	\$0.00	\$56.40
	06/01/2015	\$36.95	\$7.30	\$12.90	\$0.00	\$57.15
	12/01/2015	\$37.70	\$7.30	\$12.90	\$0.00	\$57.90
	06/01/2016	\$38.45	\$7.30	\$12.90	\$0.00	\$58.65
	12/01/2016	\$39.45	\$7.30	\$12.90	\$0.00	\$59.65

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$34.92	\$7.30	\$12.90	\$0.00	\$55.12
	06/01/2015	\$35.67	\$7.30	\$12.90	\$0.00	\$55.87
	12/01/2015	\$36.42	\$7.30	\$12.90	\$0.00	\$56.62
	06/01/2016	\$37.17	\$7.30	\$12.90	\$0.00	\$57.37
	12/01/2016	\$38.17	\$7.30	\$12.90	\$0.00	\$58.37

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2014	\$34.80	\$7.30	\$12.90	\$0.00	\$55.00
	06/01/2015	\$35.55	\$7.30	\$12.90	\$0.00	\$55.75
	12/01/2015	\$36.30	\$7.30	\$12.90	\$0.00	\$56.50
	06/01/2016	\$37.05	\$7.30	\$12.90	\$0.00	\$57.25
	12/01/2016	\$38.05	\$7.30	\$12.90	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$41.99	\$10.00	\$14.30	\$0.00	\$66.29
	06/01/2015	\$42.73	\$10.00	\$14.30	\$0.00	\$67.03
	12/01/2015	\$43.97	\$10.00	\$14.30	\$0.00	\$68.27
	06/01/2016	\$44.72	\$10.00	\$14.30	\$0.00	\$69.02
	12/01/2016	\$45.95	\$10.00	\$14.30	\$0.00	\$70.25
	06/01/2017	\$46.94	\$10.00	\$14.30	\$0.00	\$71.24
	12/01/2017	\$47.93	\$10.00	\$14.30	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2014	\$33.27	\$9.91	\$9.33	\$0.00	\$52.51
	06/01/2015	\$33.62	\$9.91	\$9.33	\$0.00	\$52.86
	08/01/2015	\$33.62	\$10.41	\$9.33	\$0.00	\$53.36
	12/01/2015	\$33.62	\$10.41	\$10.08	\$0.00	\$54.11
	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>	12/01/2014	\$47.08	\$7.30	\$13.30	\$0.00	\$67.68
	06/01/2015	\$47.83	\$7.30	\$13.30	\$0.00	\$68.43
	12/01/2015	\$48.58	\$7.30	\$13.30	\$0.00	\$69.18
	06/01/2016	\$49.33	\$7.30	\$13.30	\$0.00	\$69.93
	12/01/2016	\$50.33	\$7.30	\$13.30	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2014	\$49.08	\$7.30	\$13.30	\$0.00	\$69.68
	06/01/2015	\$49.83	\$7.30	\$13.30	\$0.00	\$70.43
	12/01/2015	\$50.58	\$7.30	\$13.30	\$0.00	\$71.18
	06/01/2016	\$51.33	\$7.30	\$13.30	\$0.00	\$71.93
	12/01/2016	\$52.33	\$7.30	\$13.30	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2014	\$39.15	\$7.30	\$13.30	\$0.00	\$59.75
	06/01/2015	\$39.90	\$7.30	\$13.30	\$0.00	\$60.50
	12/01/2015	\$40.65	\$7.30	\$13.30	\$0.00	\$61.25
	06/01/2016	\$41.40	\$7.30	\$13.30	\$0.00	\$62.00
	12/01/2016	\$42.40	\$7.30	\$13.30	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2014	\$41.15	\$7.30	\$13.30	\$0.00	\$61.75
	06/01/2015	\$41.90	\$7.30	\$13.30	\$0.00	\$62.50
	12/01/2015	\$42.65	\$7.30	\$13.30	\$0.00	\$63.25
	06/01/2016	\$43.40	\$7.30	\$13.30	\$0.00	\$64.00
	12/01/2016	\$44.40	\$7.30	\$13.30	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2014	\$32.69	\$9.91	\$9.33	\$0.00	\$51.93
	06/01/2015	\$33.04	\$9.91	\$9.33	\$0.00	\$52.28
	08/01/2015	\$33.04	\$10.41	\$9.33	\$0.00	\$52.78
	12/01/2015	\$33.04	\$10.41	\$10.08	\$0.00	\$53.53
	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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2014	\$35.10	\$7.30	\$12.70	\$0.00	\$55.10
	06/01/2015	\$35.85	\$7.30	\$12.70	\$0.00	\$55.85
	12/01/2015	\$36.60	\$7.30	\$12.70	\$0.00	\$56.60
	06/01/2016	\$37.35	\$7.30	\$12.70	\$0.00	\$57.35
	12/01/2016	\$38.35	\$7.30	\$12.70	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2014	\$42.39	\$10.00	\$14.30	\$0.00	\$66.69
	06/01/2015	\$43.14	\$10.00	\$14.30	\$0.00	\$67.44
	12/01/2015	\$44.39	\$10.00	\$14.30	\$0.00	\$68.69
	06/01/2016	\$45.14	\$10.00	\$14.30	\$0.00	\$69.44
	12/01/2016	\$46.39	\$10.00	\$14.30	\$0.00	\$70.69
	06/01/2017	\$47.39	\$10.00	\$14.30	\$0.00	\$71.69
	12/01/2017	\$48.39	\$10.00	\$14.30	\$0.00	\$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	09/01/2014	\$49.66	\$10.32	\$14.54	\$0.00	\$74.52
	03/01/2015	\$50.66	\$10.32	\$14.54	\$0.00	\$75.52
	09/01/2015	\$51.66	\$10.32	\$14.54	\$0.00	\$76.52
	03/01/2016	\$52.81	\$10.32	\$14.54	\$0.00	\$77.67
	09/01/2016	\$53.86	\$10.32	\$14.54	\$0.00	\$78.72
	03/01/2017	\$54.86	\$10.32	\$14.54	\$0.00	\$79.72
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

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.

Somerville Fire Station #7
Roof Replacement

Somerville, Massachusetts
December 2014

Division of Labor and Industries Statement of Compliance

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 has been printed on the reverse of this page 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.

In addition, every contractor and subcontractor is required to submit a copy of their weekly payroll records to the awarding authority. For every week in which an apprentice is employed, a photocopy of the apprentice's identification card must be attached to the payroll report. Once collected, the awarding authority is also required to preserve those records for three years.

In addition, each such contractor, subcontractor, or public body shall furnish to the awarding authority directly, within fifteen days after completion of its portion of the work a statement, executed by the contractor, subcontractor or public body who supervises the payment of wages, in the following form:

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 _____

MASSACHUSETTS WEEKLY CERTIFIED PAYROLL REPORT FORM



Company's Name:		Address:		Phone No.:		Payroll No.:														
Employer's Signature:		Title:		Contract No.:		Work Week Ending:														
Awarding Authority's Name:		Public Works Project Name:		Public Works Project Location:		Min. Wage Rate Sheet No.:														
General / Prime Contractor's Name:		Subcontractor's Name:		Employer's Hourly Fringe Benefit Contributions:																
Employee Name & Complete Address	Employee is OSHA 10 Certified (?)	Work Classification:	Appr. Rate (%)	Hours							Project Hours (A)	Hourly Base Wage (B)	Health & Welfare Insurance (C)	ERISA Pension Plan (D)	Supp. Unemp. (E)	Total Hourly Prev. Wage (F)	(A x F)		Check No. (H)	
				Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.							At. (at least 1 hour)	Project Gross Wages (G)		Total Gross Wages
	<input type="checkbox"/>																			
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NOTE: Pursuant to MGL Ch. 149 s.27B, every contractor and subcontractor is required to submit a "true and accurate" copy of their weekly payroll records directly to the awarding authority. Failure to comply may result in the commencement of a criminal action or the issuance of a civil citation.

DCAMM Certificate of Eligibility and Update Statement

Bidder to Insert Here (may be in separate envelope if desired)

Not Applicable to this bid.

Somerville Fire Station #7
Roof Replacement

Somerville, Massachusetts
December 2014

GENERAL TERMS & CONDITIONS

APPENDIX C

General Conditions

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

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**GENERAL TERMS AND CONDITIONS OF THE CONTRACT
FOR CONSTRUCTION, RECONSTRUCTION, INSTALLATION,
DEMOLITION, MAINTENANCE, OR REPAIR OF ANY
PUBLIC BUILDING OR PUBLIC WORK
IN THE CITY OF SOMERVILLE**

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 Engineers 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.

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 therefore 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.

5.8.3. 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 therefore, 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.

5.9. 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.

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

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

5.12. Additional Information from Design Professional.

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

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

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

5.13. "Or equal."

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

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

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

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

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

5.13.3. Contractor's Expense. Any structural or mechanical changes made necessary to accommodate substituted equipment under this paragraph (including but not limited to engineering fees) shall be at the expense of the **Contractor** or **Subcontractor** responsible for the Work item.

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

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

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

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

5.13.6. Deviations. If the **Contractor** proposes to use a material which while suitable for

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

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

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

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

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

5.14. Substitute Construction Methods or Procedures.

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

5.15. Contractor's Progress Schedule.

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

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

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

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

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

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

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

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

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

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

5.16. Project Coordination.

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

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

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

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

5.17. Project Photographs.

5.17.1. In General. The **Contractor** shall take, at its own expense, interior and exterior photographs at the site, from different vantages as directed by the **Design Professional** or the **City**, before beginning any Work and thereafter, at a minimum, on the first work day of each month until final completion of the Work, including final Site photos. Photos shall be taken of any Work that will be buried or concealed while the Work is still exposed. The photographs shall be taken by a skilled commercial photographer. The number of photographs required shall be at the discretion of the **City** or the **Design Professional**. One aerial photo shall be required a) prior to commencement of the work and b) at the completion of the work. See Section 01320 – Construction Progress Documentation.

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

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

5.18. Record Documents and Samples at the Site.

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

5.19. Submittals.

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

5.19.2. Submittal Procedure. Within ten (10) days from the Notice to Proceed, the **Contractor** shall submit to the **Design Professional** a completed Submittals schedule. The **Contractor** shall review, approve, and submit to the **Design Professional** Submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay

in the Work or in the activities of the **City** or of separate contractors. Submittals made by the **Contractor** that are not required by the Contract Documents may be returned without action. The schedules shall be updated and resubmitted each month. All Submittals will be identified as the **Design Professional** may require and in the number specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show the **Design Professional** the materials and equipment that the **Contractor** proposes to provide and to enable the **Design Professional** to review the information for the limited purposes stated below.

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

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

5.19.3.2. All costs associated with delivery of Samples will 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.

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.

5.22.4. 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.

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, damages, losses, and expenses, including, but not limited, to attorneys' fee, 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 there from, 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.

6.1.1 The **Contractor** shall use the Subcontractors named in the **Contractor's** Bid.

6.2 Substitution of Subcontractors.

6.2.1 The **Contractor** shall not substitute another Subcontractor therefore 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 provided in Appendix D. 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 nonconforming 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** 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 therefore; (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**.

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.

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. Within five (5) working days of award of contract, 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 of \$500.00 per day, 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 ore 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;). 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.

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.

13.8. 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)(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**.

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.

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** 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 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 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**, 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, and, seven (7) days after such notice, may terminate the employment of the **Contractor**, accept assignment of any or all subcontracts pursuant to Paragraph __, and finish the Work by whatever method the **City** may deem expedient. 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.

18.3.2. (*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.

ARTICLE 19: AMERICANS WITH DISABILITIES ACT; (42 U.S. 12131)

19.1. On July 26, 1994, the Americans with Disabilities Act ("the Act") became effective for employers of fifteen or more employees.

19.2. The Act protects against discrimination on the basis of "disability," which is defined as a physical or mental impairment that substantially limits at least one "major life activity;" or discrimination against an individual who has a record of such impairment; or discrimination against an individual being regarded - even if inaccurately - as having such impairment. The Act also expressly prohibits job discrimination that is based on any individual's relationship or association with a disabled person.

19.3. If the **Contractor** is subject to the Act, it must comply with its provisions.

ARTICLE 20: WRITTEN NOTICE TO THE PARTIES

20.1. In General.

20.1.1. All written communications from the **Design Professional** to the **Contractor** shall be copied to the **City**. All written communications from the **Contractor** to the **Design**

Professional shall be copied to the **City**. All written communications from the **Contractor** to the **City** shall be copied to the **Design Professional**.

20.2. Addresses.

20.2.1. To the City. Written notice to the **City** shall be sent or hand-delivered to:

Purchasing Director
City of Somerville
93 Highland Avenue
Somerville, MA 02143

City Solicitor
Law Department
93 Highland Avenue
Somerville, MA 02143

Director
Capital Projects & Planning Department
One Franey Road
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.

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.

PART 2 - SAMPLE CONSTRUCTION

CONTRACT

- Sample Contract
 - Certificate of Authority
 - Appendix A – Scope of Work (including Technical Specifications)
 - Appendix B – Contractor's Bid Price; Form for General Bid (From Bid Book)
 - Appendix C – General Terms and Conditions
 - Appendix D – Insurance Requirements
 - Appendix E – Wage Rates and Living Wage (From Bid Book)
 - Appendix F – Certificate of Good Standing (for corporations; from Bid Book)
 - Appendix G – Procurement documentation (Advertisements and Notice to Bidders)
 - Appendix H – Statement of Management
 - Appendix I – Performance Bond and Payment Bond, if contract over \$2000
 - Appendix J – Prevailing Wage Rates and Compliance Form
-

Somerville Fire Station #7
Roof Replacement

Somerville, Massachusetts
December 2014

SAMPLE CONTRACT

CONTRACT NUMBER

A-
PURCHASE ORDER # AND AMOUNT

BID NUMBER

DEPT. OF PUBLIC WORKS
ISSUING DEPARTMENT

XXXXX xx, 20XX – YYYYYY yy, 20XX
CONTRACT PERIOD

CITY OF SOMERVILLE

PUBLIC CONSTRUCTION CONTRACT

CONTRACTOR: Vendor
Address
Townname, MA, Zip Code

FOR: SOMERVILLE FIRE STATION #7
ROOF REPLACEMENT

ACCORDING TO SPECIFICATIONS CONTAINED HEREIN

**CITY OF SOMERVILLE
OWNER-CONTRACTOR PUBLIC CONSTRUCTION AGREEMENT**

AGREEMENT made this ____ day of _____, 20__, by and between the City of Somerville, a Massachusetts municipal corporation, acting by and through its Purchasing Department, with a usual address of 93 Highland Ave., Somerville, MA 02143 ("City", "Owner" or "Awarding Authority") and the following General Contractor ("Contractor" or "General Contractor"):

GENERAL CONTRACTOR:

Name:

Address:

Telephone:

Fax:

E-Mail:

PROJECT:

PROJECT MANAGER:

Name: Stephen Vitello, Capital Projects & Planning

Address: One Franey Road, Somerville, MA 02145

Telephone: (617) 625 - 6660

E-Mail:

DESIGN PROFESSIONAL:

Contact: Fabrizio Caruso, Project Manager
CDR Maguire, Inc.
211 Congress Street, 11th Floor
Boston, MA 02110
Phone: (617) 778 - 1440
Fax; (617) 348 - 2143

Profession: Architect [X] Landscape Architect [] Engineer []

THIS CONTRACT IS A:

- ☐ Public Works Contract estimated to cost more than \$10,000 subject to the bidding requirements of G.L. c. 30, § 39M
- ☐ Public Building Contract estimated to cost under \$10,000, subject to the price quote requirements of G.L. c. 149 §44A (2)(A)
- ☐ Public Building Contract estimated to cost more than \$10,000 but less than \$25,000, subject to the written response requirements of G.L. c. 149, §44A(2)(B) of the General Laws
- ☐ Public Building Contract estimated to cost more than \$25,000 but less than \$100,000, subject to the bidding requirements of G.L. c. 149, §44A(2)(C) and G.L. c. 30, § 39M
- ☒ Public Building Contract estimated to cost more than \$100,000, subject to the bidding requirements of G.L. c. 149, §44A(D).

Section 1: CONTRACT DOCUMENTS/APPENDICES

The Contract Documents consist of this 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.

The following Appendices are hereby attached or incorporated by reference as part of this Agreement.

- ☒ Certificate of Authority
- ☐ * Appendix A - Scope of Services - Misc. Bid Documents: includes a brief description of the Project, the Plans and Technical Specifications (Plans on File) and Addenda issued during the bid process
- ☒ Appendix B - Contractor's Bid Price; Form for General Bid
- ☒ ** Appendix C - General Conditions
- ☒ ** Appendix D - Insurance Requirements with Contractor's Insurance Certificate(s)

- X Appendix E - Wage Rates; Living Wage
- X Appendix F - Certificate of Good Standing (for corporations)
- X Appendix G - Procurement Documentation (includes Advertisement; Notice to Bidders)
- X Appendix H - Statement of Management (over \$100,000)
- X Appendix I - Performance Bond and Payment Bond, if contract is over \$2,000

X = Attached

* = Included in the Project Manual and incorporated herein by reference

** = Attached and also duplicated in the Project Manual

Section 2: THE CONTRACTOR'S WORK.

The Contractor's "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.

Section 3: PROJECT DATES.

(a) Contract Period: The Contract shall begin on:

(b) 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 on or before

(c) Date of Substantial Completion: The Contractor shall achieve Substantial Completion of the Work on or before _____, 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.

(d) Dates of Final Completion:

The Date of Final Completion shall be:

Section 4. CONTRACT SUM/LIQUIDATED DAMAGES

(a) Contract Sum: The Contract Sum shall be \$ _____.

(b) Liquidated Damages: The Contractor and the City agree to a Liquidated Damages sum of \$500.00 per calendar day for failure to meet the deadlines set forth in Sections 3(c), or (d).

SIGNATURE PAGE FOLLOWS

IN WITNESS WHEREOF, the City and the Contractor have executed this Contract as a sealed instrument as of the date first written above.

CITY OF SOMERVILLE

I hereby certify that the total contract amount is \$ _____, and that an unencumbered balance of \$ _____ is available for the first 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. Further, I certify that as funds become available, I will encumber additional sums as are required under this contract.

Edward Bean, City Auditor

Joseph A. Curtatone
Mayor

Skip Bandini
Director, Capital Projects & Planning

Angela M. Allen, Purchasing Director

Approved as to form:

Francis X. Wright, Jr., City Solicitor

VENDOR:

Signature of Authorized Agent of Vendor

Printed Name:
Title:

Vendor Address:

Federal Tax ID: # _____

FOR CORPORATIONS ONLY:

Clerk's Signature

Clerk's Name

APPENDIX A

Scope of Services – Miscellaneous Bid Documents

Includes a brief description of the project
The Plans and Technical Specifications (Plans on File)
And addenda issued during the bid process.

Somerville Fire Station #7
Roof Replacement

Somerville, Massachusetts
December 2014

APPENDIX B
Contractor's Bid Price - Form for General Bid
(From Bid Book)

Somerville Fire Station #7
Roof Replacement

Somerville, Massachusetts
December 2014

APPENDIX C
General Terms and Conditions
(From Bid Manual)

APPENDIX D

INSURANCE REQUIREMENTS

**APPENDIX D - INSURANCE REQUIREMENTS
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" as a certificate holder and as an additional insured for general liability only along with a description of operation in the space provided on the certificate.
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.

**APPENDIX E
WAGE RATES AND LIVING WAGE FORM**

**STATE PREVAILING WAGE RATES
SOMERVILLE LIVING WAGE RATES FORM
RESPONSIBLE EMPLOYER ORDINANCE**

INSERT MANUALLY

APPENDIX F

CERTIFICATE OF GOOD STANDING (FOR CORPORATIONS)

INSERT DOCUMENT FROM BID MANUAL HERE

Certificate of Good Standing: If the bidder is a corporation, a Certificate of Good Standing shall be provided with executed contracts. Certificate of Good Standing available online at: http://corp.sec.state.ma.us/corp/Certificates/Certificate_Request.asp or call Tel: (617) 727-9640 for more information.

APPENDIX G

PROCUREMENT DOCUMENTATION

ADVERTISEMENTS, NOTICE TO BIDDERS, ETC.

APPENDIX H

STATEMENT OF MANAGEMENT FOR CONTRACTS OVER \$100,000

STATEMENT OF MANAGEMENT

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 _____ 20__

On behalf of _____
(Successful bidder name)

(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)

APPENDIX I

PERFORMANCE BOND AND PAYMENT BOND

FOR CONTRACTS OVER \$2000

PERFORMANCE BOND

We, the undersigned,

_____,
(Name of Contractor)

_____,
(Address of Contractor)

_____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

_____,
(Name of Surety)

_____, (Address of Surety)

hereinafter called Surety, are held and firmly bound unto CITY OF SOMERVILLE, 93
Highland Avenue, Somerville, MA 02143, hereinafter called Owner, in the penal sum of
Dollars

(\$_____) in lawful money of the United States, for the payment of which sum well and
truly to be made. We hereby jointly and severally bind ourselves, our heirs, executors,
administrators, successors, and assigns.

The condition of this obligation is such that the Principal entered into a certain
contract with the Owner, dated the _____ day of _____, 20____, a copy of
which is attached hereto and made a part hereof, for the project known as Somerville Fire
Station #7 Roof Replacement and the Principal and Surety bind themselves to the Owner for
the performance of the contract.

Now, therefore, if the Principal shall well, truly and faithfully perform its duties, all

the undertakings, covenants, terms, conditions, and agreements of said contract during the

original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety and during the guaranty period set forth in the contract, and if it shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by a reason of failure to do so, and shall reimburse and repay the Owner all outlay and expenses which the Owner may incur in making good any default, then this obligation shall be void; otherwise, this bond shall remain in full force and effect; provided, further, that the said Surety for value received hereby agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder of the specifications accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications. Provided, further, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed on this _____ day of _____, 20____.

CONTRACTOR AS PRINCIPAL

SURETY

(Signature)
Name and Title:

(Signature)
Name and Title:

SEAL

SEAL

Payment Bond

We, the undersigned,

_____,
(Name of Contractor)

_____,
(Address of Contractor)

_____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

_____,
(Name of Surety)

_____, (Address of Surety)

hereinafter called Surety, are held and firmly bound unto CITY OF SOMERVILLE, 93
Highland Avenue, Somerville, MA 02143, hereinafter called Owner, in the penal sum of
Dollars

(\$_____) in lawful money of the United States, for the payment of which sum well and
truly to be made. We hereby jointly and severally bind ourselves, our heirs, executors,
administrators, successors, and assigns.

The condition of this obligation is such that the Principal entered into a certain
contract with the Owner, dated the _____ day of _____, 20____, a copy of
which is attached hereto and made a part hereof, for the project known as Somerville Fire
Station #7 Roof Replacement.

Now, therefore, if the Principal shall promptly make payment to all persons, firms,
subcontractors, and corporations furnishing materials for or performing labor in the
prosecution of the work provided for in such contract, and any authorized extension or

modification thereof, including all amounts due for materials used in connection with the work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise this bond is remain in full force and effect. Provided, further, that the said Surety for value received hereby agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder of the Specifications accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

Provided, further, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed on this _____ day of
, 20____.

CONTRACTOR AS PRINCIPAL

SURETY

(Signature)

(Signature)

Name and Title:

Name and Title:

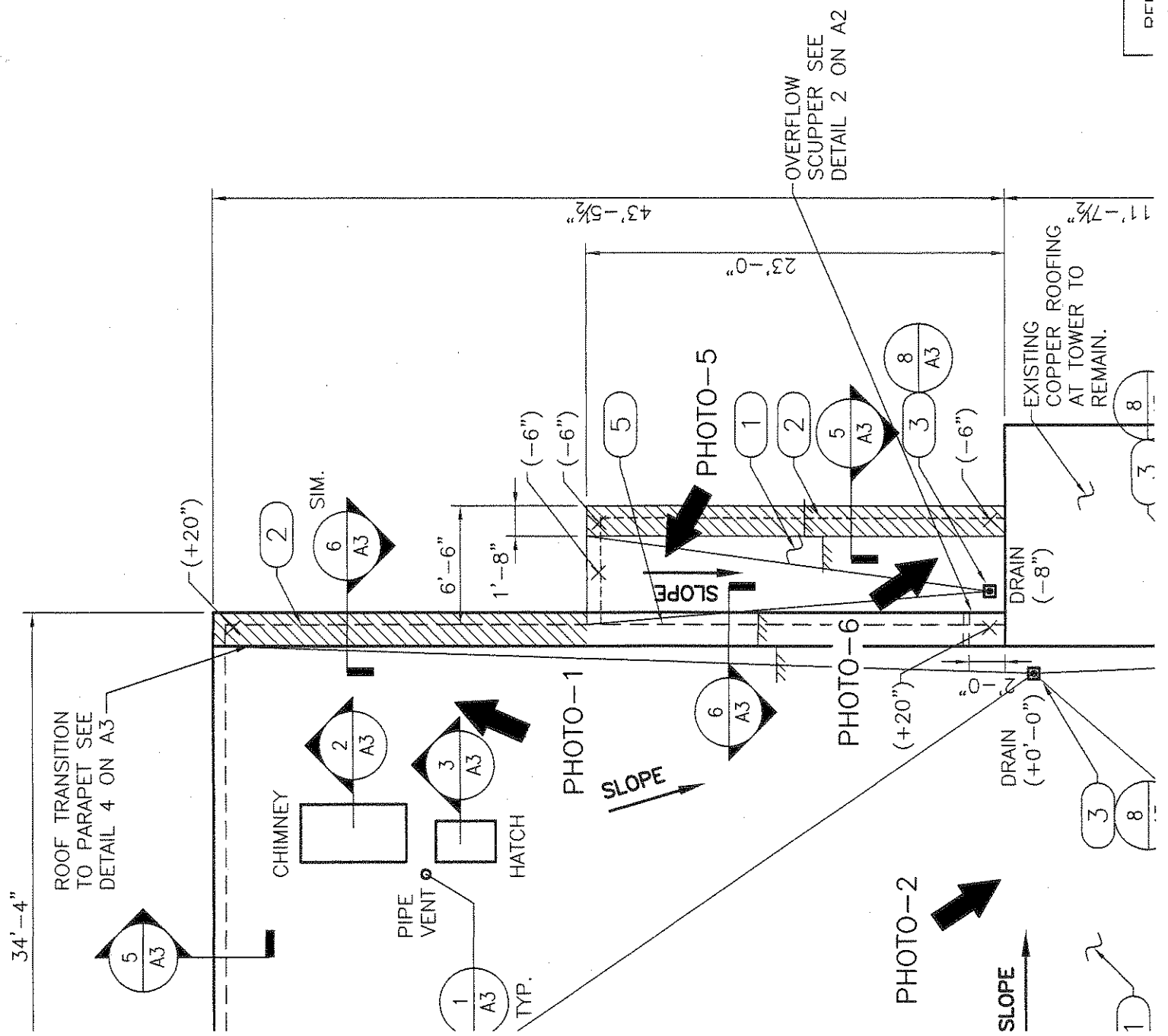
SEAL

SEAL

PART III **TECHNICAL SPECIFICATIONS –**
DIVISIONS 1 AND 2



8. ANY MATERIALS OR ITEMS DAMA WORK SHALL BE RESTORED TO REPLACED TO MATCH EXISTING
9. REMOVAL OF ANY WORK OR ITE DISPOSAL OF SAME UNLESS INE REMOVAL AND DISPOSAL WORK SAFE AND LEGAL MANNER.
10. THE CONTRACTOR SHALL BE RE REINSTALLATION OF ALL ITEMS / INSTALLATION OF ROOFING SYST
11. THE CONTRACTOR SHALL PROVID PROTECTION AS REQUIRED DURI INSTALLATION OF ADJACENT ROC
12. CONTRACTOR SHALL NOTE THAT GUSTS, AND THE FACILITY WILL TIMES. THEREFORE, DEMOLISHED BE HELD DOWN AND SECURED
13. CONTRACTOR IS TO WORK AROU PIPING LINES LOCATED ON THE
14. REFER TO SPECIFICATIONS FOR ASBESTOS CONTAINING ROOFING



SECTION 010250 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This section specifies administrative and procedural requirements for unit prices.
- B. A Unit Price is an amount proposed by Bidders and stated on the Bid Form as a unit price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the estimated quantities of Work required by the Contract Documents are increased or decreased. The estimated quantities for the work are shown on Contract Drawings A2 and A3.
- C. Refer to drawings and individual Specification Sections for construction activities requiring the establishment of Unit Prices.

1.2 REQUIREMENTS

- A. The Contract Lump Sum price will be based on the estimated quantities calculated by the Designer, as shown on Contract Drawings A2 and A3.
- B. All unit prices shall include their pro-rate share of all costs for overhead, profit, bond, labor, materials, disposal and equipment to perform the work item complete, as identified. The Lump Sum price will include all costs for overhead, profit, bond, labor, materials, disposal and equipment to perform the work as shown on the Contract Drawings and Specifications.
- C. Unit Price Proposal Sheets shall be included with the General Bid Forms.
- D. Unit Prices shall provide for a variance in quantities of plus or minus 50 percent of those listed on the Unit Price Proposal Sheet.
- E. A Contract modification will be issued by the Owner to adjust the contract price resulting from the final quantities of the unit price work.

PART 2 – PRODUCTS

(Not Applicable)

PART 3 – EXECUTION

(Not Applicable)

UNIT PRICE SCHEDULE

The Contractor shall enter the prices for the unit prices on the Unit Price Schedule found on page CF-3A.

END OF SECTION 010250

UNIT PRICE SCHEDULE

The form of proposal shall include the following unit prices. Unit prices shall be used as a basis for deductions or additions to the contract. Unit prices shall include all labor, equipment, materials and related items, overhead, profit, and insurance necessary to complete the work specified. Measurement shall be in-place to approved limits, measured and calculated to the nearest 0.1 unit.

REPAIR DESCRIPTION	UNIT OF MEASURE	AMOUNT ADD OR DEDUCT
Rebuilt portion of existing cornice (See Details 5 and 6 on A3	L.F.	\$_____
Remove and reconstruct portion of ornamental wood overhang/cornice (See Detail 7 on A3)	L.F.	\$_____

SECTION 012600- CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 14 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use forms acceptable to Architect.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use CSI Form 13.6A "Change Order Request (Proposal)" with attachments CSI Form 13.6B "Proposal Worksheet Summary" and 13.6C "Proposal Worksheet Detail" form provided by Owner. Sample copy is included in Project Manual form acceptable to Architect.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedure requirements governing Contractor's Applications for Payment.
- B. Related Sections: Section 013300, Submittal Procedures; for Contractor's Construction Schedule.

1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of Schedule of Values with preparation of Contractor's Construction Schedule.
- B. Submit Schedule of Values to Architect at earliest possible date, min. 7 days before date scheduled for submittal of initial Applications for Payment.
- C. Subschedules: Where work is separated into phases requiring separately phased payments, provide Subschedules showing values correlated with each phase of payment.
- D. Preparation Coordination:
 - 1. Coordinate preparation of Schedule of Values for work with preparation of Construction Schedule.
 - 2. Correlate Line Items in Schedule of Values with other required administrative Schedules and Forms, including:
 - a. Contractor's Construction Schedule.
 - b. Application for Payment form.
 - c. List of Subcontractors.
 - d. Schedule of Allowances.
 - e. Schedule of Alternates.
 - f. List of Products.
 - g. List of Principal Suppliers and Fabricators.
 - h. Schedule of Submittals.
- E. Form and Content:
 - 1. Use Project Manual Table of Contents as guide to establish format for Schedule of Values.
 - 2. Provide min. 1 line item for each Specification Section.
 - 3. Include following Project identification on Schedule of Values:

- a. Project name and location.
 - b. Name of Architect.
 - c. Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 4. Arrange Schedule of Values in tabular form with separate columns to indicate following for each item listed.
 - a. Related Specification Section or Division.
 - b. Description of work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Order Numbers that affect value.
 - g. Dollar value; percentage of Contract Sum to nearest 1/100 percent, adjusted to total 100 percent.
 5. Provide breakdown of Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and Progress Reports; coordinate with Project Manual Table of Contents.
 6. Break principal subcontract amounts down into several line items.
 7. Round amounts to nearest whole dollar; total shall equal Contract Sum.
 8. For each part of work where Application for Payment may include materials or equipment, purchased or fabricated and stored but not yet installed, provide separate Line Items on Schedule of Values for initial cost of materials for each subsequent stage of completion, and for total installed value of that part of work.
 9. Provide separate line item in Schedule of Values for each part of work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.
 10. Differentiate between items stored onsite and items stored offsite; include requirements for insurance and bonded warehousing, if required.
- F. Margins of Cost:
1. Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment.
 2. Each item in Schedule of Values and Applications for Payment shall be complete.
 3. Include total cost and proportionate share of general overhead and profit margin for each item.
- G. Temporary Facilities: Show temporary facilities and other major cost items that are not direct cost of actual work-in-place either as separate line items in schedule of values, or distributed as general overhead expense, at Contractor's option.
- H. Schedule Updating: Update and resubmit Schedule of Values before next Application for Payment when Change Orders or Construction Change Directives result in change in Contract Sum.

1.4 STATUTORY REGULATIONS FOR PUBLIC CONSTRUCTION CONTRACTS

M.G.L. c.30, § 39F: Construction contracts; assignment and subrogation; subcontractor defined; enforcement of claim for direct payment; deposit, reduction of disputed amounts

(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 general contractor receives payment on account of a periodic estimate, the general 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 general contractor.

(b) Not later than the sixty-fifth day after each subcontractor substantially completes his work in accordance with the plans and specifications, the entire balance due under the subcontract less amounts retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the subcontractor; and the awarding authority shall pay that amount to the general contractor. The general contractor shall forthwith pay to the subcontractor the full amount received from the awarding authority less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

(c) Each payment made by the awarding authority to the general contractor pursuant to subparagraphs (a) and (b) of this paragraph for the labor performed and the materials furnished by a subcontractor shall be made to the general contractor for the account of that subcontractor; and the awarding authority shall take reasonable steps to compel the general contractor to make each such payment to each such subcontractor. If the awarding authority has received a demand for direct payment from a subcontractor for any amount which has already been included in a payment to the general contractor or which is to be included in a payment to the general contractor for payment to the subcontractor as provided in subparagraphs (a) and (b), the awarding authority shall act upon the demand as provided in this section.

(d) If, within seventy days after the subcontractor has substantially completed the subcontract work, the subcontractor has not received from the general contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, the subcontractor may demand direct payment of that balance from the awarding authority. The demand shall be by a sworn statement delivered to or sent by certified mail to the awarding authority, and a copy shall be delivered to or sent by certified mail to the general 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. 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 days after the subcontractor has delivered or so mailed the demand to the awarding authority and delivered or so mailed a copy to the general contractor, the general contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the

awarding authority 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 general contractor and of the amount due for each claim made by the general contractor against the subcontractor.

(e) Within fifteen days after receipt of the demand by the awarding authority, but in no event prior to the seventieth day after substantial completion of the subcontract work, the awarding authority 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 general contractor, less any amount (i) retained by the awarding authority 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 general contractor in the sworn reply; provided, that the awarding authority 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 subparagraph (d). The awarding authority 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 subparagraph.

(f) The awarding authority shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of subparagraph (e) in an interest-bearing joint account in the names of the general contractor and the subcontractor in a bank in Massachusetts selected by the awarding authority or agreed upon by the general contractor and the subcontractor and shall notify the general 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 general 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 subparagraph (f) shall be made out of amounts payable to the general 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 general contractor and in the order of receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the awarding authority to the general contractor to the extent of such payment.

(h) The awarding authority shall deduct from payments to a general contractor amounts which, together with the deposits in interest-bearing accounts pursuant to subparagraph (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 general contractor.

(i) If the subcontractor does not receive payment as provided in subparagraph (a) or if the general 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 subparagraph (a), the subcontractor may demand direct payment by following the procedure in subparagraph (d) and the general contractor may file a sworn reply as provided in that same subparagraph. 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 general contractor. Thereafter the awarding authority shall proceed as provided in subparagraph (e), (f), (g) and (h).

(2) Any assignment by a subcontractor of the rights under this section to a surety company furnishing a bond under the provisions of section twenty-nine of chapter one hundred forty-nine 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 awarding authority or which are on deposit pursuant to subparagraph (f) of paragraph (1) 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) ""Subcontractor" as used in this section (i) for contracts awarded as provided in sections forty-four A to forty-four H, inclusive, of chapter one hundred forty-nine shall mean a person who files a sub-bid and receives a subcontract as a result of that filed sub-bid or who is approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the general contractor, (ii) for contracts awarded as provided in paragraph (a) of section thirty-nine M of chapter thirty shall mean a person approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the general contractor, and (iii) for contracts with the commonwealth not awarded as provided in forty-four A to forty-four H, inclusive, of chapter one hundred forty-nine shall also mean a person contracting with the general contractor to supply materials used or employed in a public works project for a price in excess of five thousand dollars.

(4) A general contractor or a subcontractor shall enforce a claim to any portion of the amount of a demand for direct payment deposited as provided in subparagraph (f) of paragraph 1 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 subparagraph (f) of paragraph 1 by a petition in equity in the superior court against the awarding authority and the general 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. Sections fifty-nine and fifty-nine B of chapter two hundred thirty-one 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 sections fifty-nine and fifty-nine B 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 prevent 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 general contractor are available for direct payment shall have a right to file a petition in court of equity against the awarding authority claiming a demand for direct payment is premature and such subcontractor must file the petition before the awarding authority has made a direct payment to the subcontractor and has made a deposit of the disputed portion as provided in part (iii) of subparagraph (e) and in subparagraph (f) of paragraph (1).

(5) 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 general contractor, reduce by the amount of any deposit of a disputed amount by the awarding authority as provided in part (iii) of subparagraph (e) and in subparagraph (f) of paragraph (1) any amount held under a trustee writ or pursuant to a restraining order or injunction.

M.G.L. c.30, ' 39G: Completion of public works; semi-final and final estimates; payments; extra work; disputed items

Upon substantial completion of the work required by a contract with the commonwealth, or any agency or political subdivision thereof, for the construction, reconstruction, alteration, remodeling, repair or improvement of public ways, including bridges and other highway structures, sewers and, water mains, airports and other public works, the contractor shall present in writing to the awarding authority its certification that the work has been substantially completed. Within twenty-one days thereafter, the awarding authority 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 awarding authority may include with such list a notice setting forth a reasonable time, which shall not in any event be prior to the contract completion date, within which the contractor must achieve substantial completion of the work. In the event that the awarding authority fails to respond, by presentation of a written declaration or itemized list as aforesaid, to the contractor's certification within the twenty-one day period, the contractor's certification shall take effect as the awarding authority's declaration that the work has been substantially completed.

Within sixty-five days after the effective date of a declaration of a substantial completion, the awarding authority shall prepare and forthwith send to the contractor for acceptance a substantial completion estimate for the quantity and price of the work done and all but one per cent retainage on that work, including the quantity, price and all but one per cent retainage for the undisputed part of each work item and extra work item in dispute but excluding the disputed part thereof, less the estimated cost of completing all incomplete and unsatisfactory work items and less the total periodic payments made to date for the work. The awarding authority also shall 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 section thirty-nine F, but no contract subject to said section thirty-nine F shall contain any other provision authorizing the awarding authority to deduct any amount by virtue of claims asserted against the contract by subcontractors, material suppliers or others.

If the awarding authority fails to prepare and send to the contractor any substantial completion estimate required by this section on or before the date herein above set forth, the awarding authority 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 percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston from such date to the date on which the awarding authority sends that substantial completion estimate to the contractor for acceptance or to the date of payment therefor, whichever occurs first. The awarding authority shall include the amount of such interest in the substantial completion estimate.

Within fifteen days after the effective date of the declaration of substantial completion, the awarding authority shall send to the contractor by certified mail, return receipt requested, a complete list of all incomplete or unsatisfactory work items, and, unless delayed by causes beyond his control, the contractor shall complete all such work items within forty-five days after the receipt of such list or before the then contract completion date, whichever is later. If the contractor fails to complete such work within such time, the awarding authority may, subsequent to seven days' written notice to the contractor by certified mail, return receipt requested, terminate the contract and complete the incomplete or unsatisfactory work items and charge the cost of same to the contractor.

Within thirty days after receipt by the awarding authority of a notice from the contractor stating that all of the work required by the contract has been completed, the awarding authority 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 that work less all payments made to date, unless the awarding authority's inspection shows that work items required by the contract remain incomplete or unsatisfactory, or that documentation required by the contract has not been completed. If the awarding authority fails to prepare and send to the contractor the final estimate within thirty days after receipt of notice of completion, the awarding authority shall pay to the contractor interest on the amount which would have been due to the contractor pursuant to such final estimate at the rate hereinabove provided from the thirtieth day after such completion until the date on which the awarding authority sends the final estimate to the contractor for acceptance or the date of payment therefor, whichever occurs first, provided that the awarding authority's inspection shows that no work items required by the contract remain incomplete or unsatisfactory. Interest shall not be paid hereunder on amounts for which interest is required to be paid in connection with the substantial completion estimate as hereinabove provided. The awarding authority shall include the amount of the interest required to be paid hereunder in the final estimate.

The awarding authority shall pay the amount due pursuant to any substantial completion or final estimate within thirty-five days after receipt of written acceptance for such estimate from the contractor and shall pay interest on the amount due pursuant to such estimate at the rate hereinabove provided from that thirty-fifth day to the date of payment. Within 15 days, 30 days in the case of the commonwealth, after receipt from the contractor, at the place designated by the awarding authority, if such place is so designated, of a periodic estimate requesting payment of the amount due for the preceding periodic estimate period, the awarding authority shall make a periodic payment to the contractor for the work performed during the preceding periodic estimate period 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. The awarding authority shall include with each such payment interest on the amount due pursuant to such periodic estimate at the rate herein above provided from the due date. In the case of periodic payments, the contracting authority 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 the provisions of section thirty-nine F, and a retention to secure satisfactory performance of the contractual work not exceeding five per cent of the approved amount of any periodic payment, and the same right to retention shall apply to bonded subcontractors entitled to direct payment under section thirty-nine F of chapter thirty; provided, that a five per cent value of all items that are planted in the ground shall be deducted from the periodic payments until final acceptance.

No periodic, substantial completion or final estimate or acceptance or payment thereof shall bar a contractor from reserving all rights to dispute the quantity and amount of, or the failure of the awarding authority to approve a quantity and amount of, all or part of any work item or extra work item.

Substantial completion, for the purposes of this section, shall mean either that the work required by the contract has been completed except for work having a contract price of less than one per cent of the then adjusted total contract price, or substantially all of the work has been completed and opened to public use except for minor incomplete or unsatisfactory work items that do not materially impair the

usefulness of the work required by the contract.

M.G.L. c.30, '39J: Public construction contracts; effect of decisions of contracting body or administrative board

Notwithstanding any contrary provision of any contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or public works by the commonwealth, or by any county, city, town, district, board, commission or other public body, when the amount of the contract is more than five thousand dollars in the case of the commonwealth and more than two thousand dollars in the case of any county, city, town, district, board, commission or other public body, a decision, by the contracting body or by any administrative board, official or agency, or by any architect or engineer, on a dispute, whether of fact or of law, arising under said contract shall not be final or conclusive if such decision is made in bad faith, fraudulently, capriciously, or arbitrarily is unsupported by substantial evidence, or is based upon error of law.

M.G.L. c.30, '39K: Public building construction contracts; payments

Every contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building by the commonwealth, or by any county, city, town, district, board, commission or other public body, when the amount is more than five thousand dollars in the case of the commonwealth and more than two thousand dollars in the case of any county, city, town, district, board, commission or other public body, shall contain the following paragraph:-- 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 then 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.

The awarding authority may make changes in any periodic estimate submitted by the contractor and the payment due on said periodic estimate shall be computed in accordance with the changes so made, but such changes or any requirement for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided, that the awarding authority may, within seven days after receipt, return to the contractor for correction, any periodic estimate which is not in the required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form and with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter. The provisions of section thirty-nine G shall not apply to any contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building to which this section applies.

All periodic estimates shall be submitted to the awarding authority, or to its designee as set forth in writing to the contractor, and the date of receipt by the awarding authority or its designee shall be marked on the estimate. All periodic estimates shall contain a separate item for each filed subtrade and each sub-subtrade listed in sub-bid form as required by specifications and a column listing the amount paid to each subcontractor and sub-subcontractor as of the date the periodic estimate is filed. The person making payment for the awarding authority shall add the daily interest provided for herein to each payment for each day beyond the due date based on the date of receipt marked on the estimate.

A certificate of the architect to the effect that the contractor has fully or substantially completed the work shall, subject to the provisions of section thirty-nine J, be conclusive for the purposes of this section.

Notwithstanding the provisions of this section, at any time after the value of the work remaining to be done is, in the estimation of the awarding authority, less than 1 per cent of the adjusted contract price, or the awarding authority has determined that the contractor has substantially completed the work and the awarding authority has taken possession for occupancy, the awarding authority may send to the general contractor by certified mail, return receipt requested, a complete and final list of all incomplete and unsatisfactory work items, including, for each item on the list, a good faith estimate of the fair and reasonable cost of completing such item. The general contractor shall then complete all such work items within 30 days of receipt of such list or before the contract completion date, whichever is later. If the general contractor fails to complete all incomplete and unsatisfactory work items within 45 days after receipt of such items furnished by the awarding authority or before the contract completion date, whichever is later, subsequent to an additional 14 days' written notice to the general contractor by certified mail, return receipt requested, the awarding authority may terminate the contract and complete the incomplete and unsatisfactory work items and charge the cost of same to the general contractor and such termination shall be without prejudice to any other rights or remedies the awarding authority may have under the contract. The awarding authority shall note any such termination in the evaluation form to be filed by the awarding authority pursuant to the provisions of section 44D of chapter 149.

M.G.L. c.149, '44D: Submission of bid or offer; application for certification

(1) (a) Every bid or offer submitted for a contract subject to section forty-four A shall be accompanied by a copy of a certificate of eligibility issued by the commissioner showing that the bidder or offeror has the classification and capacity rating to perform the work required. The bid or offer shall also be accompanied by an update statement in such form as the commissioner shall prescribe. A blank copy of such form shall be furnished by the awarding authority to every person or business entity requesting a copy. The update form shall provide space for information regarding all projects completed by the bidder or offeror since the date of certification of eligibility, all projects which the bidder or offeror currently has under contract including the percentage of work on such projects not completed, the names and qualifications of the personnel who will have supervisory responsibility for the performance of the contract, any significant changes in the bidder's or offeror's financial position or business organization since the date of certification of eligibility, and such other relevant information as the commissioner shall prescribe. The bidder or offeror shall also include in its bid or offer and update statement the list of completed construction projects submitted to the division in its most recent application for contractor certification. Any bid or offer submitted without the appropriate certificate and update statement shall be invalid.

(b) The applicant shall certify under penalties of perjury at the conclusion of the application to bid that there have been no substantial changes in his financial position or business organization other than those changes noted within the application since the applicant's most recent prequalification statement and that the bid to be made will be in all respects bonafide, fair and made without collusion or fraud with any other person. ""Person" here means any natural person, joint venture, partnership, corporation or other business or legal entity which sells materials, equipment or supplies used in or for, or engages in the performance of, the same or similar construction, reconstruction, installation, demolition, maintenance or repair work or any part thereof.

(2) The division of capital asset management and maintenance shall accept applications for certification in such form as the commissioner shall prescribe, signed by the applicant under penalties of perjury, supplying information concerning the applicant's form of organization, its principals and key personnel; the applicant's experience on public and private construction projects over the past five years or on the twenty projects most recently completed; all legal or administrative proceedings currently pending against the applicant or concluded adversely to the applicant within the past five years which relate to the procurement or performance of any public or private construction contract, the nature of any financial, personal or familial relationship to any public or private construction project owners listed on the application as constituting prior construction experience; and such other information as the commissioner shall deem relevant to the determination of the applicant's qualifications and responsibility. The application shall include a statement of financial condition prepared by a certified public accountant which shall contain information concerning the applicant's current assets and liabilities, plant and equipment; bank and credit references, bonding company and maximum bonding capacity; and such other information as the commissioner shall deem relevant to an evaluation of the applicant's financial capacity and responsibility. The information contained in the application shall be current at the time of filing; provided, however, that the statement of financial condition shall pertain to the applicant's most recent, completed fiscal year. Any materially false statement in the application or update statement may, in the discretion of the awarding authority, result in termination of any contract awarded the applicant by the awarding authority, and shall constitute cause for debarring the applicant from future public work as provided in section 44C and shall subject the applicant to the punishments for perjury as set forth in section 1 of chapter 268. Applications and

evaluations shall not be public records as defined in section seven of chapter four and shall not be open to the public inspection.

(3) The division of capital asset management and maintenance shall evaluate every applicant on the basis of the application and on relevant past performance according to procedures and criteria which the commissioner shall prescribe by regulations or guidelines. Such criteria shall include the following:-- the record of the applicant's performance including, where available, written evaluations of the applicant's performance on public and private jobs over the past five years; the applicant's prior experience on projects of various size and type; the experience and qualifications of supervisory personnel; the maximum amount of work the applicant is capable of undertaking as demonstrated by the applicant's financial condition, bonding capacity, size of previous projects, and present and anticipated work commitments; and any other relevant criteria which the commissioner may prescribe. The regulations and guidelines shall provide that, to the extent possible, the criteria considered shall be assigned separate designated numerical values and weights, and the applicant shall be assigned an overall numerical rating on the basis of all criteria. The applicant shall indicate among categories established by the commissioner the classes of work and aggregate amount of work for which certification is sought. The division of capital asset management and maintenance shall issue a certificate as warranted by the evaluation which shall be effective for one year from the date issued, showing the classes of work and aggregate amount of work on which the applicant is eligible to bid. Said certificate shall include the number of prior construction projects evaluated by the division of capital asset management and maintenance, the contractor's average numerical value on those projects evaluated, and the number of projects given numerical values below a passing score, as defined by the division's regulations or guidelines, during each of the previous 5 years.

(4) The division of capital asset management and maintenance shall promptly notify an applicant of its preliminary determination regarding the conditions of the certification, or a denial of certification, or of decertification pursuant to this section, and the reasons therefor. An applicant aggrieved by the division's preliminary determination may, within five business days of receipt of notice, request copies of the information upon which the division relied in making its preliminary determination. Within ten business days of receipt of notice, the applicant may submit further information to the division with a request for reconsideration. The division shall issue a final determination regarding an application for certification within thirty business days from the date of its preliminary determination, unless the applicant and the division agree to extend the thirty day period.

Any applicant aggrieved by the final determination of the division may appeal in writing to the attorney general within five business days of receipt of final notice thereof. Within thirty calendar days of such appeal, the attorney general shall investigate the matter and issue a written decision. The attorney general may institute and prosecute proceedings in the superior court to enforce the provisions of this section on the same terms as set forth in section forty-four H. Following such decision by the attorney general, or failure to render a decision within the thirty-day period, either the division or the applicant may seek remedies at law.

(5) The commissioner may, upon receipt of additional information regarding a contractor's qualifications, decertify a contractor or reduce the classes of work and amount of work on which the contractor is eligible to bid during the period for which the contractor was prequalified. Upon such a decision, the commissioner shall follow the procedures established by this section.

(6) In determining who is the lowest responsible and eligible bidder as required in paragraph (2) of section forty-four A, the awarding authority shall consider the information submitted by the bidder in the update statement. If the awarding authority determines that the low bidder is not responsible and

eligible, the awarding authority shall reject the bidder and evaluate the next low bidder in accordance with this section; the awarding authority shall give notice of such action to the division of capital asset management and maintenance.

In determining which is the most advantageous offer, the awarding authority shall consider the information submitted by the offerors on the update statement.

(7) The division of capital asset management and maintenance shall develop a standard contractor evaluation form that shall be completed by every public agency as defined in section 44A, upon completion of a building project under its control, and submitted to the division for the contractor's qualification file. The official from the public agency, or the owner's representative, shall certify that the information contained on the contractor evaluation form represents, to the best of his knowledge, a true and accurate analysis of the contractor's performance record on that contract. The public agency shall mail a copy of the contractor evaluation form to the contractor and the contractor shall, within 30 days, submit a written response to the division disputing any information contained in the evaluation form and setting forth any additional information concerning the building project or the oversight of the contract by the public agency that may be relevant to the evaluation of the contractor's performance on the contract. The division shall attach any such response to the evaluation form for inclusion in the contractor's qualification file. No person shall be liable for any injury or loss to a contractor as a result of the completion of a contractor evaluation form as required by this section unless the individual completing the form has been found by a court of competent jurisdiction to have acted in a willful, wanton or reckless manner. If a suit is commenced by a contractor against a public employee, an owner's representative, an architect or an engineer who has completed a contractor evaluation form as required by this section seeking to recover damages resulting from injury caused by such evaluation, the public agency for whom such evaluation form was completed, or the commonwealth if such evaluation was completed for a state agency, shall provide for the legal representation of said employee, owner's representative, architect or engineer. Such public agency, or the commonwealth, shall also indemnify such person from all financial loss and expenses, including but not limited to legal fees and filing costs, in an amount not to exceed \$1,000,000. No such person shall be indemnified for losses other than legal fees and filing costs under this section if such person is found by a court or a jury to have acted in a willful, wanton or reckless manner.

At approximately the 50 per cent completion stage of a building project under its control, the awarding authority shall advise the contractor in writing of the awarding authority's preliminary evaluation of the contractor's performance on the project for informational purposes.

Any public agency that fails to complete and submit the contractor evaluation form, together with any written response by any contractor, to the division within 70 days of the completion of a project shall be ineligible for the receipt of any public funds disbursed by the commonwealth for the purposes of any public buildings or public works projects.

(8) The provisions of this section do not apply to sub-bidders.

(9) The commissioner may issue such rules, regulations, orders, guidelines and policies as deemed necessary or expedient to effectuate the purposes of this section.

(10) All applications submitted by contractors for certification in the category of asbestos removal shall contain evidence of a current license issued under section six B. Failure to furnish such evidence shall require the division of capital asset management and maintenance to find the applicant ineligible to bid. A general contractor who subcontracts the asbestos removal work must certify in writing to the

awarding authority that if awarded the contract, the general contractor will subcontract the work involving the removal, containment, or encapsulation of asbestos or material containing asbestos to a subcontractor who is licensed under said section six B.

In no event shall any public contract involving the removal, containment or encapsulation of asbestos or material containing asbestos be performed by anyone other than a general contractor or subcontractor licensed to perform such work.

1.5 APPLICATION FOR PAYMENT

A. General:

1. Each Application for Payment shall be consistent with previous Applications and payments as certified by Architect and paid for by Owner.
2. Initial Application for Payment, Application for Payment at Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times:

1. Date for each progress payment is 15th day of each month.
2. Period covered by each Application for Payment starts on day following end of preceding period and ends 15 days before date for each progress payment.

C. Payment Application Forms: Use AIA Document G702 and Continuation Sheets G703 as form for Application for Payment.

D. Application Preparation:

1. Complete every entry on form.
2. Include notarization and execution by person authorized to sign legal documents on behalf of Contractor.
3. Architect will return incomplete Applications without action.
4. Entries shall match data on Schedule of Values and Contractor's Construction Schedule; use updated Schedules if revisions were made.
5. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by Application.

E. Transmittal:

1. Submit 3 signed and notarized original copies of each Application for Payment to Architect by method ensuring receipt within 24 hours.
2. One copy shall be complete, including waivers of lien and similar attachments, when required.
3. Transmit each copy with transmittal form listing attachments and recording appropriate information related to application, in manner acceptable to Architect.

- F. Waivers of Mechanic Lien: With each Application for Payment, submit waivers of mechanics lien from every entity who is lawfully entitled to file mechanics lien arising out of Contract and related to work covered by payment.
- G. Waiver Delays:
1. Submit each application for payment with Contractor's waiver of mechanics lien for period of construction covered by Application.
 2. Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of work covered by Application who is lawfully entitled to lien.
- H. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal, include following:
1. List of subcontractors.
 2. List of principal suppliers and fabricators.
 3. Schedule of Values.
 4. Contractor Construction Schedule.
 5. Schedule of principal products.
 6. Submittal Schedule.
 7. List of Contractor's staff assignments.
 8. List of Contractor's principal consultants.
 9. Copies of building permits.
 10. Copies of authorizations and licenses from governing authorities for performance of work.
 11. Initial progress report.
 12. Report of preconstruction meeting.
 13. Certificates of insurance and insurance policies.
- I. Application of Payment at Substantial Completion:
1. Following issuance of Certificate of Substantial Completion, submit Application for Payment.
 2. Application shall reflect certificates of partial Substantial Completion issued previously for Owner occupancy of designated portions of work.
 3. Administrative actions and submittals shall precede or coincide with this Application and shall be as defined in Section 017700.
- J. Administrative Actions and Submittals that shall Proceed or Coincide with Application include:
1. Occupancy Permits and similar approvals.
 2. Warranties (Guarantees) and Maintenance Agreements.
 3. Test/adjust/balance records.
 4. Maintenance instructions.
 5. Meter readings.
 6. Start-up Performance Reports.
 7. Changeover information related to Owner's occupancy, use, operation, and maintenance.
 8. Final cleaning.
 9. Application for reduction of retainage, and consent of surety.

10. Advice on shifting insurance coverages.
 11. Final progress photographs.
 12. List of incomplete work, recognized as exceptions to Designer's Certificate of Substantial Completion.
- K. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal for final application for payment include following:
1. Completion of Project closeout requirements.
 2. Completion of items specified for completion after Substantial Completion.
 3. Ensure that unsettled claims will be settled.
 4. Ensure that incomplete work is not accepted and will be completed without undue delay.
 5. Transmittal of required Project construction record to Owner.
 6. Removal of temporary facilities and services.
 7. Removal of surplus materials, rubbish, and similar elements.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination drawings.
 - 2. Requests for Information (RFIs).
 - 3. Project meetings.
- B. Related Sections:
 - 1. Division 01 Section "Multiple Contract Summary" for a description of the division of work among separate contracts and responsibility for coordination activities not in this Section.
 - 2. Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.3 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information from each other during construction.

1.4 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
 9. Project closeout activities.

1.5 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
 1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
 1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire protection, fire alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid.
 2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings.
 3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire protection, fire alarm, and electrical equipment.
 4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.

5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are the Contractor's responsibility.

1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. RFI Forms: AIA Document G716, or Software-generated form with substantially the same content as indicated above, acceptable to Architect.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.

- c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or inaccurately prepared RFIs.
- 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
- 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
- F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log upon request. Include the following:
 - 1. Project name.
 - 2. Name and address of Contractor.
 - 3. Name and address of Architect.
 - 4. RFI number including RFIs that were dropped and not submitted.
 - 5. RFI description.
 - 6. Date the RFI was submitted.
 - 7. Date Architect's response was received.
 - 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 - 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.

1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Sustainable design requirements.
 - l. Preparation of record documents.
 - m. Use of the premises and existing building.
 - n. Work restrictions.
 - o. Working hours.
 - p. Owner's occupancy requirements.
 - q. Responsibility for temporary facilities and controls.
 - r. Procedures for moisture and mold control.
 - s. Procedures for disruptions and shutdowns.
 - t. Construction waste management and recycling.
 - u. Parking availability.
 - v. Office, work, and storage areas.
 - w. Equipment deliveries and priorities.
 - x. First aid.
 - y. Security.
 - z. Progress cleaning.
 3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.

- c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written recommendations.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings at weekly intervals.
- 1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

- 1) Review schedule for next period.
- b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of proposal requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 013100

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of work, including:
 - 1. Contractor's Construction Schedule.
 - 2. Shop drawings.
 - 3. Product data.
 - 4. Samples.
 - 5. Applications for Payment.

1.3 SUBMITTAL PROCEDURES

- A. Coordination:
 - 1. Coordinate preparation and processing of submittals with performance of construction activities.
 - 2. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - 3. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities requiring sequential activity.
 - 4. Coordinate transmittal of different types of submittals for related elements of work so processing will not be delayed by need to review submittals concurrently for coordination.
 - 5. Architect reserves right to withhold action on submittal requiring coordination with other submittals until related submittals are received.
- B. Processing:
 - 1. Allow sufficient review time so installation will not be delayed as result of time required to process submittals, including time for resubmittals.
 - 2. Allow 2 weeks for initial review.
 - 3. Allow additional time if processing must be delayed to permit coordination with subsequent submittals.
 - 4. Architect will promptly advise Contractor when submittal being processed must be delayed for coordination.
 - 5. If intermediate submittal is necessary, process same as initial submittal.
 - 6. Allow 2 weeks for reprocessing each submittal.
 - 7. No extension of Contract Time will be authorized because of failure to transmit submittals to Architect sufficiently in advance of work to permit processing.

C. Submittal Preparation:

1. Place permanent label or title block on each submittal for identification.
2. Indicate name of entity who prepared each submittal on label or title block.
3. Provide space approximately 4 in. x 5 in. on label or beside title block on shop drawings to record Contractor's review and approval markings and action taken.
4. Include following information on label for processing and recording action taken:
 - a. Project Name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name and address of Contractor.
 - e. Name and address of Subcontractor.
 - f. Name and address of Supplier.
 - g. Name of Manufacturer.
 - h. Number and Title of appropriate Specification Section, including paragraph number from PART 2 – PRODUCTS.
 - i. Submittal number or other unique identifier, including revision identifier as follows:
 - 1) Submittal number shall be the Specification Section number followed by a decimal point and then a sequential number, followed by a decimal point and the submission number (e.g. 042000.01.01). Resubmittal number shall coincide times submitted (e.g. 042000.01.02)
 - 2) Submittals shall not contain items for more than one Specification Section number.
 - j. Drawing Number and Detail References, as appropriate.

D. Submittal Transmittal:

1. Package each submittal appropriately for transmittal and handling.
2. Transmit each submittal from Contractor to Architect using transmittal form.
3. Submittals received from sources other than Contractor will be returned without action.
4. On transmittal record relevant information and requests for data.
5. On Form, or Separate Sheet, record deviations from Contract Document requirements, including minor variations and limitations.
6. Include Contractor's certification that information complies with Contract Document requirements.
7. Transmittal Form: AIA Document G810.

- E. Submit minimum 5 hard copies of each type of Submittal. Alternatively, submit 1 electronic copy of submittal.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule (for entire project and each individual station):

1. Prepare fully developed, horizontal bar-chart-type Contractor's Construction Schedule.
2. Submit within 30 days of date established for start of work.
3. Provide separate time bar for each significant construction activity.
4. Provide continuous vertical line to identify first working day of each week.

5. Within each time bar indicate estimated completion percentage in 10 percent increments.
6. As work progresses, place contrasting mark in each bar to indicate Actual Completion.
7. Prepare Schedule on sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for entire construction period.
8. Secure time commitments for performing critical elements of work from parties involved.
9. Coordinate each element on Schedule with other construction activities; include minor elements involved in sequence of work.
10. Show each activity in proper sequence.
11. Indicate graphically sequences necessary for completion of related portions of work.
12. Indicate completion in advance of date established for Substantial Completion.
13. Indicate Substantial Completion on Schedule to allow time for Architect's procedures necessary for certification of Substantial Completion.
14. Work Stages: Indicate important stages of construction for each major portion of work, including testing and installation.
15. Area Separations:
 - a. Provide separate time bar to identify each major construction area for each major portion of work.
 - b. Indicate where each element in area must be sequenced or integrated with other activities.
16. Cost Correlation:
 - a. At head of Schedule, provide two-item cost correlation line, indicating precalculated and actual costs.
 - b. On line shown dollar-volume of work performed as of dates used for preparation of payment requests.
17. Distribution:
 - a. Following response to initial submittal, print and distribute copies to Architect, Owner, subcontractors, and other parties required to comply with scheduled dates.
 - b. Post copies in Project Meeting Room and Temporary Field Office.
 - c. When revisions are made, distribute to same parties and post in same locations.
 - d. Delete parties from distribution when they have completed their assigned portion of work and are no longer involved in construction activities.
18. Schedule Updating:
 - a. Revise Schedule after each meeting or activity, where revisions have been recognized or made.
 - b. Issue updated Schedule concurrently with report of each meeting.

1.5 SHOP DRAWINGS

A. General:

1. Submit newly prepared information, drawn to accurate scale.
2. Highlight, encircle, or otherwise indicate deviations from Contract Documents.

3. Do not reproduce Contract Documents or copy standard information as basis of shop drawings.
4. Standard information prepared without specific reference to Project is not considered shop drawings.
5. Shop drawings include Fabrication and Installation Drawings, Setting Diagrams, Schedules, Patterns, Templates, and similar Drawings.
6. Include following information:
 - a. Dimensions.
 - b. Identification of products and materials included.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
7. Submittal:
 - a. Submit 5 prints.
 - b. 1 print will be retained; remainder returned.
 - c. Mark up and maintain one of returned prints as Record Document.
8. Do not use shop drawings without appropriate final stamp indicating action taken in connection with construction.

B. Coordination Drawings:

1. A special type of shop drawing showing relationship and integration of different construction elements requiring careful coordination during fabrication or installation to fit in space provided or function as intended.
2. Preparation of coordination drawings may include components previously shown in detail on shop drawings or product data.
3. Submit Coordination Drawings for integration of different construction elements.
4. Show sequences and relationships of separate components to avoid conflicts in use of space.

1.6 PRODUCT DATA

A. General:

1. Collect product data into single submittal for each element of construction or system.
2. Product data includes printed information such as Manufacturer's Installation Instructions, Catalog Cuts, Standard Color Charts, Roughing-In Diagrams and Templates, Standard Wiring Diagrams, and Performance Curves.
3. Where product data must be specially prepared because standard printed data is not suitable for use, submit as shop drawings.
4. Mark each copy to show applicable choices and options.
5. Where printed product data includes information on several products, some of which are not required, mark copies to indicate applicable information.
6. Include following information:
 - a. Manufacturer's printed recommendations.

- b. Compliance with recognized Trade Association standards.
 - c. Compliance with recognized Testing Agency standards.
 - d. Application of Testing Agency Labels and Seals.
 - e. Notation of dimensions verified by field measurements.
 - f. Notation of coordination requirements.
7. Do not submit product data until compliance with requirements of Contract Documents has been confirmed.
- B. Material Safety Data Sheets (MSDS):
 1. Submit three copies of MSDS for all products scheduled or planned for use on Project.
 2. Do not purchase any products until MSDS have been submitted to Architect and reviewed.
 3. Label MSDS with Project Manual Section Number.
- C. Preliminary Submittal: Submit preliminary single copy of product data where selection of options is required.
- D. Submittals:
 1. Submit 8 copies of each required submittal; submit 4 copies where required for Maintenance Manuals.
 2. Architect will retain one, and will return other marked with action taken and corrections or modifications required.
 3. Unless noncompliance with Contract Document provisions is observed, submittal may serve as final submittal.
- E. Distribution:
 1. Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities; show distribution on Transmittal Forms.
 2. Do not proceed with installation until applicable copy of product data applicable is in installer's possession.
 3. Do not permit use of unmarked copies of product data in connection with construction.

1.7 SAMPLES

- A. General:
 1. Submit full-size, fully fabricated samples cured and finished as specified and physically identical with material or product proposed.
 2. Samples include Partial Sections of Manufactured or Fabricated Components, Cuts or Containers of Materials, Color Range Sets, and Swatches showing color, texture, and pattern.
 3. Mount, display, or package samples in manner specified to facilitate review of qualities indicated.
 4. Prepare samples to match Architect's sample.
 5. Include following:

- a. Generic description of sample.
 - b. Sample source.
 - c. Product name or name of manufacturer.
 - d. Compliance with recognized Standards.
 - e. Availability and delivery time.
6. Submit samples for review of kind, color, pattern, and texture, for final check of these characteristics with other elements, and for comparison of these characteristics between final submittal and actual component as delivered and installed.
 7. Where variation in color, pattern, texture, or other characteristics are inherent in material or product represented, submit min. 3 multiple units showing approximate limits of variations.
 8. Refer to other Specification Sections for requirements for samples illustrating installation, fabrication techniques, details of assembly, connections, operations, and similar construction characteristics.
 9. Refer to other Sections for samples to be returned to Contractor for incorporation in work; such samples must be undamaged at time of use.
 10. On Transmittal, indicate special requests regarding disposition of sample submittals.
- B. Preliminary Submittals:
1. Where samples are for selection of color, pattern, texture, or similar characteristics from range of standard choices, submit full set of choices for material or product.
 2. Preliminary submittals will be reviewed and returned with Architect's mark indicating selection and other action.
- C. Submittals:
1. Except for samples illustrating assembly details, installation, fabrication techniques, connections, operation, and similar characteristics, submit 3 sets; one will be returned marked with action taken.
 2. Maintain sets of samples, as returned, at Project site, for quality comparisons throughout course of construction.
 3. Unless noncompliance with Contract Document provisions is observed, submittal may serve as final submittal.
 4. Sample sets may be used to obtain final Acceptance of construction associated with each set.
- D. Distribution of Samples:
1. Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of work.
 2. Show distribution on Transmittal Forms.
- E. Field Samples:
1. Specified in individual Sections are special types of samples.
 2. Field samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish standard by which work will be judged.
 3. Comply with submittal requirements to fullest extent possible.

4. Process Transmittal Forms to provide record of activity.

1.8 APPLICATIONS FOR PAYMENT

A. Schedule of Values:

1. Coordination: Coordinate preparation of Schedule of Values with preparation of Contractor's Construction Schedule.
2. Submit Schedule of Values to Architect at earliest possible date, min. 7 days before date scheduled for submittal of initial Applications for Payment.
3. Subschedules: Where work is separated into phases requiring separately phased payments, provide Subschedules showing values correlated with each phase of payment.
4. Margins of Cost:
 - a. Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment.
 - b. Each item in Schedule of Values and Applications for Payment shall be complete.
 - c. Include total cost and proportionate share of general overhead and profit margin for each item.
5. Temporary Facilities: Show temporary facilities and other major cost items that are not direct cost of actual work-in-place either as separate line items in schedule of values, or distributed as general overhead expense, at Contractor's option.
6. Schedule Updating: Update and resubmit Schedule of Values before next Application for Payment when Change Orders or Construction Change Directives result in change in Contract Sum.

B. Schedule of Values - Form and Content:

1. Use Project Manual Table of Contents as guide to establish format for Schedule of Values.
2. Provide min. 1 line item for each Specification Section.
3. Include following Project identification on Schedule of Values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
4. Arrange Schedule of Values in tabular form with separate columns to indicate following for each item listed.
 - a. Related Specification Section or Division.
 - b. Description of work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Order Numbers that affect value.
 - g. Dollar value; percentage of Contract Sum to nearest 1/100 percent, adjusted to total 100 percent.

5. Provide breakdown of Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and Progress Reports; coordinate with Project Manual Table of Contents.
6. Break principal subcontract amounts down into several line items.
7. Round amounts to nearest whole dollar; total shall equal Contract Sum.
8. Provide separate line item in Schedule of Values for each part of work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.
9. Differentiate between items stored onsite and items stored offsite; include requirements for insurance and bonded warehousing, if required.

C. Payment Application:

1. Each Application for Payment shall be consistent with previous Applications and payments as certified by Architect and paid for by Owner.
2. Initial Application for Payment, Application for Payment at Substantial Completion, and final Application for Payment involve additional requirements.
3. Payment Application Times:
 - a. Date for each progress payment is 15th day of each month.
 - b. Period covered by each Application for Payment starts on day following end of preceding period and ends 15 days before date for each progress payment.
4. Payment Application Forms: Use AIA Document G702 and Continuation Sheets G703 as form for Application for Payment.
5. Application Preparation:
 - a. Complete every entry on form.
 - b. Include notarization and execution by person authorized to sign legal documents on behalf of Contractor.
 - c. Architect will return incomplete Applications without action.
 - d. Entries shall match data on Schedule of Values and Contractor's Construction Schedule; use updated Schedules if revisions were made.
 - e. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by Application.
6. Transmittal:
 - a. Submit 3 signed and notarized original copies of each Application for Payment to Architect by method ensuring receipt within 24 hours.
 - b. One copy shall be complete, including waivers of lien and similar attachments, when required.
 - c. Transmit each copy with transmittal form listing attachments and recording appropriate information related to application, in manner acceptable to Architect.
7. Waivers of Mechanic Lien: With each Application for Payment, submit waivers of mechanics lien from every entity who is lawfully entitled to file mechanics lien arising out of Contract and related to work covered by payment.
8. Waiver Delays:

- a. Submit each application for payment with Contractor's waiver of mechanics lien for period of construction covered by Application.
 - b. Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of work covered by Application who is lawfully entitled to lien.
9. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal, include following:
 - a. List of subcontractors.
 - b. List of principal suppliers and fabricators.
 - c. Schedule of Values.
 - d. Contractor Construction Schedule.
 - e. Schedule of principal products.
 - f. Submittal Schedule.
 - g. List of Contractor's staff assignments.
 - h. List of Contractor's principal consultants.
 - i. Copies of building permits.
 - j. Copies of authorizations and licenses from governing authorities for performance of work.
 - k. Initial progress report.
 - l. Report of preconstruction meeting.
 - m. Certificates of insurance and insurance policies.
10. Application of Payment at Substantial Completion:
 - a. Following issuance of Certificate of Substantial Completion, submit Application for Payment.
 - b. Application shall reflect certificates of partial Substantial Completion issued previously for Owner occupancy of designated portions of work.
 - c. Administrative actions and submittals shall precede or coincide with this Application and shall be as defined in Section 017700.
11. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal for final application for payment include following:
 - a. Completion of Project closeout requirements.
 - b. Completion of items specified for completion after Substantial Completion.
 - c. Ensure that unsettled claims will be settled.
 - d. Ensure that incomplete work is not accepted and will be completed without undue delay.
 - e. Transmittal of required Project construction record to Owner.
 - f. Removal of temporary facilities and services.
 - g. Removal of surplus materials, rubbish, and similar elements.

1.9 ARCHITECT'S ACTION

A. General:

1. Except for submittals for record, information, or similar purposes, where action and return is required or requested, Architect will review each submittal, mark to indicated action taken, and promptly return.
2. Compliance with specified characteristics is Contractor's responsibility.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections:
 - 1. Division 1 for developing a schedule of required tests and inspections.
 - 2. Divisions 2 through 32 Sections for specific test and inspection requirements.
- D. Testing by Independent Agency Hired by Owner:
 - 1. Concrete slump and compression.
 - 2. Structural steel connections, welds.
 - 3. Soil testing and compaction.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.

- C. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- E. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.
- I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of three previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems.

1. Seismic-force resisting system, designated seismic system, or component listed in the designated seismic system quality assurance plan prepared by the Architect.
 2. Main wind-force resisting system or a wind-resisting component listed in the wind-force-resisting system quality assurance plan prepared by the Architect.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
1. Specification Section number and title.
 2. Entity responsible for performing tests and inspections.
 3. Description of test and inspection.
 4. Identification of applicable standards.
 5. Identification of test and inspection methods.
 6. Number of tests and inspections required.
 7. Time schedule or time span for tests and inspections.
 8. Requirements for obtaining samples.
 9. Unique characteristics of each quality-control service.

1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
1. Project quality-control manager may also serve as Project superintendent.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: Include in quality-control plan a comprehensive schedule of Work requiring testing or inspection, including the following:
1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
 2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
 3. Owner-performed tests and inspections indicated in the Contract Documents.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and

inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.

3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.8 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

F. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

G. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

H. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:

- a. Provide test specimens representative of proposed products and construction.
2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, through Construction Manager, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.9 QUALITY CONTROL

- A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- B. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section "Submittal Procedures."
- C. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.

3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- E. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 6. Security and protection for samples and for testing and inspecting equipment at Project site.
- F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- G. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents as a component of the Contractor's quality-control plan. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses. .
1. Distribution: Distribute schedule to Owner, Architect, Construction Manager, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.
- 1.10 SPECIAL TESTS AND INSPECTIONS
- A. Special Tests and Inspections: Engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 2. Notifying Architect, Construction Manager, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect, through Construction Manager, with copy to Contractor and to authorities having jurisdiction.

4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:
 1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to Architect.
 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's and Construction Manager's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 1 Section "Execution Requirements."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

AA	Aluminum Association, Inc. (The)
ABAA	Air Barrier Association of America
AF&PA	American Forest & Paper Association
AGC	Associated General Contractors of America (The)
AIA	American Institute of Architects (The)
ALSC	American Lumber Standard Committee, Incorporated
ANSI	American National Standards Institute
APA	APA - The Engineered Wood Association
ARMA	Asphalt Roofing Manufacturers Association
ASTM	ASTM International (American Society for Testing and Materials International)
AWI	Architectural Woodwork Institute
AWPA	American Wood Protection Association (Formerly: American Wood Preservers' Association)
CSI	Construction Specifications Institute (The)
FM Approvals	FM Approvals LLC

FM Global	FM Global (Formerly: FMG - FM Global)
FSC	Forest Stewardship Council
GA	Gypsum Association
HPVA	Hardwood Plywood & Veneer Association
ISO	International Organization for Standardization Available from ANSI
MHIA	Material Handling Industry of America
MPI	Master Painters Institute
NAAMM	National Association of Architectural Metal Manufacturers
NAIMA	North American Insulation Manufacturers Association
NeLMA	Northeastern Lumber Manufacturers' Association
NFPA	NFPA (National Fire Protection Association)
NLGA	National Lumber Grades Authority
NRCA	National Roofing Contractors Association
PDCA	Painting & Decorating Contractors of America
SPIB	Southern Pine Inspection Bureau
SSPC	SSPC: The Society for Protective Coatings
SWRI	Sealant, Waterproofing, & Restoration Institute
UL	Underwriters Laboratories Inc.
WCLIB	West Coast Lumber Inspection Bureau
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California)
WMMPA	Wood Moulding & Millwork Producers Association
WWPA	Western Wood Products Association

- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

ICC International Code Council

UBC Uniform Building Code
(See ICC)

- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CPSC Consumer Product Safety Commission

DOC Department of Commerce

DOE Department of Energy

EPA Environmental Protection Agency

NIST National Institute of Standards and Technology

OSHA Occupational Safety & Health Administration

PBS Public Buildings Service
(See GSA)

PHS Office of Public Health and Science

SD State Department

- E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CFR Code of Federal Regulations
Available from Government Printing Office

FED-STD Federal Standard
(See FS)

FS Federal Specification
Available from Department of Defense Single Stock Point

Available from Defense Standardization Program

Available from General Services Administration

Available from National Institute of Building Sciences

FTMS Federal Test Method Standard
(See FS)

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 014200

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing Contractor's selection of products for use in Project where named by specific manufacturer and/or product or described by physical properties without naming manufacturer and/or product.
- B. Related Sections:
 - 1. Division 1 for, Submittal Procedures; for Contractor's Construction Schedule and Schedule of Submittals.
 - 2. Division 1 for, Product Substitutions; for procedures related to substitution requests for specified products, materials, equipment, or construction methods.
- C. Definitions:
 - 1. General:
 - a. Definitions used in this Article are not intended to change meaning of other terms used in Contract Documents, such as, specialties, systems, structure, finishes, accessories, and similar terms.
 - b. Such terms are self-explanatory and have well-recognized meanings in construction industry.
 - 2. Products:
 - a. Items purchased for incorporation in work, whether purchased for Project or taken from previously purchased stock.
 - b. The term product includes terms material, equipment, system, and terms of similar intent.
 - c. Named Products: Items identified by manufacturer's product name, including make or model designation, indicated in manufacturer's published product literature, current as of date of Contract Documents.
 - 3. Materials: Products substantially shaped, cut, worked, mixed, finished, refined, or otherwise fabricated, processed, or installed to form part of work.
 - 4. Equipment: Product with operational parts, whether motorized or manually operated, requiring service connections such as wiring or piping.

D. Deviations from Plans and Specifications:

M.G.L. c.30, § 39I: Deviations from plans and specifications.

Every contractor having a contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public building or public works for the commonwealth, or of any political subdivision thereof, shall perform all the work required by such contract in conformity with the plans and specifications contained therein. No willful and substantial deviation from said plans and specifications shall be made unless authorized in writing by the awarding authority or by the engineer or architect in charge of the work who is duly authorized by the awarding authority 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 awarding authority or such engineer or architect so authorized to approve such deviation. Within thirty days thereafter, such written order shall be confirmed by a certificate of the awarding authority 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 contracting agency and the contractor and the amount in dollars of said adjustment; and

(4) that the deviation is in the best interest of the contracting authority.

Such certificate shall be signed under the penalties of perjury and shall be a permanent part of the file record of the work contracted for.

Whoever violates any provision of this section willfully and with intent to defraud shall be punished by a fine of not more than five thousand dollars or by imprisonment for not more than six months, or both.

1.3 SUBMITTALS

A. Product List Schedule:

1. Prepare Schedule showing products specified in tabular form acceptable to Architect.
2. Include generic names of products required.
3. Include manufacturer's name and proprietary product names for each item listed.
4. Coordinate Product List Schedule with Contractor's Construction Schedule and Schedule of Submittals.
5. Form: Prepare Product Listing Schedule with information on each item tabulated under following column headings.
 - a. Related Specification Section number.
 - b. Generic name as used in Contract Documents.
 - c. Proprietary name, model number, and similar designations.
 - d. Manufacturer's name and address.

- e. Supplier's name and address.
- f. Installer's name and address.
- g. Projected delivery date, or time span of delivery period.

B. Submittal:

- 1. Within 30 days after date of commencement of work, submit 3 copies of initial Product List Schedule.
- 2. Provide written explanation for omissions of data, and for known variations from Contract requirements.
- 3. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.

C. Completed Schedule:

- 1. Within 60 days after commencement of work, submit 3 copies of completed Product List Schedule.
- 2. Provide written explanation for omissions of data and for known variations from Contract requirements.

D. Architect's Action:

- 1. Architect will respond to Contractor in writing within 2 weeks of receipt of completed Product List Schedule.
- 2. No response within this time constitutes no objection to listed products or manufacturers, but does not constitute waiver of requirement that products comply with Contract Documents.
- 3. Architect's response will include following: List of unacceptable product selections, containing brief explanation of reasons for this action.

1.4 QUALITY ASSURANCE

A. Source Limitations:

- 1. To fullest extent possible, provide products of same kind, from single source.
- 2. When specified products are available only from sources that do not or cannot produce quantity adequate to complete Project requirements in timely manner, consult with Architect for determination of most important product qualities before proceeding.
- 3. Qualities may include attributes relating to visual appearance, strength, structural, durability, or compatibility.
- 4. When determination has been made, select products from sources that produce products possessing these qualities, to fullest extent possible.

B. Compatibility of Options:

- 1. When Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
- 2. Each prime Contractor is responsible for providing products and construction methods compatible with products and construction methods of other prime or separate

Contractors.

3. If dispute arises between prime Contractors over concurrently selectable, but incompatible products, Architect will determine which products shall be retained and which are incompatible and must be replaced.

C. Nameplates:

1. Except for required labels and operating data, do not attach or imprint manufacturers or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on exterior.
2. Labels: Locate required product labels and stamps on concealed surface or, where required for observation after installation, on accessible surface that is not conspicuous.
3. Equipment Nameplates:
 - a. Provide permanent nameplate on each item of service-connected or power-operated equipment.
 - b. Locate on easily accessible surface that is inconspicuous in occupied spaces.
 - c. Nameplate shall contain following information and other essential operating data: Name of Product or Manufacturer, Model and Serial Number, Capacity, Speed, Ratings.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products in accordance with manufacturer's recommendations, using means and methods to prevent damage, deterioration and loss, including theft.

B. Delivery:

1. Schedule delivery to minimize long-term storage at site and to prevent overcrowding of construction spaces.
2. Coordinate delivery and installation to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to site in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to ensure compliance with Contract Documents, and to ensure products are undamaged and properly protected.

C. Storage:

1. Store products at site to facilitate inspection and measurement of quantity or counting of units.
2. Store heavy materials away from Project structure in manner that will not endanger supporting construction.
3. Store products subject to damage by elements above ground, under cover in weathertight enclosure, with ventilation adequate to prevent condensation.
4. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION

A. General Product Requirements:

1. Provide undamaged products complying with Contract Documents and, unless otherwise indicated, unused at time of installation.
2. Provide products complete with all accessories, trim, finish, safety guards, and other devices and details needed for complete installation and for intended use and effect.
3. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.

B. Product Selection Procedures:

1. Product selection is governed by Contract Documents and governing regulations, not by previous Project experience.
2. Semi-Proprietary Specification Requirements:
 - a. Where three or more products or manufacturers are named, provide one of indicated products.
 - b. Where products or manufacturers are specified by name, it is inferred terms "or equal," or "or approved equal," are included in compliance with M.G.L. Chapter 30, ' 39M; comply with SECTION 016310 concerning "substitutions" for "or equal," or "or approved equal," to obtain approval for use of unnamed product; substitutions will be processed as Change Order Requests.
3. Performance Specification Requirements:
 - a. Where Specifications require compliance with performance requirements, provide products complying with these requirements, and are recommended by manufacturer for application indicated.
 - b. General overall performance of product is implied where product is specified for specific application.
 - c. Manufacturer's recommendations may be contained in published product literature, or by manufacturer's certification of performance.
4. Compliance with Standards, Codes and Regulations: Where Specifications only require compliance with imposed code, standard, or regulation, select product complying with standards, codes, or regulations specified.
5. Visual Matching:
 - a. Where Specifications require matching established sample, Architect's decision will be final on whether proposed product matches satisfactorily.
 - b. Where no product available within specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of Contract Documents concerning "substitutions" for selection of matching product in another product category, or for noncompliance with specified requirements.
6. Visual Selection:

- a. Where specified product requirements include phrase " . . . as selected from manufacturer's standard colors, patterns, textures . . . " or similar phrase, select product and manufacturer complying with other specified requirements.
- b. Architect will select color, pattern, and texture from product line selected.

PART 3 - EXECUTION

3.1 INSTALLATION OF PRODUCTS

- A. Comply with manufacturer's instructions and recommendations for installation of products in applications indicated.
- B. Anchor each product securely in space, accurately located, and aligned with other work.
- C. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Installation of the Work.
 - 3. Cutting and patching.
 - 4. Progress cleaning.
 - 5. Starting and adjusting.
 - 6. Protection of installed construction.
 - 7. Correction of the Work.
- B. Related Sections:
 - 1. Division 1 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from the Architect before proceeding. Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 - 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 - 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

1.4 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 4. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility lines, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of the Contractor, submit a request for information to Architect according to requirements in Division 01 Section "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings. If discrepancies are discovered, notify Architect promptly.

3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Temporary Support: Provide temporary support of work to be cut.
- C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- D. Adjacent Occupied Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- E. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

- H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.

- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Division 01 Section "Quality Requirements."

3.8 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.9 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for Project Closeout including, but not limited to:
 - 1. Inspection procedures.
 - 2. Project Record Document submittal.
 - 3. Operating and Maintenance Manual submittal.
 - 4. Submittal of Warranties.
 - 5. Final cleaning.
- B. Closeout requirements for specific construction activities are included in appropriate Sections in Divisions 2 through 16.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete following.
 - 1. List exceptions in request.
 - 2. In Application for Payment that coincides with, or first follows, date Substantial Completion is claimed, show 100 percent Completion for portion of work claimed as Substantially Complete.
 - 3. Include supporting documentation for Completion as indicated in these Contract Documents and statement showing accounting of changes to Contract Sum.
 - 4. If 100 percent Completion cannot be shown, include list of incomplete items, value of incomplete construction, and reasons work is not complete.
 - 5. Advise Owner of pending insurance change-over requirements.
 - 6. Submit specific warranties, workmanship bonds, release of liens from material suppliers or subcontractors as work progresses, maintenance agreements, final certifications, and similar documents.
 - 7. Obtain and submit releases enabling Owner unrestricted use of work and access to services and utilities; include occupancy permits, operating certificates, and similar releases.
 - 8. Submit Record Drawings, Maintenance Manuals, Damage or Settlement Survey, Property Survey, and similar final Record information.
 - 9. Deliver tools, spare parts, extra stock, and similar items.
 - 10. Make final change-over of permanent locks and transmit keys to Owner.
 - 11. Advise Owner's personnel of change-over in security provisions.
 - 12. Complete start-up testing of systems, and instruction of Owner's operating and maintenance personnel.

13. Discontinue or change-over and remove temporary facilities from site, along with construction tools, mockups, and similar elements.
14. Complete final clean up requirements, including touch-up painting.
15. Touch-up and otherwise repair and restore marred exposed finishes.

B. Inspection Procedures:

1. On receipt of request for inspection, Architect will either proceed with inspection or advise Contractor of unfulfilled requirements.
2. The Architect will prepare Certificate of Substantial Completion following inspection, or advise Contractor of construction that must be completed or corrected before Certificate will be issued.
3. The Architect will repeat inspection when requested and assured that work has been Substantially Completed.
4. Results of completed inspection will form basis of requirements for Final Acceptance.

1.4 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of Final Acceptance and Final Payment, complete following.

1. List exceptions in request.
2. Submit Final Payment Request with final releases, including all releases of liens from material suppliers and subcontractors for all placed work, and supporting documentation not previously submitted and accepted.
3. Include certificates of insurance for products and completed operations where required.
4. Submit updated final statement, accounting for final additional changes to Contract Sum.
5. Submit certified copy of Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for Acceptance and list has been endorsed and dated by Architect.
6. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of date of Substantial Completion, or when Owner took possession of and responsibility for corresponding elements of work.
7. Submit consent of surety to Final Payment.
8. Submit final Liquidated Damages Settlement Statement.
9. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Reinspection Procedure:

1. The Architect will reinspect work on receipt of notice that work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to Architect.
2. On completion of reinspection, Architect will prepare Certificate of Final Acceptance, or advise Contractor of work that is incomplete or of obligations that have not been fulfilled but are required for Final Acceptance.
3. If necessary, reinspection will be repeated.

1.5 RECORD DOCUMENT SUBMITTALS

A. General:

1. Do not use Record Documents for construction purposes; protect from deterioration and loss in secure, fire-resistive location.
2. Provide access to Record Documents for Architect's reference during normal working hours.

B. Record Drawings:

1. Maintain clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings.
2. Mark set to show actual installation where installation varies substantially from work as originally shown.
3. Mark whichever drawing is most capable of showing conditions fully and accurately.
4. Where shop drawings are used, record cross-reference at corresponding location on Contract Drawings.
5. Give particular attention to concealed elements that would be difficult to measure and record at later date.
6. Mark Record Sets with red erasable pencil; use other colors to distinguish between variations in separate categories of work.
7. Mark new information that is important to Owner, but was not shown on Contract Drawings or Shop Drawings.
8. Note related Change Order numbers where applicable.
9. Organize Record Drawing Sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates, and other identification on cover of each set.

C. Record Specifications:

1. Maintain one complete copy of Project Manual, including addenda, and one copy of other written Construction Documents such as Change Orders and modifications issued in printed form during construction.
2. Mark these documents to show substantial variations in actual work performed in comparison with text of Specifications and modifications.
3. Give particular attention to substitutions, selection of options, and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation.
4. Note related Record Drawing information and Product Data.
5. On completion of work, submit Record Specifications to Architect for Owner's records.

D. Record Product Data:

1. Maintain one copy of each product data submittal.
2. Mark these documents to show significant variations in actual work performed in comparison with information submitted.
3. Include variations in products delivered to site and from manufacturer's installation instructions and recommendations.
4. Give particular attention to concealed products and portions of work that cannot otherwise be readily discerned later by direct observation.

5. Note related Change Orders and mark-up of Record Drawings and Specifications.
6. On completion of mark-up, submit complete set of Record Product Data to Architect for Owner's records.

E. Record Sample Submittal:

1. Immediately before date or dates of Substantial Completion, Contractor will meet at site with Architect and Owner's personnel to determine which of submitted Samples that have been maintained during progress of work, are to be transmitted to Owner for record purposes.
2. Comply with delivery to Owner's sample storage area.

F. Miscellaneous Record Submittals:

1. Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of work.
2. Immediately before date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference.
3. Submit to Architect for Owner's records.

G. Maintenance Manuals:

1. Organize operating and maintenance data into suitable sets of manageable size.
2. Bind properly indexed data in individual heavy-duty 2 in., 3-ring vinyl-covered binders, with pocket folders for folded sheet information.
3. Mark appropriate identification on front and spine of each binder.
4. Include following type of information:
 - a. Emergency instructions.
 - b. Spare parts list.
 - c. Copies of warranties.
 - d. Recommended turn-around cycles.
 - e. Inspection procedures.
 - f. Shop drawings and product data.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: General Cleaning during construction is required by General Conditions and is included in Section 015000.

B. Cleaning:

1. Clean each surface or unit to condition expected in normal, commercial building cleaning and maintenance program.
2. Comply with manufacturer's instructions.
3. Complete following cleaning operations before requesting inspection for Certificate of Substantial Completion.
 - a. Remove labels that are not permanent labels.
 - b. Clean exposed exterior hard-surfaced finishes to dust-free condition, free of stains, films, and similar foreign substances.
 - c. Wipe surfaces of mechanical and electrical equipment.
 - d. Clean site, including landscape development areas, of rubbish, litter, and other foreign substances.
 - e. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits.
 - f. Rake grounds that are neither paved nor planted, to smooth even-textured surface.

C. Removal of Protection: Remove temporary protection and facilities installed for protection of work during construction.

D. Compliance:

1. Comply with regulations of authorities having jurisdiction and safety standards for cleaning.
2. Do not burn waste materials.
3. Do not bury debris or excess materials on Owner's property.
4. Do not discharge volatile, harmful, or dangerous materials into drainage systems.
5. Remove waste materials from site and dispose of in lawful manner.
6. Where extra materials of value remaining after completion of associated work have become Owner's property, arrange for disposition of these materials as directed.

END OF SECTION 017700

SECTION 017820 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing maintenance manuals, including the following:
 - 1. Maintenance documentation directory.
 - 2. Emergency manuals.
 - 3. Product maintenance manuals.
 - 4. Systems and equipment maintenance manuals.
- B. Related Sections:
 - 1. Divisions 2 through 32 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 CLOSEOUT SUBMITTALS

- A. Format: Submit operations and maintenance manuals in the following format:
 - 1. PDF electronic file. Assemble each manual into a composite electronically-indexed file. Submit on digital media acceptable to Architect.
 - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically-linked operation and maintenance directory.
 - b. Enable inserted reviewer comments on draft submittals.
 - 2. Three paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect, through Construction Manager, will return two copies.
- B. Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
 - 1. Correct or modify each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 REQUIREMENTS FOR EMERGENCY MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name and contact information for Contractor.
 - 6. Name and contact information for Architect.
 - 7. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 - 8. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Enable bookmarking of individual documents based upon file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel upon opening file.
- F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
 - 1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear

plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

- a. Identify each binder on front and spine, with printed title "MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.2 PRODUCT MAINTENANCE MANUALS

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
 1. Product name and model number.
 2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.
 3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.
 5. Repair instructions.

- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

2.3 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - 5. Aligning, adjusting, and checking instructions.
 - 6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
- C. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original project record documents as part of operation and maintenance manuals.
- D. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017820

SECTION 017830 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Sections:
 - 1. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 2. Divisions 2 through 32 Sections for specific requirements for project record documents of the Work in those Sections.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of record Drawings as follows:
 - a. Initial Submittal: Submit one paper copy set of marked-up record prints and one set(s) of plots from corrected record digital data files. Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal: Submit one paper copy set of marked-up record prints, one set(s) of record digital data files, and three set(s) of record digital data file plots. Plot each drawing file, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit one paper copy of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one paper copy of each submittal.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Record data as soon as possible after obtaining it.
 - c. Record and check the markup before enclosing concealed installations.
 - 2. Mark the Contract Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in production of marked-up record prints.
 - 3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - 1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 - 2. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.
- C. Record CAD Drawings: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Engineer. When authorized, prepare a full set of corrected CAD Drawings of the Contract Drawings, as follows:
 - 1. Format: Same CAD program, version, and operating system as the original Contract Drawings.
 - 2. Incorporate changes and additional information previously marked on Record Prints. Delete, redraw, and add details and notations where applicable.
 - 3. Refer instances of uncertainty to Engineer for resolution.
 - 4. Engineer will furnish Contractor one set of CAD Drawings of the Contract Drawings for use in recording information.

- a. Architect makes no representations as to the accuracy or completeness of CAD Drawings as they relate to the Contract Drawings.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - 4. Note related Change Orders, record Product Data, and record Drawings where applicable.
- B. Format: Submit record Specifications as paper copy.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, record Specifications, and record Drawings where applicable.
- B. Format: Submit record Product Data as paper copy.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as paper copy.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and modifications to project record documents as they occur; do not wait until the end of Project.

- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 017830

SECTION 020800

ASBESTOS ROOFING REMOVAL

PART 1-GENERAL

1.1 RELATED DOCUMENTS

- A. General Conditions and contractual requirements of the Project Manual apply to this section.

1.2 SUMMARY

- A. This Section specifies the requirements for the removal of asbestos-containing roofing materials (ACM) at Somerville Fire Station #7 located at 265 Highland Ave in Somerville, Massachusetts. The work includes the removal of asbestos-containing roof flashing materials, asbestos-containing caulking materials and asbestos-contaminated materials.
- B. The Work includes the removal of all ACMs indicated below and any materials which become contaminated with asbestos during the project. Special considerations are included in Article 1.9 relating to abatement of certain ACM types and locations, as well as other conditions that require special attention.
- C. The intent of the Work is to completely remove all ACM roofing materials from the buildings. It is the Contractor's responsibility to determine the most efficient method to legally perform this work. This specification does not dictate specific methods to be implemented in the performance of the work. The entire application of ACM shall be removed inclusive of any substrate contamination, whether present on the substrate surface or embedded in the matrix of the substrate component. After abatement is complete the building or equipment component must be rendered completely free of asbestos and disposed of in accordance with all applicable regulations.
- D. All asbestos removal work is to be performed in accordance with these Specifications, Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Department of Transportation (DOT), National Institute of Occupational Safety and Health (NIOSH), Massachusetts Department of Environmental Protection (MADEP), Massachusetts Department of Labor and Workforce Development (MADLWD), City of Somerville and other state and local regulations. Wherever there is a conflict or overlap of the above references, the most stringent provisions apply.
- E. The quantities listed herein represent estimates only and are not guaranteed. The Contractor shall not use quantities listed herein as the sole basis for preparing bids. Materials identified herein as ACM shall be reviewed completely and thoroughly by bidders during the pre-bid site visit and other viewing times made available by the Owner. It is the responsibility of the bidders to review and confirm all quantities and field conditions, including: locations, surface area, thickness, cross-sectional area, component layers, or substrate conditions
- F. The use of a licensed asbestos abatement contractor for removal of non-friable roofing materials is not a requirement of this specification. The general contractor shall determine the appropriate contractor (asbestos abatement sub-contractor or self perform) that can legally perform removal

of the identified roofing materials in accordance with current MADEP regulations and this specification

- G. Removal of asbestos-containing roofing and caulking materials shall be performed by a qualified and licensed asbestos abatement sub-contractor.
- H. The Asbestos Abatement Sub-Contractor (Sub-Contractor) must have a current MADLWD Asbestos Removal Contractor's License, and meet other qualification requirements specified herein and in the regulations.
- I. The Contractor shall employ all required fall prevention and life safety system to allow for work on the roof of the affected buildings. Fall protection and life safety systems shall comply with applicable OSHA and Commonwealth of Massachusetts regulations.
- J. The following ACMs that have been identified at the Site are included in the scope of work:

Material/Location	Approximate Location	Estimated Quantity
Roof Edge Flashing	Edges of Main Upper Roof Field, Lower roof Fields, Edges Around Parapet Walls, Stair Towers, Vents, Pipes, Skylight, and all other Roof Structures	800 Linear Feet
Miscellaneous Grey Sealant on Copper Flashing	Upper and Lower Roofs Throughout	600 Linear Feet
Misc. Black Sealant	On Chimney, Skylight, Vents, Pipes and Other Roof Structures	120 Square Feet

1.3 SUBMITTALS

- A. The Contractor shall prepare and submit a work plan for the asbestos abatement work to be approved by the Client and Engineer. No asbestos removal work activities shall commence until these items are reviewed and approved. Submittal data shall be in sufficient detail to enable the Engineer to identify the particular product or equipment, and to form an opinion as to its conformity to the specifications, governing regulations. Each submittal item shall be identified with a cover page or transmittal sheet containing the listed submittal number presented in the same numerical order as outlined below.
 - 1. Name and experience of proposed Supervisors and Foremen (Submittal #1).
 - 2. Summary of workforce by disciplines, and a notarized statement documenting that all proposed workers have received all required medicals and have been properly trained in asbestos removal work, respirator use, and appropriate Commonwealth of Massachusetts, EPA & OSHA standards. (Submittal #2).
 - 3. Notarized Certification: Submit a notarized certification signed by an officer of the asbestos abatement contracting firm or roofing company that exposure measurements, medical surveillance (if required), and worker training records are being kept in conformance with 29 CFR 1926 (Submittal #3).
 - 4. Plan of Action/Work Plan: Submit a Plan describing the procedures and engineering controls proposed for use in complying with the requirements of this project. All work meth-

ods employed to execute the Work must be described in sufficient detail the Engineer to form an opinion whether work methods comply with applicable regulations. (Submittal #4).

5. Contingency Plan: Submit a contingency plan for emergencies including fire, falls and other work site accidents. (Submittal #5).
 6. Completed copies of all applicable notifications, permits, and licenses, including Asbestos Abatement Contractor license for Contractor performing removal of asbestos-containing caulking. (Submittal #6).
 7. Name, location, and applicable licenses for primary and secondary landfill for disposal of asbestos-containing or asbestos-contaminated waste. Name and applicable federal and state permits for transporter of asbestos waste materials. (Submittal #7).
 8. Training and Medical Surveillance Records: The Contractor shall submit the following items prior to starting any asbestos abatement work at the site (Submittal #8):
 - a. Submit a copy of the training certificate and for asbestos-containing removal work, a MADLWD Certification for each worker.
 - b. Report from Medical Examination: Submit a copy of Physician's Written Opinion as defined by 29 CFR 1926.1101(m)(4) for medical examination conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area.
- B. Submit the following items to the Engineer for approval during the course of work under this Contract. These items shall be submitted without delay:
1. Daily logs of workers who enter removal work areas - Submit Weekly.
 2. Results of personal exposure air monitoring samples - Submit Weekly.
 3. Approved Asbestos Waste Shipment Records. Completed Asbestos Waste Shipment Records must be submitted within 30 calendar days of waste shipment from work site.

1.4 APPLICABLE STANDARDS

- A. Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable codes, regulations, and standards have full force and effect. All work shall conform to the standards set by applicable federal, state, and local laws, regulations and ordinances in such form in which they exist at the time of the work under the Contract.
- B. Federal Requirements which govern asbestos abatement work or transportation and disposal of asbestos waste materials include the following:
 1. U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA) including Title 29, Parts 1910 and 1926, as applicable.

2. U.S. Environmental Protection Agency (EPA) including but not limited to Title 40, Part 61 (National Emission Standards for Hazardous Air Pollutants), as applicable.
 3. U.S. Department of Transportation, Title 49, Parts 172 and 173:
- C. State Requirements: Which govern asbestos abatement work or hauling and disposal of asbestos waste materials include the following:
1. 453 CMR 6.00 of the Code of Massachusetts Regulations
Massachusetts Department of Labor and Workforce Development Regulations for The Removal, Containment and Encapsulation of Asbestos
 2. Massachusetts Department of Environmental Protection:
 - a. Air Pollution Control Regulations
Title 310, Chapter 7, Section 7.15 of The Code of Massachusetts Regulations
 - b. Solid Waste Regulations
Title 310, Chapter 19 of The Code of Massachusetts Regulations
 - c. BWP-96-012, Bureau of Waste Prevention
Policy Concerning Non-Friable Asbestos-Containing Materials
- D. Local Requirements: Abide by all local requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials.
1. City of Somerville Department of Health
 2. City of Somerville Fire Department

1.5 NOTIFICATIONS, PERMITS, AND LICENSES

- A. Provide written notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR 61, Subpart M) has been sent to and received by the regional Asbestos NESHAPS Contact (MADEP) at least 10 Days prior to beginning any work on asbestos-containing materials.
- B. State and Local Agencies: Send written notification as required by state and local regulations prior to beginning any work on asbestos-containing materials.
1. Commonwealth of Massachusetts - Department of Environmental Protection and Department of Labor and Workforce Development. Written notification sent and received 10 working days prior to beginning any work on asbestos-containing materials. Forward a copy of the completed notification form to the Designer at the time of submission to the Commonwealth via facsimile for project planning purposes.
 2. City of Somerville - Department of Health. Send courtesy Asbestos Abatement Work Notification prior to the start of work.

3. City of Somerville Fire Department. Send courtesy written notification prior to the start of work.
- D. Licenses: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this Contract.

1.6 AVAILABILITY OF TRAINED PERSONNEL

- A. The Contractor shall ensure that there is a sufficient number of trained and qualified workers, foremen and superintendents to accomplish the work within the required schedule. Since asbestos abatement is integral with the general construction work activities, it is imperative that a sufficient number of trained personnel be engaged throughout the abatement process. No untrained, unlicensed, or unqualified person shall be employed to speed up completion of the abatement work.

1.7 RESPIRATORY PROTECTION

- A. The Contractor shall provide all workers, foremen, superintendents, authorized visitors, and inspectors personally-issued and marked respiratory protective equipment approved by NIOSH and OSHA. When respirators with disposable filters are employed, the Contractor shall provide sufficient filters (P100) for replacement as necessary by the worker or authorized visitor. Filters shall be disposed of as contaminated waste.
- B. The Contractor shall ensure that respiratory protection is provided to workers in accordance with applicable regulations.
- C. Initial Exposure Assessment
 1. The Contractor shall ensure that a "competent person" conduct an exposure assessment immediately before, or at the initiation of work to determine expected exposures during the work in accordance with 29 CFR 1926.1101. For Class I and Class II asbestos work, until the Contractor shall conduct exposure monitoring and document that workers on the job will not be exposed in excess of the Permissible Exposure Limit (PEL), or otherwise makes a negative exposure assessment, the Contractor shall assume that workers are exposed in excess of the PEL or excursion limit.
 2. The Contractor may demonstrate that worker exposures will be below the PEL (Negative Exposure Assessment) by data which conforms to the requirements of 29 CFR 1926.1101:
- D. Respiratory protection shall be worn at all times, including preparation of the Work Area, loading and unloading of waste containers in the Work Area or at the transport truck, cleaning of Work Area, and performance of glove bag removal work.

1.8 TEMPORARY FACILITIES

- A. The Contractor shall provide temporary utilities and provide temporary facilities as required herein or as necessary to carry out the work. All costs associated with established temporary utilities and facilities shall be the responsibility of the Contractor and shall be included within this bid. Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum in-

interference with the performance of the work. Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project.

1.9 SPECIAL CONSIDERATIONS

- A. Demolition of roofing/roofing insulation and other building materials to properly access and remove ACM is part of the work of this Section, to the extent the work is excluded from the General Contractor's scope of work or in locations where identified and unidentified ACM are present.
- B. Materials to be removed including roof felts, flashing, caulking and/or sealants under metal flashing, old flashing membranes, tar under the existing flashing, etc.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. The Contractor shall deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer, and details for proper storage and usage.
- B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the Work Area in a manner which shall not interfere with building operations.
- C. Unloading and temporary storage sites, and transfer routes, must be reviewed in advance by the Designer.
- D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material which becomes contaminated with asbestos-containing material shall be packaged and legally disposed of in an approved, secure landfill.
- E. All materials, tools, and equipment must comply, at a minimum, with this Specification, and relevant federal, state, and local codes.
 - 1. Negative Air Machines/HEPA Exhaust Units: All HEPA units that will be discharged to the interior of any building area MUST be individually tested on-site and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 um dioctylphthalate (DOP) particles. Testing shall be in accordance with Military Standard Number 282 and Army Instructions Manual 136-300-175A. Each filter shall bear a UL586 label to indicate ability to perform under specified conditions.
 - 2. Vacuum Cleaning Equipment: Shall be industrial type designed for such use, equipped with High Efficiency Particulate Air (HEPA) filters. The equipment shall not be used to remove water and shall be properly operated at all times. Each vacuum cleaner shall be emptied and thoroughly cleaned inside the work area at the conclusion of the cleaning stage of the project.

PART 3 – EXECUTION

3.1 ELECTRICAL ISOLATION

- A. The electrical isolation work includes the installation of power with ground fault protection circuitry in accordance with applicable codes.
- B. All Contractor costs associated with the isolation of electrical systems and installations of temporary power must be included in his prices.

3.2 WORK AREA ISOLATION AND DECONTAMINATION FACILITIES

B. Decontamination Facilities

- 1. For Class II asbestos work operations where exposures exceed the PEL, or where there is no negative exposure assessment produced before the project, the Contractor shall provide the following:
 - a. A wash station area adjacent to the regulated area for the decontamination of workers and their equipment which is contaminated with asbestos which shall consist of an area covered by an impermeable drop cloth on the floor or horizontal working surface.
- 2. Access Restrictions: The Contractor shall restrict access to each Work Area to persons who have previously been identified to the Engineer; or persons who have legal jurisdiction over the work. The Contractor's Supervisor shall at all times monitor the work area and prevent unauthorized people from entering, and to maintain a written log of all people entering the Work Area.

3.3 APPROVAL OF WORK AREA PREPARATION

After each asbestos removal work area has been prepared as specified above, the Contractor shall conduct an inspection to conform that the work area meets the requirements of the regulations and these specifications. No removal, demolition, or other disturbance of asbestos-containing materials, dust, or debris shall occur until the Contractor has inspected the site preparation work.

3.4 REMOVAL AND DISPOSAL OF ASBESTOS ROOFING MATERIAL

- A. The Contractor shall review and comply with the Massachusetts Department of Environmental Protection (MADEP) regulations concerning asbestos-containing roofing materials prior to the start of demolition and the Interpretive Rule for Roof Removal Operations in accordance with EPA NESHAPS.
- B. The Contractor shall submit roof removal plans as part of the Plan of Action & Standard Operating Procedures. Deviations from the approved plan are prohibited unless the submittals are resubmitted and accepted.
- C. Removal of roofing material shall be performed in accordance with 29 CFR 1926.1101(g)(8)(ii).
- D. The Contractor will proceed with the removal of asbestos-containing roofing materials in a manner that will minimize overall destruction of the roofing components and ensure no visible emission of asbestos or other dusts into the air. Roofing materials cannot be drilled, sawed, or

mechanically abraded in any fashion, except that HEPA equipped mechanical roof cutters operated by MADLWD licensed personnel. Should the Contractor remove any non-friable asbestos containing materials in a manner that transforms the material into a friable condition, the Contractor shall be responsible for handling and disposing of this material as friable asbestos-containing waste.

- F. Once removed from the substrate materials, roofing will be immediately prepared for transportation to a landfill acceptable to the Owner.
- G. Handling of Removed Roofing: The Contractor shall provide workers who, at a minimum are trained in compliance with 453 CMR 6.03(4) and 6.10(h) for Asbestos Workers for any work involving manual handling of roofing material. Removed roofing material will be handled in accordance with the following guidelines:
 - 1. Removed roofing material will be maintained in a wet condition during all handling procedures.
 - 2. Large components of roofing material will be placed into approved poly-lined dumpsters or transport vehicles immediately upon removal from the building. Roofing shall be lowered to the dumpsters via crane or mechanical lifts.
 - 3. All roofing debris and dust will be immediately placed into 6-mil polyethylene bags labeled for asbestos waste materials. These bags will be placed into a second, clean 6-mil polyethylene asbestos waste bag, sealed, and disposed of as asbestos waste pursuant to Article 3.6, Asbestos Waste Disposal Procedures.
- H. Transportation and disposal of roofing materials will be in accordance with Article 3.6, Asbestos Waste Disposal Procedures, and 310 CMR 19.00 with the following provisions:
 - 1. The Contractor will provide dedicated waste dumpsters of the following types:
 - a. Fully enclosed units for all roofing material that is bagged or wrapped and labeled as asbestos waste.
 - b. Fully enclosed or covered open-top units for large, unwrapped sections of roofing material.
 - 2. All roofing material that is bagged or wrapped and labeled as asbestos waste will be disposed of at a landfill approved for disposal of friable asbestos waste. Large, unwrapped sections of roofing material may be transported to an approved landfill that accepts non-friable asbestos-containing materials.

3.5 REMOVAL AND DISPOSAL OF ASBESTOS CAULKING MATERIAL

- A. Removal of non-friable caulking material shall be performed in accordance with federal and state regulations using wet methods.
- B. The Contractor will proceed with the removal of asbestos-containing caulking materials in a manner that will minimize overall destruction of the material and ensures no visible emission of asbestos or other dusts into the air. Damage to substrate surfaces shall be minimized.

- C. Once removed from the substrate materials, caulking materials will be immediately packaged and prepared for transportation to a landfill acceptable to the Owner.
- D. All caulking debris will be immediately placed into 6-mil polyethylene bags labeled for asbestos waste materials. These bags will be placed into a second, clean 6-mil polyethylene asbestos waste bag, sealed, and disposed of as asbestos waste per Section 3.6.

3.6 ASBESTOS WASTE DISPOSAL PROCEDURES

- A. The Contractor shall package, label, and remove all asbestos waste from the Work Area as specified in this section. Packaging shall be accomplished in a manner that minimizes waste volume, but insures waste containers shall not tear or break. Transportation and disposal of the containerized waste at a landfill previously accepted by the Engineer shall be the responsibility of the Contractor.
- B. Waste Removal Scheduling: All waste containers generated during bulk asbestos removal operations shall be decontaminated and removed from the work area before final cleanup is started and isolation barriers are taken down. The Contractor must pre-schedule and obtain the approval of the Engineer for all time periods he desires to remove waste bags from the work area and site. The Engineer must observe removal of all waste containers to verify their condition and estimated volume of waste material. The Contractor shall complete an asbestos waste shipment record (WSR) including description and quantity of all ACM for each load of waste as required by NESHAPS.
- C. Waste Transportation and Disposal Regulations: It is the responsibility of the Contractor to determine and insure that Contractor is complying with: 1) the current waste handling regulations applicable to each work site; and 2) the current regulations for transporting and disposing waste at each ultimate disposal landfill. The Contractor must comply fully with these regulations; and with all U.S. Department of Transportation, state, local, and EPA requirements. Where required, the Contractor's waste hauler and disposal subcontractor shall maintain a valid hazardous waste transporter's permit and identification number; and obtain, complete, and fully comply with any other local waste manifesting requirements.

3.7 AIR MONITORING

- A. At the discretion of the Owner, air monitoring may be conducted by the Engineer to verify that the building beyond the work area and the outside environment remain uncontaminated.
- B. The Contractor shall perform worker exposure monitoring in accordance with OSHA requirements for asbestos exposure and provide the sample data to the Engineer with 48 hours of sample collection.

3.8 FINAL INSPECTION AND WORK AREA CLEARANCE

- A. Upon completion of removal work the Contractor shall conduct a final inspection for any visible debris in the workplace.
- B. Following a successful final visual inspection the Contractor shall carefully remove any remaining waste generated during the work. Remaining equipment and tools belonging to the Con-

tractor shall be promptly removed from the work area to allow for roof installation work by others.

- C. Responsibility for Damages: Any damage to building finishes, roof structural components, walls or any other items or fixtures that has been the result of actions by the Contractor's personnel shall be repaired to their original condition by the Contractor without any additional cost to the Owner.

* END OF SECTION *

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. The Work of this Section shall be hereby made part of the Filed Sub-Bid Section 070001 – Roofing.

1.2 SUMMARY

- A. Section Includes:
 - 1. Wood rough framing
 - 2. Wood blocking, cants, and nailers.

1.3 DEFINITIONS

- A. Exposed Framing: Framing not concealed by other construction.
- B. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- C. Timber: Lumber of 5 inches nominal or greater in least dimension.
- D. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. NeLMA: Northeastern Lumber Manufacturers' Association.
 - 2. NLGA: National Lumber Grades Authority.
 - 3. RIS: Redwood Inspection Service.
 - 4. SPIB: The Southern Pine Inspection Bureau.
 - 5. WCLIB: West Coast Lumber Inspection Bureau.
 - 6. WWPA: Western Wood Products Association.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.

3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
5. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

B. Fastener Patterns: Full-size templates for fasteners in exposed framing.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
1. Wood-preservative-treated wood.
 2. Power-driven fasteners.
 3. Expansion anchors.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Certified Wood: Materials shall be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship." for the following:
1. Dimension lumber framing.
 2. Timber.
 3. Miscellaneous lumber.
- B. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency

certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 3. Provide dressed lumber, S4S, unless otherwise indicated.
- C. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal thickness or less, 19 percent for more than 2-inch nominal thickness unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWP A U1; Use Category UC3b for exterior construction not in contact with the ground.
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
 2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.
- D. Application: Treat all rough carpentry unless otherwise indicated and the following:
1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
1. Blocking.
 2. Nailers.
 3. Rooftop equipment bases and support curbs.
 4. Cants.
- B. For items of dimension lumber size, provide Construction or No. 2 Standard, grade lumber and any of the following species:
1. Hem-fir (north); NLGA.

2. Mixed southern pine; SPIB.
3. Spruce-pine-fir; NLGA.
4. Hem-fir; WCLIB or WWPA.
5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
6. Western woods; WCLIB or WWPA.
7. Northern species; NLGA.
8. Eastern softwoods; NeLMA.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Lag Bolts: ASME B18.2.1.
- F. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

2.5 MISCELLANEOUS MATERIALS

- A. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chlorpyrifos as its active ingredient.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- C. Comply with AWWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

1. Use inorganic boron for items that are continuously protected from liquid water.
 2. Use copper naphthenate for items not continuously protected from liquid water.
- D. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
1. NES NER-272 for power-driven fasteners.
 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 3. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
- E. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD GROUND, BLOCKING, AND NAILER INSTALLATION

- A. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

END OF SECTION 061000

SECTION 064013 - EXTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Exterior standing and running trim.
 - 2. Exterior ornamental work.

1.2 ACTION SUBMITTALS

- A. Product Data: For wood-preservative-treated materials indicated.
- B. Compliance Certificates: For lumber that is not marked with grade stamp.

1.3 INFORMATIONAL SUBMITTALS

- A. Woodwork Quality Standard Compliance Certificates: **AWI Quality Certification Program certificates.**

1.4 QUALITY ASSURANCE

- A. Quality Standard: Unless otherwise indicated, comply with **AWI's "Architectural Woodwork Quality Standards."**
 - 1. Provide AWI Quality Certification Program for woodwork.

PART 2 - PRODUCTS

2.1 WOODWORK FABRICATORS

- A. Fabricators: Subject to compliance with requirements, provide exterior architectural woodwork by one of the following:

2.2 MATERIALS

- A. Certified Wood: Wood products shall be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

- B. Preservative Treatment by Nonpressure Process: Comply with AWP A N1 using the following preservative for woodwork items indicated to receive water-repellent preservative treatment:
 - 1. Water-Repellent Preservative: Formulation containing 3-iodo-2-propynyl butyl carbamate (IPBC) complying with AWP A P8 as its active ingredient.
 - 2. Water-Repellent Preservative/Insecticide: Formulation containing 3-iodo-2-propynyl butyl carbamate (IPBC) as its active ingredient, combined with an insecticide containing chlorpyrifos as its active ingredient, both complying with AWP A P8.
- C. Nails: **hot-dip galvanized or stainless steel.**
- D. Screws: **hot-dip galvanized or stainless steel.**

2.3 FABRICATION

- A. Wood Moisture Content: **9 to 15** percent.
- B. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible, before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
- C. Woodwork for Opaque Finish:
 - 1. Grade: **Premium.**
 - 2. Wood Species: **Eastern white pine, sugar pine, or western white pine**
- D. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.
- B. Quality Standard: Install woodwork to comply with same grade specified in Part 2 for type of woodwork involved.
- C. Install woodwork true and straight with no distortions. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm).
- D. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.

- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk concealed fasteners and blind nailing. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork.
- F. Install trim with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Scarf running joints and stagger in adjacent and related members.
- G. Complete finishing work specified in this Section to extent not completed at shop or before installation of woodwork. Fill nail and screw holes with matching filler where exposed.
- H. Refer to Division 09 Sections for final finishing of installed architectural woodwork.
- I. Clean woodwork on exposed and semiexposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 064013

SECTION 070000 – ROOFING (FILED SUB-BID REQUIRED)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. All of the Contract Documents, including General and Supplementary Conditions and Division 00 - Bidding Documents, Contract Forms, and Conditions of the Contract and Division 01 - General Requirements, apply to work of this Section.
- B. Carefully examine all of the Contract Documents for requirements which affect the work of this Section. The exact scope of work of this Section cannot be determined without a thorough review of all Specification Sections and other Contract Documents.

1.2 GENERAL PROVISIONS - FILED SUB-BID REQUIRED

- A. Time, Manner, and Requirements for Submitting Sub-Bid: The work of this Section is stipulated as a Filed Sub-Bid under the General Bid Form. Sub-Bids for the work of this Section shall be for the complete work and filed in a sealed envelope in strict compliance with and before the date and time stated in the Invitation for Bid and Instructions to Bidders. The following information shall appear in the upper left hand of the envelope:

Name of Bidder:

Name of Project: Somerville High School Partial Roof Replacement

Section Number and Name of Sub-trade: 070000, ROOFING

- B. Form of Sub-Bid: The Sub-Bid for the work of this Section shall be made on the Form of Sub-Bid, a copy for the use of Sub-Bidders in submitting Sub-Bids is included in the Bid Package.
- C. Bid Deposit: A Bid Deposit equal to five percent of the value of the Bid must be submitted with the Sub-Bid. The value of the Bid includes Add Alternates. The Bid Deposit may be in the form of a bid bond, 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, Massachusetts.

- D. Sub-Sub-Bid Requirements:

- 1. Sub-bidders attention is directed to Mass. GL Chapter 149, Section 44F as amended which provides in part as follows:
 - a. Each sub-bidder shall list in Paragraph E of the "Form for Sub-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 sub-trade) required such listing; provided that, in the absence of a contrary provision in the Specifications, any sub-bidder may, without listing any bid price, list his own name in said Paragraph E for any such class of work or part thereof and perform that work with persons on his own payroll, if such sub-bidder, after sub-bid openings, shows to the satisfaction of the Awarding Authority that he does customarily perform such class of work or part thereof with persons on his own

payroll and is qualified to do so. This Section requires that the following classes of work shall be listed in Paragraph E under the conditions indicated herein.

Classes of Work
Not Applicable

Section Number

E. Reference to Drawings: Work to be performed is shown on Drawings numbered:

ARCHITECTURAL

A101 GENERAL NOTES AND ROOF PLAN
A501 ROOF DETAILS

1.3 DESCRIPTION OF WORK

A. The Work of the following sections is hereby made part of these Sections:

1. Section 06100 - Rough Carpentry
2. Section 07500 - Polyvinyl-Chloride (PVC) Roofing
3. Section 07620 - Sheet Metal Flashing and Trim

B. Alternates: As Applicable.

1.4 TEMPORARY FACILITIES

A. Weather Protection:

1. Submit requirements to General Contractor for temporary enclosures to permit work to be carried on during November through March in compliance with MGL Chapter 149, Section 44D(G), within 30 calendar days after Award of Contract.
2. Weather protection is defined as temporary protection of work which might be adversely affected by moisture, wind, and cold, and which requires covering and enclosing work areas to retain heat.

B. Heating: Submit requirements to General Contractor for heating to permit work to be carried on during November through March in compliance with MGL Chapter 149, Section 44D(G), within 30 calendar days after Award of Contract.

C. Lifts and Hoists: All lifting and hoisting for this work shall be performed as work of this Section.

D. Waste Materials:

1. Removal of crating, packaging, and wrapping of material to be performed as work of Section 070001.
2. Waste materials related to crating, packaging, and wrapping of materials to be delivered to General Contractor for removal from Project site.

E. Scaffolding and Staging: All scaffolding and staging for this work shall be performed as work of this Section.

END OF SECTION 070000

SECTION 075000 - POLYVINYL-CHLORIDE (PVC) ROOFING (PART OF FILED SUB-BID
SECTION 070000 - ROOFING)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Mechanically fastened polyvinyl-chloride (PVC) roofing system.
2. Vapor retarder.
3. Roof insulation.
4. Roof Drain Inserts.
5. Substrate Board
6. Cover Board

- B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking; and for wood-based, structural-use roof deck panels.
2. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 PREINSTALLATION MEETINGS

- A. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site. Retain subparagraphs below if required. If retaining, revise to include Project-specific requirements. Insert additional requirements to suit Project.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review structural loading limitations of roof deck during and after roofing.
5. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
6. Review governing regulations and requirements for insurance and certificates if applicable.
7. Review temporary protection requirements for roofing system during and after installation.
8. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:
 1. Base flashings and membrane terminations.
 2. Tapered insulation, including slopes.
 3. Roof plan showing orientation of steel roof deck and orientation of roofing, fastening spacings, and patterns for mechanically fastened roofing.
 4. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
 5. Location of pavers.
- C. Samples for Verification: For the following products:
 1. Sheet roofing, of color required.
 2. Roof paver, full sized, in each color and texture required.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
- B. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 1. Submit evidence of compliance with performance requirements.
- C. Product Test Reports: For components of roofing system, for tests performed by manufacturer and witnessed by a qualified testing agency.
- D. Research/Evaluation Reports: For components of roofing system, from ICC-ES.
- E. Field quality-control reports.

- F. Sample Warranties: For manufacturer's special warranties.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is UL listed approved for roofing system identical to that used for this Project.
- B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.11 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.

1. Special warranty includes membrane roofing, base flashings, roof insulation, fasteners, cover boards, substrate board, roofing accessories, roof pavers, and other components of roofing system.
2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain components including roof insulation fasteners for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.
 1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
 2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. Roofing System Design: Tested by a qualified testing agency to resist the following uplift pressures:
 1. Corner Uplift Pressure; Perimeter uplift Pressure and Field-of-Roof Uplift Pressure shall meet the requirement of the latest edition of the building code.
- D. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.
- E. Energy Star Listing: Roofing system shall be listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.
- F. Energy Performance: Roofing system shall have an initial solar reflectance of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRRC-1.

2.3 PVC ROOFING

A. PVC Sheet: ASTM D 4434/D 4434M, Type III, fabric reinforced

Retain "Manufacturers" Subparagraph and list of manufacturers below to require products from manufacturers listed or a comparable product from other manufacturers.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Rhinobond as Manufacturer's by Sarnafil Inc. or comparable product by one of the following:
 - a. Carlisle SynTec Incorporated.
 - b. Cooley Engineered Membranes.
 - c. Custom Seal Roofing.
 - d. Duro-Last Roofing, Inc.
 - e. Flex Membranes International.
 - f. GAF Materials Corporation.
 - g. GenFlex Roofing Systems.
 - h. Johns Manville.
 - i. Mule-Hide Products Co., Inc.
 - j. Versico Incorporated.
2. Thickness: 72 Mils.
3. Exposed Face Color: White.

2.4 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.

1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content:
 - a. Plastic Foam Adhesives: 50 g/L.
 - b. Gypsum Board and Panel Adhesives: 50 g/L.
 - c. Multipurpose Construction Adhesives: 70 g/L.
 - d. Fiberglass Adhesives: 80 g/L.
 - e. Single-Ply Roof Membrane Adhesives: 250 g/L.
 - f. PVC Welding Compounds: 510 g/L.
 - g. Adhesive Primer for Plastic: 650 g/L.
 - h. Single-Ply Roof Membrane Sealants: 450 g/L.
 - i. Nonmembrane Roof Sealants: 300 g/L.
 - j. Sealant Primers for Nonporous Substrates: 250 g/L.
 - k. Sealant Primers for Porous Substrates: 775 g/L.
 - l. Other Adhesives and Sealants: 250 g/L.
3. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the testing and product requirements of the California Department of Public Health's

(formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC sheet.
- C. Bonding Adhesive: Manufacturer's standard, water based.
- D. Slip Sheet: Manufacturer's standard, of thickness required for application.
- E. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately thick; with anchors.
- F. Metal Battens: Manufacturer's standard, aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately thick, prepunched.
- G. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing to substrate, and acceptable to roofing system manufacturer.
- H. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.5 SUBSTRATE BOARDS

- A. Substrate Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/2 inch (13mm).
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following.
 - a. CertainTeed Corporation; GlasRoc Sheathing.
 - b. Georgia-Pacific Corporation; Dens Deck.
 - c. National Gypsum Company; Gold Bond eXP Extended Exposure Sheathing.
 - d. Temple-Inland, Inc; GreenGlass Exterior Sheathing.
 - e. USG Corporation; Securock Glass Mat Roof Board.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening substrate board to roof deck.

2.6 VAPOR RETARDER

- A. Polyethylene Film: ASTM D 4397, thick, minimum, with maximum permeance rating of.

1. Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.

2.7 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by PVC roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Atlas Roofing Corporation.
 - b. Carlisle SynTec Incorporated.
 - c. Dyplast Products.
 - d. Firestone Building Products.
 - e. GAF Materials Corporation.
 - f. Hunter Panels.
 - g. Insulfoam LLC; a Carlisle company.
 - h. Johns Manville.
 - i. Rmax, Inc.
- C. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/8 inch per 12 inches unless otherwise indicated.
- D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.8 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.
- C. Cover Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/4 inch (6mm).
 1. Products: Subject to compliance with requirements,
 - a. CertainTeed Corporation; GlasRoc Sheathing.
 - b. Georgia-Pacific Corporation; Dens Deck.

- c. National Gypsum Company; Gold Bond eXP Extended Exposure Sheathing.
 - d. Temple-Inland, Inc.; GreenGlass Exterior Sheathing.
 - e. USG Corporation; Securock Glass Mat Roof Board.
- D. Protection Mat: Woven or nonwoven polypropylene, polyolefin, or polyester fabric, water permeable and resistant to UV degradation, type and weight as recommended by roofing system manufacturer for application.

2.9 WALKWAYS

- A. Walkway Roof Pavers: Heavyweight, hydraulically pressed concrete units, square edged with top edges beveled 3/16 inch (5mm), factory cast for use as roof pavers; absorption not greater than 5 percent, ASTM C 140; no breakage and maximum 1 percent mass loss when tested for freeze-thaw resistance, ASTM C 67; and as follows:
- 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Hanover Specialties, Inc.
 - b. Rapid Building Systems.
 - c. Roofblok Limited.
 - d. Sunny Brook Pressed Concrete Co.
 - e. Wausau Tile Inc.
 - f. Westile Roofing Products.
 - 2. Size: 24 by 24 inches (600 by 600 mm). Manufacture pavers to dimensional tolerances of plus or minus 1/16 inch (1.6 mm) in length, height, and thickness.
 - 3. Weight: 18 lb/sq. ft. (90 kg/sq. m).
 - 4. Compressive Strength: 7500 psi (52 MPa), minimum.
 - 5. Colors and Textures: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:
- 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.3 ROOFING INSTALLATION, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions.
- B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.
- C. Install roofing and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition and to not void warranty for existing roofing system.

3.4 SUBSTRATE BOARD INSTALLATION

- A. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.
 - 1. Fasten substrate board to top of existing wood decking to resist uplift pressure at corners, perimeter, and field of roof according to roofing system manufacturers' written instructions.

3.5 VAPOR-RETARDER INSTALLATION

- A. Polyethylene Film: Loosely lay polyethylene-film vapor retarder in a single layer over area to receive vapor retarder, side and end lapping each sheet a minimum of 2 inches (50mm) and 6 inches (150 mm), respectively. Continuously seal side and end laps with tape.
- B. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air movement into roofing system.

3.6 INSULATION INSTALLATION

- A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.

- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches (68 mm) or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
 - 1. Provide 2 inch rigid insulation at drains and an average roof R-Value of 24.
- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding with insulation.
 - 1. Cut and fit insulation within of nailers, projections, and penetrations.
 - 2. Windstorm Resistance Classification.
 - 3. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- G. Loosely Laid Insulation: Loosely lay insulation units over substrate.
- H. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together.
 - 1. Fasten cover boards to resist uplift pressure at corners, perimeter, and field of roof.

3.7 MECHANICALLY FASTENED ROOFING INSTALLATION

- A. Mechanically fasten roofing over area to receive roofing according to roofing system manufacturer's written instructions. Unroll roofing and allow to relax before retaining.
 - 1. Install sheet according to ASTM D 5082.
 - 2. For in-splice attachment, install roofing with long dimension perpendicular to steel roof deck flutes.
- B. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- C. Accurately align roofing, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Mechanically fasten or adhere roofing securely at terminations, penetrations, and perimeter of roofing.
- E. Apply roofing with side laps shingled with slope of roof deck where possible.

- F. In-Seam Attachment: Secure one edge of PVC sheet using fastening plates or metal battens centered within seam, and mechanically fasten PVC sheet to roof deck.
- G. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.
 - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet.
 - 2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
 - 3. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.
- H. Spread sealant bed over deck-drain flange at roof drains, and securely seal roofing in place with clamping ring.

3.8 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.9 WALKWAY INSTALLATION

- A. Roof-Paver Walkways: Install walkway roof pavers according to manufacturer's written instructions in locations indicated, to form walkways. Leave of space between adjacent roof pavers.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to inspect substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.
 - 1. Electric Field Vector Mapping (EFVM): Testing agency shall survey entire roof area for potential leaks using electric field vector mapping (EFVM).

- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
- C. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.11 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.12 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
 - 1. Owner: **<Insert name of Owner>**.
 - 2. Address: **<Insert address>**.
 - 3. Building Name/Type: **<Insert information>**.
 - 4. Address: **<Insert address>**.
 - 5. Area of Work: **<Insert information>**.
 - 6. Acceptance Date: _____.
 - 7. Warranty Period: **<Insert time>**.
 - 8. Expiration Date: _____.
- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
- D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. lightning;
 - b. peak gust wind speed exceeding;
 - c. fire;
 - d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
 - f. vapor condensation on bottom of roofing; and
 - g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

- E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.
1. Authorized Signature: _____.
 2. Name: _____.

3. Title: _____.

END OF SECTION 075000

SECTION 076200 - SHEET METAL FLASHING AND TRIM (PART OF FILED SUB-BID SECTION 070000 – ROOFING)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. The Work of this Section shall be hereby made part of the Filed Sub-Bid Section 070001 – Roofing.

1.2 SUMMARY

- A. Section Includes:
 - 1. Formed roof-drainage sheet metal fabrications.
 - 2. Formed low-slope roof sheet metal fabrications.
 - 3. Formed mud coated roof edge fascias and cleats
- B. Related Requirements:
 - 1. Section 06100 "Rough Carpentry" for wood nailers, curbs, and blocking.
 - 2. Section 07500 "Polyvinyl-Chloride (PVC Piping)".

1.3 COORDINATION

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.
- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.
- B. Shop Drawings: For sheet metal flashing and trim.
 - 1. Include plans, elevations, sections, and attachment details.
 - 2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.
 - 3. Include identification of material, thickness, weight, and finish for each item and location in Project.
 - 4. Include details for forming, including profiles, shapes, seams, and dimensions.

5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
 6. Include details of termination points and assemblies.
 7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
 8. Include details of edge conditions, including eaves, ridges, valleys, rakes, crickets, and counterflashings as applicable.
 9. Include details of special conditions.
 10. Include details of connections to adjoining work.
 11. Detail formed flashing and trim at scale of not less than 1-1/2 inches per 12 inches.
- C. Samples for Initial Selection: For each type of sheet metal and accessory indicated with factory-applied finishes.
- D. Samples for Verification: For each type of exposed finish.
1. Sheet Metal Flashing: 12 inches long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.
 2. Trim, Metal Closures, Expansion Joints, Joint Intersections, and Miscellaneous Fabrications: 12 inches long and in required profile. Include fasteners and other exposed accessories.
 3. Unit-Type Accessories and Miscellaneous Materials: Full-size Sample.
 4. Anodized Aluminum Samples: Samples to show full range to be expected for each color required.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For fabricator.
- B. Product Certificates: For each type of coping and roof edge flashing that is SPRI ES-1 tested.
- C. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- D. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For sheet metal flashing and trim, and its accessories, to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
1. For copings and roof edge flashings that are SPRI ES-1 tested, shop shall be listed as able to fabricate required details as tested and approved.
- B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.

1. Build mockup of typical roof edge eave, coping approximately 10 feet long, including supporting construction cleats, seams, attachments, underlayment, and accessories.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.9 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. FM Approvals Listing: Manufacture and install copings roof edge flashings that are listed in FM Approvals' "RoofNav" and approved for windstorm classification, Class 1-120. Identify materials with name of fabricator and design approved by FM Approvals.

- D. SPRI Wind Design Standard: Manufacture and install copings roof edge flashings tested according to SPRI ES-1 and capable of resisting the following design pressure:
- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.
 - 1. Exposed Coil-Coated Finish:
 - a. Three-Coat Fluoropolymer: AAMA 620. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 2. Color: As selected by Architect from manufacturer's full range.
 - 3. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil.

2.3 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 - 2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.

- C. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
- D. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polysulfide silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- F. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
- G. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.
- H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.4 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
 - 1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 - 2. Obtain field measurements for accurate fit before shop fabrication.
 - 3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
 - 4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
 - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
- D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
- E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

- F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.
- G. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer.
- H. Do not use graphite pencils to mark metal surfaces.

2.5 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Flashing (Gravel Stop) and Fascia Cap: Fabricate in minimum 96-inch- long, but not exceeding 12-foot- long sections. Furnish with 6-inch- wide, joint cover plates. Shop fabricate interior and exterior corners.
 - 1. Joint Style: Butted with expansion space and 6-inch-wide, concealed backup plate.
 - 2. Fabricate with scuppers spaced as instructed with 4-inch-wide flanges and base extending 4 inches beyond cant or tapered strip into field of roof. Fasten gravel guard angles to base of scupper.
 - 3. Fabricate from the Following Materials:
 - a. Aluminum: 0.050 inch thick.
- B. Base Flashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:
 - 1. Aluminum: 0.040 inch thick.
- C. Counterflashing: Fabricate from the following materials:
 - 1. Aluminum: 0.032 inch thick.
- D. Counterflashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:
 - 1. Aluminum: 0.032 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.
 - 1. Verify compliance with requirements for installation tolerances of substrates.
 - 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 - 3. Verify that air- or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 - 2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 - 3. Space cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 - 4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
 - 5. Torch cutting of sheet metal flashing and trim is not permitted.
 - 6. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Coat concealed side of uncoated-aluminum sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
 - 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
- D. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
 - 1. Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F, set joint

members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.

- G. Rivets: Rivet joints in uncoated aluminum where necessary for strength.

3.3 ROOF-DRAINAGE SYSTEM INSTALLATION

- A. General: Install sheet metal roof-drainage items to produce complete roof-drainage system according to cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Splash Pans: Install where downspouts discharge on low-slope roofs. Set in elastomeric sealant compatible with the substrate.
- C. Conductor Heads: Anchor securely to wall, with elevation of conductor head rim at minimum of 1 inch below discharge.
- D. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints minimum of 4 inches in direction of water flow.

3.4 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate at staggered 3-inch centers.

3.5 MISCELLANEOUS FLASHING INSTALLATION

- A. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with elastomeric sealant to equipment support member.

3.6 ERECTION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- B. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerances specified in MCA's "Guide Specification for Residential Metal Roofing."

3.7 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

- B. Clean and neutralize flux materials. Clean off excess solder.
- C. Clean off excess sealants.
- D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.
- E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 076200

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and the application of paint systems on **the following exterior substrates:**

1. Wood fascia and soffit- existing and new

1.2 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
- B. Samples: For each type of paint system and each color and gloss of topcoat.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in the Exterior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- C. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction.
- D. Colors: **As selected by Architect from manufacturer's full range**

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Wood: 15 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."
- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

- A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

- A. Wood Substrates: **Wood trim, Fascia, Soffit, and Architectural woodwork**
 - 1. Latex over Latex Primer System **MPI EXT 6.3L**:
 - a. Intermediate Coat: Latex, exterior, matching topcoat.
 - 2. Alkyd System **MPI EXT 6.3B**:
 - a. Prime Coat: Primer, alkyd for exterior wood, **MPI #5**.
 - b. Intermediate Coat: Exterior, alkyd enamel, matching topcoat.
 - c. Topcoat: Alkyd, exterior, flat (MPI Gloss Level 5), **MPI #8**.

END OF SECTION 099113