



# **CITY OF EVERETT, MASSACHUSETTS**

## **Wicked Cool Mystic II – Cooling Interventions**

**CITY PROJECT NO.: PLD-26-61**

Delivery Method: M.G.L. c. 30 § 39M

**OWNER:**

City of Everett, Massachusetts  
484 Broadway, Room 14  
Everett, MA 02149

**ENGINEER:**

BSC Group Inc.  
803 Summer St.  
Boston MA 02127

December 9, 2025



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**INVITATION TO BID AND INSTRUCTIONS TO BIDDERS  
GENERAL CONTRACTOR SERVICES**

**I. SUMMARY OF WORK AND PROJECT SCHEDULE**

The general scope of work includes the installation of an overhead pergola, reinforced cement concrete pad footings, site furnishings, drinking water fountains, and related landscape improvements.

Estimated construction cost is \$80,000. All work to be performed in accordance with the Bid Documents as herein defined.

**On-Site Construction Start:** March 1 2026

**Substantial Completion:** June 15 2026

**Final Completion:** June 30 2026

**II. INVITATION FOR BIDS**

The City of Everett, Massachusetts (the “City”) hereby requests bids from General Contractors interested in bidding for the Work described herein pursuant to the requirements of M.G.L. c. 30, § 39M and all other applicable provisions of the Massachusetts General Laws. If it be in the best interest of the City to do so, the City reserves the right to reject any and all Bids, to waive any informalities or minor deviations, to cancel the project and Bid Documents at any time prior to award, and/or to advertise for new Bids if funds are not available for the Project.

These instructions provide Bidders with information intended to enable them to prepare and submit Bids for consideration and evaluation by the City. These instructions cover all work as documented in the attached bid documents, as modified by addenda, if any (collectively, the “Bid Documents”). Bids shall be submitted in compliance with and shall be governed by the Agreement between Owner and Contractor, the General Conditions and Supplementary Conditions, if any.



### III. BIDDING REQUIREMENTS

- (A) **Bid Form.** Bids shall be submitted on the appropriate Bid Form attached hereto. All entries on the Bid Form shall be made by typewriter or in ink. No modifications should be made to the Bid Forms. Sums shall be expressed in both words and figures in the space indicated on the Bid form. Where there is a discrepancy between the sum expressed in words and the sum expressed in figures, the amount expressed in words shall control. Total lump sum price will be basis of award regardless of any mathematical errors by bidders. Bids shall be signed by the person having legal authority to bind the Bidder to the terms and conditions of the Bid, and the person so signing shall give the person's own name, business address and title. **Bids not properly signed will be rejected as non-responsive.**
- (B) **Bid Deposit.** Each bid must be secured by an accompanying deposit of five percent (5%) of the total amount of the Bid. Deposits shall be in the form of a bid bond, or a certified check, treasurer's or cashier's check issued by a responsible bank or trust company, payable to the City of Everett. No cash will be accepted. Bid deposits of all Bidders, except those of the three lowest responsible and eligible Bidders, will be returned within five (5) business following the Bid opening. Except as provided in the "BONDS AND INSURANCE CERTIFICATES" and "FOREIGN CORPORATION" sections appearing below, the Bid Deposits of the three lowest responsible and eligible bidders will be returned upon the execution of the Contract or, if no award is made, upon the expiration of the time prescribed for making an award.
- (C) **Submission of Bids.** Bids shall be enclosed in a **sealed envelope** with the following plainly marked on the outside:

**Bid for:**           **Everett City Hall**  
                             **Kiara M. Freeman, Chief Procurement Officer**

**Project Number:**PLD-26-61.  
**Project Name:**Wicked Cool Mystic II – Cooling Interventions.  
**Bidder's Name**  
**Business Address**  
**Phone Number**

Bids must be via electronic mail and sent to [Kiara.Freeman@ci.everett.ma.us](mailto:Kiara.Freeman@ci.everett.ma.us) . If bidder is unable to submit electronically, bid shall be received at Everett City Hall – Purchasing Department, 484 Broadway, Room 14 Everett, MA 02149 on or before the bid due date and time. Timely delivery of a Bid to the location designated shall be the full and sole responsibility of Bidder.



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- (D) **Form of Agreement.** Any contract awarded by the City pursuant to this solicitation shall be governed by the Contract Documents including, but not limited to, the Agreement between Owner and Contractor, the General Conditions, and Supplementary Conditions, if any. A bidder may not, in its Bid, take exception to the form of Agreement Between Owner and Contractor or otherwise condition its bid on changes to the form of Agreement Between Owner and Contractor. The bidder to whom a contract is awarded will be required to enter into the City form of Agreement Between Owner and Contractor within five (5) business days of presentation of the contract by the City.
- (E) **Prevailing Wage.** Minimum Wage Rates as determined by the Commissioner of the Department of Workforce Development under the provisions of Massachusetts General Law, Chapter 149, §§ 26-27, inclusive, apply to this project. It is the responsibility of each Bidder, before opening of Bids, to request if necessary any additional information on Minimum Wage Rates for those trades people who may be employed for the proposed work under this Contract. The Minimum Wage Rates to be used for this Contract are shown on the schedule provided in the Bid Documents.

#### IV. BID SCHEDULE

- Bid Documents available to Bidders: **December 10, 2025 at 10:00 a.m.**
- Pre-Bid Conference: A pre-bid meeting will be held at **12:00 p.m. on December 18<sup>th</sup>, 2025.** Attendees should meet online via the provided Microsoft Teams meeting link.

Meeting ID: 297 624 417 221 76  
Passcode: EU2tt9wM

- Question/Clarification Period closes: **4:00 p.m. on December 26, 2025.**

Bid Due Date and Time: **2:00 p.m. on January 7, 2026** to  
[Kiara.Freeman@ci.everett.ma.us](mailto:Kiara.Freeman@ci.everett.ma.us) or at Everett City Hall – Purchasing Department, 484  
Broadway, Room 14 Everett, MA 02149 on or before the bid due date and time

Timely submission of Bids shall be the sole responsibility of the Bidder.

#### V. BIDDER'S REPRESENTATIONS

By submitting its Bid in response to this solicitation, each Bidder makes the following representations:

- a) The Bidder has read and understands the Bid Documents and the Bid is made in accordance therewith. The Bidder has visited the site where the Work is to be



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performed and is familiar with the local conditions under which the Work will be performed. Failure to so examine the Bid Documents and site will not relieve any Bidder from any obligation under the Bid as submitted.

- b) The information contained in the Bid is true and complete to the best knowledge of the Bidder.
- c) The Bid has been prepared in good faith and the Bidder is duly authorized to submit the Bid on behalf of the Bidder.
- d) In preparation and development of the Bid, the Bidder has not, directly or indirectly, solicited or received any advice, assistance, or information concerning the Project from any representative of the City, its agents, or consultants that was not issued in writing by the City to all Bidders.
- e) The Bidder has filed with the Secretary of State all certificates and annual reports required by Chapter 156D, § 16.22 (domestic and foreign corporation), § 15.03 (foreign corporations), § 109 (Massachusetts business corporation), or Chapter 180, § 26A (non-profit corporation) as applicable, of the Massachusetts General Laws.

## VI. WRITTEN QUESTIONS

Bidders shall promptly notify the City in writing of any ambiguity, inconsistency or error that they may discover upon examination of the Bid Documents, the site, and local conditions.

Bidders requiring clarification or interpretation of the Bid Documents shall make a written request to the design consultant and a copy to the City by email as follows:

Engineer:

BSC Group, Inc.  
Mackenzie Morrison  
803 Summer Street Boston, MA 02127  
mcmorrison@bscgroup.com

COPY:

City of Everett  
Kiara M. Freeman, Chief Procurement Officer  
484 Broadway, Room 14  
Everett, MA 02149  
Kiara.Freeman@ci.everett.ma.us



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Requests for interpretation of the Bid Documents by phone will not be accepted. Any responses to written questions may be issued as an addendum to the Bidding Documents and posted at City of Everett website. Any Bidder that contacts directly or indirectly any member or employee of the City, or the City's consultants, in connection with the selection process or the contract contemplated herein, other than by participation in the pre-bid conference, submission of a written question or request for clarification or interpretation as prescribed in this section, may be subject to disqualification.

The City will not be responsible for, and a Bidder shall not rely upon or use, any information, explanation, or interpretation of this Invitation to Bid/Instructions to Bidders rendered in any fashion except written responses by the City posted at the City of Everett's website.

It is the sole responsibility of Bidders to ascertain the existence of any and all Addenda. Only written Addenda issued as described in these Instructions to Bidders shall be effective to modify the Bid Documents. All registered plan holders will be electronically notified when addenda are issued. Hard copies of the addenda may not be forwarded to the registered plan holders. In preparing its bid, each Bidder must acknowledge that it has reviewed all addenda.

## **VII. MODIFICATION AND WITHDRAWAL OF BIDS**

After 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 Bid are clearly evident on the face of the Bid proposal, the mistake will be corrected to reflect the indeed correct Bid, and the Bidder will be notified in writing - the Bidder may not withdraw the Bid in such circumstances. 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.

A Bid may be withdrawn prior to the time designated for receipt of Bids upon written request made to the City. Withdrawal of Bids must be confirmed over the Bidder's signature by written notice post-marked or sent by facsimile on or before the date and time set for receipt of Bids. Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids.

## **VIII. EVALUATION PROCESS**

The City will evaluate all Bids in accordance with the provisions of the Bid Documents and the criteria described below. The City may consider in its evaluation all information contained in the Bid and any other information obtained or received by the City. Any Bid from a Bidder that is determined to be nonresponsive or not in conformance with the requirements of the Bid Documents may be rejected. Bids that are deemed, in the judgment of the City, to contain unrealistic prices or substantially deviate from the City's estimate of cost to complete all of the



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Work, or any portion thereof, will be considered as not responsive to the Invitation to Bid and may be rejected at the sole discretion of the Authority.

The City will award the contract in accordance with the "CONTRACT AWARD" section below. Before award, the City may conduct interviews with selected Bidders. The purpose of the interviews will be to clarify and assure understanding of the contents of the Bid, as well as the requirements of the Bid Documents, and discuss any other matters relevant to such Bid as the City may determine appropriate. No statements made or actions taken by any representative of the City during such discussions shall be binding on the City. If requested by the City, the key personnel identified in the Bid shall participate in the discussions or be available for an interview with City representatives.

## **IX. BASIS OF AWARD**

The criteria listed below are the criteria that will be applied to evaluate the Bids.

- A. Price  
Award will be to the lowest eligible and responsible Bidder with selected alternates provided that all required documents listed below are attached and satisfactory. The City may consider in its evaluation the reasonableness of the prices proposed by the Bidder.
- B. Required Documents to be Submitted with Bid
  - 1. Bid Form
  - 2. Bid Deposit of 5% of the total bid amount (bid bond, certified check, or treasurer's or cashier's check payable to the City of Everett).
  - 3. A proposed construction schedule showing all work included in the Bid. The proposed construction schedule must include key milestones substantial and final completion.

## **X. CONTRACT AWARD**

- (A) The City will open Bids on the Bid Due Date immediately following the deadline, and a register will be maintained of those firms submitting timely Bids. Bids shall be publically open and read.
- (B) The City will award the Contract to the lowest responsible and eligible bidder within thirty (30) days after the opening of Bids, subject to the reservations contained herein and the





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exceptions set forth in Massachusetts General Laws Chapter 30 and 149, whichever is applicable. The selected Bidders will be notified in writing.

- (C) If a selected Bidder fails or refuses to execute the Agreement between Owner and Contractor in the form included in the Bid Documents, as modified by addenda, if any, and furnish the other documents required in connection with execution of the contract, within ten (10) business days after the presentation of the Agreement between Owner and Contractor, as applicable, by the City, the City may award the Contract to another Bidder.
- (D) THE CITY RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS if it determines that such action is in the best interest of the CITY. Any Bid which is incomplete, conditional or obscure may be considered invalid and the CITY may reject such Bid. In addition, the CITY may reject any Bid which is not prepared and submitted in accordance with all requirements of these Bid Documents and the attached forms or which contains alterations, contingencies or additions not called for or errors or irregularities of any kind; PROVIDED, HOWEVER, that the CITY reserves the right to waive any and all informalities or minor irregularities contained in the Bid. If these Bid Documents, the Bid Forms, or any other document or applicable law requires submission of certain information or other items as a part of or to accompany Bids and any Bidder neglects to furnish such information or other items with its Bid, the CITY may reject the Bid of such Bidder as incomplete; PROVIDED, HOWEVER, that the CITY reserves the right to deem any such omission as an informality for which such Bid will not be rejected, and to subsequently receive such information or other items prior to award of the contract.
- (E) More than one Bid from the same Bidder, whether or not the same or different names appear on the signature page, will not be considered. Reasonable grounds for believing that any bidder is so interested in more than one Bid for the work contemplated may cause rejection of all Bids made by that Bidder directly or indirectly.
- (F) Any and all Bids potentially affected by collusion will be rejected if there is reason for believing that collusion exists between the Bidders. The decisions of the CITY will be final. Bidders whose Bids have been rejected because of evidence of collusion will not be considered in future bids for the same work and may be disqualified from bidding on future work. The City shall reject any Bid that does not include the signed Non-Collusion and Attestation Forms provided in the Bid Documents.
- (G) As used herein, the term “lowest responsive and responsible bidder” shall mean the Bidder (1) whose Bid is the lowest of those Bidders possessing the skill, ability and integrity necessary for the faithful performance of the work described in the Bid documents; (2) who shall certify that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (3) who shall certify that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten (10) hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (4) who obtains within ten



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(10) days of the notification of contract award the security by bond required under section 29 of chapter 149 from a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and satisfactory to the City; provided further, that if there is more than one (1) surety company providing such bond, the surety companies shall be jointly and severally liable. The City may consider the reasonableness of the prices proposed for the scope of the work involved in its evaluation of the Bids.

- (H) The City reserves the right to amend these Bid Documents at any time. Any amendments to these Bid Documents shall be issued by means of written addenda. All addenda so issued shall become part of these Bid Documents.
- (I) The City reserves the right to withdraw this Invitation to Bid at any time in its sole discretion before award of a contract.
- (J) The City assumes no responsibility for the costs incurred by the Bidders in the preparation of a Bid or any related activities. The Bid Documents and this Invitation to Bid/Instructions to Bidders have been prepared solely to solicit Bids, and are not contract offers. The only document that may be binding on the City is the Agreement between Owner and Contractor, and all documents incorporated therein by reference, only when duly executed by the City and the contractor to whom the contract is awarded.

## **XI. ADDITIONAL PROVISION**

- (A) Council Approval. In all cases, the award of the contract shall be subject to the approval of the members of the Everett City Council in a public meeting.
- (B) Estimated Quantities. Unless otherwise stated, quantities shown in the Bid Documents represent the estimated quantities of labor and materials that might be expected to be encountered during the contract period. In the event of a discrepancy between the estimated quantities shown in the Specifications and those shown in the Price Sheets, quantities shown in the Price Sheets shall control. The City does not expressly or by implication agree that the actual amount of work will correspond therewith. These estimated quantities will be used solely for the comparison of Bids. The City reserves the right to increase, decrease, or delete the amount of any or all items of work after Bids have been received. Such increase, decrease or deletion in the quantity for any item shall not be regarded as cause for an increase or decrease in the unit prices. No allowance will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly or indirectly from such increased, decreased, or deleted quantities or from unbalanced allocation among the Contract items or overhead expenses on the part of the Bidder and subsequent loss of expected reimbursement therefore or from any other cause.
- (C) Bonds and Insurance Certificates. Should the successful bidder fail to perform its agreement to furnish the required bonds and insurance certificates required herein, the Bid



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Deposit shall become and be the property of the City as liquidated damages; provided that, the amount of the Bid Deposit which becomes the property of the City shall not, in any event, exceed the difference between its bid price and the Bid Price of the next lowest responsible and eligible Bidder.

- (D) Foreign Corporations. If the successful bidder is a foreign corporation as defined at G.L. c. 156D, § 1.40, and if successful bidder fails to perform its agreement to furnish the required certificate of the state secretary, the Bid Deposit shall become and be the property of the City as liquidated damages; PROVIDED THAT, the amount of the Bid Deposit which becomes the property of the City shall not, in any event, exceed the difference between its Bid Price and the Bid Price of the next lowest responsible and eligible Bidder.
- (E) Sales and Use Taxes. Bidders are advised that City is exempt from sales and use taxes and shall submit its Bid Prices without taxes. An Exemption Certificate may be obtained by the successful Bidder from the City upon request.
- (F) Health and Safety. This Contract is subject to the Safety and Health Regulations of the U.S. Department of Labor set forth in Title 29 CFR, Part 1926 and to all subsequent amendments, and to the Massachusetts Department of Labor and Industries, Division of Industrial Safety “Rules and Regulations for the Prevention of Accidents in Construction Operations” (Chapter 454 CMR 10.00 et seq.). Bidders shall be familiar with the requirements of these regulations.
- (G) Monthly Price Adjustments for Certain Items. Monthly price adjustments will be made for qualifying work orders using diesel fuel, gasoline, asphalt, concrete, and steel in accordance with the Bid Documents.
- (H) Permits and Approvals. The successful Bidder will be solely responsible for obtaining all necessary construction permits, licenses, and approvals required in connection with the Project and/or under the Bid Documents, including without limitation as set forth in Contract between Owner and Contractor and the General Conditions. All bidders shall be responsible for investigating in detail the permitting requirements of the work and shall be responsible for making such examination thereof as may be necessary to satisfy themselves in regard to the character of the permitting required, and shall Bid in sole reliance upon their own investigation.
- (I) Bid Information. The City’s receipt or discussion of any information (including information contained in the proposal and any ideas or other material communicated or exhibited by the Bidder or on its behalf) shall not impose any obligation whatsoever on the City or entitle the Bidder to any compensation therefor, except to the extent specifically provided in such written agreement as may be entered into between the City and the Bidder. Any such information given to the City before, with, or after submission of the proposal, either orally or in writing, except as noted below, is not given in confidence, and may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with the terms of this paragraph, whether made as part of or in connection with any information



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received from the Bidder or made at any other time in any fashion, shall be void and of no effect.



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**Project Number: PLD-26-61**

**Wicked Cool Mystic II – Cooling Interventions**

**GENERAL CONTRACTOR SERVICES**

**BID FORM**

Firm Name: \_\_\_\_\_

(A) The Undersigned, as Bidder, proposes to furnish to the City of Everett, Massachusetts (the “Owner” or the “City”) all labor, materials, equipment, supervision, tools and services required for the \_\_\_\_\_ Project at \_\_\_\_\_, in accordance with the accompanying plans and specifications prepared by BSC Group, Inc. and entitled \_\_\_\_\_, dated \_\_\_\_\_, for the fixed contract price specified below, subject to additions and deductions according to the terms of the Contract.

(B) This Bid includes addenda numbered \_\_\_\_\_

(C) The Proposed Fixed Contract Price is \_\_\_\_\_ dollars\*

(\$ \_\_\_\_\_)\*

*\* Bond Price is to be included in the “The Proposed Fixed Contract Price” line (C)*

(D) **ALTERNATES**

For Alternate No.1 - Add \$ \_\_\_\_\_

For Alternate No.2 - Add \$ \_\_\_\_\_

For Alternate No.3 - Add \$ \_\_\_\_\_

(E) **Contract Execution.** The undersigned agrees that, if selected as general contractor, general contractor will within five (5) days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the City, execute a contract in accordance with the terms of this Bid and furnish a performance bond and also a labor and materials payment bond, each of 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 price, the premiums for which are to be paid by the general contractor and are included in the contract price.

(F) **Withdrawal of Bids.** As provided in the Instructions to Bidders, the Bidder hereby agrees that he will not withdraw this Bid within thirty (30) consecutive calendar days after the actual date



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of the opening of Bids. Should the Bidder fail to fulfill any of his agreements as hereinabove set forth, the Owner shall have the right to retain as liquidated damages the amount of the bid security which shall become the Owner's property. If a bid bond was given, it is agreed that the amount thereof shall be paid as liquidated damages to the Owner by the Surety.

(G) **Certification Regarding Labor Harmony.** The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work and that he will comply fully with all laws and regulations applicable to awards made subject to section forty-four A.

(H) **Certification Regarding Contract Requirements.** Contractor certifies that he has carefully examined the site of the proposed work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this Bid, and he has carefully read and examined the drawings, specifications, and other Contract Documents therein referred to and knows and understands the terms and provisions thereof.

(I) **Information Regarding Subsurface Conditions.** Contractor understands that information, if any, relative to subsurface and other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) has been furnished only for his information and convenience without any warranty or guarantee, expressed or implied, that the subsurface and/or other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) actually encountered will be the same as those shown on the drawings or in any of the other Contract Documents and he agrees that he shall not use or be entitled to use any such information made available to him through the Contract Documents or otherwise or obtained by him in his own examination of the site, as a basis of or ground for any claim against the Owner or the Engineer arising from or by reason of any variance which may exist between the aforesaid information made available to or acquired by him and the subsurface and/or other conditions, natural phenomena, existing pipes and other structures.

(J) **Certification Regarding Quantities.** Contractor certifies that he understands that the quantities of work tabulated in this Bid or indicated on the Drawings or in the Specifications or other Contract Documents are only approximate and are subject to increase or decrease as deemed necessary by the Engineer.

(K) **Certification Regarding Labor:** The undersigned hereby certifies under penalties of perjury that: (i) that all employees to be employed in the work included in this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten (10) hours in duration; and (ii) any employee found on worksite subject to this bid without documentation of successful completion of a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten (10) hours in duration shall be subject to immediate removal.



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- (L) **Certification Regarding Financial Position/Business Organization:** The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.
- (M) **Certification Regarding Tax Compliance:** The undersigned further certifies under penalty of perjury that the said undersigned has complied with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting of child support pursuant to the provisions of M.G.L. c. 62C, §49A(b).
- (N) **Certification of Compliance of Secretary of State Requirements:** The undersigned further certifies under penalty of perjury that the Bidder has filed with the Secretary of State for the Commonwealth of Massachusetts all certificates and annual reports required by Chapter 156B, Section 109 (business corporation), by Chapter 181, Section 4 (foreign corporation), or Chapter 180, Section 26A (non-profit corporation) of the Massachusetts General Laws.
- (O) **Certification Regarding Non-Collusion:** The undersigned further certifies under penalty of perjury that this bid 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.
- (P) **Certification Regarding Prevailing Wage Compliance:** The undersigned further certifies under penalty of perjury that the said undersigned shall comply with the provisions of sections 26 and 27D of chapter one hundred and forty-nine of the General Laws governing the payment of prevailing wages.





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

\_\_\_\_\_  
Name of Contractor

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name & Title of Person Signing Bid

\_\_\_\_\_  
Business Address

\_\_\_\_\_  
Telephone/Fax/Email

\_\_\_\_\_  
Facsimile

Attach: Bid Security (five percent of Contract Sum)  
Proposed Construction Schedule



## **CITY OF EVERETT, MASSACHUSETTS**

### **AGREEMENT BETWEEN OWNER AND CONTRACTOR**

This **AGREEMENT** (the “Agreement”) is made and entered into as of the \_\_\_\_ day of \_\_\_\_, 20\_\_ by and between the Owner and the Contractor in connection with the Project, all as defined below, pursuant to the applicable provisions of Massachusetts General Laws, Chapter 30, § 39M.

**Owner:** **City of Everett, Massachusetts**  
**484 Broadway, Room 14**  
**Everett, MA 02149**

**Contractor:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Project:** \_\_\_\_\_  
(City Project No. \_\_\_\_\_)

**Site:** \_\_\_\_\_

**Architect:** \_\_\_\_\_

**Architect’s Representative:** \_\_\_\_\_

**Owner’s Representative:** \_\_\_\_\_

**Owner’s Representative Contact Person:** \_\_\_\_\_

**Contractor’s Project Team:** **Project Executive:** \_\_\_\_\_  
**Project Manager:** \_\_\_\_\_  
**Project Superintendent:** \_\_\_\_\_

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In consideration of the mutual agreements and covenants of the Owner and the Contractor (collectively, the “Parties”) set forth herein, the Parties hereby agree as follows:

## **ARTICLE 1**

### **DEFINITIONS & EXHIBITS**

**1.1 Definitions.** Capitalized terms not defined in this Agreement shall have the meanings defined elsewhere in this Agreement or in the General Conditions of the Contract for Construction or in other provisions of the Contract Documents. In the event of conflict in the definitions of capitalized terms, the definitions set forth in this Agreement shall take precedence followed by definitions in the General Conditions.

**1.2 Exhibits.** The following is a list of the documents which, when completed or provided, shall become exhibits to this Agreement, each of which is incorporated into this Agreement by reference and shall be deemed a part hereof:

<u>Exhibit</u>	<u>Description</u>
A	List of Specifications
B	List of Drawings
C	List of Addenda
D	Equal Employment Opportunity Requirements
E	Affirmative Action Requirements
F	Form of Project Workforce Monthly Report
G	Certificates of Insurance
H	Certificate of Vote of Authorization
I	Performance and Payment Bonds
J	Insurance Requirements

**1.3 Applicable Statutory Provisions.** This Project is subject to certain statutory provisions. The applicable statutory provisions are enumerated in the General Conditions and in the Special Conditions of the Contract of the Specifications and shall be deemed incorporated in the Contract Documents in their entirety to the extent such statutory provisions apply to this Project. Any other provisions required by statute to be included herein but not set forth in the Contract Documents shall be deemed to be so included. In case of a conflict between the provisions of the Contract Documents and the provisions of any applicable statute, the statutory provisions shall govern.



## **ARTICLE 2**

### **THE WORK**

**2.1** Scope of the Work. The Work of the Project includes all labor, materials, equipment, tools, supplies, supervision, coordination, administration, and all other items or services required to fully complete the Project as described in the Contract Documents or as may be reasonably inferable therefrom. The Contractor shall fully execute the Work described in the Contract Documents, except to the extent specifically indicated in the Contract Documents to be the responsibility of others. The Contractor shall ensure that the Work is completed within the Contract Time at a cost no greater than the Contract Sum, as further provided in Article 4 and elsewhere in the Contract Documents.

**2.2** Contract Documents. The Contract Documents consist of this Agreement and the Exhibits hereto, the General Conditions of the Contract for Construction, the Supplementary General Conditions, if any, Drawings, Specifications, Addenda, Change Orders, other written amendments to this Agreement duly executed by the Owner and the Contractor, Construction Change Directives, Performance Bond, Labor and Material Payment Bond, and all other documents set forth or incorporated by reference herein or elsewhere in the Contract Documents. The Contract Documents are all as fully a part of this Agreement as if attached to this Agreement and repeated herein and together constitute the “Agreement” or the “Contract.” The Contract represents the entire and integrated agreement between the parties hereto and supersede prior negotiations, representations or agreements, either written or oral.

**2.3** Representations. In addition to other representations set forth in the Contract Documents, the Contractor represents that it is a duly-licensed and registered business entity which is experienced and skilled in construction of projects of the type, magnitude, and complexity described in the Contract Documents and that it is familiar with the special problems, regulations, and requirements of construction of the type required hereunder. The Contractor further represents that it is fully cognizant of all aspects of the overall development of the Site as described by the Owner and of the relationship of the Project to such overall development, and that it will furnish, at a cost not to exceed the Contract Sum, a complete and fully operable Project as indicated by or reasonably inferable from the Contract Documents.

## **ARTICLE 3**

### **CONTRACT TIME**

**3.1** The Contractor shall commence performance upon the issuance of a Notice to Proceed by the Owner for a portion, or all, of the Work. The period of time from the date of the initial Notice to Proceed to the Final Completion Date, together with any valid extensions thereof approved by the Owner in accordance with the Contract Documents, shall constitute the Contract Time. The Contractor shall achieve Substantial Completion of the entire Work on or before \_\_\_\_\_. Final Completion of the entire Work shall be achieved fourteen (14) calendar days after the date of Substantial Completion.



**3.2** The Contractor shall proceed to carry out the Work in a timely, diligent and continuous manner in accordance with the requirements of the Project Schedule and all other Contract Documents and in accordance with the directions of the Owner so as to ensure (i) Substantial Completion of the Work, or any specified portion thereof, on or before the Substantial Completion Date, and (ii) Final Completion of the Work, or any specified portion thereof, on or before the Final Completion Date, as such dates may be extended as provided in the Contract Documents.

**3.3** It is understood and agreed that the time of commencement and the dates of Substantial Completion and Final Completion of the Work are material conditions of this Agreement, and that TIME IS OF THE ESSENCE of this Agreement.

#### **ARTICLE 4**

##### **CONTRACT SUM**

**4.1 Contract Sum.** The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract in accordance with the requirements of the Contract Documents. The Contract Sum is hereby established as \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), subject to additions and deductions as provided in the Contract Documents.

**4.2 Alternates.** The Contract Sum is based on, and inclusive of, the following alternates:

<u>No.</u>	<u>Description</u>	<u>Price</u>
X	(Insert alternate description here)	\$

**4.3 Unit Prices.** Unit prices, if any, applicable to this Contract are as follows:

<u>No.</u>	<u>Description</u>	<u>Unit</u>	<u>Price</u>
X	(Insert alternate description here)	per _____	\$

**4.4 Pricing of Alternates and Unit Prices.** The Alternate Prices and Unit Prices specified shall include all services, labor, materials, supplies, equipment, transportation, taxes, insurance, bonds, permits and all other expenses, including overhead, superintendence and profit required to complete the alternate or unit price Work. Unless otherwise specified, the Alternate Prices and Unit Prices listed in this Article 4 shall be applicable to both increases and decreases in the Contract Sum on an equal basis.

**4.5 Variation in Estimated Quantities.** The quantities contained in the Agreement are set forth as a basis for the comparison of bids only and may not necessarily reflect the actual quantity of Work required to be performed. The City reserves the right to increase, decrease or eliminate the quantity of any particular item of Work. Where the actual quantity of an item varies



by more than 25 percent above or below the estimated quantity stated in the Agreement, an equitable adjustment in the Contract Price for that pay item shall be negotiated upon demand of either party regardless of the cause of the variation in quantity. No allowances will be made for loss of anticipated overhead costs or profits suffered or claimed by the Contractor resulting directly or indirectly from such increased, decreased or eliminated quantities or from unbalanced allocation among the contract items from any other cause. It is the intention of this provision to preserve the bid basis while limiting the Contractor's risk exposure to 25% of each bid quantity. In the case of an overrun, the Contractor will be compensated at the Contract Unit Price for a quantity up to 125% of the Contract quantity. The adjusted unit price shall only be applied to that quantity above 125% of the contract quantity. Neither party shall be required to demonstrate any change in the cost to perform the work based solely on the overrun. The original Contract unit bid price shall have no bearing on determining the adjusted unit price for an overrun. The adjusted unit price shall be based on the estimated cost of performing the added work over 125% of the bid quantity. To assist the Engineer in the determination of an equitable adjustment for an overrun, the Contractor shall prepare a submission in the following manner and accept as full payment for work or materials an amount for an equitable adjustment in the Contract Price equal to the following: (1) The actual cost or a reasonable cost estimate for direct labor, material (less value of salvage, if any) and use of equipment, plus 10 percent of this total for overhead; (2) Plus actual cost or a reasonable cost estimate of Worker's Compensation and Liability Insurance, Health, Welfare and Pension Benefits, Social Security deductions and Employment Security Benefits; (3) Plus 10 percent of the total of (1) and (2) for profit and other unallocated costs; (4) Plus the estimated proportionate cost of surety bonds. No allowance shall be made for general superintendence and the use of small tools and manual equipment.

**4.6 Insurance.** The Owner and Contractor shall purchase and maintain insurance and bonds in accordance with the requirements of the Contract Documents. The Contractor shall carry insurance coverages with limits no less than those identified on **Exhibit J**, attached hereto.

## **ARTICLE 5**

### **PAYMENTS**

**5.1** Based upon Applications for Payment submitted to the Engineer by the Contractor in accordance with Section 10.2 of the General Conditions and Certificates for Payment issued by the Engineer in accordance with Section 10.3 of the General Conditions, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

**5.2** Prior to Substantial Completion, progress payments will be made in amounts equal to the percentage indicated below but, in each case, less than the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract Documents.



- (1) 95% of Work completed (with the balance being retainage)
- (2) 95% percent of the cost of materials and equipment not incorporated in the Work but which satisfies the requirements of the General Conditions (with the balance being retainage)

**5.3** Upon satisfaction of the Substantial Completion procedures set forth in Section 10.7 of the General Conditions, Owner shall pay an amount sufficient to increase total payments to Contractor to 99% of Work completed, less such amounts as Engineer may determine or Owner may withhold in accordance with the Contract Documents.

**5.4** Upon Final Completion and Acceptance of the Work and satisfaction of the procedures set forth in Section 10.8 of the General Conditions, the Owner shall pay the remainder of the Contract Sum as recommended by Engineer as provided in the General Conditions.

## **ARTICLE 6**

### **OTHER PROVISIONS**

**6.1** No Personal Liability. No member, officer, director, principal, joint venturer, beneficiary, trustee, representative, consultant, volunteer participant, employee, agent or representative of the Owner or the Contractor shall be personally liable to the other party under any term or provision of this Contract for any payment obligations or otherwise, or because of any breach hereof, each party agreeing to look solely to the assets of the other party for the satisfaction of any liability hereunder.

**6.2** Consequential Damages. In no event shall the Owner be liable to the Contractor except for payment for Work performed pursuant to and in accordance with the Contract Documents, nor shall the Owner ever be liable to the Contractor for indirect or consequential damages of any name or nature.

**6.3** Termination or Suspension. This Agreement may be terminated or suspended as provided in Articles 16 and 17, respectively, of the General Conditions and as provided elsewhere in the Contract Documents.

**6.4** Certification Relating to Tax Compliance. Pursuant to M.G.L. c. 62C, § 49A, the individual signing this Contract on behalf of the Contractor hereby certifies, under the penalties of perjury, that to the best of his or her knowledge and belief the Contractor has complied with any and all applicable state and federal tax laws.

**6.5** Certification Relating to Debarment. The individual signing this Contract on behalf of the Contractor further certifies under penalties of perjury that the Contractor is not presently debarred from doing public construction work in the Commonwealth under the provisions of M.G.L. c. 29, § 29F, or any other applicable debarment provisions of any other



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chapter of the General Laws or any rule or regulation promulgated thereunder and is not presently debarred from doing public construction work by any agency of the United States.

**6.6** Certification Relating to Health and Safety (M.G.L. c. 30, § 39S). The individual signing this Contract on behalf of the Contractor further certifies: (1) Contractor is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the Work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and the Contractor shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the Work subject to this Contract have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement under seal in multiple counterparts, each of which shall be deemed to be an original hereof and collectively comprising a fully executed instrument, as of the date and year first above written.

**CONTRACTOR**

\_\_\_\_\_  
Name  
Title

\_\_\_\_\_  
Date Signed

**CITY OF EVERETT:**

\_\_\_\_\_  
Director Name  
Managing Department

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Erik Swanson, P.E.  
City Engineer

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Kiara M. Freeman  
Chief Procurement Officer

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Ryan Smith  
City Auditor

\_\_\_\_\_  
Date Signed



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Approved as to Form:

\_\_\_\_\_  
Colleen Mejia, Esq.  
City Solicitor

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Carlo DeMaria  
Mayor

\_\_\_\_\_  
Date Signed





CITY OF EVERETT MASSACHUSETTS  
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**Exhibits:**

- Exhibit A: List of Specifications
- Exhibit B: List of Drawings
- Exhibit C: List of Addenda
- Exhibit D: Equal Employment Opportunity Requirements
- Exhibit E: Affirmative Action Requirements
- Exhibit F: Form of Project Workforce Monthly Report
- Exhibit G: Certificates of Insurance
- Exhibit H: Certificate of Vote of Authorization
- Exhibit I: Performance and Payment Bonds
- Exhibit J: Insurance Requirements



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**EXHIBIT A**

**LIST OF SPECIFICATIONS**



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**EXHIBIT B**

**LIST OF DRAWINGS**



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**EXHIBIT C**

**LIST OF ADDENDA**



## **EXHIBIT D**

### **EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS**

1. **Definitions.** For purpose of this contract, the term “minority” refers to Asian–Americans, Blacks, Spanish Surnamed Americans, North American Indians, and Cape Verdeans. The term “Commission” refers to the Massachusetts Commission Against Discrimination.

2. **Obligations.** During the performance of this contract, the Contractor and each of its subcontractors, and suppliers (hereinafter collectively referred to as the “Contractor”) for themselves, their assignees, and successors in interest, agree as follows:

In connection with the performance of work under this contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age, handicap or sex. The aforesaid provision shall include, but not be limited to, the following: employment upgrading, demotion, or transfer; recruitment advertising; recruitment layoff; termination; rates of pay or other forms of compensation; conditions or privileges of employment; and selection for apprenticeship. The Contractor shall post hereafter in conspicuous places on the project site, available for employees and applicants for employment, notices to be provided by the Commission setting forth the provisions of the Fair Employment Practices Law of the Commonwealth (M.G.L. Chapter 151B).

In connection with the performance of work under this contract, the Contractor, shall undertake, in good faith, affirmative action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age or sex, and to eliminate and remedy any effects of such discrimination in the past. Such affirmative action shall entail positive and aggressive measures to ensure equal opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, layoff or termination, rate of compensation, and in-service or apprenticeship training programs. This affirmative action shall include all action required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, age or sex. A purpose of this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this construction project undertaken by the Owner.

As part of its obligation under the foregoing section, the Contractor shall use its best efforts to maintain on this project a not less than 15.3% ratio of minority employee person hours to total person hours, and a not less than 6.9% ratio of women employee person hours to total person hours.

3. **Compliance with Requirements.** To the extent applicable, the Contractor shall comply with the provisions of Executive Order No. 526, which is herein incorporated by reference and made a part of this contract.



4. Solicitations for Trade Contractors or Subcontractors, and for the Procurement of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of materials or equipment, each potential trade contractor or subcontractor or supplier shall be notified in writing by the Contractor of the Contractor's obligations under this contract relative to equal employment opportunity, non-discrimination and affirmative action.

5. Compliance-Information, Reports and Sanctions. The Contractor will provide all information and reports required by the Owner, and the Contractor will permit access to its facilities and any books, records, accounts and other sources of information which may be determined by the Owner to affect the employment of personnel. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the Owner and shall set forth what efforts it has made to obtain the information. Without limiting the foregoing, the Contractor shall require all trade contractors and subcontractors to submit to the Contractor a Project Workforce Monthly Report, in the form attached to the Agreement between Owner and Contractor as **Exhibit F**. The Contractor shall submit the Project Workforce Monthly Reports to the Owner on a monthly basis, together with a summary report prepared by the Contractor, in a form satisfactory to the Owner, aggregating the information provided in the trade contractors' and subcontractors' Project Workforce Monthly Reports with the Contractor's own workforce information and showing the monthly and total Project-to-date ratios of minority and women workforce hours.

Whenever the Owner believes the Contractor or any trade contractor or subcontractor may not be operating in compliance with the terms of this Section, the Owner, or its designated agent, may conduct an appropriate investigation, and may confer with the parties, to determine if the Contractor is operating in compliance with the terms of this Section. If the Owner finds the Contractor or any trade contractor or subcontractor not in compliance, it shall make a preliminary report on non-compliance, and notify the Contractor in writing of such steps as will in the judgment of the Owner bring the Contractor into compliance.

6. Severability. The provisions of this Exhibit are severable, and if any of these provisions shall be held unconstitutional or unenforceable by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions.

7. Equal Employment Opportunity for Persons with Disabilities. In connection with the performance of work under this contract, the Contractor, trade contractors, subcontractors and suppliers of goods and services shall not discriminate against persons with disabilities. Furthermore, the Contractor, trade contractors, subcontractors and suppliers of goods and services must give written notice of their commitments under this Exhibit to any labor union, association or brotherhood with which they have a collective bargaining contract or other agreement.



## **EXHIBIT E**

### **AFFIRMATIVE ACTION REQUIREMENTS**

During the performance of this contract, the Contractor and each of its subcontractors and suppliers (hereinafter collectively referred to as the “Contractor”) for themselves, their assignees, and successors in interest, agree as follows.

1. **Percentage Participation.** On this contract, the Contractor shall use best efforts to enter into contracts and subcontracts including contracts with suppliers, distributors and manufacturers who are women/minority business enterprises. The Contractor shall use best efforts to enter into contracts worth a combined total 10.4% of the Contract Sum with W/MBE firms.

2. **Definitions.**

- a. Women/minority business enterprise (“W/MBE”) means any business organization certified by SDO as an MBE or WBE. To be certified as a W/MBE, the minority or women must demonstrate at least 51% ownership and control, according to SDO rules and regulations.
- b. Joint Ventures -
  - (1) A joint venture between a certified W/MBE and non-minority or non-WBE shall be certified by SDO as a W/MBE if the certified W/MBE has at least 51% control over the management and receipt of profits of the project bid upon.
  - (2) A joint venture between a certified W/MBE subcontractor and a non-W/MBE subcontractor, in which the W/MBE does not exercise more than 51% control over management and profits, shall be entitled to a credit as a W/MBE for the proportion of the joint venture’s contract equal to the W/MBE participation in the joint venture.
  - (3) Whenever a general bid is filed by a joint venture with a certified W/MBE participant in the joint venture that does not exercise more than 51% control over management and profits, that joint venture shall be entitled to credit as a W/MBE for the portion of the joint venture’s price equal to the W/MBE participation in the joint venture.
  - (4) Whenever a joint venture with a certified W/MBE participant files a general bid or sub-bid, and requests a credit as a W/MBE, the bid must be accompanied by the pre-bid joint venture agreement for that project. SDO certified joint ventures should submit a copy of SDO certification.



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- c. Material Supplier - A vendor certified by SDO as a W/MBE engaged in sales to the construction industry from an established place of business or source of supply, which either:
    - (1) Manufactures goods from raw materials or substantially alters them before resale, entitling the Contractor to W/MBE credit for the full amount of the purchase order; or
    - (2) Maintains a storage facility for materials utilized in the work, entitling the Contractor to W/MBE credit for 10% of the purchase order.
  - d. Amount of Participation - The actual dollar amount which will be paid to W/MBE for work performed on this contract, in accordance with Section 2(b) and 2(c).
  - e. Contractor - Any successful general bidder to whom the Owner makes the contract award.
  - f. SDO - The Massachusetts Supplier Diversity Office (SDO).
  - g. Owner - The City of Everett, Massachusetts.
3. **Determination of W/MBE Status.**
- a. Any Contractor subcontractor, sub-subcontractor or material supplier may apply to SDO for W/MBE status. Applications must be made on the W/MBE application form prepared by SDO. The applicant may request a form from SDO.
  - b. SDO is responsible for preparing, publishing, and updating a list of certified Women and Minority Owned businesses. The list is published in the Central Register established by G.L. Chapter 9, Section 20A and is available from SDO. Bidders shall rely on the list that is most current at the time the work is advertised and shall use it as a reference source to assist in meeting the requirements of these conditions.
- Submission of an application to SDO does not constitute certification.**
4. **Compliance with Requirements.** To the extent applicable, the Contractor shall comply with the provisions of Executive Order No. 524, which is herein incorporated by reference and made a part of this contract.





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**EXHIBIT F**

**FORM OF PROJECT WORKFORCE MONTHLY REPORT**



City Project No. \_\_\_\_\_ Project Name: \_\_\_\_\_ Project Location: \_\_\_\_\_

Name of Contractor Filing Report \_\_\_\_\_

Month Ending: \_\_\_\_\_ **Minority Participation Goal: 15.3%** **Women Participation Goal: 6.9%**

[illegible]



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**CITY PROJECT # PLD-26-61**

**EXHIBIT G**

**CERTIFICATES OF INSURANCE**



**EXHIBIT H**

**CERTIFICATE OF VOTE OF AUTHORIZATION**

AT A DULY AUTHORIZED MEETING OF THE BOARD OF DIRECTORS OF THE [NAME OF CORPORATION] held on [DATE], at which a quorum of the Directors were present or waived notice, it was voted that [NAME AND TITLE] of this company be and hereby is authorized to execute contracts and bonds in the name and behalf of said company, and affix its Corporate Seal thereto, and such execution of any contract or bond of obligation in this company's name on its behalf of such [OFFICER] under seal of the company shall be valid and binding upon this company.

A TRUE COPY,

ATTEST: \_\_\_\_\_

Place of Business:

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

I hereby certify that I am the [TITLE] of the [NAME OF CORPORATION] and that [NAME OF OFFICER] is the duly elected [TITLE] of said company, and the above vote has not been amended or rescinded effect as of the date of this contract.

Signature: \_\_\_\_\_

Name/Title: \_\_\_\_\_

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

(Corporate Seal)

COMMONWEALTH OF MASSACHUSETTS, SS. \_\_\_\_\_, 20\_\_

Then personally appeared the above named \_\_\_\_\_ and acknowledged the foregoing instrument to be his/her free act and deed before me.

NOTARY PUBLIC \_\_\_\_\_

My commission expires: \_\_\_\_\_



CITY OF EVERETT MASSACHUSETTS  
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**EXHIBIT I**

**PERFORMANCE AND PAYMENT BONDS**



**EXHIBIT J**

**STANDARD INSURANCE LIMIT REQUIREMENTS**

The following minimum insurance limits shall apply to the Contract and be provided by the Contractor. The Contractor shall refer to the Contract Documents for all other insurance requirements relating to this Contract.

Coverage	Estimated Construction Cost	General Contractor
General Liability <sup>1</sup>	-	\$1,000,000 per Occurrence/ \$2,000,000 Aggregate
Auto <sup>2</sup>	-	\$1,000,000 each accident
Worker's Compensation	-	Statutory
Employers Liability	under \$1m	\$500,000 Each Accident \$500,000 Disease - Each Employee \$500,000 Disease - Policy Limit
Employers Liability	\$1m and over	\$1,000,000 Each Accident \$1,000,000 Disease - Each Employee \$1,000,000 Disease - Policy Limit
Excess/Umbrella	under \$1m	\$2,000,000 Per Occurrence \$2,000,000 Aggregate or Higher

<sup>1</sup> Must evidence per location aggregate or per project aggregate.

<sup>2</sup> Combined single limit



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Coverage	Estimated Construction Cost	General Contractor
Excess/Umbrella	between \$1m and \$5m	\$5,000,000 Per Occurrence \$5,000,000 Aggregate or Higher
Excess/Umbrella	under \$10m	\$10,000,000 Per Occurrence \$10,000,000 Aggregate or Higher
Excess/Umbrella	\$10m and over	\$20,000,000 Per Occurrence \$20,000,000 Aggregate or Higher
Contractor's Pollution Liability	-	\$5,000,000 per occurrence and \$5,000,000 Annual Aggregate or higher.
Drone/UAV Aircraft Liability <sup>3</sup>	-	No less than \$2,000,000

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<sup>3</sup> Required only if the work of the vendor includes operation, or arranging for the operation, of unmanned aerial systems (i.e., drones) services.

**CITY OF EVERETT, MASSACHUSETTS**



**GENERAL CONDITIONS OF THE  
CONTRACT FOR CONSTRUCTION**

**to the**

**AGREEMENT BETWEEN OWNER AND CONTRACTOR  
PURSUANT TO M.G.L. CHAPTER 30, § 39M**

**Dated as of July 9, 2025**

**by and between**

**CITY OF EVERETT, MASSACHUSETTS  
AS OWNER**

**and**

**[NAME]  
AS CONTRACTOR**





CITY OF EVERETT MASSACHUSETTS  
WICKED COOL MYSTIC II – COOLING INTERVENTIONS  
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**City Project #: PLD-26-61**



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## **GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION**

### **ARTICLE 1 DEFINITIONS; CONTRACT DOCUMENTS**

#### **1.1 DEFINITIONS**

Wherever used in the Contract Documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof. The order of the terms defined below is alphabetical, and is not intended to indicate any priority.

**1.1.1 Affiliated Entities** - Any entity related to or affiliated with the Contractor or any Subcontractor or with respect to which the Contractor or any Subcontractor has direct or indirect ownership or control, including without limitation, any entity owned in whole or in part by the Contractor or any Subcontractor, as applicable; any holder of any issued and outstanding shares of, or the holder of any interest in, the Contractor or any Subcontractor, as applicable; any entity in which any officer, director, partner, shareholder, member, or manager (or member of the family of any of the foregoing persons) has a direct or indirect interest, which interest includes, but is not limited to, that of a partner, shareholder, officer, director, member, manager, or agent.

**1.1.2 Agreement** – The fixed-price Agreement between Owner and Contractor.

**1.1.3 Applicable Laws** - As defined in Subsection 1.2.1.

**1.1.4 “Approve”, “approved” or “approval”** means written approval by a duly authorized representative.

**1.1.5 Engineer** - The Engineer designated in the Agreement or its authorized representatives.

**1.1.6 Engineer’s Supplemental Instructions** - A written document issued by the Engineer for clarification which may order a minor change in the Work and which does not require an adjustment in the Contract Sum and/or an extension of the Contract Time. The Engineer’s Supplemental Instructions shall be issued on AIA Document G710 or other form issued by or acceptable to the Owner.

**1.1.7 Change Order** - A written order prepared by the Engineer, issued by the Owner to the Contractor and signed by the Owner, the Contractor and the Engineer authorizing an addition to, deletion from or revision in the Work and any adjustment in the Contract Sum and/or Contract Time that may be required in accordance with the terms of the Contract. Change Orders shall be issued on AIA Document G701/2000 or other form issued by or acceptable to the Owner.



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**1.1.8 Construction Change Directive** - A written order prepared by the Engineer, issued by the Owner to the Contractor, and signed by the Owner and the Engineer authorizing the Contractor to proceed with a change in the Work. Construction Change Directives shall be issued on AIA Document G714 or any other form issued by or acceptable to the Owner. A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith and shall be considered a Change Order.

**1.1.9 Construction Period** - The period of the Contract Time which commences upon the issuance of the initial Notice to Proceed with Construction and concludes on the Final Completion Date.

**1.1.10 Contract** - As defined in the Agreement.

**1.1.11 Contract Documents** - As defined in the Agreement.

**1.1.12 Contract Sum** - As defined in the Agreement, subject to amendment in accordance with the provisions of the Contract.

**1.1.13 Contract Time** - As defined in the Agreement, subject to amendment in accordance with the provisions of the Contract.

**1.1.14 Contractor** - The entity with which the Owner has executed the Agreement. Wherever the term "Contractor" appears in the Contract Documents, it means the Contractor and Subcontractors who are obligated to perform all, or a part of, the Work described by the Contract Documents.

**1.1.15 Critical Path** - The sequential Critical Path Activities shown on the Project Schedule from the date of commencement of the Work through Final Completion.

**1.1.16 Critical Path Activity** - Any activity identified on the Project Schedule which, if delayed or prolonged, would cause the Construction Period to extend beyond the Contract Time.

**1.1.17 Day** - As used in the Contract Documents, the term shall mean calendar day. The terms "working day" and "business day" shall mean any calendar day except Saturdays, Sundays, and legal holidays at the place where the Project is located.

**1.1.18 Delay Event** - As defined in Subsection 9.4.1 of these General Conditions.

**1.1.19 Drawings** - The graphic and pictorial depictions of the Work prepared by the Engineer, wherever located and whenever issued, showing the design, location, scope and dimensions of the Work, or parts thereof, generally including plans, elevations, sections, details, schedules and diagrams and any narrative notes thereon.



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**1.1.20 Excusable Delay** - Any act, omission, event or condition which delays performance of the Work, for which the Contractor is entitled, under applicable provisions of the Contract Documents, to an extension of the Contract Time.

**1.1.21 Final Completion** - As defined in Subsection 10.8.5 of these General Conditions.

**1.1.22 Final Completion Date** - The date set forth in the Agreement on or prior to which Final Completion is required to be achieved.

**1.1.23 Notice to Proceed (NTP)** – A written communication issued by the Owner to the Contractor authorizing it to proceed with a specified portion of the Work.

**1.1.24 Owner’s Representative** - A project manager retained by the Owner to represent it in connection with the Project. The Owner’s Representative is designated in the Agreement.

**1.1.25 Product Data** - Illustrations, standard schedules, performance charts, instructions, brochures, diagrams and any other information furnished by the Contractor to illustrate a material, product, assembly, or system for a portion of the Work. Product data are not Contract Documents.

**1.1.26 Project Schedule** - As defined in Section 9.2 of these General Conditions.

**1.1.27 “Provide” or “Provided”** - where used in the Contract Documents, such words shall be construed to mean “furnish(ed)” and “install(ed)” and/or “connect(ed)”, unless specifically stated otherwise.

**1.1.28 Request for Information (RFI)** - A written and logged request issued by the Contractor, or any Subcontractor through the Contractor, to the Engineer, with a copy sent to the Owner’s Representative, requesting information about some aspect of the Contract Documents.

**1.1.29 Samples** - Physical examples that illustrate materials, products, equipment or workmanship and which, when approved in accordance with the Contract Documents, establish standards by which the Work will be inspected and judged. Samples are not Contract Documents.

**1.1.30 Schedule of Values** – A schedule, prepared and maintained by Contractor for lump sum portions of the Work, allocating portions of the Contract Sum to various portions of the Work as required by Section 10.1 of these General Conditions.

**1.1.31 Shop Drawings** - All drawings, prints, diagrams, illustrations, brochures, schedules and other data prepared by the Contractor, a Subcontractor, or a Supplier





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to illustrate how specific portions of the Work shall be fabricated and/or installed. Shop Drawings are not Contract Documents.

**1.1.32 “Shown” or “shown on Drawings”** - Where used in the Contract Documents, such words shall be construed to mean “noted”, “indicated”, “scheduled”, “detailed”, or any other diagrammatic or written reference made in any of the Contract Documents.

**1.1.33 Site** - The area or areas indicated within the contract limit lines on the Drawings or otherwise defined in the Contract Documents, together with such additional areas or locations adjacent thereto in which construction operations or Work required under the Contract may be performed.

**1.1.34 Specifications** - Written narrative descriptions, prepared by the Engineer, of requirements for materials, equipment, systems, standards and workmanship for the Work, and requirements for the performance of construction services.

**1.1.35 State University** – the State University campus on which the Project is located.

**1.1.36 Subcontractor** - An entity having a contract with the Contractor or with any other Subcontractor, regardless of tier, for the performance of a part of the Work required under the Contract Documents.

**1.1.37 Substantial Completion** - As defined in Subsection 9.1.3 of these General Conditions.

**1.1.38 Substantial Completion Date** - The date set forth in the Agreement on or prior to which Substantial Completion is required to be achieved.

**1.1.39 Supplier** - Any entity having a contract with the Contractor, any Subcontractor or other supplier regardless of tier, who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the Site.

**1.1.40 Work** – As defined in the Agreement.

## **1.2 INTERPRETATION OF CONTRACT DOCUMENTS**

**1.2.1** This Contract is subject to all applicable laws, regulations, codes, ordinances, rules, and orders of the United States of America, the Commonwealth of Massachusetts, and other governmental or public agencies and authorities with jurisdiction over the Project, and to all contracts and other agreements between the Owner and any such governmental or public agencies and authorities, referred to or incorporated in the Contract Documents (the “Applicable Laws”).



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**1.2.2** The Contractor shall inform itself of all Applicable Laws in any manner affecting the Work, or the materials used or employed in the Work, or in any way affecting the conduct of the Work, and of all orders and decrees of bodies or tribunals having any jurisdiction or over the Work. The Contractor shall comply, and shall cause all persons and Subcontractors employed in the performance of the Work to comply, with all Applicable Laws.

**1.2.3** Where any requirements contained in the Contract Documents do not conform to or are inconsistent with such Applicable Laws to which the Contract is subject or by which it is governed, such Applicable Laws shall have precedence over any matters set forth herein and the Contractor agrees to comply fully therewith. The Owner makes no representation as to and assigns no responsibility for the correctness or completeness of such statutory matters referred to or set forth in the Contract Documents.

**1.2.4** The Contractor represents that it has examined and understands all of the Contract Documents and has visited the Site, examined and familiarized itself with the local conditions under which the Work is to be performed, including any work in progress under previously awarded contracts, verified to its satisfaction the nature and quantity of the Work involved, and correlated its observations with the requirements of the Contract Documents, and, by execution of the Agreement, the Contractor acknowledges its satisfaction with the same.

**1.2.5** The intent of the Contract Documents is to describe the Work that, once constructed by the Contractor, will result in a functionally complete facility. It is intended that the Contractor shall furnish all Work necessary for the proper execution and completion of the Project in accordance therewith, including all Work incidental to or reasonably inferable from the Contract Documents as being necessary to produce the intended results, unless it is specifically indicated in the Contract Documents that such work is to be performed by others, and to complete the Project in a satisfactory manner, ready for use, occupancy, and operation by the Owner. The Contractor recognizes, and agrees to perform the Work consistent with the extra degree of care and skill required in an occupied academic campus setting with respect to safety, protection of pedestrians, cleanliness of the Site, health and the protection of existing utilities, adjacent streets and property. In agreeing to the Contract Time and the Contract Sum, the Contractor has considered and included those circumstances.

**1.2.6** Unless the Contract Documents specifically provide otherwise or the context clearly requires a different meaning, the terms “directed,” “required,” “permitted,” “ordered,” “designated,” “prescribed,” and words of like import shall imply the direction, requirement, permission, order, designation, or prescription of the Owner’s Representative or the Engineer, subject in each case to the final determination of the Owner; and “approved,” “acceptable,” “satisfactory,” and words of like import shall mean approved by, or acceptable or satisfactory to the Owner’s Representative or the Engineer, subject in each case to the final determination of the Owner; and “necessary,” “reasonable,” “proper,” “correct,” and words of like import shall mean necessary, reasonable, proper or correct in the judgment of the Owner’s Representative or the Engineer, subject in each case to the final determination of the Owner.



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**1.2.7** In case of discrepancies or conflicts among the Contract Documents or within any of the Contract Documents, the Contract Documents shall be interpreted on the basis of the following priorities:

- (a) First, written amendments, including Change Orders, to the Agreement – those of a later date shall take precedence over those of an earlier date;
- (b) Second, the Agreement Between Owner and Contractor;
- (c) Third, Supplementary General Conditions, if any;
- (d) Fourth, General Conditions;
- (e) Fifth, Specifications; and
- (f) Sixth, Drawings.

Among Drawings, large scale details shall control over small scale details, and indicated dimensions shall control over Drawings not dimensioned. In the event of a conflict or ambiguity within or between the Specifications or Drawings as to the quantity or quality of work or materials, the higher quality or greater quantity shall be furnished unless otherwise directed in writing by the Owner or the Engineer.

**1.2.8** Any information contained in the Specifications that has been omitted from the Drawings or vice versa shall be construed as though contained in both. In the event of any duplication, conflict, inconsistency, error, omission, or discrepancy among or within the Drawings and the Specifications (or among or within other portions of the Contract Documents so far as the same pertain to the Drawings or the Specifications), the matter shall promptly be brought to the attention of the Engineer for instructions. If, having identified any duplication, conflict, inconsistency or discrepancy, the Contractor proceeds with the Work without receiving instructions from the Engineer, the Contractor does so at its own risk and shall be responsible for performing any corrective Work at its own cost and without entitlement to any adjustment in the Contract Sum or the Contract Time.

**1.2.9** 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 Contract Documents, except where a contrary result is explicitly indicated by the Contract Documents. A typical or representative detail indicated on the Drawings shall constitute the standard for workmanship and material throughout the corresponding parts of the Work. Where necessary and where reasonably inferable from the Contract Documents, the Contractor shall adapt such representative detail for application to such corresponding parts of the Work. The details of such adaptation shall be subject to prior approval by the Engineer. Repetitive features shown in outline on the Drawings shall be in exact accordance with corresponding features completely shown.



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**1.2.10** Where laws, regulations, codes, standards, requirements or publications of public or private bodies are referred to in the Contract Documents, references shall be understood to be to the latest revision in effect on the date of execution of the Contract Documents, except where otherwise indicated. The Contractor warrants that all Work performed hereunder shall meet the requirements of all such laws, regulations, codes, standards, requirements and publications which are applicable to the Project. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

**1.2.11** 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:

- (a) a duly-executed amendment to the Contract;
- (b) a Change Order (pursuant to Section 13.1); or
- (c) a Construction Change Directive (pursuant to Section 13.2).

The Contract Sum and the Contract Time may only be changed by a Change Order or a written amendment. In addition, the requirements of the Contract Documents may be clarified or supplemented, and minor variations and deviations in the Work may be authorized, by the Engineer's Supplemental Instructions pursuant to Section 13.6 or by the Engineer's approval of Submittals pursuant to Section 3.8.

**1.2.12** The organization of the Specifications into divisions, sections and articles, and the arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade or subcontractor. A section or division of the Specifications may cover the Work of more than one Subcontractor and the Work of one Subcontractor may be covered by more than one section or division of the Specifications. The Contractor and all Subcontractors shall refer to all of the Drawings, and to all of the Sections of the Specifications, and shall perform all Work reasonably inferable therefrom as being necessary to produce the intended results. The Owner assumes no liability to the Contractor arising out of jurisdictional issues raised or claims advanced by trade organizations, Subcontractors or other interested parties based on the arrangement or manner of subdivision of the content of the Specifications and Drawings. In the event of any claim arising out of any duplication, conflict, inconsistency or discrepancy within the Contract Documents as to the allocation of the Work among and between the Subcontractors and the Contractor's own forces, the Contractor shall be solely responsible for resolving the claim and shall be responsible for ensuring that all of the Work is completed without additional cost to the Owner and without delay, regardless of where or how it is described in the Contract Documents.

**1.2.13** If any term or provision of any of the Contract Documents, or the application thereof to any party or circumstance shall, to any extent, be determined to be invalid or unenforceable, the remaining provisions of the Contract Documents, or the application of



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such term or provision to parties or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of each of the Contract Documents shall be valid and shall be enforced to the fullest extent permitted by law.

**1.2.14** The Contract Documents shall not be construed to create a contractual relationship of any kind between: (1) the Engineer and the Contractor; (2) the Owner and any Subcontractor or Supplier; or (3) between any other persons or entities other than the Owner and the Contractor. The Contractor understands and agrees that the obligations of the Owner's Representative and the Engineer are solely to the Owner and, by performing those obligations properly, the Owner's Representative or the Engineer may increase the burdens and expenses of the Contractor, its Subcontractors, or sureties or any of them.

### **1.3 OWNERSHIP AND USE OF DOCUMENTS**

**1.3.1** All Contract Documents and other related materials and copies thereof prepared or furnished to the Contractor are the property of the Owner, subject to the rights of the Engineer as provided in the Owner-Engineer Agreement. With the exception of one contract set for the Contractor, such documents shall be returned (or suitably accounted for) to the Owner, or if requested by the Owner, lawfully disposed of by the Contractor at the completion of the Work, as a condition precedent to final payment. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project shall not be construed as publication in derogation of the Engineer's common law copyright or other reserved rights.

### **1.4 OTHER REPRESENTATIONS**

**1.4.1** The Contractor shall perform the Work strictly in accordance with the Contract Documents. The Contractor accepts the relationship of trust and confidence established between it and the Owner established by the Agreement and other Contract Documents. The Contractor covenants with the Owner to furnish its best skill and judgment and to cooperate with the Owner, the Owner's Representative, the Engineer and any other consultants employed by the Owner in furthering the interests of the Owner. The Contractor agrees to furnish efficient business administration, coordination, and superintendence and to furnish at all times an adequate supply of workers and materials, and to perform the Work in the best way and in the most expeditious and economical manner consistent with the interests of the Owner and to make every effort to achieve time savings and construction efficiencies with respect to the Work.

## **ARTICLE 2 ADMINISTRATION OF THE CONTRACT**

### **2.1 OWNER'S REPRESENTATIVE**

**2.1.1** The Owner's Representative, if one has been retained by the Owner, and the Engineer will assist the Owner in the administration of the Contract as provided in the



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Contract Documents. The Owner's Representative and the Engineer may act directly or through their properly authorized agents, such agents acting within the scope of the particular duties entrusted to them. The Engineer and the Owner's Representative will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents or as may be specified in writing by the Owner.

**2.1.2** The Engineer and the Owner's Representative will be representatives of the Owner during construction of the Work and until final payment is due and will advise and consult with the Owner as to the performance and progress of the Work. The Owner may communicate with the Contractor directly or through the Owner's Representative or the Engineer. The Owner will endeavor to furnish to the Engineer copies of any communications from the Owner to the Contractor, directly or through the Owner's Representative.

## **2.2 DESIGNER'S SITE VISITS**

**2.2.1** The Engineer will visit the Site at intervals appropriate to the stage of construction as may be required to familiarize itself generally with the progress and quality of the Work and to determine in general whether the Work is proceeding in accordance with the Contract Documents. However, the Engineer will not be required to make exhaustive or continuous on-site inspections. On the basis of its on-site observations as a design professional, it will keep the Owner's Representative and the Owner informed of the progress and quality of the Work.

**2.2.2** Neither the Owner, the Owner's Representative, nor the Engineer will have control, or charge of, or be responsible for, construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and nor will any of them be responsible for the acts or omissions of the Contractor, Subcontractors or any other persons or entities performing any of the Work, or for the failure of any of them to carry out the Work in accordance with the Contract Documents.

**2.2.3** All portions of the Work shall be subject to inspection and testing by the Engineer and the Owner's Representative. The Engineer will have authority to reject Work which does not conform to the Contract Documents. The Contractor shall, at its sole cost and expense, furnish the Engineer with such information and assistance (including, without limitation, labor, tools, equipment and transportation) as is required for the Engineer to make complete and detailed inspections or tests. Whenever the Engineer considers it necessary or advisable for the implementation of the intent of the Contract Documents, the Engineer will have authority to require special inspection or testing of portions of the Work in accordance with Article 8 hereof whether or not such Work be then fabricated, installed or completed. However, neither the Engineer's authority to act hereunder, nor any decision made by the Engineer in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Engineer to the Contractor, any Subcontractor, any of their agents or employees, or any other person or entity performing any of the Work.





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## **2.3 DESIGNER'S SUPPLEMENTAL INSTRUCTIONS**

**2.3.1** The Engineer will render, in writing, Engineer's Supplemental Instructions and other interpretations necessary for the proper execution or progress of the Work, with reasonable promptness. Either party to the Contract may request such interpretations from the Engineer by giving written notice of such request to the Engineer with a copy thereof given to the other party, or the Engineer may initiate such Engineer's Supplemental Instructions or other interpretations upon notice to the Owner's Representative. The Engineer will, as it judges necessary or desirable, issue as a part of such Engineer's Supplemental Instructions additional drawings, specifications, or instructions indicating in greater detail the construction or design of the various parts of the Work reasonably inferable from the Contract Documents, and, provided such Engineer's Supplemental Instructions are reasonably consistent with the previously existing Contract Documents, the Work shall be executed in accordance with such Engineer's Supplemental Instructions without increase in the Contract Sum or extension of the Contract Time. Such change shall be effected by written order issued by the Engineer and delivered to the Contractor. If the Engineer determines that implementation of the requested changes would result in a material change to the Contract that may cause an adjustment in the Contract Time or Contract Sum, the Engineer may make a recommendation to the Owner, which may authorize further investigation of such change. Upon such authorization, and based upon any information furnished by the Owner's Representative, the Engineer shall review and advise the Owner and the Owner's Representative concerning the additional cost and time that might result from such change. With the Owner's approval, the Engineer shall request the Contractor to incorporate those estimates into a Change Order or other appropriate documentation for the Owner's execution or negotiation with the Contractor.

## **2.4 DESIGNER'S INTERPRETATIONS**

**2.4.1** Interpretations and decisions of the Engineer shall be consistent with the intent of, and reasonably inferable from, the Contract Documents and shall be in written or graphic form. In the capacity of interpreter, the Engineer shall endeavor to secure faithful performance by both the Owner and the Contractor, shall not show partiality to either, and shall not be liable for the result of any interpretation or decision rendered in good faith in such capacity.

## **2.5 SUBMITTALS**

**2.5.1** The Engineer will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples but only for the purpose of checking for conformance with the design concept and with the information in the Contract Documents. The Engineer shall communicate all such approvals or other actions to the Contractor with copy to the Owner's Representative. Review of such submittals is not conducted for the purpose of substantiating instructions for installation or performance of equipment or systems designed by the Contractor, all of which remain the responsibility of the



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Contractor. The Engineer's review shall not constitute approval of safety precautions or of construction means, methods, techniques, sequences, or procedures. The Engineer's approval of a specific item shall not constitute approval of an assembly of which the item is a component. The Engineer shall not be required to review partial submittals nor submittals for which necessary correlated submissions have not been received.

## **2.6 REPLACEMENT DESIGNER**

**2.6.1** In case of the termination of the employment of the Engineer, the Owner shall appoint a designer whose status under the Contract Documents shall be that of the former designer. The Contractor shall cooperate with the replacement designer in connection with the completion of the Work. Replacement of the Engineer shall not entitle the Contractor to any adjustment in the Contract Sum or the Contract Time.

## **ARTICLE 3 CONTRACTOR'S RESPONSIBILITIES**

### **3.1 DUTY TO REVIEW CONTRACT DOCUMENTS AND SITE CONDITIONS**

**3.1.1** Before starting the Work, and continuously during the progress thereof, the Contractor shall carefully examine the Site, take field measurements, and carefully study and compare the Contract Documents with each other and with conditions at the Site, including work completed or in progress under other contracts, and with such other information, documents, plans and criteria as may be available in connection with the Project and shall immediately communicate to the Engineer and the Owner, in writing, all errors, inconsistencies and omissions it discovers. If the Contractor proceeds with the Work without such notice to the Engineer and the Owner, having discovered such errors, inconsistencies or omissions, or if by reasonable study of the Contract Documents and other conditions the Contractor could have discovered the same, the Contractor shall perform all necessary corrective work and bear all costs and expenses arising therefrom and shall have no claim for increases in the Contract Sum or extensions of the Contract Time for extra work made necessary thereby.

**3.1.2** The Contractor shall give the Engineer timely written notice of any additional Drawings, Specifications, clarifications or instructions required to define the Work in greater detail or otherwise required to permit the proper progress of the Work. 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 Engineer. If the Contractor proceeds with such Work without obtaining further drawings or instruction, the Contractor shall correct, at its own expense, Work incorrectly done.

**3.1.3** Without limitation, the Contractor shall review the Contract Documents for clarity, consistency, constructability, maintainability, operability and coordination among trades, and time requirements for procurement, installation and construction, and sequence of





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construction, including recommendations designed to minimize adverse effects of labor or material shortages.

**3.1.4** If the Contractor recognizes or discovers that any portion of the Drawings and Specifications is at variance with Applicable Laws, the Contractor shall immediately notify the Owner and the Engineer in writing and shall not proceed with such Work without specific written direction by the Owner. If the Contractor performs any Work knowing or having reason to know that said Work is contrary to Applicable Laws and without so notifying the Owner and the Engineer, the Contractor shall assume full responsibility therefor and shall bear all costs of correction thereof, and any other costs including any loss, cost or damage sustained by the Owner attributable thereto.

**3.1.5** The Contractor shall at all times provide the Engineer, its representatives and consultants, the Owner's Representative, and the Owner, and its agents, employees, representatives, other contractors, and consultants with access to the Site and the Work wherever it is in preparation and progress. The Contractor shall provide safe and proper facilities for such access and for observation, testing, and inspection of the Work.

## **3.2 SUPERVISION AND CONSTRUCTION PROCEDURES**

**3.2.1** The Contractor shall supervise, coordinate, and direct the Work competently and efficiently, using its best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract. The Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents. The Contractor shall not be relieved from its obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Engineer or the Owner's Representative in their administration of the Contract, or by inspections, tests or approvals required or performed under Article 8 hereof by persons other than the Contractor.

**3.2.2** The Contractor's Project Team shall consist of, as a minimum, a qualified Project Executive, Project Manager, Project Superintendent, and other necessary assistants and technical and administrative personnel. The Project Superintendent shall be licensed by the Commonwealth of Massachusetts. No change shall be made in the composition of the Project Team without the Owner's prior written approval. The removal or replacement without the Owner's consent of any of the identified members of the Contractor's Project Team shall constitute a material breach of the Contract. The Owner may require replacement of any member of the Contractor's Project Team upon notice to the Contractor with or without cause.

**3.2.3** Both the Project Manager and the Project Superintendent shall have full authority to act on behalf of the Contractor. The Project Manager or Project Superintendent and necessary assistants shall be in attendance at the Site at all times during the progress of the Work until Final Completion. The Project Manager and the Project Superintendent shall



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represent the Contractor and notices or other communications given to the Project Manager or the Project Superintendent shall be as binding as if given to the Contractor directly.

**3.2.4** During the course of construction, the Engineer or the Owner's Representative shall schedule, convene and conduct Project meetings for the purpose of conducting an orderly review of the progress of the Work, as often as the Engineer or the Owner deems necessary, but at least once each week, in accordance with a schedule established by the Engineer. Such meetings shall be held at the Site and shall be attended by representatives of the Owner, the Contractor and the Engineer. Representatives of Subcontractors shall attend such meetings as necessary when Subcontractors are performing significant work on the Project or when a Subcontractor's presence is requested by the Owner or the Engineer. The Contractor's representative(s) at each meeting shall be the Project Manager and the Project Superintendent. The Engineer shall take minutes of each meeting in form, substance, and detail acceptable to the Owner.

**3.2.5** The Contractor shall furnish sufficient forces, plant, and equipment as may be necessary to insure the progress of the Work in accordance with the Project Schedule (as defined below). If the Contractor falls behind the Project Schedule, the Contractor shall promptly submit a proposal demonstrating the manner in which the rate of progress may be increased and shall take such steps as may be necessary to meet the Project Schedule at no additional cost to the Owner. It shall be the responsibility of the Contractor to maintain its schedule so as not to delay the progress of the Work or the scheduled work of other contractors.

**3.2.6** The Contractor shall be solely responsible for properly laying out the Work, and for all lines, elevations and measurements for all of the Work. It shall verify the figures shown on the Drawings before laying out the Work and will be responsible for any errors or inaccuracies resulting from its failure to do so.

**3.2.7** 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, but 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 Owner's Representative and the Engineer in writing 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 or 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 Owner's Representative and the Engineer in writing that such means, methods, techniques, sequences or procedures are not safe or suitable, and the Contractor has then been instructed in writing to proceed at the Owner's risk.



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**3.2.8** If any portion of the Work is suspended by the Contractor for any reason at any time, prior notice shall be given to the Owner's Representative of such suspension and of the resumption of such Work.

**3.2.9** If the Contractor observes or determines that any Work previously performed under the Contract or any work performed by the Owner or by a separate contractor is not in accordance with the Contract Documents or is otherwise unsatisfactory, the Contractor shall promptly notify the Owner's Representative and the Engineer in writing describing the situation in full detail.

### **3.3 LABOR AND MATERIALS**

**3.3.1** The Contractor shall provide competent, suitably qualified personnel to perform all Work as required by the Contract Documents. Unless otherwise specified in the Contract Documents, the Contractor shall furnish at its expense 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 utilities, services, facilities and incidentals necessary for the proper furnishing, performance, testing and completion of the Work.

**3.3.2** All materials and equipment shall be of first quality and new and of recent manufacture, except as otherwise expressly provided in the Contract Documents. If required by the Engineer, or the Owner's Representative, the Contractor shall furnish written information or other satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment, and stating the original sources of supply of materials and products manufactured or produced at locations other than the Site of the Work. In order to permit time for required inspections, testing and approvals, such information shall be furnished at least thirty days (or as otherwise directed by the Engineer or the Owner's Representative) in advance of the incorporation of any such materials or products in the Work. The Contractor shall make no claim for extra cost or extension of the Contract Time arising directly or indirectly out of its failure to timely select materials or products to permit a reasonable time for completion of inspections, testing or approvals, or because of the Contractor's purchase of materials or products in advance of approval.

**3.3.3** Reference in the Contract Documents to any product, material, equipment, method or process by proprietary name, manufacturer, vendor, supplier, make or catalog number shall be interpreted as establishing a standard of quality.

**3.3.4** Except in the case of minor changes in the Work authorized by the Engineer in accordance with the provisions of the Contract Documents, the Contractor may make substitutions only in conformance with the provisions of Section 00.73.73 of the Specifications (M.G.L. c. 30, § 39M(b)).

**3.3.5** The Contractor's attention is directed to M.G.L. c. 30, § 39I which provides criminal penalties for unauthorized deviations from the Drawings and Specifications:



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“Contractor shall perform all Work required by the Contract in conformity with the plans and specifications contained therein or made a part thereof. No willful and substantial deviation from said plans and specifications shall be made unless authorized in writing by the Owner or by the Engineer who is duly authorized by the Owner to approve such deviations. In order to avoid delays in the prosecution of the Work required by the Contract such deviation from the plans or specifications may be authorized by a written order of the Owner or Engineer so authorized to approve such deviation. Within thirty days thereafter, such written order shall be confirmed by a certificate of the Owner 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 Owner and the Contractor and the amount in dollars of said adjustment; and (4) that the deviation is in the best interest of the Owner. 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.”

**3.3.6** The Owner will consider formal written requests made through the Engineer for the substitution of products in place of those specified only under the conditions set forth in the Contract Documents, unless otherwise expressly agreed by Owner in its sole discretion. By making requests for substitutions, the Contractor:

- (a) represents that it has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified, and expressly warrants that such proposed substitute product will perform adequately the functions and achieve the results called for by the Contract Documents;
- (b) represents that it will provide the same warranties and guarantees for the substitute product that it would for that specified;
- (c) certifies that the cost data presented is complete and includes all related costs under the Contract but excluding costs under other contracts (but separately identifying such costs, if any, of other contracts), and excluding the Engineer’s redesign costs, if any, and waives all claims for additional costs related to the substitution which subsequently become apparent;
- (d) certifies that the proposed substitution will not result in any increase in the Contract Sum and represents and agrees that any cost savings will be passed through to the Owner in the form of a credit against the Contract Sum; and



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- (e) will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

Notwithstanding approval or acceptance of such substitution by the Owner, any additional cost, or any loss or damage to the Owner arising from the substitution of any material or any method for those originally specified, shall be borne by the Contractor, including, without limitation, the costs of modifying Contract Documents and additional fees of the Engineer, the Owner's consultants or engineers, unless such substitution was made at the written request or order of the Owner.

**3.3.7** The Contractor shall at all times enforce strict discipline and good order among and between its employees and the employees of its Subcontractors and shall not employ or permit to be employed on the Work any person who is not properly skilled in the work to be performed by it or who is otherwise unfit. Whenever the Owner shall notify the Contractor in writing that any person employed on the Work is, in the opinion of the Owner or the Engineer, incompetent, disorderly or otherwise unsatisfactory, such person shall be discharged immediately and shall not again be employed on the Work except with the prior written consent of the Owner.

**3.3.8** The Contractor shall furnish labor that can and will work in harmony with all other elements of labor employed or to be employed on the Project. The costs of maintaining labor harmony, including without limitation, the cost of security, public safety measures and necessary traffic management shall be paid by the Contractor and the Contractor shall have no claim for any costs of maintaining labor harmony.

**3.3.9** Any employee found on site subject to M.G.L. c. 30, § 39S without documentation of successful completion of a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten (10) hours in duration shall be subject to immediate removal and the Contractor shall immediately remove any such employee.

**3.3.10** The Contractor will not be entitled to additional compensation for Work performed outside of regular working hours, except as otherwise expressly authorized in writing by the Owner prior to the performance of such overtime or premium shift work. Additional compensation for such authorized overtime or premium shift work shall be limited to the direct cost of the premium portion of such authorized overtime. The Contractor shall comply with M.G.L. c. 149, §§ 30, 34 and 34A which provide that no laborer, workman, mechanic, foreman or inspector working within the Commonwealth in the employ of the Contractor, Subcontractor or other person doing or contracting to do the whole or part of the Work shall be required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week, or more than six days in any one week, except in cases of extraordinary emergency.

**3.3.11** All materials and equipment shall be delivered, handled, stored, installed and protected to prevent damage in accordance with the best current practice in the industry, in





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accordance with the manufacturers' specifications and recommendations, and in accordance with Contract Document requirements. The Contractor shall deliver materials and equipment in ample time to facilitate inspection and testing prior to installation. The term "delivery" in reference to any item specified or indicated, means the unloading and storing with proper protection at the Site. Damaged materials or equipment may be rejected and the Contractor shall provide conforming materials or equipment at no additional cost.

**3.3.12** The Contractor shall be responsible for determining that all materials furnished for the Work meet all the requirements of the Contract Documents. The Owner's Representative or the Engineer may require the Contractor to produce reasonable evidence that a material meets such requirements, such as certified reports of studies by qualified experts, or other evidence which, in the opinion of the Engineer, 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.

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

**3.3.14** The layout of mechanical and electrical systems, equipment, fixtures, piping, duct work, conduit, specialty items, and accessories indicated on the Contract Documents is diagrammatic, and all variations in alignment, elevations, and detail required to avoid interferences and satisfy architectural, engineering and structural limitations are not necessarily shown. Prior to the commencement of the portion of the Work relating to the mechanical, electrical, plumbing, fire protection or any similar systems, the Contractor shall furnish the Owner with a coordination drawing, illustrating all systems, equipment, fixtures, conduit, pipes, valves and all related installations in CADD format. Actual layout of such Work shall be carried out without affecting the architectural, engineering and structural integrity and limitations of the Work and shall be performed in such sequence and manner as to avoid conflicts, provide clear access to all control points, including valves, strainers, control devices, and specialty items of every nature related to such systems and equipment, obtain maximum headroom, provide adequate clearances as required for operation and maintenance, and provide an orderly appearance when exposed. Exact locations of fixtures and outlets shall be obtained from the Engineer as provided in the Contract Documents before the Work is roughed in. Work incorrectly installed without such information from the Engineer shall be relocated at the Contractor's expense.

**3.3.15** Every employee under these General Conditions 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. [NTD: see GL c. 149, s. 25]



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### **3.4 PHASES OF THE WORK—CONSTRUCTION PHASE**

**3.4.1** The construction phase shall commence upon the issuance by the Owner of a written Notice to Proceed with the Work.

**3.4.2** The Contractor shall be responsible for ensuring that adequate quality control programs are developed, implemented and enforced by the Contractor's staff and all Subcontractors, including assigning an experienced quality manager, who may be the Project Superintendent employed by the Contractor, who shall be stationed at the Project Site and who shall be responsible for reviewing and coordinating the quality control activities of all Subcontractors and monitoring the implementation and enforcement thereof in connection with all aspects of the Work.

**3.4.3** The Contractor shall be responsible for overall management, supervision, and coordination of all Subcontracts and of labor relations in connection with the Project 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 and in accordance with the requirements of the Contract Documents. The Contractor shall identify and resolve jurisdictional issues and disputes prior to bidding and award of the applicable Subcontracts, so as to cause no delay in the Work.

**3.4.3.1** In consultation with the Owner's Representative and the Engineer, the Contractor shall develop and implement procedures for orderly completion of Punch-List items, check out of utilities, operational systems and equipment and initial start-up and testing. The Contractor shall prepare and deliver to the Engineer warranties, as-built drawings, maintenance manuals and the like, and generally administer closeout of the Work. In connection with the closeout of the Work, the Contractor shall take steps to ensure the performance of all warranty and guarantee obligations, resolution of all claims and other post construction requirements in accordance with the terms of the Contract Documents.

### **3.5 PERMITS AND FEES; COMPLIANCE WITH LAW**

**3.5.1** The Contractor, at its cost, shall secure and pay for all demolition permits, construction or building permits, utility inspection and connection fees, and all other permits and approvals and governmental fees or charges (including, without limitation, microfilming charges), licenses, inspections and certificates of inspection necessary for the proper execution, completion and use of the Work, including, without limiting the generality of the foregoing, permits for obstruction of or projection into, over or under public streets and sidewalks and other public ways, curb-cut permits, and notifications to and permits or approvals from the Massachusetts Department of Environmental Protection or others necessary in connection with the performance of the Work (the "Permits and Approvals"). The Contractor shall promptly deliver to the Owner's Representative and the Engineer copies of all such Permits and Approvals (and supporting applications), licenses and certificates, and satisfactory



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evidence that disposal of all waste material in connection with the Project is done in full compliance with Applicable Laws.

**3.5.2** The Contractor shall arrange for and provide at its expense all local policemen required to be present at or adjacent to the Site for traffic control purposes.

**3.5.3** The Contractor shall give all notices required by and shall otherwise comply with all Applicable Laws bearing on the performance of the Work including, without limitation, applicable environmental laws and ordinances and regulations concerning noise pollution and dust control.

### **3.6 UTILITIES**

**3.6.1** The Contractor shall be solely responsible for verifying the precise locations of utilities on the Site or serving the Project. The Drawings and Specifications endeavor to indicate all pipes, conduits, lines or other structures or equipment of public and private utility companies (“Utility Equipment”) at and adjacent to the Site of which the Owner is aware. However, the Owner makes no representation or warranty that the utility equipment shown on the Drawings or referred to in the Specifications is the only utility equipment that may be encountered. Prior to commencing the Work, the Contractor shall visit the Site and to the extent possible shall confirm the existence and location of all utility equipment and shall, during the course of the Work, make diligent and continuous efforts to confirm the locations of all utility equipment at and adjacent to the Site. The Contractor shall promptly notify the Owner and Engineer in writing, prior to commencing affected portions of the Work, of any Utility Equipment that it discovers and that has not been identified on the Drawings. If and as directed by the Owner, the Contractor shall make necessary arrangements with utility companies for the protection, alteration and relocation of utility equipment necessary in connection with performance of the Work, and shall notify all municipal departments and utility companies concerned of the time and location of any work which may affect them. To the extent not covered by insurance, the Contractor shall be responsible for all costs and all claims, damages and liabilities arising directly or indirectly from any damage to Utility Equipment or any intentional or unintentional interruption of service occurring in connection with the performance of the Work and caused by the Contractor or any Subcontractor or other operations of the Contractor.

**3.6.2** The Contractor shall perform the Work so as not to interfere with utility companies or municipal departments that may enter on the Site to make changes in Utility Equipment or to place new utility equipment. Except as otherwise set forth in Section 9.4 hereof, the Contractor shall have no claim for or on account of any delay which may be due to or result from such work of utility companies or municipal departments.

### **3.7 DOCUMENTS AND SAMPLES AT THE SITE**

**3.7.1** The Contractor shall maintain at the Site in a safe and secure place one record copy of: (i) all Contract Documents and other Project-related documents marked





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currently to record all changes made during construction; (ii) approved Shop Drawings, Product Data and Samples; (iii) copies of all building, electrical, plumbing, public safety and other codes and regulations applicable to the Work; (iv) certified payroll reports; and (v) all permits, licenses, approvals, inspection reports and certificates obtained as required by Section 3.5. These shall be available to the Engineer, the Owner's Representative, and the Owner for reference and shall be delivered to the Owner's Representative upon completion of the Work. The Contractor shall keep all such documents in good order and shall maintain current logs of all Project-related documents, which logs shall be in form and detail satisfactory to the Owner and the Engineer.

**3.7.2** The Contractor shall keep a separate and complete set of black-line prints of the Drawings and Specifications on which shall be noted neatly, accurately, completely, and promptly, as the Work progresses: (a) the progress of the Work installed by coloring in all pipe lines, ducts and apparatus as constructed or installed; and (b) all changes, deviations, revisions to the plumbing, electrical, and all other Work, wherever such Work was installed other than as shown on the Contract Documents. The Contractor shall be responsible for assuring that the progress of the Work and all changes, deviations, and revisions are delineated by the Subcontractors responsible for performing the specific Work. Failure to maintain such as-built Drawings and Specifications may result in withholding of payments to the Contractor. The Owner, the Owner's Representative, the Engineer, and their respective agents, representatives, and other consultants, shall have access to all Project documents maintained by the Contractor at all times. The Contractor shall cooperate with and assist the Engineer in connection with the Engineer's periodic reviews of the as-built Drawings and other Project documents prepared and maintained by the Contractor.

**3.7.3** Upon Substantial Completion of the Work, the Engineer shall make a final review of the as-built Drawings prepared by the Contractor and if any omissions, incorrect information, or inconsistencies are found, the Drawings shall be revised by the Contractor until acceptable to the Engineer. When the final as-built Drawings are complete to the satisfaction of the Engineer, the Contractor shall furnish to the Engineer a complete set of as-built Drawings with each sheet being clearly marked "AS-BUILT DRAWING" and containing the date of the print and the Contractor's certification that the as-built Drawing accurately and completely depicts the Work as constructed. The Contractor shall deliver the as-built Drawings to the Engineer in hand-marked and electronic form in the Engineer's and the Owner's CADD format, containing a full set of CADD as-built Drawings for the Work.

**3.7.4** Upon Substantial Completion of the Work, if appropriate, the Contractor shall prepare and deliver to the Engineer four (4) copies of a full and complete operating and maintenance manual for the Project. In accordance with the Specifications, the manual shall contain full information for each item of mechanical, electrical or other operating equipment, copies of warranties therefore, schematic diagrams of control systems, circuit directories for each electric and communications panel board, and charts showing the tagging of all valves. The Contractor shall obtain and include in the manual reduced scale photocopies of the relevant, revised as-built Drawings referred to in Subsection 3.7.3. Each volume of the manual shall



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contain all information required by the Specifications and these General Conditions, shall be clearly indexed, and shall include a directory of all Subcontractors and maintenance contractors, indicating the area of responsibility of each, and the name, telephone number, and other pertinent contact information for the responsible member of each organization. Such manuals shall be delivered to the Owner prior to, and as a condition precedent to, final payment.

**3.7.5** The Contractor shall arrange for instruction in the operation and maintenance of the fire protection, plumbing, electrical and mechanical systems for State University employees. It is the intent of this Subsection 3.7.5 to require the Contractor and the applicable Subcontractors to furnish as much detailed instruction as is required by the Contract Documents to educate State University facilities personnel in the proper use of the facilities equipment. This instruction shall be provided by the manufacturer's representative for each item of equipment at no additional cost to the Owner. In some cases, this may require several visits to the Project by those responsible for the instruction. The Contractor shall, with written consent of all instructors, videotape all such training sessions, and a copy of each videotape shall be delivered to the Owner, prior to, and as a condition precedent to, final payment.

### **3.8 SUBMITTALS**

**3.8.1** The Contractor shall prepare or review, approve and submit to the Engineer, with a copy of the transmittal to the Owner's Representative, for review, sufficiently in advance and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate Contractor, all Shop Drawings, Product Data and Samples or other submittals required by the Contract Documents, all in accordance with the requirements set forth in the Specifications. Neither the Owner nor the Engineer shall be responsible for Work performed in shop or field prior to approval of any applicable Shop Drawings, Product Data or Samples.

**3.8.1.1** Within thirty (30) days of receiving a Notice to Proceed with construction from the Owner, the Contractor shall submit to the Engineer and the Owner's Representative a detailed submittal schedule detailing the submittal and review process for all shop drawings, product data, samples, and other submittals. The submittal schedule shall incorporate appropriate time periods for the Engineer's review of Shop Drawings and all other submittals required by the Contract Documents. The submittal schedule shall be coordinated with the Project Schedule and shall be in form, substance, and detail acceptable to the Owner and the Engineer.

**3.8.2** By preparing, approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor thereby represents that it has determined and verified all materials, design required in the implementation of the Work, dimensions, quantities, field measurements, details, relations to existing work, coordination with work to be installed later, coordination with information on previously accepted Shop Drawings, Product Data, Samples or similar submittals and compliance with all the requirements of the Contract Documents. The accuracy and completeness of all such information is the responsibility of the Contractor. Approval by the Contractor shall be clearly indicated on each submittal, in ink or



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by stamp, and signed or initialed and dated by the Contractor. Submittals that have not been reviewed and approved by the Contractor in accordance with the requirements stated in this Section 3.8 and the Specifications shall be returned to the Contractor with no action taken by the Engineer. Such submissions shall be re-submitted to the Engineer with the Contractor's review and approval provided as required. Language contained in the Contractor's approval of submittals shall not be interpreted to limit in any respect or otherwise affect the Contractor's responsibilities and liabilities hereunder.

**3.8.3** The Engineer shall review the Contractor's submittals in accordance with Section 2.5. If corrections are required, a full set of copies of duplicate parts or corrected submittals shall be submitted to the Engineer for approval, and this procedure shall be followed until final approval of the submittal has been given by the Engineer. All portions of the Work shall be performed strictly in accordance with the approved submittals.

**3.8.4** If Shop Drawings submitted by the Contractor indicate a deviation from the Contract Documents, the Contractor shall specifically inform the Engineer and the Owner's Representative, in writing, of such deviation at the time of submission. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Engineer's approval of Shop Drawings, Product Data or Samples or other submittals, unless the Contractor has specifically informed the Engineer and the Owner's Representative in writing of such deviation at the time of submission and the Engineer has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Engineer's approval thereof. The Engineer's approval of a specific item shall not constitute approval of an assembly of which the item is a component.

**3.8.5** The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or other submittals to revisions other than those requested by the Engineer on previous submittals. Unless such written notice has been given, the Engineer's approval of a revised submittal shall not constitute approval of any changes not requested by the Engineer on the prior submittal.

**3.8.6** No acceptance or approval of any Shop Drawing, Product Data or Sample, nor any indication or request marked by the Engineer on any Shop Drawing shall constitute an authorization for any increase in the Contract Sum.

### **3.9 SITE ACCESS**

**3.9.1** The right of possession of the Site and the improvements made thereon by the Contractor shall remain at all times with the Owner. The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents. The Contractor shall confine its apparatus and equipment, storage of materials, and all operations at the Site to areas permitted by law, ordinances, permits, the Contract



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Documents, and the directions of the Owner's Representative, and shall not unreasonably encumber the Site with any materials or equipment.

**3.9.2** The Contractor shall not use, occupy or obstruct, nor permit any Subcontractor or any other person performing the Work to use, occupy or obstruct, any lands or areas outside of the legal limits of the Site, unless written permission in form and substance satisfactory to the Owner has been obtained by the Contractor at the Contractor's sole cost.

**3.9.3** The Contractor may, subject to the Owner's prior written consent, install a construction sign as provided in the Specifications, but shall not permit the posting of any other sign, trademark, advertisement, or other identification symbol in or about the Site. The Owner shall have the right, without notice to the Contractor, to remove any sign, trademark, advertisement or other identification symbol installed in violation of this Subsection 3.9.3 at the Contractor's expense. The construction sign installed by the Contractor shall also identify the Subcontractors or, alternatively, the Contractor shall provide a single location, approved by the Owner in writing, for Subcontractor signage.

**3.9.4** Any damage to the premises or equipment of the Owner caused by the Contractor or any Subcontractor shall be corrected by the Contractor as directed by the Owner and at the expense of the Contractor, subject to the Contractor's right to coverage under the Owner's builders risk insurance obtained with respect to the Project, but such right shall pertain only to the extent of proceeds actually received by the Owner, the Contractor being responsible for any deductible and for any of the Owner's losses not covered.

### **3.10 CUTTING AND PATCHING**

**3.10.1** The Contractor shall be responsible for all cutting and patching, as approved by the Engineer, necessary for the completion of the Work in accordance with the Contract Documents.

**3.10.2** The Contractor shall not damage or endanger any portion of the Work or the work of the Owner or any separate contractors by excavation, cutting, patching or otherwise altering any Work. The Contractor shall not unreasonably withhold from the Owner or any other contractor its consent to excavating, cutting, patching, or otherwise altering the Work.

### **3.11 INTENTIONALLY OMITTED**

### **3.12 WASTE DISPOSAL AND CLEANING**

**3.12.1** All wastes, including any special or hazardous wastes, construction waste, demolition waste, and general rubbish, generated as a part of the Work, shall be properly classified by the Contractor and transported and disposed in accordance with all local, state, and federal laws and regulations that pertain to such materials. The Contractor shall retain the services of a qualified and properly licensed waste transporter. The Contractor shall make all arrangements and give and obtain all notices, communications, documentation, permits,



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certificates, and approvals necessary for disposal from the owner or officials in charge of such landfills, disposal or recycling facilities. The Contractor shall bear all fees and costs in connection with such classification, removal, transportation, and disposal. The Contractor shall not permit any storage of debris or waste of any name or nature on the premises.

**3.12.2** Chemical waste shall be stored in corrosion resistant containers, removed from the premises, and disposed of in accordance with all Applicable Laws and any Contract Documents requirements. Disposal of chemical waste shall be performed in accordance with requirements of the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP). The Contractor shall immediately notify the Owner, the Engineer, and the appropriate governmental agency of any hazardous materials release large enough to require reporting under Applicable Laws. The Contractor shall be responsible for immediately cleaning up, in accordance with Applicable Laws, any oil or hazardous materials releases resulting from its operations on the Project. Any costs incurred by the Contractor in cleaning up any such releases and any damages incurred by the Owner arising from such release shall be borne by the Contractor.

**3.12.3** The Project and the Site shall be maintained in a neat and orderly condition and kept free from accumulation of waste materials and rubbish during the entire Construction Period. All crates, cartons and other flammable waste materials or trash shall be removed from the work areas at the end of each working day. If the Project and Site are not maintained properly, after 24 hours prior written notice to the Contractor, the Owner may have any accumulations of waste materials or trash removed and charge the cost to the Contractor. Electrical closets, pipe and duct shafts, chases, furred spaces and similar spaces which are generally unfinished, shall be cleaned and left free from rubbish, loose plaster, mortar drippings, extraneous construction materials, dirt and dust.

**3.12.4** At the completion of the Work, the Contractor shall remove all its tools, construction equipment, machinery and surplus materials, and shall leave the Site in a neat and clean condition satisfactory to the Owner. Immediately prior to the Engineer's inspection for Substantial Completion of the entire Work, or any portion thereof, the Contractor shall, when directed to do so by the Owner, completely clean any and all portions of the Project to be inspected. Without limitation, concrete surfaces shall be cleaned and washed; resilient coverings shall be cleaned, waxed and buffed; ; fixtures, and equipment shall be thoroughly cleaned; stains, spots, dust, marks and smears shall be removed from all surfaces; and hardware and all metal surfaces shall be cleaned and polished. All damaged, broken and scratched surfaces shall be replaced by the Contractor at the Contractor's sole expense.

**3.12.5** If the Owner elects to take use or occupancy of specific areas or portions of the Work prior to the completion and acceptance of the entire Work as provided in Article 15 hereof, the Contractor shall carry out final cleaning operations as herein specified in such specific areas or portions of the Work prior to use or occupancy thereof, as directed by the Owner. The Contractor shall remove or, when appropriate, relocate, all surplus materials,





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equipment, supplies, construction plant, and facilities as required in order to permit the occupancy and utilization of such specific areas or portions of the Work.

### **3.13 PROJECT COMMUNICATIONS**

**3.13.1** Copies of all communications from the Contractor to the Engineer or the Owner's Representative shall be provided simultaneously to the other and, if required by the Contract Documents, also to the Owner.

**3.13.2** The Contractor shall forward to the Engineer any communications which the Contractor transmits to the Owner relating to any matter within the purview of the Engineer pursuant to the provisions of the Contract Documents.

### **3.14 ROYALTIES AND INTELLECTUAL PROPERTY**

**3.14.1** The Contractor shall pay all royalties and license fees, shall defend all suits or claims for alleged infringement of any intellectual property rights, and shall indemnify and save the Owner, the Owner's Representative, the Engineer, and the State University harmless from loss on account thereof, except that the Contractor shall not be responsible for such loss when a particular design, process, or the product of a particular manufacturer or manufacturers is specified, unless the Contractor has reason to believe that the design, process, or product specified is an infringement of intellectual property rights, in which event the Contractor shall be responsible for such loss unless it promptly gives such information to the Owner.

### **3.15 FINANCIAL CONDITION**

**3.15.1** The Contractor warrants and represents that its financial condition is sound and that the Contractor is capable of performing the Work and obtaining any bonds now or hereafter required pursuant to the Contract Documents. Upon request by the Owner, the Contractor shall make available to the Owner, within fourteen (14) days, such audited and unaudited financial statements of the Contractor as the Owner may reasonably request or as may be required by Applicable Law. The Contractor shall promptly advise the Owner of any occurrence, event, fact, or other matter that has had, will have, or might reasonably be predicted to have a material adverse effect upon the financial condition of the Contractor.

### **3.16 PREVAILING WAGE; RECORDKEEPING; PERSONNEL**

**3.16.1** The Contractor shall comply with the Massachusetts Prevailing Wage Law, M.G.L. c. 149, § 26-27H. The Prevailing Wage Law requires that a true and accurate record be kept of all persons employed on the a project for which the prevailing wage rates have been provided. The Contractor and all Subcontractors shall keep these records and preserve them for a period of three years from the date of completion of the Contract. Such records shall be open to inspection by any authorized representative of the Owner at any reasonable time, and as often as may be necessary. The Contractor shall, and shall cause its Subcontractors to,



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submit weekly copies of their weekly payroll records to the Owner. In addition, the Contractor and each Subcontractor shall furnish to the Executive Department of Labor within fifteen days after completion of its portion of the Work a signed statement in the form required by the Owner.

**3.16.2** The Contractor shall comply with, and shall cause its Subcontractors to comply with M.G.L. c. 149, § 148 which requires the weekly or biweekly payment of employees within six days of the end of the pay period during which wages were earned if employed for five or six days of a calendar week, and within other periods of time under certain circumstances as set forth therein.

### **3.17 EEO/AA AND M/WBE REQUIREMENTS**

**3.17.1** The Contractor shall comply at all times in all respects with all government laws, regulations and ordinances affecting or regulating employment of persons in connection with the Work, and with the equal employment opportunity and affirmative action requirements set forth in **Exhibit D** and **Exhibit E** to the Agreement.

**3.17.2** The Contractor shall submit a construction employment plan to the Owner pursuant to which the Contractor will specify its plan for meeting and monitoring the Owner's employment requirements. The plan shall comply with the provisions set forth in **Exhibit D** and **Exhibit E**. The Contractor shall provide the Owner with such reports concerning its compliance with the construction employment plan as the Owner shall require.

### **3.18 LINES AND GRADES; SURVEY**

**3.18.1** The Contractor agrees that the Work shall be constructed within the contract limit lines established in the Contract Documents and other information made available to the Contractor.

**3.18.2** The Contractor shall engage a land surveyor registered in the Commonwealth of Massachusetts to establish, and the Contractor shall be responsible for the accuracy of, base lines for the Work.

**3.18.3** The Contractor shall establish and plainly mark such points, lines and grades as are necessary to assure that location, orientation and elevations established for each structure or element of the Work are in accordance with the lines and elevations shown on the Drawings.

**3.18.4** After the perimeter foundation walls are in place, the Contractor shall verify that lines and grades meet the requirements of the Drawings and Specifications. Such verification shall be provided by a registered land surveyor or professional engineer who shall record actual as-built lines and grades on the as-built Drawings.

**3.18.5** During the progress of the Work the registered land surveyor or professional engineer shall record actual as-built lines and grades on the as-built Drawings. The



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Contractor shall, from time to time, furnish to the Owner surveys certified by a registered land surveyor, in such form as may be required by the Owner, of the location of all improvements and utilities on the Site.

#### **ARTICLE 4 OWNER**

##### **4.1 INFORMATION AND SERVICES REQUIRED OF THE OWNER**

**4.1.1** If available, the Owner shall furnish to the Contractor surveys describing the physical characteristics, legal limitations for the Site, and a legal description of the Site.

**4.1.2** The Owner may furnish the Contractor with certain reports, plans, studies, tests, information and other documentation relating to utilities and subsurface and other conditions affecting or relating to the performance of the Work (the “Site Conditions Documents”). The Contractor represents that it has thoroughly studied and is familiar with the Site Conditions Documents which it has received. In the case of Site Condition Documents to be supplied by the Owner after execution of the Agreement, the Contractor shall study and become familiar with such documents. The Contractor shall advise the Owner in writing of any errors, omissions, inconsistencies discovered by the Contractor in its review of the Site Condition Documents. The Contractor represents further that it has examined the Site and local conditions and as they are developed will carefully study and compare the Contract Documents with each other and with conditions at the Site, and with the Site Conditions Documents. Unless otherwise specifically stated, the Owner does not assume any responsibility for the accuracy or completeness of the Site Condition Documents. Such information and data is furnished to the Contractor for its informational value, but the Owner does not hold out such information or data to the Contractor as being complete nor as an accurate or approximate indication of surface, subsurface or other conditions. No claim for extra cost or any extension of the Contract Time resulting from reliance by the Contractor on the Site Conditions Documents shall be allowed except as expressly provided in the Contract Documents.

**4.1.3** Information or services required of the Owner under the Contract Documents and requested in writing by the Contractor shall be furnished by the Owner, if available, with reasonable promptness so as to endeavor to avoid delay in the orderly progress of the Work.

**4.1.4** The Contractor will be furnished, free of charge, four (4) copies of the Contract Documents.

**4.1.5** The Owner may, but shall not be required to, forward instructions to the Contractor through the Owner’s Representative. If communicated directly to the Contractor by the Owner, the Owner will endeavor to provide copies of such communications to the Owner’s Representative and the Engineer.

##### **4.2 CONFIDENTIAL INFORMATION**





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**4.2.1** The Contractor shall not disclose, at any time during or after the Work, either directly or indirectly, any confidential records, knowledge or information which the Contractor may acquire about the Project or the Owner, except as may be required by law or by order of a court of competent jurisdiction. The Contractor shall treat all information relating to the Project and all information supplied to the Contractor by the Owner, the Owner's Representative, or the Engineer as confidential and proprietary information of the Owner and shall not permit its release to third parties or make any public use of such information without the Owner's prior express written authorization. The Contractor shall require all Subcontractors to comply with this provision.

### **4.3 TAX EXEMPTION**

**4.3.1** The Owner, as an authority of the Commonwealth of Massachusetts, is exempt from certain taxes. The Owner's taxpayer exemption number is 042-379-317. The Contractor hereby acknowledges that the Contract Sum has been established based upon the understanding that the Owner is exempt from certain taxes. It is therefore required that the Contractor and Subcontractors purchasing materials and supplies to be used in construction of the Project (including rental charges for construction vehicles, equipment and machinery rented specifically for use on the site of the Project or while being used exclusively for the transportation of materials for the Project) ("Construction Materials") apprise vendors of the tax-exempt status of the Owner, so that certain taxes will not be imposed upon the purchase of Construction Materials. At the time of purchase of Construction Materials, the purchaser shall provide the vendor with copies of certificates or other documentation necessary to permit the sale of such Construction Materials to be exempt from sales, use and other applicable taxes imposed by any state or federal taxing authority. If such taxes are paid on any Construction Material used in the construction of the Project, the Contractor shall be responsible for reimbursing the Owner, whether the purchases were made by the Contractor, a Subcontractor or Supplier, the full amount of such taxes and the Owner shall have the right to recover any such amounts not promptly reimbursed by reducing any payment due the Contractor under the Contract by such amount. Taxes not applicable to the Owner include, but may not be limited to: (a) Sales and Use Tax imposed by the Commonwealth under M.G.L. c. 64H and c. 64I on Construction Materials; and (b) Federal Excise Taxes as applied to articles which are taxable under Chapter 32 of the Internal Revenue Code of 1986, as amended.

## **ARTICLE 5 INDEMNIFICATION**

### **5.1 CONTRACTOR'S INDEMNITY**

**5.1.1** The Contractor shall indemnify, defend with counsel acceptable to the Owner, keep and save harmless the Commonwealth, the State University, and the Owner, including their respective board members, trustees, directors, officers, contractors, consultants, agents, employees, and other representatives, in both their respective individual and official capacities, against all liabilities, suits, claims, damages, losses, expenses, penalties, fines, fees including, but not limited, to attorneys' fees, expert witness fees and other legal expenses



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(including fees and expenses in connection with any alternative dispute resolution process) and other costs and liabilities caused by, arising out of, resulting from, or incidental to, the following, each to the full extent allowed by the laws of the Commonwealth of Massachusetts and not beyond any extent that would render these provisions void or unenforceable:

- (a) breach or default under or failure to perform or comply with the terms of the Contract by the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible;
- (b) negligent acts or omissions of the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible;
- (c) infringement of any patent or trademark, or violation of any copyright, right of privacy or any similar right protected by any law affecting intellectual property arising out of or relating to the use of methods, processes or information, or products or other materials or property, in connection with performance of the Work by the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible, or otherwise relating to the Work;
- (d) violation of any Applicable Law in connection with performance of the Work by the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible;
- (e) violation of or noncompliance with the conditions of any Permits and Approvals by the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible;
- (f) failure of the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible to pay any federal, state or local taxes based upon gross receipts, income, purchases, rentals or sales, the use of any property, unemployment insurance or any other social security or social benefit taxes applicable to employees of the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible, or any other taxes imposed in connection with the Contract or the Work;
- (g) personal injury, sickness, emotional distress, disease or death directly or indirectly caused by, arising out of, resulting from, or incidental to the performance of the Contract or otherwise relating to the Work or any act or omission of the Contractor, any Subcontractor or Supplier, or any other party for whose acts or omissions the Contractor is or becomes liable;



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- (h) loss or damage to any property of the Contractor, and loss or damage to any property of Subcontractor, Supplier, or other parties for whom the Contractor is or becomes responsible;
- (i) claims by Subcontractors, Suppliers, or others against the Contractor or the Owner on account of amounts due or claimed to be due to such Subcontractor, Supplier, or others in connection with the performance of the Work;
- (j) loss or damage to property owned by the Owner or any third parties located on or about the Site, in whole or in part arising out of, resulting from, or incidental to the performance of the Work or any acts or omissions of the Contractor, any Subcontractor, Supplier, or any other party for whom the Contractor is or becomes responsible;
- (k) neglect or failure to construct the Work within the contract work lines, or by reason of any encroachment by any element or portion of the Work, or any part or projection thereof, on adjoining land if such encroachment shall result from the Contractor's failure to construct the Work within said contract work lines;
- (l) release or threatened release of any hazardous material which: (i) was brought onto the Site by the Contractor, or any Subcontractor, Supplier, or any other party for whom the Contractor is or becomes responsible; or (ii) was negligently removed from, handled on, or disposed of on the Site by the Contractor, any Subcontractor, Supplier, or any other party for whom the Contractor is or becomes responsible, regardless of the source or origin of such hazardous material or the method of deposit of such hazardous material on the Site or, in the case of the removal of any hazardous material from the site, on the Site to which such hazardous material was removed;
- (m) claims or assertions by any separate contractor of disruption, delay or loss caused by interference by the Contractor (or its Subcontractors or others for whom the Contractor is or becomes responsible) with or hindrance of the progress or completion of work being performed by separate contractor, or failure of the Contractor or any Subcontractor, Supplier, or any other party for whom the Contractor is or becomes responsible, to cooperate reasonably with such separate contractor; and
- (n) failure of the Contractor, any Subcontractor or Supplier, or others for whom the Contractor is or becomes responsible to comply with their obligations to not use undocumented workers to perform any part of the Work.



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Such agreement and obligation of the Contractor shall not be construed to negate, abridge, or otherwise reduce any right or remedy which would otherwise exist as to any party or person described in this Section 5.1.

**5.1.2** Provisions of this Section 5.1 shall be for the benefit of each party indemnified hereunder with the same force and effect as if each individual were in privity of contract with the Contractor, and each party so indemnified shall have the right to bring a direct action against the Contractor to enforce this indemnity. Each party so indemnified is hereby made a third party beneficiary of the Contract with respect to the provisions of this Section 5.1.

**5.1.3** In connection with any and all claims against the Owner, the Owner's Representative or the Engineer or their consultants or separate contractors, or any of their Subcontractors, agents or employees, by any employee of the Contractor, any Subcontractor or Supplier, or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the Contractor's indemnification obligation under this Section 5.1 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under worker's compensation acts, disability benefit acts or other employee benefit acts.

**5.1.4** In the event that a claim, demand or action is asserted against a party indemnified under this Section 5.1 with respect to which the Contractor is obligated to indemnify such party in accordance with this Section, such party shall give timely notice to the Contractor of such claim and may request that the Contractor undertake the defense of such claim with counsel reasonably satisfactory to such indemnified party and without cost to such indemnified party, or the indemnified party may undertake the defense of such claim, with counsel satisfactory to the Contractor, in which case the Contractor shall cooperate and assist in the defense and resolution of such claim, and shall be responsible for all costs of defense, judgments, settlements and other liabilities as provided in this Section 5.1. Failure of the indemnified party to notify the Contractor as provided in the preceding sentence shall not waive, release or otherwise affect the indemnification obligations of the Contractor hereunder, except to the extent that the Contractor establishes that such failure to give notice has prejudiced the Contractor in the defense of such claim.

**5.1.5** The indemnification obligations of the Contractor under the Contract shall survive the termination or expiration of the Contract and completion of the Work.

**5.1.6** The obligations of the Contractor under this Article 5 shall not extend to the liability of the Engineer, his agents or employees, arising out of the performance of the Engineer's obligations under the Contract Documents.

## **ARTICLE 6 SUBCONTRACTORS**

### **6.1 SUBCONTRACTS**



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**6.1.1** All Subcontractors shall look solely to the Contractor for payment for their Work performed in accordance with the Contract Documents except as expressly otherwise permitted by law. The Contractor shall furnish the Owner with executed copies of all Subcontracts promptly upon execution thereof.

**6.1.2** Contractor shall make payments to Subcontractors in accordance with M.G.L. c. 30, § 39F. For the purposes of this Contract, the word “forthwith” appearing in paragraph (1)(a) of M.G.L. c. 30, § 39F shall be deemed to mean “within five (5) business days”.

**6.1.3** The Contractor hereby conditionally assigns to the Owner all Subcontracts now or hereafter executed by the Contractor in connection with the Work and in accordance with the requirements of the Contract Documents.

(a) Such assignment shall become an effective and present assignment only upon a termination by the Owner of the Contract in accordance with the provisions of the Contract Documents and only as to those Subcontracts which the Owner explicitly accepts and assumes in writing. The Owner shall have the sole option to determine which Subcontracts the Owner shall accept as aforesaid.

(b) This Subsection 6.1.3 shall serve as the instrument of assignment at such time as the assignment provided for above becomes effective. The Contractor agrees, however, at the Owner’s request, to execute whatever instruments the Owner requests to confirm such assignment.

**6.1.4** The Contractor shall maintain and distribute to the Owner, the Owner’s Representative, and the Engineer a Project Directory listing the names, addresses, email addresses, and telephone numbers of the principal members of the staff of each Subcontractor in addition to any other information requested by the Owner or the Engineer regarding Subcontractors. The Contractor shall update such Project Directory periodically during the Project. The principal contact for each Subcontractor and his/her home telephone number shall be indicated in the Project Directory so that such person may be reached in emergency situations.

## **ARTICLE 7 OTHER WORK**

### **7.1 OWNER’S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS**

**7.1.1** In addition to the Work required to be performed under the Contract, the Owner may perform other work related to the Project at the Site with its own forces, have other work performed by utility suppliers, or award separate contracts for such work or other work



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on the Site under these or other conditions of the contract. If the fact that such other work is to be performed is not noted in the Contract Documents, notice thereof will be given to the Contractor prior to commencement of such other work.

**7.1.2** If, after commencement of the Work, the plans of the Contractor and any such separate contractors performing work in connection with the Project, or other contractors, are inconsistent with respect to methods, scheduling, progress or otherwise, the Contractor shall promptly take all steps necessary to coordinate its Work with that of other contractors. The Contractor shall have no claims against the Owner or such separate contractors performing work in connection with the Project or other contractors for any delays arising from joint use of any work area or staging area, or from joint use of access. All coordination undertaken by the Contractor shall be acceptable to Owner in all respects.

## **7.2 MUTUAL RESPONSIBILITY**

**7.2.1** The Contractor shall provide the Owner, utility suppliers and other separate contractors proper and safe access to the Site and a reasonable opportunity for the delivery and storage of materials and equipment and the execution of their work, and for reasonable access to, and use of, the Contractor's hoisting facilities, if provided, and temporary electric, water and sanitary facilities. Disputes arising with respect to delivery or storage of materials or equipment, or otherwise relating to coordination of the Work under the Contract with the work of utility suppliers or separate contractors shall initially be submitted to the Engineer. Recognizing the constraints imposed upon the Contractor by the requirements of this Section, the Owner agrees to give the Contractor as much advance notice as is practicable of the particular needs of separate contractors and utility suppliers for access to the Site and joint use of the Site and site facilities so as to minimize the impacts upon the Contractor's scheduling and operations. The Contractor shall cooperate with the Owner, utility suppliers and separate contractors, and require and enforce the cooperation of its Subcontractors in such manner as to permit the expeditious, efficient connection of utilities and to facilitate completion of the Project as a whole and completion of specific parts of the Project for early use or occupancy by the Owner in accordance with the Project Schedule.

**7.2.2** If any portion of the Contractor's Work depends, for proper execution or results, upon other work of the Owner or any such utility supplier or other separate contractors, the Contractor shall, prior to proceeding with that portion of the Work, inspect and promptly report to the Engineer and the Owner, in writing, any delays, discrepancies or defects in such other work discoverable as a result of prudent examination, testing and observation by the Contractor that render such other work unavailable or unsuitable to receive Contractor's Work. Failure of the Contractor to so report shall constitute an acknowledgment that such other work is fit and proper to receive the Contractor's Work, except as to defects not so discoverable.

## **ARTICLE 8 INSPECTION AND TESTING**

### **8.1 INSPECTION AND TESTING**





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**8.1.1** If the Contract Documents, laws, ordinances, rules, regulations or orders of, or conditions imposed by, any government entity having jurisdiction over the Project require any portion of the Work to be inspected, tested or approved, the Contractor shall give the Owner's Representative (with a copy to the Engineer), the Owner's testing agents or consultants, and if applicable, government entities requiring such inspection, testing or approval, timely notice (at least five (5) full business days) prior to the commencement of Work or operations requiring such inspection, testing or approval so the Engineer, such government entities and agents or consultants may perform or observe such inspection, testing or approval. The Contractor shall perform and bear all costs of such inspections, tests and approvals, unless otherwise provided in the Contract Documents. Except in the event of an unforeseen emergency, Work or operations requiring such inspection, testing or approval shall not be performed at times other than during the normal working day without the prior approval of the Owner. The Contractor will provide all required assistance (including, without limitation, labor, tools, equipment and transportation) as the Engineer or such government entities or agents or consultants may request in connection with such inspection, testing or approval. The Contractor shall make all necessary arrangements at its expense to permit the Engineer to make factory, shop or other inspections of materials or products ordered for the Work and in the process of manufacture, fabrication or extraction or in storage at locations other than the Site of the Work. Where certain testing and inspection requirements are required by the Contract Documents to be performed at the expense of the Owner, the Owner will retain the services of testing laboratories, agencies or consultants, to perform such tests or inspections and render such services as may be required to verify that the Work fulfills the requirements and intent of the Contract Documents. Such services will be performed in a manner consistent with the requirements of the Owner and the various agencies having jurisdiction over the Work and in accordance with sound standards of professional architectural and engineering practice applicable thereto. The Contractor and Subcontractors shall place their personnel at the Engineer's disposal for field checking during any inspection period. When layouts of the site work are to be made, the Contractor shall notify the Owner's Representative and the Engineer in sufficient time so that they may be present.

**8.1.2** The Contractor shall make no claim for delay or extra costs or extension of the Contract Time arising directly or indirectly out of reasonably required inspection or testing or out of the Contractor's failure to give timely notice so as to permit performance or observance of inspections, testing or approvals. Inspections and testing of the Work shall not relieve the Contractor of any obligations under the Contract Documents. Without limiting any other provisions hereof, defective work shall be made good and unsuitable materials may be rejected, notwithstanding that such Work and materials have been previously inspected by the Engineer and accepted or estimated for payment or paid for.

## **8.2 SPECIAL TESTING**

**8.2.1** If the Owner or the Engineer determines that any portion of the Work requires special inspection, testing, or approval beyond that required in the Contract Documents, the Owner's Representative, upon written authorization from the Owner, or the



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Owner, will instruct the Contractor to order such special inspection, testing or approval, and the Contractor shall give notice as provided in Section 8.1 hereof. If such special inspection or testing reveals a failure of the Work to comply strictly with the requirements of the Contract Documents, the Contractor shall correct such Work and bear all costs of such inspection, testing and corrections, including compensation for the additional services of the Engineer and other consultant made necessary by such failure; otherwise the Owner shall bear the costs of such inspection or testing, and an appropriate Change Order shall be issued. In no event shall the Contractor be entitled to any claim for delay or extra cost or extension of the Contract Time as a result of any such inspection, testing or corrections.

## **ARTICLE 9 CONTRACT TIME**

### **9.1 DEFINITIONS**

**9.1.1** The Contract Time is the period of time stated in the Agreement to achieve Final Completion of the Work, as may be adjusted in accordance with the Contract.

**9.1.2** The date of commencement of the Work is date of the issuance of a Notice to Proceed by the Owner for a portion, or all, of the Work.

**9.1.3** The Date of Substantial Completion of the Work, or a designated portion thereof, is the date certified by the Engineer when the requirements of the Contract Documents have been satisfied. Substantial Completion of the Work shall not be deemed to be achieved until either (1) 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 Sum, or (2) 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

For purposes of this Article 9, Substantial Completion refers to Substantial Completion of the entire Project. In the event of any question or dispute as to the date of Substantial Completion, such question or dispute shall be determined by the Engineer in its sole discretion, and neither the Engineer nor the Owner shall have any liability to the Contractor arising out of such determination made by the Engineer in good faith.

### **9.2 PROGRESS AND COMPLETION**

**9.2.1** Upon execution by the Owner of the Agreement and issuance of a written Notice to Proceed by the Owner, the Contractor agrees to proceed with the Work, or portion thereof covered by a Notice to Proceed with Construction, promptly, continuously, and diligently. The Contractor agrees to adhere to the Project Schedule, to achieve all interim completion milestones, if any, and to achieve Substantial Completion of the Work on or before the Substantial Completion Date set forth in the Agreement. It is agreed that TIME IS OF THE ESSENCE of the Contract Documents.





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**9.2.2** Recognizing that, from time to time during the progress of the Work, the Owner may find it necessary to establish the current status of performance under the Contract Documents, the Contractor shall, at the request of the Owner, promptly provide statements, documents or certificates to the Owner regarding the status of the Work, compliance of the Work with the Contract Documents, compliance by the Contractor or any Subcontractor with the Contract Documents, and such other matters within the scope of the Contractor's performance under the Contract Documents as the Owner may require.

**9.2.3** The Contractor shall submit a detailed written report on the status of the Work compared to the current Project Schedule for the Owner's review with each Application for Payment. Each such report shall reflect all items required by the Contract Documents. If the Contractor fails to complete any activity by its latest scheduled completion date, the Contractor shall, within seven (7) days of such failure, submit a written statement showing how the Contractor intends to correct such failure and return to the current Project Schedule. The Contractor shall update the Project Schedule weekly to reflect changed logic, adjusted and modified sequences of Work, and other identifiable changes, including, without limitation, specific strategies for continuing to meet the Substantial Completion Date. With its monthly report on the status of the Work, the Contractor shall submit a written certification by the Contractor's Project Manager that the Project Schedule submitted with the report is the actual schedule being utilized for execution of the Work and that the Work is progressing in accordance therewith.

**9.2.4** If, at any time, the Owner determines that the progress of the Work is delayed or has not reached the level of completion required by the current Project Schedule, the Owner shall have the right to direct the Contractor to take all measures necessary to recover any lost time and return the Work to the level of progress required by the current Project Schedule ("Recovery Measures"). In such event, within five (5) business days of receiving the Owner's direction to take Recovery Measures, the Contractor shall notify the Owner in writing of the steps which the Contractor proposes to take to remedy the situation, shall furnish Owner with an updated Project Schedule reflecting such Recovery Measures, and shall implement such steps promptly. Such Recovery Measures shall continue until the progress of the Work is returned to the stage of completion required by the current Project Schedule. If the Contractor disputes the Owner's direction to the Contractor to take Recovery Measures, the Contractor shall, nonetheless, promptly and diligently perform the Recovery Measures and shall have no right whatsoever to fail or refuse to take Recovery Measures once so directed by the Owner. If, and to the extent the delays giving rise to a direction from the Owner to the Contractor to take Recovery Measures are not Excusable Delays, the Contractor shall not be entitled to an extension of the Contract Time or an adjustment of the Contract Sum in connection with undertaking Recovery Measures. If and to the extent that any delay giving rise to a direction from the Owner to implement Recovery Measures is an Excusable Delay, the Contractor shall be entitled to assert a claim in accordance with the Contract.

**9.3 EXTENSION OF THE CONTRACT TIME AS A RESULT OF DELAY EVENT**



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The provisions of this Section 9.4 govern, and constitute the Contractor's sole remedy, if a Delay Event is encountered by the Contractor in the course of performance of the Work. Any claim for an extension of the Contract Time associated with a Change in the Work shall be governed by, and subject to, the provisions of Article 13. If the Contractor is entitled, subject to the provisions of this Section 9.4, to an extension of the Contract Time by reason of a Delay Event, then an extension of the Contract Time may be granted for the period of the necessary delay caused to Critical Path Activities, determined in accordance with, and subject to, this Section 9.4, and other applicable provisions of the Contract Documents. A Change Order effecting such extension will be furnished to the Contractor within a reasonable period after such determination. No extension of the Contract Time shall be granted to the Contractor under the Contract (except as expressly authorized in connection with a Change in the Work) unless the requirements of this Section 9.4 shall have been satisfied.

### **9.3.1 Types Of Delay Events**

“Delay Event” shall be limited to any of the following acts, omissions, events or conditions which delays completion of the Work or prevents performance of the Contractor's obligations under the Contract and which could not be prevented by the Contractor even though the Contractor were to take all appropriate care to avoid or diminish the adverse consequences of the Delay Event:

- (a) Unavoidable casualty;
- (b) Act of war, civil disorder, riot or similar occurrence;
- (c) Order, legislation, judgment or other official action, of any governmental body, agency or official having jurisdiction over the Project;
- (d) Any act or omission of the Owner or the Engineer, such as a temporary stoppage or suspension of Work, not resulting from, or caused, in whole or in part, by any act or omission of the Contractor, any Subcontractor or any other person or entity for whom the Contractor is responsible;
- (e) Any work of utility companies or municipal departments that may enter the Site to make changes in utility equipment or to place new utility equipment, to the extent such delay does not result, in whole or in part, from the act or omission of the Contractor, any Subcontractor or any other person or entity for whom the Contractor is responsible;
- (f) Unusually severe weather preventing the Contractor from engaging, on a particular day, at least 75% of the labor force and equipment that was scheduled for engagement on Critical Path Activities on that particular day for at least 50% of that day; and



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- (g) Strikes or work shutdowns caused by labor disputes and lockouts (other than lockouts caused by the Contractor, Subcontractors or Sub-Subcontractors unrelated to the Contractor's forces or the forces of any Subcontractor).

The financial difficulties of the Contractor (or any Subcontractor, supplier or other party for whom the Contractor is responsible) or the consequences thereof, shall not constitute a Delay Event.

### **9.3.2 NOTICE AND PROCEDURES AS TO DELAY EVENTS**

**9.3.2.1 Initial Notice.** The Contractor shall provide the Owner with an initial written notice of any occurrence, event or condition which the Contractor claims (or may intend to claim) constitutes a Delay Event. Such initial written notice shall be submitted to the Owner within five (5) business days of the commencement of such occurrence, event or condition, and shall:

- (h) State in detail the factual circumstances which form the basis of the delay, and the current and anticipated future effects on the Contractor's performance and Project Schedule; and
- (i) State the date of commencement of the delay and the duration or expected duration of the delay with respect to each affected portion of the Work.

The submission of such initial written notice within the time period provided above shall be a condition precedent to any extension of the Contract Time. Neither the Owner's Representative and nor the Engineer nor any other agent, consultant or employee of either shall have authority to modify or waive, expressly or by implication, such condition precedent or the corresponding condition precedents set forth in Subsection 9.4.2. and any action, inaction or statement by any of them to such effect shall not be binding upon the Owner.

**9.3.2.2 Second Notice.** Following submission of the initial written notice, not later than fifteen (15) business days of the commencement of any occurrence, event or condition which the Contractor claims (or intends to claim) constitutes a Delay Event, the Contractor shall submit to the Owner's Representative written notice of such occurrence, event or condition. This written notice shall (i) state whether an extension of the Contract Time is claimed and the Contractor's alleged contractual entitlement thereto; (ii) state in detail the factual circumstances which form the basis of the delay; (iii) identify Work activities alleged to have been delayed; (iv) state the calendar dates on which the Work activities were delayed and are anticipated to be further delayed; (v) state the number of calendar days by which the Contractor is requesting the Contract Time to be extended; (vi) fully and completely state the analysis justifying the request, including a schedule impact (fragnet) analysis worksheet prepared in a time-scale to graphically illustrate the effect of the alleged delay on affected activities; (vii) state the date of commencement and duration or expected duration of the delay



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and its effect on the various portions of the Work; and (viii) state any other information reasonably requested by Owner.

**9.3.2.2.1** The Contractor shall provide such detailed supporting documentation, including, where appropriate, an updated Project Schedule indicating all of the activities affected by the circumstances which form the basis for the claim. The submission of such written notice within the time period provided above shall be a condition precedent to any extension of the Contract Time.

**9.3.2.2.2** Because the possible necessity for an extension of the Contract Time might materially alter the scheduling, plans and other actions of the Owner and because, with sufficient opportunity, the Owner might (if it knew of the Contractor's claim) attempt to mitigate the effect of a delay for which an extension of the Contract Time was to be claimed, and only oral notice might cause disputes as to the existence or substance of such claim, and because delayed notice might seriously hinder or prevent the Owner's investigation of the pertinent facts, the giving of written notice within the time periods stated above in Subsections 9.4.2.1, and 9.4.2.2 shall be of the essence of the Contractor's obligations, and failure of the Contractor to comply with these requirements shall be deemed a conclusive, full and final waiver of any claim for extension of the Contract Time.

**9.3.2.2.3** It shall in all cases be presumed that no extension or further extension of the Contract Time is appropriate unless the Contractor shall affirmatively demonstrate the Contractor's entitlement to such extension under all applicable terms and conditions of the Contract Documents. To this end, the Contractor shall maintain adequate records supporting any claim for an extension of the Contract Time, and in the absence of such records, the foregoing presumption shall be conclusive.

### **9.3.3 Limitations On Delay Computation**

**9.3.3.1** Whenever the Contractor claims an extension of the Contract Time as a result of a Delay Event, only the unavoidable delay caused to completion of the Work as a whole shall be considered in measuring or evaluating the extent of the delay. If, for example, extra work can be (or could have been) performed along with the regular Work called for by the Contract Documents so as to reduce or eliminate a delay in the progress of the Work or some portion thereof, without causing necessary delay to such regular work, no claim for extension of the Contract Time shall be granted. An extension of the Contract Time may be granted only for Delay Events affecting Critical Path Activities. In any event, even though a Delay Event meets all of the above conditions, an extension may be granted only to the extent that the effect of such cause cannot be (or could not have been) avoided or mitigated by the exercise of all reasonable precautions, efforts and measures (including planning, scheduling and rescheduling, resequencing Work activities, and reallocating and redeploying work forces), whether before or after the occurrence of the cause of delay. If a concurrent delay occurs (*i.e.*, either a single delay resulting from two or more causes where at least one delay is the responsibility of the Contractor, or multiple delays, where at least one delay is the responsibility



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of the Contractor), no extension of the Contract Time shall be granted to the Contractor during the period of any such concurrent delay for which the Contractor is responsible.

### **9.3.4 Sole Remedy**

**9.3.4.1** Except as expressly provided in the Contract Documents, the Contractor assumes the financial risk of all delays of any kind or duration, whether or not within the contemplation of the parties and whether foreseeable or unforeseeable. The Contractor shall have no right to rescind or terminate the Contract except as expressly provided herein, and the Contractor shall have no cause of action under any theory of quasi-contract or *quantum meruit* by reason of any such delay. The Contractor agrees that extensions of the Contract Time, as provided herein, shall be the Contractor's sole and exclusive remedy against the Owner in the event the Work is delayed, except to the extent otherwise provided in Subsections 9.4.4.2 and 9.4.4.3 below.

### **9.3.4.2 Adjustment of the Contract Sum as a Result of Certain Delays**

If, and to the extent that, the Contractor establishes that all of the following have occurred:

- (j) The Contractor is entitled to an extension of the Contract Time pursuant to this Section 9.4,
- (k) The Contractor suffered Compensable Losses (as defined below) as a result of the delay, and
- (l) The Contractor could not have avoided or mitigated such Compensable Losses despite having taken all reasonable precautions, efforts and measures to avoid or reduce the amount thereof, including, without limitation, mitigating delays by resequencing Work activities, and reallocating and redeploying work forces of the Contractor, Subcontractors and Sub-Subcontractors to the maximum extent practicable.

In such event the Owner may adjust the Contract Sum by an amount equal to the Contractor's Compensable Losses directly attributable to the Delay Event giving rise to the extension of the Contract Time. A Change Order effecting the adjustment to the Contract Sum will be furnished to the Contractor within a reasonable period after such determination.

"Compensable Losses" include only the reasonable verified amounts of necessary direct costs of: (i) idle time of equipment; (ii) idle time of workers; and (iii) moving of equipment and extended field office overhead expenses. No mark-up of Compensable Losses will be allowed for home office overhead or profit. For purposes of the Contract, "extended field office overhead" expenses shall mean those indirect costs incurred at the Site (sometimes also referred to as general conditions costs or job site overhead costs): (i) which cannot reasonably be allocated to any specific work item within the Work, and (ii) which increase or decrease as a



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function of the duration of the Contract Time. Examples of extended field office overhead items include: project manager, superintendent, temporary utilities and temporary facilities, clerical staff, office equipment and supplies and project trucks and automobiles. The Contractor shall provide to the Owner all documentation and information reasonably requested by the Owner to substantiate the sum of Compensable Losses.

**9.3.4.3** The following clauses (a) and (b) of this Subsection 9.4.4.3 are included herein pursuant to requirements of M.G.L. c. 30, § 39O. In the event that a suspension, delay, interruption or failure to act of the Owner 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 Owner, 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.

(a) The Owner 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 Owner; provided, however, that if there is a suspension, delay or interruption for fifteen (15) days or more or due to a failure of the Owner to act within the time specified in the Contract, the Owner shall make an adjustment in the Contract Sum equal to the actual increase in the cost of the Work but shall not include any profit to the Contractor with respect to such increase; and provided further, that the Owner shall not make any adjustment in the Contract Sum under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which the Contract provides for an equitable adjustment of the Contract Sum under any other contract provisions.

(b) The Contractor must submit the amount of a claim under provision (a) hereof to the Owner 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 submission of the Application for Payment seeking final payment under the Contract and, except for costs due to a suspension order, the Owner shall not approve any costs in the claim incurred more than twenty (20) days before the Contractor notified the Owner in writing of the act or failure to act involved in the claim.

## **ARTICLE 10 PAYMENTS AND COMPLETION**

### **10.1 SCHEDULE OF VALUES**

**10.1.1** Prior to the first Application for Payment, and as a condition precedent to the making of any payments to the Contractor, the Contractor shall submit to the Owner's Representative and Engineer, for approval by the Owner, a preliminary Schedule of Values allocating the Contract Sum among the various portions of the Work, prepared in such form and detail and supported by such data to substantiate its accuracy as the Owner may require. Such Schedule of Values shall be based upon, and consistent with, the Project Schedule. The





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Schedule shall be reviewed and revised from time to time to reflect changes in the Work, or if found by the Owner's Representative or Engineer to be inaccurate. Once approved by the Owner and so long as the Schedule of Values remains up to date and accurate, the approved Schedule of Values shall be used as a basis for the Contractor's Applications for Payment.

## **10.2 APPLICATIONS FOR PAYMENT**

**10.2.1** The Contractor shall submit to the Owner's Representative and the Engineer for review, no later than the first day of each month, a draft of the Application for Payment which the Contractor intends to submit that month. Such draft Applications shall not be considered the Application for Payment for purposes of Subsection 10.2.2.

**10.2.2** The Contractor shall submit to the Owner's Representative and the Engineer an itemized Application for Payment for Work completed as of the end of the preceding month, based upon the approved Schedule of Values and supported by such data substantiating the Contractor's right to payment as the Owner may require, including invoices with check vouchers attached, payrolls, receipted bills, requisitions from Subcontractors and Suppliers, and reflecting the retainage set forth in the Contract. The format of such Applications for Payment shall be AIA Documents No. G702 and G703 (Contractor's Application for Payment) or such other form as may be required by the Owner. The Contractor shall submit its Applications for Payment no later than the fifth (5<sup>th</sup>) calendar day of each month for each payment period constituting the preceding calendar month. The Application for Payment shall show the total cost of the Work performed and materials furnished by the Contractor and each Subcontractor to date, based on a percentage of the work completed.

**10.2.3** Unless otherwise provided in the Contract Documents, such Application for Payment may include materials or equipment not incorporated in the Work but delivered and suitably stored at the Site and, if approved in advance in writing by the Owner, in its sole discretion, payment may be requested for materials or equipment suitably stored at some other location agreed upon in writing, all in accordance with Section 10.9, below. Payments for materials or equipment stored on or off the Site shall be conditioned upon submission by the Contractor of bills of sale, invoices or such other documents, information or procedures as may be required by the Owner to establish the Owner's title to such materials or equipment free and clear of all liens, claims, security interests or encumbrances (collectively referred to in the Contract Documents as "liens"), or otherwise to protect the Owner's interests, and if off-site storage is involved, compliance in full with the requirements of Section 10.9, below.

**10.2.4** The Contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the Owner automatically without further action by the parties, free and clear of all liens or other encumbrances and upon the first to occur of: (i) incorporation in the construction, or (ii) the receipt of payment by the Contractor. Transfer of title to the Owner shall not relieve the Contractor of any of its duties or obligations under the Contract Documents or of any responsibility or liability for the safe delivery and safeguarding, custody, or warehousing of the materials or equipment, nor shall it constitute any



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waiver of the Owner's right to absolute fulfillment by the Contractor of all of the terms of the Contract, nor shall it commence any warranty or guarantee period prior to Substantial Completion. The Contractor warrants that no Work, materials or equipment covered by an Application for Payment shall have been acquired by the Contractor, or by any other person performing Work at the Site or furnishing materials or equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or any other secured party or otherwise imposed by the Contractor or any other person or entity.

**10.2.5** At the request of the Owner, each Application for Payment shall be accompanied by an affidavit or certificate from each Subcontractor stating that it has been paid all amounts due it on the basis of the previous periodic payment(s) to the Contractor, or stating the amount not so paid and the reason for any discrepancy. In the event of any such discrepancy, the Contractor shall furnish its own written explanation to the Owner through the Owner's Representative. If requested by the Owner, the Contractor shall furnish a statement accounting for the disbursement of funds received under prior Applications for Payment.

**10.2.6** Each Application for Payment shall include a monthly status report on the progress of the Work, including those items more particularly set forth in the Contract, in these General Conditions, and in the Specifications. The Contractor acknowledges that such status report is of significant importance to the Owner in determining whether the Contractor is entitled to payment pursuant to such Application for Payment, and failure to deliver such status report, in form, substance, or detail satisfactory to the Owner, shall be deemed to be just cause for withholding payment to the Contractor. Any waiver by the Owner of the requirement of submission of such status report (or any portion thereof) with respect to any Application for Payment shall not be deemed to be a waiver of the Owner's right to require the full and complete status report with respect to any future Application for Payment. Each status report shall include the items specified in the Agreement, in these General Conditions, and in the Specifications and any other reports or items requested by the Owner's Representative or the Owner. All status reports shall be in form and substance satisfactory to the Owner.

### **10.3 CERTIFICATES FOR PAYMENT**

**10.3.1** Within five (5) days after receipt of the Contractor's Application for Payment, the Engineer will either issue a Certificate for Payment to the Owner, with a copy to the Contractor, for such amount as the Engineer determines is properly due, or notify the Owner and Contractor in writing its reasons for withholding a Certificate for Payment, or any portion thereof, as provided in Subsection 10.6.1.

**10.3.2** The issuance of a Certificate for Payment will constitute a representation by the Engineer to the Owner, based on the Engineer's observations, that the Work has progressed to the point indicated, that to the best of the Engineer's knowledge, information and belief the quality of the Work indicated therein is in accordance with the Contract Documents (subject to evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of any subsequent tests required by or performed under the





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Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in the Certificate), that the submission includes all necessary prevailing wage submittals and that the Contractor is entitled to payment in the amount certified. The Engineer shall not certify the final payment until an inspection for Final Completion has been performed and the Owner has acted affirmatively on the Engineer's recommendation that the Project be accepted.

#### **10.4 PROGRESS PAYMENTS TO THE CONTRACTOR**

##### **10.4.1 [Reserved]**

**10.4.2** Within twenty-five (25) days after receipt of a Certificate for Payment issued by the Engineer, the Owner shall make payment of amounts properly due to the Contractor, subject to the terms and conditions of the Contract Documents.

**10.4.3** Upon receipt of payment from the Owner, the Contractor shall promptly pay each Subcontractor out of the amount paid to the Contractor on account of such Subcontractor's work, the amount to which the Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contractor on account of such Subcontractor's work. The Contractor shall, by an appropriate agreement with each Subcontractor, require each Subcontractor to make payments to its lower tier Subcontractors in similar manner.

**10.4.4** Neither the Owner nor the Owner's Representative nor the Engineer shall have any obligation to pay or to see to the payment of any monies to any Subcontractor except as set forth in this Section 10.4.

**10.4.5** Pursuant to M.G.L. c. 30, § 39F, the Contractor shall make payments to Subcontractors in accordance with the following provisions:

(a) Forthwith after the Contractor receives payment on account of an Application for Payment, the Contractor shall pay to each Subcontractor the amount paid to the Contractor 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 (65<sup>th</sup>) 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 Owner as the estimated cost of completing the incomplete and unsatisfactory items of Work, shall be due the Subcontractor; and the Owner shall pay that amount to the Contractor. The Contractor shall forthwith pay to the Subcontractor the full amount received from the Owner less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the Contractor.



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(c) Each payment made by the Owner to the 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 Contractor for the account of that Subcontractor; and the Owner shall take reasonable steps to compel the Contractor to make each such payment to each such Subcontractor. If the Owner has received a demand for direct payment from a Subcontractor for any amount which has already been included in a payment to the Contractor or which is to be included in a payment to the Contractor for payment to the Subcontractor as provided in subparagraphs (a) and (b), the Owner shall act upon the demand as provided in this Subparagraph 10.4.5.

(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 Owner as the estimated cost of completing the incomplete and unsatisfactory items of work, the Subcontractor may demand direct payment of that balance from the Owner. The demand shall be by a sworn statement delivered to or sent by certified mail to the Owner, 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. 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 Owner 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 Owner, 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 Owner, but in no event prior to the seventieth day after substantial completion of the subcontract work, the Owner 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 Owner 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 Owner 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 Owner 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.



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(f) The Owner 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 Contractor and the Subcontractor in a bank in Massachusetts selected by the Owner 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 subparagraph (f) 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 Owner to the Contractor to the extent of such payment.

(h) The Owner shall deduct from payments to the 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 Contractor.

## **10.5 PAYMENT NOT ACCEPTANCE**

**10.5.1** No Certificate for Payment, nor any progress payment made by the Owner, nor any partial or full use or occupancy of the Work or the Project by the Owner, shall constitute an acceptance of the Work, or any portion thereof, that is not in accordance with the Contract Documents.

## **10.6 PAYMENTS WITHHELD**

**10.6.1** The Engineer may decline to certify payment, and may withhold its Certificate for Payment, in whole or in part, to the extent necessary to protect the Owner, if in the Engineer's opinion the Engineer is unable to make representations to the Owner as provided in Subsection 10.3.2. In such case, the Engineer will notify the Owner and the Contractor as provided in Subsection 10.3.1. The Engineer will issue a Certificate for Payment for the amount for which it is able to make all of the representations to the Owner set forth in Subsection 10.3.2. The Engineer may also decline to issue a Certificate for Payment or, because of subsequently discovered evidence or subsequent observations, it may nullify or amend the whole or any part of any Certificate for Payment previously issued, or, notwithstanding that the Engineer has issued a Certificate for Payment, the Owner (in addition to and without limitation of any other rights and remedies of the Owner under the Contract Documents) may withhold payment of any



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amounts claimed to be due by the Contractor and certified for payment by the Engineer, in each case to such extent as may be necessary in order to provide for retention covering the fair value of any possible claims the Owner may have against the Contractor, which amounts may include, but shall not be limited to, the fair value of costs or losses arising from:

- (a) defective Work not remedied,
- (b) third party claims filed or reasonable evidence indicating probable filing of such claims,
- (c) failure of the Contractor to make payments properly due to Subcontractors or Suppliers,
- (d) reasonable evidence that the Work cannot be completed in accordance with the Contract Documents for the unpaid balance of the Contract Sum,
- (e) reasonable evidence of any previous overpayment or improperly issued payment upon an Application for Payment,
- (f) improper prior allocation of the Owner's contingency,
- (g) damage to the Owner or another contractor,
- (h) reasonable evidence that the Work is not progressing in accordance with the Project Schedule or will not be completed within the Contract Time,
- (i) failure to carry out the Work in accordance with the Contract Documents or other default by the Contractor under, or failure of the Contractor to comply with any provisions of, the Contract Documents,
- (j) claims for damages for delay (including accrued liquidated or actual damages, if any), or
- (k) any lien, attachment or other encumbrance not discharged as required by the Contract Documents.

If and when the grounds set forth above are removed without cost to the Owner, payment may be requested and shall be made for amounts withheld because of such grounds, less any cost or damage incurred by the Owner as a result thereof.

## **10.7 SUBSTANTIAL COMPLETION**

**10.7.1** When the Contractor considers that the Work, or a portion thereof designated in the Contract Documents for separate completion, is substantially complete as defined in Subsection 9.1.3, the Contractor shall prepare and submit to the Owner's



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Representative for delivery to the Engineer and to the Owner all documents, records, permits and licenses required by the Contract Documents in a form satisfactory to the Engineer and the Owner, and a monetized punch list of items to be completed or corrected. Failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

**10.7.2 [Reserved] .**

**10.7.3** Warranties and guarantees 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.

**10.7.4** Subject to the procedures set forth in this Section 10.7, within 21 days after presentation of Contractor's certification, Engineer on behalf of Owner shall present to 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. Engineer's declaration shall be made in accordance with the following procedures:

1. Promptly after Contractor's notification, Owner, Contractor and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing within 10 days of the Contractor's presentation of the certification required under Paragraph 10.7.1, giving reasons therefor.
2. If Engineer considers the Work substantially complete, Engineer will, within 10 days of the Contractor's presentation of the certification required under 10.7.1, deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed and corrected before final payment. Owner shall have 7 days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 21 days after presentation of Contractor's certification under Paragraph 10.7.1, notify Contractor in writing, stating the reasons therefor and providing an itemized list of incomplete or unsatisfactory Work items required by the Contract. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 21 days, execute and deliver to Owner and contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting



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such changes from the tentative certificate as the Engineer believes justified after consideration of any objection from Owner

**10.7.5** At the time of Engineer's delivery of the tentative certificate of Substantial Completion to Owner, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment..Engineer shall be entitled to withhold certification of Substantial Completion if Contractor has not brought all substantially completed Work to functioning condition to the satisfaction of Owner.

**10.7.6** Within 15 days after the effective date of the declaration of Substantial Completion. Owner shall send to Contractor by certified mail, return receipt requested, a complete list of all incomplete or unsatisfactory work items, and, unless delayed by causes beyond its control, Contractor shall complete all work items within 45 days after the receipt of such list or before the then Contract Completion Date, whichever is later. If Contractor fails to complete such work within such time, Owner may, subsequent to 7 days' written notice to 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 Contractor.

**10.7.7** Within 65 days after the effective date of the declaration of Substantial Completion, Owner shall prepare and forthwith send to Contractor for acceptance a Substantial Completion estimate for the quantity and price of the Work done and all but one percent retainage on that Work, including the quantity, price, and all but one percent 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. Owner 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 G.L. c. 30, § 39F. [NTD: the foregoing per GL c. 30, s 39G]

## **10.8 FINAL COMPLETION AND FINAL PAYMENT**

**10.8.1** At such time as the Contractor has fully performed the Work, including all obligations set forth in the Contract Documents and all Work listed on the Certificate of Substantial Completion, the Contractor shall give notice to the Engineer and the Owner. The Contractor shall also provide a certificate to the Owner regarding completion of the Work in accordance with the Contract Documents, compliance by the Contractor with the Contract Documents, and such other matters within the scope of the Contractor's performance under the





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Contract Documents as the Owner may require. Such certificate shall be in form and substance acceptable to the Owner.

**10.8.2** Upon receipt of written notice that the Work is ready for final inspection and acceptance, the Engineer and the Owner's Representative will promptly make such inspection. The Engineer shall, within 30 days of its and the Owner's Representative's receipt of the Contractor's written notice, notify Contractor in writing of all particulars in which the inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies. If Engineer and Owner's Representative agree that the Work is complete, the Contractor shall receive a copy of the Engineer's certificate of final inspection within 30 days of the Engineer's and Owner's Representative's receipt of the written notice provided by Contractor under this section 10.8 .

**10.8.3** The Engineer's Certificate of Final Completion will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in this Section 10.8, and elsewhere in the Contract Documents, have been fulfilled in accordance with the requirements of the Contract Documents.

**10.8.4** Notwithstanding anything to the contrary in this Section 10.8 contained, if the Owner elects to take use or occupancy of the Project in stages, final inspection may be performed, at the request of the Contractor or the Owner, in stages (i.e., in respect of the portion of the Work to be occupied by the Owner and such systems, (e.g., mechanical, sanitary, etc.), as are necessary for the Owner's use or occupancy of such portion of the Project). The provisions of this Section 10.8 shall apply to any staged final inspection, except that in no event shall Final Completion be deemed to have occurred until final inspection has occurred with respect to the entire Work.

**10.8.5** Final Completion shall mean the completion of all of the Work in accordance with all of the terms and conditions of the Contract Documents and acceptance thereof after final inspection in accordance with Subsections 10.8.1 through 10.8.4. The date of issuance of the Owner's written notice of acceptance shall be designated as the date of Final Completion. Upon Final Completion, the Owner may take over the Site for permanent use and occupancy. A final Application for Payment may be made at any time after the date of Final Completion.

**10.8.6** Prior to, and as a condition precedent to, Final Completion, all of the following matters shall have been resolved and documents and items shall have been received and approved in writing by the Owner:

- (a) final documents of similar nature to those required by the Contract Documents in connection with any Application for Payment hereunder; and
- (b) all final permits, approvals, (including, without limitation, the approval of the Owner's insurance company, if required) certificates and affidavits



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(including, without limitation, certificates in respect of plumbing, electrical systems and life safety systems, required by governmental authorities) and authorizations for use and occupancy of the Project required by any authority having jurisdiction, including an unconditioned permanent and full Certificate of Occupancy and any other necessary occupancy and use permits (unless such Certificate is not issued solely for reasons as to which the Contractor has no responsibility or over which it has no control); and

- (c) full record “as built” Drawings in the Owner’s CADD software approved by the Engineer; records and related data including all field notes and daily reports of all the Work, all in accordance with the requirements of the Contract Documents; and
- (d) satisfactory proof that all claims arising out of the Work have been released or bonded; and
- (e) acknowledgment of prior payments (to the extent permitted by law) from all Subcontractors and the Contractor; and
- (f) the Engineer’s certificate certifying that the Work is complete; and
- (g) a written statement from the Engineer that all practical orientation and operating instructions for all materials, systems, and equipment have been satisfactorily completed, and that all required training of Owner’s personnel has been completed; and
- (h) a satisfactory report by the Contractor which is approved by the Engineer that all mechanical systems have been and are properly balanced; and
- (i) a certificate of insurance for product liability and completed operations insurance coverage for the three year period following Final Completion; and
- (j) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or its property might in any way be responsible, have been paid or otherwise satisfied; and
- (k) consent of surety, if required, to final payment; and
- (l) if required by the Owner, other data establishing payment or satisfaction of all such obligations, such as receipts and releases arising out of the Contract, to the extent and in such form as may be designated by the Owner; and
- (m) delivery of all spare parts required to be submitted pursuant to the Contract Documents; and





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- (n) delivery of all Contract Documents and other related materials, with the exception of one record contract set, by the Contractor to the Owner or certification by the Contractor that all such documents were lawfully disposed; and
- (o) a general release of the Owner from the Contractor and each Subcontractor.

If the final documentation submitted by the Contractor is determined not to be complete by the Owner or if the Owner deems the Work incomplete in any respect, the Contractor shall promptly complete any such Work and shall promptly resubmit the final documentation.

**10.8.7** Within 30 days after receipt by Owner of notice from Contractor that the entire Work is complete, Owner shall prepare and forthwith send to 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 Owner'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. [NTD: per GL c. 30, s. 39G].

**10.8.8** After Final Completion and receipt by the Owner of a proper final Application for Payment, the Engineer and Owner's Representative shall review the application following the procedures set forth in this Article 10 for progress payments. Thirty days after the presentation to Owner of the Final Application for Payment (as signed by the Engineer) and accompanying documentation as required in this Article 10, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to the amounts withheld

pursuant to Subsection 10.6.1,

the aggregate of all previous payments made by the Owner, and any liquidated and actual damages, will become due and will be paid by Owner to Contractor.

If at any time the aggregate of previous payments made by the Owner exceeds the amount due the Contractor, the Construction Manager shall reimburse the difference to the Owner.

**10.8.9** The acceptance of final payment shall constitute a release and waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final payment.

## **10.9 STORAGE OF MATERIALS OFF-SITE**

**10.9.1** The Contractor and its Subcontractors shall obtain prior written approval from the Owner, for permission to store at off-site locations materials or equipment to be incorporated in the Work, for which progress payments will be requested. No out-of-state storage will be permitted by the Owner. Any and all charges for storage, including insurance, shall be borne solely by the Contractor. Before approval, the Owner may require, without



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limitation, (i) evidence that the location is properly secure, (ii) proper proof of insurance and proof of satisfactory contractual arrangements for transportation to the Site, (iii) proof that Owner will obtain clear title to the materials, and (iv) a certificate from the Contractor stating:

- (a) The name of the Contractor and/or Subcontractor leasing or owning the storage area;
- (b) The location of such storage space, including the storage area; i.e., the entire premises or certain areas of a warehouse giving the number of floors or portions thereof, and a certification that the Contractor has visited such location, verified the storage of such material or equipment therein or thereon, and payment of all current storage charges;
- (c) The date on which the material or equipment is first stored; and
- (d) A description, including quantities and the value of the material or equipment stored.

**10.9.2** The Contractor shall furnish to the Owner, not less often than once per month, a current inventory of all materials or equipment being stored at any off-site location.

**10.9.3** The Contractor and its Subcontractors shall mark each sealed carton or other item with the name of the Project and the Owner, and all materials or equipment stored off-site shall be segregated to the extent required by the Owner, the Owner's Representative, or the Engineer.

**10.9.4** Payment for materials or equipment stored off-site shall be at the sole discretion of the Owner. Title to materials or equipment stored off-site shall be transferred at the time at which the Owner pays for them.

## **ARTICLE 11 SAFETY AND PROTECTION**

### **11.1 SAFETY PRECAUTIONS AND PROGRAMS**

**11.1.1** The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work, including, but not limited to, compliance by the Contractor and all Subcontractors with all safety precautions and programs and other legal requirements of the Occupational Safety and Health Act, other Applicable Laws, the Contract Documents, and any insurance carrier providing insurance coverage for the Owner or the Contractor in connection with the Project. Without limiting the generality of the foregoing, the Contractor shall, promptly after execution of the Agreement, prepare a written safety program which shall be submitted to the Owner's Representative and the Owner and issued to all Subcontractors and all forces employed on the Work. Such program shall include weekly safety meetings with representatives of all Subcontractors working on the



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Site, and the Contractor shall prepare, circulate and maintain on file at the Site minutes of all safety meetings. The Contractor shall ensure that all forces employed on the Work are free of drugs and alcohol and are provided with all necessary personal protective equipment. The Contractor's written safety program shall identify, by trade, tasks for which specific safety planning and precautions are necessary and the steps necessary to implement such precautions. The Contractor shall plan hazardous sequences in advance, shall institute procedures for reporting any injuries and providing for emergency medical care and shall report to the Owner's Representative when such sequences are to commence and when completed.

**11.1.2** The Contractor shall designate a responsible member of its organization at the Site whose duty shall be the prevention of accidents. This person shall be the Contractor's Project Superintendent unless otherwise designated by the Contractor in writing to the Owner's Representative.

## **11.2 SAFETY OF PERSONS AND PROPERTY**

**11.2.1** The Contractor shall take all necessary precautions for the safety of, and shall provide all protection necessary to prevent damage, injury or loss to:

- (a) all employees on the Work and all other persons or other entities who may be affected thereby;
- (b) all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the Site; and
- (c) other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, improvements and utilities not designated for removal, relocation or replacement in the course of construction.

Without limitation, the Contractor shall provide security watch service at all such times as are necessary to protect the interests of the Contractor and the Owner and to provide for the safety and security of the general public, employees and agents of the Owner, the Owner's Representative and the Engineer, and other persons who may be affected by the Work, and to exclude unauthorized persons from the Site.

**11.2.2** The Contractor shall give all notices and comply with all Applicable Laws bearing on the safety of persons or property or their protection from damage, injury or loss.

**11.2.3** The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including fencing and posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities and other improvements as more particularly set forth in the Specifications.



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**11.2.4** The Contractor shall satisfactorily conduct its work at all highway crossings and along all highways, street and other ways in accordance with the permission and requirements of the proper authorities. Vehicular traffic shall be routed over temporary detours during construction when required to maintain proper flow of traffic. The Contractor shall plan and conduct its operations in such a manner that the continuous flow of traffic is uninterrupted and with a minimum of inconvenience to the general public. The Contractor shall prepare a plan for construction and traffic management acceptable to the Owner and the municipal authorities. The Contractor shall arrange for and provide all policemen required by the town or city in which the Project is located to be present at or adjacent to the Site for traffic control purposes. The cost of all policemen so required shall be borne by the Contractor and included in the Contract Sum.

**11.2.5** The Contractor shall assume all responsibility for the protection of property of adjacent owners so far as affected by its operations. The Contractor shall provide temporary protection at all openings in the outside fences or walls to prevent unauthorized persons from obtaining access during the night and at other non-working hours. The Contractor acknowledges that there may be Construction projects being undertaken on adjacent properties and will coordinate the Work with such other projects as required.

**11.2.6** Blasting operations, if any, shall be specifically approved in advance in writing by the Engineer, shall be conducted by experienced personnel and in strict accordance with the rules and regulations of the Massachusetts Department of Public Safety governing the keeping, storage, use, manufacture, sale, handling, transportation or other disposition of explosives, and such other rules and regulations as may be promulgated from time to time by authorities having jurisdiction, and shall not be commenced until the Contractor provides written evidence to the Owner that XCU coverage is in force and effect as required by Subsection 12.2.3 hereof. When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

**11.2.7** The Contractor shall promptly remedy all damage or loss (excluding damage or loss insured under the property insurance carried by the Owner, if any, as provided in the insurance requirements contained in the Contract Documents, but including losses within the deductibles of such insurance) to any property referred to in Subsection 11.2.1 caused in whole or in part by the Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under this Article 11, except to the extent that the damage or loss is attributable to the acts or omissions of the Owner, the Owner's Representative or the Engineer. The foregoing obligations of the Contractor are in addition to its obligations under Article 5.

**11.2.8** The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.



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**11.2.9** The Contractor shall provide and maintain in good operating condition suitable and adequate fire protection equipment, and shall comply with all recommendations regarding fire protection made by the representatives of the insurance company or companies carrying insurance on the Work or by the local fire chief or fire marshal. The Site shall be kept orderly and clean, and all combustible rubbish shall be removed from the Site daily.

**11.2.10** The Contractor shall at all times protect excavations, trenches, structures, materials, equipment and fixtures from damage from rain water and other weather, ground water, back-up or leakage of sewers, drains and other piping, and from water of any other origin and shall remove promptly any accumulation of water at the Project Site. The Contractor shall provide and operate all pumps, piping and other equipment necessary to this end. The Contractor shall remove snow and ice which might create a hazard on or about the Site or result in damage or delay.

**11.2.11** The Contractor shall take all necessary precautions to prevent loss or damage caused by vandalism, theft, burglary, pilferage, or unexplained disappearance of property of the Owner forming part of the Work, or located within those areas of the Project to which the Contractor has access. The Contractor shall have full responsibility for the security of such property of the Owner and shall reimburse the Owner for any such loss, damage or injury resulting from vandalism, theft, burglary, pilferage, unexplained disappearance or any other cause, to the extent that the same is not covered by the Owner's insurance.

**11.2.12** In the event the Contractor discovers any active utility line which had not yet been disclosed in any survey, it shall cease all work in the immediate area which may affect such line and shall promptly notify the Owner, Owner's Representative, and the affected utility company. The Contractor shall not restart work without notice from and approval of the Owner's Representative.

**11.2.13** The Contractor shall at all times provide and maintain adequate protection against weather so as to preserve the Work, materials, equipment, apparatus, and fixtures free from injury or damage.

**11.2.14** The Contractor shall protect all finished surfaces of the Work, including the jambs and soffits of all openings used as passageways or through which materials are handled, against any possible damage resulting from the conduct of Work by the Contractor or by any separate Contractors.

**11.2.15** In the event of temporary suspension of Work and during inclement weather, or whenever further directed by the Owner or Engineer, Work and materials shall be adequately protected against damage. The Contractor shall take special precautions to prevent damage to materials and work installed in cold or freezing weather, by providing adequate temporary heat and suitable enclosures or covering. The ground surfaces under footings and under pipe lines, and all concrete and masonry work, shall be protected against frost and freezing. The minimum measures to be taken shall be in accordance with the requirements for



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winter conditions as set forth in the current edition of ACI-318-83 “Building Code Requirements for Reinforced Concrete” published by the American Concrete Institute.

**11.2.16**The Contractor shall provide ventilation of enclosed areas during construction as required to permit proper curing and drying out, and to prevent excessive humidity, moisture and condensation. Ventilation shall be by natural or artificial means as required by the conditions involved.

**11.2.17**The Contractor shall control the safe handling and storage of all explosives, welding materials, acetylene and oxygen tanks, and other equipment required for blasting operations, welding and cutting work at the Site. All welding materials and equipment shall be removed promptly from the premises and upon completion of the welding and cutting work. No welding torch or other open flames will be used within any building or temporary structure without a fire watch with an appropriate fire extinguisher or within one hour of quitting time.

**11.2.18**The Work shall be performed in such a manner as to prevent fire, and during any Work involving a fire hazard the Contractor shall take all necessary precautions against fires starting and spreading on the Site, within buildings and temporary structures. The Contractor shall provide and maintain sand buckets, suitable fire extinguishers and hoses where and as required to provide adequate means of extinguishing fires. Fire prevention requirements may be directed by the Owner’s insurance agents and the local Fire Department. Permanent standpipes shall be made available during construction. Gasoline and other flammable liquids shall not be stored within buildings or temporary structures; shall be stored in and dispensed from U.L. listed safety containers in conformance with N.B.F.U. recommendations and the requirements of all authorities having jurisdiction. The Contractor shall make arrangements for periodic inspection by town/city fire protection authorities and insurance underwriters’ inspectors, cooperate with them and promptly carry out their recommendations.

### **11.3 EMERGENCIES**

**11.3.1** In any emergency affecting the safety of persons or property, the Contractor shall act, at its discretion, to prevent threatened damage, injury or loss and shall as promptly as conditions permit notify insurance carriers and the Owner’s Representative of the nature of the emergency and circumstances related thereto. Immediately thereafter, the Contractor shall prepare a written report setting forth in detail the action taken and describing in detail all circumstances and conditions which are related to such action. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article 13 for Changes in the Work.





## **ARTICLE 12 BONDS AND INSURANCE**

### **12.1 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND**

**12.1.1** The Contractor shall furnish a performance bond and a labor and materials payment bond, each for the full amount of the Contract Sum. The performance bond and the labor and materials payment bond shall be in the unmodified form of the AIA A312-2010 performance and payment bonds. The Owner reserves the right to specify any alternative form for the performance or payment bond. Each bond shall name the Owner as obligee and each shall be issued by a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and whose name appears on the United States Treasury Department Circular 570. The bond premiums shall be included in the Contract Sum and shall be paid by the Contractor. If the Agreement provides for the imposition of liquidated or actual damages in the event that the Contractor fails to complete the Work within the Contract Time, then the obligations assumed by the surety under the performance bond shall include the payment of such liquidated or actual damages. These bonds shall remain in effect for the entire Guarantee Period, as defined in Subsection 14.2.2. All bonds shall be executed in the required number of counterparts and shall be submitted to the Owner for insertion into the Contract Documents prior to the execution of the Agreement.

### **12.2 CONTRACTOR'S LIABILITY INSURANCE**

**12.2.1** The Contractor shall purchase and maintain such insurance as will protect it and the other parties specified or referred to in Subsection 12.2.10 below from claims referred to below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by itself or by any Subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

**12.2.2** The Contractor shall purchase and maintain during the life of the Agreement:

- (a) Insurance sufficient to discharge its obligations under all applicable workers' compensation laws of the Commonwealth of Massachusetts and the United States.
- (b) Employer's liability insurance with minimum limit per accident or disease of \$1,000,000.
- (c) Statutory disability and other employee benefit insurance.

**12.2.3** The Contractor shall purchase and maintain commercial general liability insurance, which coverage shall be in a form no less broad than ISO CG 00 01 12 07 or its equivalent and covering the full scope of this contract with limits not less than \$1,000,000 per



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occurrence and \$5,000,000 aggregate for personal or bodily injuries and for property damage. A per occurrence limit of not less than \$5,000,000 is acceptable. All policies issued shall include permission for partial or total use and occupancy of the premises by the Owner within the scope of the Contract. Such insurance shall include at least the following:

- (a) Commercial general liability insurance, including all products, premises-operations, completed operations for at least three (3) years following acceptance and final payment, independent contractors, additional interests of employees, sudden and accidental pollution and contamination, and incidental medical malpractice, and including notice of occurrence and knowledge of occurrence endorsements satisfactory to the Owner.
- (b) Blanket contractual liability insurance covering all liabilities assumed under the Contract Documents, including, but not limited to, the Contractor's obligations under Article 5 of the General Conditions.
- (c) Coverage for the so-called "XCU" hazards (explosion, collapse of buildings, blasting, undermining, and damage to underground property). Before any blasting is done, the Contractor shall provide to the Owner written evidence that blasting damage is included in the Contractor's insurance coverage.

**12.2.4** The Contractor shall purchase and maintain automobile liability insurance, which coverage shall be in a form no less broad than ISO CA 00 01 03 10 or its equivalent and covering all owned, non-owned and hired vehicles with a limit of not less than \$1,000,000 per accident for bodily injury, including death and property damage.

**12.2.5** The Contractor shall also purchase and maintain umbrella form excess liability insurance in the limits specified below and containing coverage no less restrictive than that required under Subsections 12.2.2, 12.2.3, and 12.2.4 above. The required primary insurance shall be listed as underlying coverage in the first layer of the umbrella policy. Nothing contained herein shall be interpreted to restrict or prohibit the Contractor from carrying, or requiring any of its Subcontractors to carry, insurance in addition to that required hereby. The Contractor's umbrella excess policies shall contain a minimum total occurrence and aggregate limit of \$10,000,000.

**12.2.6** The Owner shall have the right to require that the coverages and limits of liability set forth in Subsections 12.2.2, 12.2.3, 12.2.4, and 12.2.5 be expanded or raised if required by law or any lender of the Owner, or if in the Owner's judgment economic conditions or other factors so warrant. If additional costs are incurred because of raised limits, the additional cost shall be added to the Contract Sum. The Owner shall also have the right to reduce the coverages and limits of liability set forth in Subsections 12.2.2, 12.2.3, 12.2.4, and 12.2.5 if in the Owner's judgment the degree of risk associated with any portion of the Work warrants reduced coverage and limits of liability.





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**12.2.7** Insurance coverages similar to those required of the Contractor shall be provided by or on behalf of all Subcontractors to cover their operations performed under the Contract Documents. The Contractor shall be held responsible for compliance with and enforcement of the insurance requirements and for any modifications of these insurance requirements as they apply to Subcontractors. The Contractor shall not permit any Subcontractor to commence work until such Subcontractor has furnished evidence that insurance has been procured and certificates of insurance have been obtained by the Contractor providing that, in the event of non-renewal or cancellation of Subcontractor's policies, thirty (30) days advance written notice will be given to the Contractor by registered mail. Copies of such certificates and, upon Owner's written request, copies of the insurance policies shall be delivered to the Owner, who shall be designated as a certificate holder.

**12.2.8** Prior to the commencement of the Work, the Contractor shall cause its insurance company or companies to provide insurance certificates, which shall be attached as **Exhibit G** to the Agreement, and, upon Owner's written request, copies of insurance policies acceptable to the Owner and the other additional insureds specified in Subsection 12.2.10 below evidencing the above coverages to be furnished the Owner and the other additional insureds specified in Subsection 12.2.10 below by the Contractor's insurance company. Such certificates and all insurance policies required by this Article 12 shall contain provisions requiring at least 30 days' prior written notice to the Owner and to other certificate holders of any cancellations or non-renewals of the policies. Certificates shall indicate effective dates and dates of expiration of policies. An additional certificate evidencing continuation of all insurance coverages required to remain in force after final payment shall be submitted with the application for final payment, and neither final payment nor any remaining retainage under this Contract shall be due until such certificate has been submitted to the Owner.

**12.2.9** The Owner is to be furnished originals or certified copies of the policy or policies including all endorsements required to provide stated coverage within 10 days after commencement of Work under this Contract.

**12.2.10** All insurance policies provided pursuant to Article 12 shall be written by companies licensed to do business in the Commonwealth of Massachusetts and having an A.M. Best rating of A-, VIII or better, or otherwise acceptable to Owner, in its reasonable discretion, and shall be in form satisfactory to the Owner. All such policies shall name as additional insureds, under endorsements no less broad than CG 20/10 (11-85) or both CG 2026 (7/04 version) and CG 2037 (7/04 version), the Owner, affiliates and participants of the Owner, the State University, the Commonwealth of Massachusetts, and any other parties as the Owner may identify by notice to the Contractor from time to time. All such policies shall contain provisions or endorsements necessary to assure coverage of claims by one additional insured against another additional insured. All required insurance policies are to be endorsed to state that the Contractor's policies shall be primary to all other insurance available to the Owner, which insurance shall be excess of all other valid and collectible insurance policies. The Contractor shall bear all costs of any amounts deductible, retained or self-insured under the policies required to be maintained by the Contractor.



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**12.2.11** The purchase of insurance to satisfy the above requirements, or the furnishing of certificates evidencing same, shall not be a satisfaction of the Contractor's liability under this Contract or in any way modify the Contractor's indemnification of the Owner.

**12.2.12** Certificates and policies of insurance shall be filed with the Owner.

### **12.3 PROPERTY INSURANCE**

**12.3.1** The Contractor shall purchase and maintain property insurance insuring against the perils of fire and extended coverage and including "all risk" builders' risk insurance for physical loss or damage to the Work, including all labor, materials, supplies, machinery, equipment, fixtures, temporary structures and all other work of whatever nature, used or to be used in or incidental to the construction, fabrication, erection or completion and testing of the Work, until Final Completion. Limits shall be 100% of the replacement value of the Work. Such insurance shall protect the interests of the Owner, the Contractor and all Subcontractors performing work at the Site, and the proceeds in case of loss may be held by the Contractor and applied by it in the manner hereafter set forth. The Contractor shall have power to adjust and settle any loss with the insurers, using due diligence to protect the interests of the Owner, Contractor and Subcontractors, subject to the rights of the Owner. The Contractor's property insurance will not cover any tools, equipment, materials, supplies, temporary structures or other property owned or rented by the Contractor or Subcontractors which is not to be incorporated in the Work. The Contractor and Subcontractors assume these excluded risks, and waive all rights they may have against the Owner for damage to such items, and, further, any policy of insurance covering the Contractor's own tools, equipment, facilities and other property against loss by physical damage shall include an endorsement providing that the underwriters waive their rights of subrogation against the Owner. In accordance with Article 12, the Contractor will furnish the Owner with a certificate of such insurance coverage, which shall be attached as **Exhibit G** to the Agreement. The Contractor will furnish the Owner with originals or certified copies of the policy including endorsements within 10 days after commencement of Work under this Contract. In accordance with Article 12, the Owner shall be listed as an additional named insured on such property insurance policy.

**12.3.2** The Contractor, as trustee for the parties in interest, shall receive the proceeds of any insurance upon the occurrence of an insured loss, and shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or in accordance with an award or finding of a court of competent jurisdiction. If after such loss no other agreement is made, replacement of damaged work shall be covered by an appropriate Change Order.

**12.3.3** The Contractor shall be completely responsible for the proper care and protection of the Work. The Contractor shall be responsible for all losses within the deductible specified above, and the Contractor shall promptly, and in any event so as not to delay the progress of the Work, replace or reimburse the Owner for any property to the extent loss or damage to such property is within the deductible.



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**12.3.4** If there is a casualty resulting in a loss of more than 20% of the Contract Sum, as determined by the Owner, then the Owner may elect to terminate the Contract upon seven (7) days' notice to the Contractor and the Engineer, and the Contractor shall be entitled to payment for all Work executed in accordance with the Contract Documents prior to said termination. Contractor shall have no claim for payment for loss of profit on that portion of the Work not executed.

**12.3.5** The Owner and the Contractor waive all rights against (i) each other and the Subcontractors, consultants, agents and employees each of the other, and (ii) the Engineer, the Owner's Representative, and separate contractors, if any, and their Subcontractors, sub-Subcontractors, agents and employees, for damages caused by fire or other perils to the extent covered by insurance obtained pursuant to this Section 12.3 or any other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by the Contractor. The foregoing waiver afforded the Engineer, its agents and employees shall not extend to the liability imposed by Subsection 5.1.4. The Owner or the Contractor, as appropriate, shall require of the Engineer, separate contractors, and Subcontractors by written agreements, similar waivers each in favor of all other parties enumerated in this Subsection 12.3.5.

#### **12.4 PROFESSIONAL LIABILITY INSURANCE**

**12.4.1** If the Work performed by the Contractor or any Subcontractor requires design and/or other professional services, the Contractor shall purchase and maintain, and shall cause any such Subcontractor to purchase and maintain, professional liability insurance for claims arising out of the negligent performance of such professional services. Professional liability coverage shall be written for minimum limits of \$2,000,000 per claim and annual aggregate with a deductible no greater than \$100,000. Professional liability coverage may be provided on a "claims made" basis if it includes a retroactive date that is no later than the effective date of this Agreement, and such insurance coverage shall be maintained for a period at least six (6) years after the earlier of: (1) the date of official acceptance of the completed Project by the Owner; (2) the date of the opening of the Project to public use; (3) the date of acceptance by the Contractor of final payment under this Agreement; or (4) the date of final completion of the Project and the taking of possession of the Project for use and occupancy by the Owner. Throughout the term of this Agreement and the entire six (6) year period, the Contractor and any such Subcontractor shall provide renewal certificates of professional liability insurance to the Owner as evidence that this coverage is being maintained. Alternatively, the six (6) year maintenance period for this coverage may be satisfied by providing an extended reporting period endorsement.



## **ARTICLE 13 CHANGES IN THE WORK**

### **13.1 CHANGE ORDERS**

**13.1.1** The Contract Sum and the Contract Time may be changed only by duly executed Change Order. A Change Order signed by the Contractor indicates its agreement therewith, including the adjustment, if any, in the Contract Sum or the Contract Time.

**13.1.2** The Owner, without invalidating the Contract, may order Changes in the Work consisting of additions, deletions or other revisions, the Contract Sum and the Contract Time being adjusted accordingly, if necessary. All such Changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents.

**13.1.3** With respect to Change Orders, upon the request of the Owner or the Engineer, the Contractor shall submit to the Engineer, as soon as reasonably possible but in any event within twenty (20) days of the Contractor's receipt of a request therefor, an accurate written statement setting forth in detail, with a suitable breakdown for each trade and work classification, and including a breakdown of the items set forth in Subsection 13.1.8 below, the net increase in the cost of the Contractor's performance and payment bond premiums attributable to such changes, and any allowable markup for overhead and profit. The Contractor shall state in such proposal any change to the Contract Time required for the completion of the Work if the Change Order is approved. The Contractor shall promptly revise and resubmit such proposal if the Engineer determines that the proposal is not in compliance with the requirements of this Article, or that it contains errors or ambiguities. Once it has been reviewed and approved by the Engineer, the Change Order shall be submitted to the Owner and the Contractor for Execution.

**13.1.4** The amount by which the Contract Sum shall be adjusted as a result of a Change Order shall be determined in one or more of the following ways, as the Owner in its sole discretion shall determine:

- (a) by mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- (b) by unit prices stated in the Contract Documents or subsequently agreed upon;
- (c) by cost to be determined in a manner agreed upon by the parties; or
- (d) by the method provided in Subsection 13.1.5.

**13.1.5** If the amount by which the Contract Sum shall be adjusted as a result of a Change in the Work is not agreed upon using one of the methods set forth in Subsection 13.1.4



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above, the Contractor, provided it receives a written order signed by the Owner, shall promptly proceed with the Work involved. The cost of such Work shall then be estimated by the Engineer on the basis of the reasonable expenditures and savings of those performing the Work attributable to the change (as set forth in Subsection 13.1.8), and including, in the case of an increase in the Contract Sum, an amount equal to the allowable markup for overhead and profit as provided in the Contract. Such estimate shall be presented by the Engineer to the Owner for approval. In such case, and also in the case of changes with respect to which the cost or credit is determined under one of the methods set forth in Subsection 13.1.4 above, the Contractor shall keep and present, in such form as the Engineer may prescribe, an itemized accounting together with appropriate supporting data for inclusion in a Change Order. The Contractor shall review all quotations from Subcontractors and shall assure that pricing is fair and equitable before forwarding such proposed pricing to the Owner. Pending final determination of cost to the Owner, payments on account, if any, shall be made on the Engineer's Certificate for Payment. The amount of credit to be allowed by the Contractor to the Owner for any deletion or change which results in a net decrease in the Contract Sum will be the amount of the actual net decrease in the cost of the Work plus the Contractor's allowable markups, as may be permitted by the Agreement, as confirmed by the Engineer. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead, superintendence and profit, to the extent permitted hereunder, shall be figured on the basis of the net increase, if any, with respect to that change.

**13.1.6** If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated are so changed in a proposed Change Order that application of the agreed unit prices to the quantities of Work proposed will cause substantial inequity to the Owner or the Contractor, the applicable unit prices shall be equitably adjusted.

**13.1.7** Proposals as provided for in Subsection 13.1.4(a), above, shall be accompanied by a detailed breakdown of estimated costs of labor, materials, equipment and insurance, including a similar breakdown of costs for subcontracted Work. Such proposals shall be subject to the Engineer's review and acceptance by the Owner which will be based upon the Contractor's satisfactory demonstration that all costs and charges included therein are fair and reasonable, consistent with current price indexes for labor, materials and equipment, and do not in any way reflect exorbitant or non-applicable charges. Proposals shall be based on the approved Schedule of Values where applicable. The Contractor shall cooperate fully with the Owner's Representative and the Engineer to whatever extent necessary in providing adequate substantiation of cost and in conducting negotiations pertaining thereto.

**13.1.8** Costs of material and labor for Changes in the Work shall be limited to the following:

- (a) The net cost to the Contractor of all necessary materials, including transportation to the Site.



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- (b) Cost of all necessary labor, in accordance with established wage rates, as evidenced by payroll records.
- (c) Premium the Contractor has to pay for liability and other insurance and bonds directly required by reason of performance of such Change in the Work.
- (d) Payments required to labor organizations under existing labor agreements, and directly required by reason of performance of such Change in the Work.
- (e) State taxes for unemployment insurance and Federal taxes for Social Security required to be paid and directly required by reason of such Change in the Work.
- (f) Taxes, if any, required to be paid on materials incorporated in such Work (subject, however, to the provisions of Section 4.2).
- (g) Gas, oil, coal, electric current and other forms of energy used, where directly required by reason of such Change in the Work.

**13.1.9** The Contractor shall not subcontract any Work under a Change Order unless work under the basic Contract of a similar type was previously subcontracted, or unless the Owner specifically approves and accepts such subcontracting in advance and in writing; and Subcontractors will not be allowed to further subcontract any Work under a Change Order without the prior written approval and acceptance of the Owner, unless Work under the basic Contract of a similar type was previously subcontracted by them. No mark-up shall be allowed on bond premiums of the Contractor or any of the Subcontractors.

## **13.2 CONSTRUCTION CHANGE DIRECTIVES**

**13.2.1** The Owner may order the Contractor to proceed with changes in the Work consisting of additions, deletions or other revisions prior to incorporation thereof in the Contract by issuance of a Change Order or in the event of the Owner and the Contractor to agree on an appropriate Change Order. All such changes shall be authorized by Construction Change Directives issued by the Owner through the Engineer.

**13.2.2** The Construction Change Directive shall include a description of the work involved and the basis for revision, if any, in the Contract Sum or Contract Time or both.

**13.2.3** Within the time period specified in Subsection 13.1.3, the Contractor shall submit to the Engineer and the Owner final costs for work required by the Construction Change Directive in accordance with Subsections 13.1.6 through 13.1.8, and request for change, if any, in the Contract Sum or Contract Time or both, for review by the Engineer and inclusion in a subsequent Change Order.





### **13.3 DIFFERING SUBSURFACE OR LATENT PHYSICAL CONDITIONS**

**13.3.1** Pursuant to Section 39N of Chapter 30 of the Massachusetts General Laws, changes in the Work based on concealed subsurface or latent conditions shall be in accordance with the following:

If, during the progress of the Work, the Contractor or the Owner 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 Owner may request an equitable adjustment in the contract price of the Contract applying to the 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 the Contractor, or upon its own initiative, the Owner 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 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 Owner shall make an equitable adjustment in the contract price and the Contract Documents shall be modified in writing accordingly.

### **13.4 CLAIMS FOR ADDITIONAL COST OR DAMAGES**

**13.4.1** If the Contractor wishes to make a claim for an increase in the Contract Sum by reason of any work required to be performed or materials furnished by it or by reason of any event, circumstance, occurrence, direction or interpretation, or if it wishes to make a claim for damages by reason of any act or omission of the Owner or the Engineer, including, without limitation, any order by the Owner to stop the Work pursuant to Section 17.1 where the Contractor was not at fault, the Contractor shall give the Owner written notice thereof within seven (7) days after the occurrence of the event giving rise to such claim, otherwise it shall be waived. Such notice shall be given by the Contractor before proceeding to execute the work involved, except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Section 11.3. A written report by the Contractor setting forth the facts and reasons for proceeding under Section 11.3 shall be submitted by it in support of its claim for relief under Section 11.3. No such claim for an increase in the Contract Sum or any other matter described above shall be valid unless so made. If the Owner and the Contractor cannot agree on the amount of the adjustment, if any, to the Contract Sum or the Contract Time, it shall be determined by the Engineer, subject to the provisions of Article 19.

**13.4.2** The Contractor understands that no director, member, trustee, officer, principal, employee, agent or other representative of the Owner, the Owner's Representative or the Engineer has authority to waive compliance with the notice provisions of this Section 13.4.





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**13.4.3** The Contractor shall maintain a current listing of unresolved claims under this Section 13.4 and under Section 9.4.

### **13.5 PENALTIES FOR FALSE CLAIMS**

**13.5.1** The attention of the Contractor and all Subcontractors is directed to M.G.L. c. 266, § 67B, which provides criminal penalties for false claims by the Contractor or any Subcontractor under this Contract: "Whoever makes or presents to any employee, department, agency or public instrumentality of the commonwealth, or of any political subdivision thereof, any claim upon or against any department, agency, or public instrumentality of the commonwealth, or any political subdivision thereof, knowing such claim to be false, fictitious, or fraudulent, shall be punished by a fine of not more than ten thousand dollars or by imprisonment in the state prison for not more than five years, or in the house of correction for not more than two and one-half years, or both."

### **13.6 MINOR CHANGES IN THE WORK**

**13.6.1** The Engineer will have authority to order minor Changes in the Work not involving an adjustment in the Contract Sum or an adjustment of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written Engineer's Supplemental Instructions, and shall be binding on the Owner and the Contractor. The Contractor shall carry out such Engineer's Supplemental Instructions promptly.

## **ARTICLE 14 CORRECTION OF WORK**

### **14.1 UNCOVERING OF WORK**

**14.1.1** If any portion of the Work should be covered contrary to the request of the Engineer or the Owner's Representative or contrary to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Engineer, the Owner's Representative, or the Owner, be uncovered for observation by the Engineer and replaced at the Contractor's expense.

**14.1.2** If any other portion of the Work has been covered which the Engineer has not specifically requested to observe prior to being covered, the Engineer through the Owner's Representative, may request to see such Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the Owner. If such Work be found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it be found that this condition was caused by the Owner or a separate contractor as provided in Article 7, in which event the Owner shall be responsible for the payment of such costs.



## **14.2 CORRECTION OF WORK**

**14.2.1** The Contractor shall promptly correct all Work rejected by the Engineer or the Owner as defective or as failing to conform to the Contract Documents, whether observed before or after Substantial Completion or Final Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for the Engineer’s additional services made necessary thereby.

**14.2.2** Without limiting any other rights which the Owner has hereunder or pursuant to law, if, within one (1) year after the date of Substantial Completion of the Work or portion thereof designated by the Owner or within one year after acceptance by the Owner of designated equipment or within such longer period of time as may be prescribed by law or by the terms of any applicable guarantee or warranty required by or referred to in the Contract Documents (the “Guarantee Period”), any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct such defective work promptly after receipt of a written notice from the Owner to do so and shall reimburse the Owner for any expenses it shall have incurred in inspecting or testing such portion of the Work. The obligations provided in this Section 14.2 shall survive termination of the Contract and the making of final payment hereunder and may be extended pursuant to the provisions of Subsection 18.1.4.

**14.2.3** The Contractor shall remove from the Site all portions of the Work which are defective or nonconforming and which have not been corrected under Article 18 or Subsections 14.2.1 and 14.2.2, unless removal is specifically waived in writing by the Owner.

**14.2.4** If the Contractor fails to correct defective or nonconforming Work as provided in Article 18 or Subsections 14.2.1 and 14.2.2, the Owner may correct it in accordance with Section 17.2.

**14.2.5** If the Contractor does not proceed with the correction of such defective or nonconforming work within a reasonable period of time (fixed by the Owner’s Representative or the Engineer in writing) after receipt of a written notice from the Owner’s Representative or the Engineer to correct such Work, the Owner may remove it and may store the materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten (10) days thereafter, the Owner may upon ten (10) additional days’ written notice sell such Work at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for the Engineer’s additional services made necessary thereby. If such proceeds of sale do not cover all costs which the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.



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**14.2.6** The Contractor shall bear the cost of making good all work of the Owner or separate contractors destroyed or damaged by such correction or removal.

**14.2.7** Nothing contained in this Section 14.2 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Article 18 hereof, or under law. The establishment of the Guarantee Period of one year after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any guarantee or warranty required by or referred to in the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which its 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 its obligations other than specifically to correct the Work.

### **14.3 ACCEPTANCE OF DEFECTIVE OR NONCONFORMING WORK**

**14.3.1** If the Owner prefers to accept defective or nonconforming Work, it may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

## **ARTICLE 15 PARTIAL USE OR OCCUPANCY**

### **15.1 OWNER'S RIGHT TO USE AND OCCUPY**

**15.1.1** The Owner shall have the right to use and occupy spaces, areas, systems and other portions of the Work prior to completion and acceptance of all the Work or of other portions of the Work, provided that in the opinion of the Engineer such use or occupancy shall not interfere with the Contractor's operations nor delay it in completing the entire Work. If the Owner desires to exercise its right of partial occupancy and use under this Section 15.1, the Owner shall give, through the Owner's Representative, reasonable notice thereof to the Engineer and the Contractor. If the Engineer determines that the proposed use or occupancy would not interfere with the Contractor's operations or delay it in completing the entire Work, the Contractor shall cooperate with the Owner in providing basic services and facilities reasonably required for the proposed use or the health, safety and comfort of the users or occupants and other parties lawfully present on or entering or leaving the Site such as water, lighting, power, fire protection, and telephone services for the space or spaces to be occupied. If the equipment required to furnish such services is not entirely completed at the time the Owner desires to use or occupy the aforesaid space or spaces, the Contractor shall make every reasonable effort to complete the same as soon as possible so that the necessary equipment can be put into operation and use. Mutually acceptable arrangements shall be made between the Owner and the Contractor with regard to procedures, terms, and conditions governing the operation and maintenance of such services and facilities as may be utilized for the benefit of the Owner. The Owner will assume proportionate and reasonable responsibility for operation



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of systems, equipment and/or utilities required to provide such services, in part or in total, including proportionate and reasonable expenses of operation incidental thereto, and mutually acceptable arrangements shall be made as to guarantees and warranties affecting designated portions or elements of the Work associated therewith.

## **15.2 PARTIAL USE NOT ACCEPTANCE**

**15.2.1** The Owner's use or occupancy of such designated areas or portions of the Work prior to completion and acceptance of all or portions of the Work pursuant to Section 15.1 shall not constitute acceptance of systems, materials, or elements of the Work which are not in accordance with the requirements of the Contract Documents, nor relieve the Contractor from its obligation to complete the Work, or its responsibility for loss or damage due to or arising out of defects in, or malfunctioning of, systems, materials, equipment, or elements of the Work, nor from other unfulfilled obligations or responsibilities of the Contractor under the Contract. If, however, damage results to such designated areas or portions of the Work, in whole or in part, from any act of the Owner, then the Owner will assume its proportionate responsibility for such damage, to the extent that such damage is not covered by insurance provided in accordance with the terms of the Contract Documents.

## **15.3 NO CLAIM FOR DELAY**

**15.3.1** The Contractor shall make no claim for any adjustment to the Contract Sum or the Contract Time or for damages of any kind arising directly or indirectly out of the exercise by the Owner of the rights reserved under this Article 15.

# **ARTICLE 16 TERMINATION OF THE CONTRACT**

## **16.1 TERMINATION BY THE CONTRACTOR**

**16.1.1** If the Owner has failed to make a progress payment properly due and payable to the Contractor, then the Contractor, if not in default hereunder, may give the Owner written notice of its intention to terminate the Contract and if, after thirty (30) days after the Owner's receipt of such notice, the default of the Owner shall not have been cured or action by the Owner to effect such cure shall not have been commenced within such thirty (30) day period and diligently pursued, as the case may be, then the Contractor may terminate the Contract and recover from the Owner payment for all Work executed in accordance with the Contract Documents based on the percentage of the Work properly completed as determined by the Engineer.

## **16.2 TERMINATION BY THE OWNER**

**16.2.1** If any one (1) or more of the following events set forth in clauses (i) through (xiii) hereof shall occur:



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- (i) a petition is filed by the Contractor, or against the Contractor with its consent, under any federal or state law concerning bankruptcy, reorganization, insolvency or relief from creditors; or
- (ii) such a petition is filed against the Contractor without its consent; or
- (iii) the Contractor becomes insolvent or is generally not paying its debts as they become due; or
- (iv) the Contractor consents to the appointment of a receiver, trustee, liquidator, custodian or the like of the Contractor or of all or any substantial portion of its assets; or
- (v) a receiver, trustee, liquidator, custodian or the like is appointed with respect to the Contractor or takes possession of all or any substantial portion of its assets; or
- (vi) the Contractor makes an assignment for the benefit of creditors; or
- (vii) there has been a material adverse change in the financial condition of the Contractor; or
- (viii) the Contractor's bonding or surety company shall refuse to issue a labor or material payment or performance bond or other similar guarantee of performance with respect to the Project; or
- (ix) due to the fault of the Contractor (and not due to causes beyond the Contractor's reasonable control): (a) the Work is unreasonably delayed or discontinued, or (b) the execution of the Work ceases for more than three (3) days, or (c) the Work is delayed so that, in the Owner's judgment, the Work cannot be completed on or prior to the expiration of the Contract Time;
- (x) the Contractor defaults in its obligation to perform the Work in a skilled and expeditious manner or refuses or fails to supply sufficient labor, materials, equipment and facilities to assure the proper progress of the Work; or
- (xi) the Contractor fails to make prompt payment to any Subcontractor(s);
- (xii) the Contractor fails to comply with Applicable Laws; or
- (xiii) the Contractor otherwise violates or fails to comply with any material provision of the Contract Documents;

then, in any such event, the Owner may, without prejudice to any other right or remedy, and after giving the Contractor seven (7) days written notice, terminate the Contract and the employment of the Contractor and hold the Contractor and its sureties liable in damages for



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breach of the Contract Documents, or may direct the Contractor to discontinue the Work or any designated portion thereof and take possession of the Site or any portion thereof and possession and use of any and all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may finish the Work or any portion thereof by whatever method it may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is fully completed. The Owner shall not be liable for any depreciation, loss or damage to such materials, equipment or tools during such use thereof, nor thereafter prior to removal thereof by the Contractor after completion of the Work. The Owner may, at its option, require the Contractor's surety or sureties to complete the Work in accordance with the Contract Documents. If the Owner elects to terminate this Contract pursuant to the provisions of this Section and it is subsequently determined that none of the foregoing events have occurred, then such termination, at Owner's election, may be deemed a termination pursuant to Subsection 16.2.3.

**16.2.2** When the Work is fully completed by the Owner, if the costs incurred by the Owner in finishing the Work, including the cost of any additional services of the Engineer or others, when added to the payments made to the Contractor prior to termination, exceed the Contract Sum, the Contractor or its sureties shall pay the amount of such excess to the Owner, together with interest thereon from the date incurred by the Owner until paid by the Contractor at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston. If the sum of such costs and payments is less than the Contract Sum, the Contractor shall be paid for any costs, as certified by the Engineer on the basis of its determination of "cost" under Subsection 13.1.8, incurred by the Contractor but not paid for prior to the termination, to the extent that such payment does not cause the total of payments to the Contractor when added to the cost of finishing the Work to exceed the Contract Sum. In case of such termination of the Contract pursuant to this Article 16, the Owner may, at its election, assume and become liable for obligations, commitments and unsettled claims that the Contractor has previously undertaken or incurred in good faith in connection with the Work. Without limiting the generality of the foregoing, the Owner shall have the right (but shall have no obligation) to assume and/or assign to a general contractor or construction manager or other third party who is qualified and has sufficient resources to complete the Work, the rights of the Contractor under its subcontracts with any or all Subcontractors. In the event of such assumption or assignment by the Owner, no such Subcontractor shall have any claim against the Owner or such third party for Work performed by such Subcontractor or other matters arising prior to termination of the Contract except as expressly provided by law, and the Owner or such third party, as the case may be, shall be liable only for obligations to the Subcontractor arising after such assumption. Should the Owner so elect, the Contractor shall execute and deliver all such documents and take all such steps, including the legal assignment of its contractual rights, as the Owner may require, for the purpose of fully vesting in the Owner the rights and benefits of the Contractor under such subcontracts or other obligations or commitments. All payments due the Contractor hereunder shall be subject to a right of offset by the Owner for expenses and damages suffered by the Owner as a result of any default, acts or omissions of the Contractor.





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**16.2.3** Upon fifteen (15) days' written notice, the Owner shall have the right to terminate the Contract at any time and for any reason whether or not any of the events specified in Subsection 16.2.1 shall have occurred, and the Owner shall incur no liability to the Contractor or any other person by reason of such termination. In the event of such termination, the Owner shall pay to the Contractor a sum equivalent to the unpaid Contract Sum attributable to the percentage of Work completed, as determined by the Engineer, pursuant to the Contract Documents and accepted by the Owner.

**16.2.4** In the event of a termination of the Contract pursuant to this Article 16, the Owner and the Contractor shall forthwith return to the other all papers, materials and other properties of the other held by each for the purposes of execution and performance of the Contract Documents. In addition, each party will assist the other party in an orderly termination of this Contract.

**ARTICLE 17 OWNER'S RIGHT TO STOP THE  
WORK AND TO CARRY OUT THE WORK**

**17.1 OWNER'S RIGHT TO STOP THE WORK**

**17.1.1** If, in the sole judgment of the Owner, the Contractor fails to commence to correct and diligently pursue the correction of defective work as required by Section 14.2 or fails to carry out the Work in accordance with the Contract Documents, the Owner may, by a written order through the Owner's Representative, and without prejudice to any other remedy the Owner may have, order the Contractor to stop the Work or any portion thereof, and the Contractor shall not thereafter incur any further cost or expense therefor without the Owner's prior written approval, until the cause for such order has been eliminated. Notwithstanding the foregoing, the right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

**17.2 OWNER'S RIGHT TO CARRY OUT THE WORK**

**17.2.1** If the Contractor fails to perform the Work diligently and in a timely manner or defaults or neglects to carry out the Work in accordance with the Contract Documents or otherwise fails to perform its obligations under the Contract Documents, the Owner may, without prejudice to any other remedy it may have, make good such deficiencies, provided, however, that the Owner shall not take any action to perform the Work or to make good such deficiencies, except in the event of an emergency, unless the Contractor shall have failed, within seven (7) business days after receipt of written notice from the Owner of such failure, default or neglect, to commence corrective action and thereafter to promptly and diligently pursue the corrective action to completion. If the Owner undertakes to make good such deficiencies, the Owner may take possession of the Site or any portion thereof and possession and use of any and all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor in order to make good such deficiencies by whatever method it may deem expedient. The Owner shall not be liable for any depreciation, loss or damage to such materials,





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equipment or tools during such use thereof. Further, if the Owner undertakes to make good such deficiencies, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation additional services of the Engineer and others made necessary by such default, neglect or failure, and the Contract Sum shall be likewise reduced. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, then, as provided in Subsection 16.2.2, the Contractor shall, within thirty (30) days of receipt of an invoice therefor, pay to the Owner the difference with interest thereon. Further, if the Contractor fails, within such seven (7) business day notice period, to commence corrective action and thereafter to promptly and diligently pursue correction of such deficiencies, or fails to carry out the Work in a timely manner in accordance with the Contract Documents, or if the Engineer advises the Owner that the Project cannot reasonably be completed by the Contractor within the Contract Time, then, at the request of the Owner, the Contractor's surety shall promptly complete the Work in accordance with the terms of the Contract Documents.

**ARTICLE 18 POST-COMPLETION  
WARRANTY AND CORRECTIVE WORK**

**18.1 CONTRACTOR'S WARRANTIES**

**18.1.1** In addition to the Contractor's obligations under Subsection 14.2.2 hereof, the Contractor guarantees and warrants to the Owner and the Engineer that all materials and equipment furnished under the Contract Documents will be new and of recent manufacture unless otherwise expressly required or permitted by the Contract Documents, and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents in all respects. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective or as failing to conform to the Contract Documents.

**18.1.2** It is specifically agreed that the Contractor's warranties of materials, equipment and labor under this Article 18 and all other warranties, guarantees, responsibilities and liabilities of the Contractor under the Contract Documents or otherwise provided under law, shall apply to products and equipment, if any, furnished by the Owner as referred to in the Specifications and to the installation thereof by the Contractor or its Subcontractors under this Contract as fully as if such products and equipment had been purchased directly by the Contractor for incorporation in the Work. The Contractor acknowledges that it has received and approved all information and specifications for such Owner-furnished products and equipment sufficient so as to permit the Contractor to make this agreement. Such specifications for Owner-furnished products and equipment shall be considered a part of the Contract Documents, and such Owner-furnished products and equipment, upon delivery to and acceptance by the Contractor, shall become part of the Work. The Owner shall assign to the Contractor all warranties of any materials or equipment furnished by the Owner and installed



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by the Contractor or its Subcontractors under the Contract. The Owner and the Contractor agree to cooperate as necessary to facilitate any claims under such warranties.

**18.1.3** The Contractor shall obtain and preserve for the benefit of the Owner manufacturer's warranties on materials, fixtures and equipment incorporated into the Work, and the Contractor shall prepare and execute a written guarantee and warranty applicable to all phases of the Work in accordance with the provisions of this Article and all other applicable provisions of the Contract Documents pertaining to warranties and guarantees, and shall also secure and pass through to the Owner written guarantees and warranties prepared in a similar manner from each Subcontractor engaged in the performance of the Work and, prior to Substantial Completion, shall deliver complete sets of all such guarantees and warranties to the Engineer for review and approval in accordance with Subsection 3.7.4.

**18.1.4** In the event that any work is performed to correct, repair or remedy any portion of the Work pursuant to any warranty or guarantee provided under the Contract Documents or otherwise available to the Owner, all such work, and all materials, equipment, supplies, appliances, fixtures and specialty devices requiring replacement during any guarantee period specified in the Contract Documents, shall be subject to a supplementary guarantee and warranty extending the guarantee or warranty period to cover all such work and all such items for the full guarantee or warranty period specified, beginning as of the date of acceptance of each such replacement item or element of work.

**18.1.5** The warranty and guarantee provisions of this Article 18 shall be in addition to and not in limitation of any other warranties, guarantees, or remedies allowed by law or the Contract Documents.

**18.1.6** No additional charge shall be made by the Contractor or by any Subcontractor for attending meetings at the Site to diagnose problems or to instruct the Owner's personnel in the proper operation or maintenance of the Work, or for making initial or seasonal adjustments (not including normal maintenance) of mechanical systems or other movable work during the applicable guarantee or warranty period (as it may be extended with respect to certain items pursuant to Subsection 18.1.4). The Contractor shall provide such service promptly upon notice from the Owner. In case of emergency, service shall be provided as necessary to avoid loss or damage or to maintain normal use of the premises. The Contractor shall furnish to the Engineer and to the Owner a list of names and telephone numbers, with a back-up name and telephone number, covering each area of potential emergency.

## **ARTICLE 19 DISPUTE RESOLUTION**

### **19.1 GOVERNING LAW; VENUE**

**19.1.1** The Contract and all modifications, amendments, or alterations thereto, if any, shall be governed by the laws of the Commonwealth of Massachusetts. The Contractor, all Subcontractors, and other persons performing any part of the Work agree that each of them



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shall be subject to the jurisdiction of the courts of the Commonwealth of Massachusetts or the federal courts for the District of Massachusetts with respect to any actions or suits at law or in equity arising out of or related to the bidding, award or performance of the Contract, subject to the dispute resolution provisions set forth herein.

## **19.2 CLAIMS AND DISPUTES**

**19.2.1** All claims, disputes or other matters in controversy between the Contractor and the Owner relating to the execution and progress of the Work or the interpretation of the Contract Documents, and any claims, disputes, and other matters in question relating to whether the Contractor's performance of the Work complies with the Contract Documents, which cannot be resolved by agreement between them, shall be referred to the Engineer in writing for initial determination, with a copy to the other party. The Engineer shall afford both parties a reasonable opportunity to present written evidence in support of their respective positions. The Engineer shall render its decision in writing to each of the parties within a reasonable time and in no event later than thirty (30) days after the receipt of submissions from the parties.

**19.2.2** No such claim, dispute or other matter in question shall constitute grounds for the Contractor to delay progress of the Work, and the Contractor shall carry on the Work and maintain its progress during consideration of any such claim, dispute or other matter by the Engineer. The decision of the Engineer with respect to any and all such claims, disputes or other matters in question shall be final and conclusive, provided that any party having complied with the provisions of Subsection 19.2.3, below, may file an action in a court of competent jurisdiction challenging the decision of the Engineer or otherwise seeking final resolution of the claim, dispute or other matter in question.

**19.2.3** The decision of the Engineer on any such claim, dispute or other matter in question shall be final and binding upon the Owner and the Contractor, unless the Owner or the Contractor gives written notice to the other and to the Engineer of its objection to such decision within ten (10) days after receipt by such aggrieved party of the Engineer's decision and commences an action challenging the Engineer's decision in a court of competent jurisdiction within the time permitted by law. If either party fails to give notice of objection to the Engineer's decision within such ten (10) day period, it shall be conclusively deemed to have waived its right to object to such decision. If the Engineer renders a decision after court proceedings have been commenced, such decision may be entered as evidence but will not supersede any such proceedings unless the decision is acceptable to all parties concerned. Nothing contained in this Article 19 shall limit the Owner's right to damages for delays by the Contractor or any other rights or remedies of the Owner under the Contract Documents or otherwise available under Applicable Law.

**19.2.4** Prior to commencing litigation as to any claim, dispute or other matter in controversy, the parties shall discuss the possibility of resolution of such claim, dispute or controversy through non-binding mediation or other alternative dispute resolution methods. If



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the parties agree to mediation, the fees and expenses of the mediator shall be borne equally by the parties unless otherwise agreed.

**19.2.5** Pursuant to M.G.L. c. 30, § 39J, notwithstanding any contrary provision of this Contract, no decision by the Owner or by the Engineer on a dispute, whether of fact or of law, arising under the Contract shall 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.

## **ARTICLE 20 MISCELLANEOUS PROVISIONS**

### **20.1 NOTICE**

**20.1.1** Whenever written notice is required or permitted pursuant to the Contract Documents, the same shall be deemed to have been properly given if in writing and delivered by hand in person or by registered or certified mail, postage prepaid, or express overnight courier service, return receipt requested; and, in the case of notices to the Owner, to the address set forth at the beginning of the Agreement and, in the case of notices to the Owner's Representative or the Engineer, to the address set forth at the beginning of the Agreement, marked to the attention of the Owner's Representative or Engineer, as the case may be, and, in the case of notices to the Contractor, to the Contractor's Project Executive or Project Manager, addressed to such person at the Contractor's mailing address set forth at the beginning of the Agreement or the Contractor's field office at the Site. Any of the persons or addresses specified above for notice purposes may be changed by notice given in the manner provided herein from the party concerned to each of the other parties. Written notice shall be deemed to be given on the day received, if delivered by hand in person; on the next business day after mailing if sent by express overnight courier service; and three (3) business days after mailing if sent by registered or certified mail.

### **20.2 CONTRACT DOCUMENTS**

**20.2.1** The Contract Documents form the comprise the entire Contract between the Owner and the Contractor, and supersede all prior negotiations, representations and agreements, whether written or oral. Subject to the provisions of Article 6, the Contractor may not assign its rights or obligations under all or any portion of the Contract Documents nor shall the Contractor assign any moneys due or to become due under the Contract Documents without the written consent of the Owner, which consent may be withheld or granted in its sole discretion. Any such assignment without the written consent of the Owner shall be void and the assignee in such case shall acquire no rights in the Contract or to receive any moneys. Nothing contained in the Contract Documents shall be construed to modify or affect in any way the rights and obligations of the Owner and the Engineer under any contract or agreement between the Owner and the Engineer.



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**20.2.2** The Contract shall be governed by the laws of the Commonwealth of Massachusetts. The Contractor, all Subcontractors, and other persons performing any part of the Work agree that each of them shall be subject to the jurisdiction of the courts of Suffolk County in the Commonwealth of Massachusetts or the federal courts for the District of Massachusetts with respect to any actions or suits at law or in equity arising out of or related to the bidding, award or performance of the Contract, and that any such actions or suits commenced by any of such parties shall be commenced in the courts or appropriate administrative tribunals of Suffolk County in the Commonwealth of Massachusetts or the federal courts for the District of Massachusetts and not otherwise.

### **20.3 RIGHTS AND REMEDIES**

**20.3.1** The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

**20.3.2** No action or failure to act by the Owner, Owner's Representative, Engineer, or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

**20.3.3** No consent, express or implied, by the Owner, the Owner's Representative, or the Engineer to any breach of any covenant, condition or duty of the Contractor, or waiver, express or implied, by any of same, shall be construed as a consent to or waiver of any other breach of the same or any other covenant, condition or duty.

### **20.4 DECISIONS AND INTERPRETATIONS**

**20.4.1** Pursuant to M.G.L. c. 39, § 39P, in every case in which this Contract requires the Owner, any official, the Owner's Representative, or the Engineer 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 thirty (30) days after the written submission for decision containing all information necessary in the judgment of the Engineer to render such decision; but if such decision requires extended investigation and study, the Owner, the official, the Owner's Representative, or the Engineer shall, within thirty (30) 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.

### **20.5 ANTI-BOYCOTT COVENANT**

**20.5.1** The Contractor warrants, represents and agrees that during the time the Contract is in effect, neither it nor any affiliated company, as hereafter defined, shall participate in or cooperate with an international boycott, as defined in Section 999(b)(3) and (4) of the Internal Revenue Code of 1954, as amended, or shall engage in conduct declared to be unlawful



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by M.G.L. c. 151E, § 2. If there shall be a breach in the warranty, representation, and agreement contained in this Subsection, then without limiting such other rights as it may have, the Owner shall be entitled to rescind the Agreement. As used herein, an affiliated company shall be any business entity of which at least 51% of the ownership interests are directly or indirectly owned by the Contractor or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interest of the Contractor, or which directly or indirectly owns at least 51% of the ownership interests of the Contractor. This provision is included in the Agreement pursuant to Commonwealth of Massachusetts Executive Order No. 130.

## **20.6 RIGHT OF AUDIT**

**20.6.1** Without limiting any of the Owner's other rights under the Contract Documents, the Governor of the Commonwealth of Massachusetts or his or her designee, the Secretary of Administration and Finance of the Commonwealth of Massachusetts, and the State Auditor or his or her designee shall have the right at reasonable times and upon reasonable notice to examine the books, records and other compilations of data of the Contractor and all Subcontractors which pertain to the performance of the provisions and requirements of the Contract. This provision is included in the Contract pursuant to Commonwealth of Massachusetts Executive Order No. 195.

## **20.7 RECORD KEEPING AND REPORTING**

**20.7.1** The Contractor shall maintain at the Site or at such other location as shall be approved by the Owner, on a current basis, during the term of the Agreement and shall retain for a period of six (6) years after the date of Final Payment, records of all Subcontracts, material orders, Shop Drawings, Samples, and other Project-related documents and revisions thereto which arise out of the Contract, the Contract Documents or the Work, including, but not limited to, the following:

- (a) A detailed daily log of all events occurring on the Site or connected with progress of the Project. Such log shall include a listing of the Contractor staffing, manpower by Subcontractors, relevant weather information and names and purpose of all visitors to the Site. Copies of such daily logs shall be distributed weekly to the Owner's Representative;
- (b) Copies of the Project Schedule as more specifically set forth in Article 9 of these General Conditions, and Schedules of Values as more specifically set forth in Article 10 of these General Conditions, and all updates thereto to reflect current conditions;
- (c) A set of as-built Drawings and Specifications which records all changes made during construction and actual as-built conditions in accordance with the requirements of the Contract Documents; and





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- (d) Correspondence, meeting notes and minutes, clarifications and interpretations of the Contract Documents issued by the Engineer, progress reports, all other Project related documents.

**20.7.2** The Contractor shall furnish to the Owner on a weekly basis, a Progress Report for the preceding week, in form and substance acceptable to the Owner, containing, without limitation, the following information:

- (a) Project Schedule, updated against baseline;
- (b) List and status of outstanding issues, claims or disputes, or information required from the Owner;
- (c) Safety record report.
- (d) Certified payroll reports; and
- (e) Suggestions for solutions to outstanding issues and schedule delays.

**20.7.3** The Contractor shall provide a system of Project monitoring and reporting. The Contractor shall assist the Owner in developing and implementing a Change Order control system. Such reports and other information shall be included in the weekly progress reports to be submitted to the Owner in accordance with the Contract Documents, and the provisions of Subsection 20.7.2 hereof.

**20.7.4** The Contractor shall establish and implement procedures for preparing and/or reviewing and processing Requests for Information and/or clarifications and interpretations of the Contract Documents, Shop Drawings, Samples and other submittals, requests for Construction Change Directives, requests for Change Orders, proposals for substitutions, Payment Applications, as-built Drawings and maintenance of logs.

**20.7.5** The Contractor shall check all materials, equipment and labor entering into the Work and shall keep such full and detailed accounts as may be necessary for proper accounting and financial management under the Contract, utilizing such procedures as shall be satisfactory to the Owner. The Owner shall, upon request, be afforded copies of, and access to, all of the Contractor's records, books, correspondence, subcontracts, instructions, drawings, estimates, budgets, receipts, invoices, vouchers, memoranda, breakdowns, accounting data, bid proposals, cost control information and any other documents relating to the Work, in a form acceptable to the Owner.

**20.7.6** Without limitation of the foregoing, the Owner shall have the right, at any time and from time to time, upon notice to the Contractor, to monitor and audit the Contractor's books and records in connection with any aspect of the Agreement or the Contract Documents at the Contractor's offices at the Contractor's sole cost and expense. The Contractor shall facilitate any such audit by making necessary facilities available to the Owner and its





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representatives. Further provisions concerning the Contractor's records and the Owner's right to audit such records are set forth in the General Conditions.

**20.7.7** If any inspection of the Contractor's books, records or other documents reveals an overcharge with respect to the Contract Sum, the Contractor shall pay the Owner or, at the Owner's election, the Owner may reimburse itself by taking as a credit against future payments due the Contractor, an amount equal to the overcharge plus the administrative and auditing expenses incurred by the Owner in determining the existence and amount of the overcharge. Nothing contained in this provision is intended as a limitation of any other rights or remedies which may be available to the Owner, be they civil or criminal.

## **20.8 FINANCIAL RECORDS OF CONTRACTOR**

**20.8.1** The provisions of this Section 20.8 are included in this Contract pursuant to Massachusetts General Laws Chapter 30, § 39R:

- (a) The Contractor shall make, and keep for at least six (6) years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the Contractor, and
- (b) until the expiration of six years after final payment, the Office of Inspector General, and the Commissioner of Capital Asset Management and Maintenance shall have the right to examine any books, documents, papers or records of the Contractor or of its Subcontractor that directly pertain to, and involve transactions relating to, the Contractor or its Subcontractors, and
- (c) the Contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the Owner, including in its description the date of the change and reasons therefor, and shall accompany said description with a letter from the Contractor's independent certified public accountant approving or otherwise commenting on the changes, and
- (d) the Contractor has filed a statement of management on internal accounting controls as set forth in Subsection 20.8.2 below prior to the execution of the Contract, and
- (e) the Contractor has filed prior to the execution of the Contract and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in Subsection 20.8.4.

**20.8.2** Every Contractor awarded a contract shall file with the Owner a statement of management as to whether the system of internal accounting controls of the Contractor and its subsidiaries reasonably assures that:



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- (a) transactions are executed in accordance with management's general and specific authorization;
- (b) transactions are recorded as necessary
  - i. to permit preparation of financial statements in conformity with generally accepted accounting principles, and
  - ii. to maintain accountability for assets;
- (c) access to assets is permitted only in accordance with management's general or specific authorization; and
- (d) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

**20.8.3** Every Contractor awarded a contract shall also file with the Owner 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:

- (a) whether the representations of management in response to this Section and Subsection 20.8.1 above are consistent with the result of management's evaluation of the system of internal accounting controls and
- (b) 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 condition.

**20.8.4** Every Contractor awarded a contract by the Commonwealth or by any political subdivision thereof shall annually file with Commissioner of Capital Asset Management and Maintenance 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 Owner upon request.

**20.8.5** Records and statements required to be made, kept or filed under the provisions of M.G.L. c. 30, § 39R shall not be public records as defined in M.G.L. c. 4, § 7, and shall not be open to public inspection; provided, however, that such records and statements shall be made available pursuant to the provisions of Subsection 20.8.1(b).

**20.8.6** As used in this Section 20.8, the following terms have the meanings set forth below:



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- (a) “Contract” means any contract awarded or executed pursuant to sections thirty B through thirty P, inclusive, of chapter seven [now sections 38A½ through 38O] and any contract awarded or executed pursuant to section thirty-nine M of chapter thirty, or sections forty-four A through H, inclusive, of chapter one hundred and forty-nine, which is for an amount or estimated amount greater than one hundred thousand dollars.
- (b) “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.
- (c) “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 awarding authority.
- (d) “Audit”, when used in regard to financial statements, 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.
- (e) “Accountant’s Report”, when used in regard to financial statements, means a document in which an independent certified public 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 a listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed the reason therefor shall be stated. An accountant’s report shall include as a 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.
- (f) “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.

**20.9 FALSE ENTRY**



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**20.9.1** The attention of the Contractor is called to M.G.L. c. 266, § 67C, which provides:

Any person who knowingly and willfully, directly or indirectly makes, or knowingly and willfully causes to be made, a false entry or omission of a true entry in any books, record or account subject to the provisions of section thirty-nine R of chapter thirty shall be punished by a fine of not more than five thousand dollars, or by imprisonment in the state prison for not more than five years, or in the house of correction for not more than two years, or both.

END OF DOCUMENT

4852-9014-4057.1



**THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS  
Prevailing Wage Rates**

MAURA HEALY  
Governor

KIM DRISCOLL  
Lt. Governor

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

LAUREN JONES  
Secretary  
MICHAEL FLANAGAN  
Director

<b>Awarding Authority:</b>	Everett	<b>City/Town:</b>	EVERETT
<b>Contract Number:</b>	PLD-26-61		
<b>Description of Work:</b>	The general scope of work includes installation of reinforced cement concrete pad footings. Site furnishings. Plantings, and drinking water fountains, and related landscape improvements.		
<b>Job Location:</b>	Various Locations		

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**Information about Prevailing Wage Schedules for Awarding Authorities and Contractors**

- 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 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, the 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. The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.
- This annual update requirement is generally not applicable to 27F "rental of equipment" contracts. For such contracts, the prevailing wage rates issued by DLS shall remain in effect for the duration of the contract term. However, if the prevailing wage rate sheet issued does not contain wage rates for each year covered by the contract term, the Awarding Authority must request updated rate sheets from DLS and provide them to the contractor to ensure the correct rates are being paid throughout the duration of the contract. Additionally, if an Awarding Authority exercises an option to renew or extend the contract term, they must request updated rate sheets from DLS and provide them to the contractor.
- 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 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 a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentices must keep their apprentice identification card on their persons during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.**
- Every contractor or subcontractor working on the construction project must 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. For a sample payroll reporting form go to <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.
- Contractors must obtain the wage schedules from awarding authorities. 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.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
(2 AXLE) DRIVER - EQUIPMENT	12/1/2025	\$42.05	\$15.41	\$21.78	\$0.00	\$0.00	\$79.24
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.05	\$15.41	\$21.78	\$0.00	\$0.00	\$80.24
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.05	\$15.91	\$21.78	\$0.00	\$0.00	\$80.74
	12/1/2026	\$43.05	\$15.91	\$23.52	\$0.00	\$0.00	\$82.48
(3 AXLE) DRIVER - EQUIPMENT	12/1/2025	\$41.12	\$15.41	\$21.78	\$0.00	\$0.00	\$78.31
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.12	\$15.41	\$21.78	\$0.00	\$0.00	\$80.31
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.12	\$15.91	\$21.78	\$0.00	\$0.00	\$80.81
	12/1/2026	\$43.12	\$15.91	\$23.52	\$0.00	\$0.00	\$82.55
(4 & 5 AXLE) DRIVER - EQUIPMENT	12/1/2025	\$42.24	\$15.41	\$21.78	\$0.00	\$0.00	\$79.43
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.24	\$15.41	\$21.78	\$0.00	\$0.00	\$80.43
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.24	\$15.91	\$21.78	\$0.00	\$0.00	\$80.93
	12/1/2026	\$43.24	\$15.91	\$23.52	\$0.00	\$0.00	\$82.67
ADS/SUBMERSIBLE PILOT	1/1/2024	\$117.16	\$10.08	\$11.62	\$12.67	\$0.00	\$151.53
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
AIR TRACK OPERATOR	12/1/2025	\$49.35	\$10.15	\$9.50	\$9.65	\$0.00	\$78.65
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$52.40	\$10.15	\$9.50	\$9.65	\$0.00	\$81.70
	6/1/2027	\$54.00	\$10.15	\$9.50	\$9.65	\$0.00	\$83.30
	12/1/2027	\$55.60	\$10.15	\$9.50	\$9.65	\$0.00	\$84.90
	6/1/2028	\$57.28	\$10.15	\$9.50	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.95	\$10.15	\$9.50	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
AIR TRACK OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$49.45	\$10.15	\$9.50	\$9.65	\$0.00	\$78.75
LABORERS	6/1/2026	\$51.00	\$10.15	\$9.50	\$9.65	\$0.00	\$80.30
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.50	\$10.15	\$9.50	\$9.65	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
ASBESTOS REMOVER - PIPE / MECH. EQUIPT.	12/1/2025	\$44.80	\$14.50	\$4.30	\$6.75	\$0.00	\$70.35
HEAT & FROST INSULATORS LOCAL 6							
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)							
ASPHALT RAKER	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
ASPHALT RAKER (HEAVY & HIGHWAY)	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BACKHOE/FRONT-END LOADER	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BARCO-TYPE JUMPING TAMPER	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER	12/1/2025	\$49.35	\$10.15	\$9.50	\$9.65	\$0.00	\$78.65
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$52.40	\$10.15	\$9.50	\$9.65	\$0.00	\$81.70
	6/1/2027	\$54.00	\$10.15	\$9.50	\$9.65	\$0.00	\$83.30
	12/1/2027	\$55.60	\$10.15	\$9.50	\$9.65	\$0.00	\$84.90
	6/1/2028	\$57.28	\$10.15	\$9.50	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.95	\$10.15	\$9.50	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY)	12/1/2025	\$49.45	\$10.15	\$9.50	\$9.65	\$0.00	\$78.75
LABORERS	6/1/2026	\$51.00	\$10.15	\$9.50	\$9.65	\$0.00	\$80.30
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.50	\$10.15	\$9.50	\$9.65	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
BOILER MAKER	1/1/2024	\$48.12	\$7.07	\$14.60	\$6.00	\$0.00	\$75.79
BOILERMAKERS LOCAL 29							
BOILERMAKERS LOCAL 29							

**Apprentice: BOILER MAKER****Effective Date: 1/1/2024**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	65.00	\$31.28	\$7.07	\$9.32	\$3.90	\$0.00	\$51.57
2	65.00	\$31.28	\$7.07	\$9.32	\$3.90	\$0.00	\$51.57
3	70.00	\$33.68	\$7.07	\$10.03	\$4.20	\$0.00	\$54.98
4	75.00	\$36.09	\$7.07	\$10.74	\$4.50	\$0.00	\$58.40
5	80.00	\$38.50	\$7.07	\$11.45	\$4.80	\$0.00	\$61.82
6	85.00	\$40.90	\$7.07	\$12.18	\$5.10	\$0.00	\$65.25



Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: BOILER MAKER</b> <b>Effective Date: 1/1/2024</b>							
		<b>Apprentice Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
7	90.00	\$43.31	\$7.07	\$12.88	\$5.40	\$0.00	\$68.66
8	95.00	\$45.71	\$7.07	\$13.62	\$5.70	\$0.00	\$72.10
<b>Apprentice to Journeyworker Ratio: 1:4</b>							
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	8/1/2025	\$67.95	\$11.49	\$15.57	\$8.02	\$0.00	\$103.03
BRICKLAYERS LOCAL 3	2/1/2026	\$69.30	\$11.49	\$15.57	\$8.02	\$0.00	\$104.38
BRICKLAYERS LOCAL 3 (BOSTON)	8/1/2026	\$71.50	\$11.49	\$15.57	\$8.02	\$0.00	\$106.58
	2/1/2027	\$72.90	\$11.49	\$15.57	\$8.02	\$0.00	\$107.98
<b>Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)</b> <b>Effective Date: 8/1/2025</b>							
		<b>Apprentice Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
1	50.00	\$33.98	\$11.49	\$15.57	\$8.02	\$0.00	\$69.06
2	60.00	\$40.77	\$11.49	\$15.57	\$8.02	\$0.00	\$75.85
3	70.00	\$47.57	\$11.49	\$15.57	\$8.02	\$0.00	\$82.65
4	80.00	\$54.36	\$11.49	\$15.57	\$8.02	\$0.00	\$89.44
5	90.00	\$61.16	\$11.49	\$15.57	\$8.02	\$0.00	\$96.24
<b>Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)</b> <b>Effective Date: 2/1/2026</b>							
		<b>Apprentice Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
1	50.00	\$34.65	\$11.49	\$15.57	\$8.02	\$0.00	\$69.73
2	60.00	\$41.58	\$11.49	\$15.57	\$8.02	\$0.00	\$76.66
3	70.00	\$48.51	\$11.49	\$15.57	\$8.02	\$0.00	\$83.59
4	80.00	\$55.44	\$11.49	\$15.57	\$8.02	\$0.00	\$90.52
5	90.00	\$62.37	\$11.49	\$15.57	\$8.02	\$0.00	\$97.45
<b>Apprentice to Journeyworker Ratio: 1:5</b>							
BULLDOZER/GRADER/SCRAPER OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
CAISSON & UNDERPINNING BOTTOM MAN LABORERS	12/1/2025	\$49.85	\$10.15	\$9.50	\$9.80	\$0.00	\$79.30
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$51.40	\$10.15	\$9.50	\$9.80	\$0.00	\$80.85
	12/1/2026	\$52.90	\$10.15	\$9.50	\$9.80	\$0.00	\$82.35
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING LABORER	12/1/2025	\$48.70	\$10.15	\$9.50	\$9.80	\$0.00	\$78.15

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS	6/1/2026	\$50.25	\$10.15	\$9.50	\$9.80	\$0.00	\$79.70
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$51.75	\$10.15	\$9.50	\$9.80	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"							

CAISSON & UNDERPINNING TOP MAN LABORERS	12/1/2025	\$49.03	\$10.15	\$9.50	\$9.80	\$0.00	\$78.48
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$50.58	\$10.15	\$9.50	\$9.80	\$0.00	\$80.03
	12/1/2026	\$52.08	\$10.15	\$9.50	\$9.80	\$0.00	\$81.53
For apprentice rates see "Apprentice- LABORER"							

CARBIDE CORE DRILL OPERATOR LABORERS	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							

CARPENTER	9/1/2025	\$61.44	\$10.33	\$11.47	\$8.50	\$0.00	\$91.74
CARPENTERS	3/1/2026	\$62.94	\$10.33	\$11.47	\$8.50	\$0.00	\$93.24
CARPENTERS -ZONE 1 (Metro Boston)	9/1/2026	\$64.44	\$10.33	\$11.47	\$8.50	\$0.00	\$94.74
	3/1/2027	\$65.94	\$10.33	\$11.47	\$8.50	\$0.00	\$96.24

**Apprentice: CARPENTER****Effective Date: 9/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$27.65	\$10.33	\$0.00	\$1.73	\$0.00	\$39.71
2	45.00	\$27.65	\$10.33	\$0.00	\$1.73	\$0.00	\$39.71
3	55.00	\$33.79	\$10.33	\$0.00	\$3.40	\$0.00	\$47.52
4	55.00	\$33.79	\$10.33	\$0.00	\$3.40	\$0.00	\$47.52
5	70.00	\$43.01	\$10.33	\$11.41	\$5.10	\$0.00	\$69.85
6	70.00	\$43.01	\$10.33	\$11.41	\$5.10	\$0.00	\$69.85
7	80.00	\$49.15	\$10.33	\$11.44	\$6.80	\$0.00	\$77.72
8	80.00	\$49.15	\$10.33	\$11.44	\$6.80	\$0.00	\$77.72

**Apprentice: CARPENTER****Effective Date: 3/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$28.32	\$10.33	\$0.00	\$1.73	\$0.00	\$40.38
2	45.00	\$28.32	\$10.33	\$0.00	\$1.73	\$0.00	\$40.38
3	55.00	\$34.62	\$10.33	\$0.00	\$3.40	\$0.00	\$48.35
4	55.00	\$34.62	\$10.33	\$0.00	\$3.40	\$0.00	\$48.35
5	70.00	\$44.06	\$10.33	\$11.41	\$5.10	\$0.00	\$70.90
6	70.00	\$44.06	\$10.33	\$11.41	\$5.10	\$0.00	\$70.90
7	80.00	\$50.35	\$10.33	\$11.44	\$6.80	\$0.00	\$78.92

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: CARPENTER</b> <b>Effective Date: 3/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
8	80.00	\$50.35	\$10.33	\$11.44	\$6.80	\$0.00	\$78.92
<b>Apprentice to Journeyworker Ratio: 1:5</b>							
CARPENTER WOOD FRAME	10/1/2025	\$32.91	\$7.10	\$4.47	\$2.20	\$0.00	\$46.68
CARPENTERS	10/1/2026	\$34.21	\$7.10	\$4.47	\$2.20	\$0.00	\$47.98
CARPENTERS -ZONE 2 (Wood Frame)							
All Aspects of New Wood Frame Work							
<b>Apprentice: CARPENTER WOOD FRAME</b> <b>Effective Date: 10/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$16.46	\$7.02	\$0.00	\$0.00	\$0.00	\$23.48
2	50.00	\$16.46	\$7.02	\$0.00	\$0.00	\$0.00	\$23.48
3	55.00	\$18.10	\$7.02	\$0.00	\$2.00	\$0.00	\$27.12
4	55.00	\$18.10	\$7.02	\$0.00	\$2.20	\$0.00	\$27.32
5	70.00	\$23.04	\$7.02	\$4.47	\$2.20	\$0.00	\$36.73
6	70.00	\$23.04	\$7.02	\$4.47	\$2.20	\$0.00	\$36.73
7	80.00	\$26.33	\$7.02	\$4.47	\$2.20	\$0.00	\$40.02
8	80.00	\$26.33	\$7.02	\$4.47	\$2.20	\$0.00	\$40.02
<b>Apprentice: CARPENTER WOOD FRAME</b> <b>Effective Date: 10/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$17.11	\$7.10	\$0.00	\$0.00	\$0.00	\$24.21
2	50.00	\$17.11	\$7.10	\$0.00	\$0.00	\$0.00	\$24.21
3	55.00	\$18.82	\$7.10	\$0.00	\$2.20	\$0.00	\$28.12
4	55.00	\$18.82	\$7.10	\$0.00	\$2.20	\$0.00	\$28.12
5	70.00	\$23.95	\$7.10	\$4.47	\$2.20	\$0.00	\$37.72
6	70.00	\$23.95	\$7.10	\$4.47	\$2.20	\$0.00	\$37.72
7	80.00	\$27.37	\$7.10	\$4.47	\$2.20	\$0.00	\$41.14
8	80.00	\$27.37	\$7.10	\$4.47	\$2.20	\$0.00	\$41.14
<b>Apprentice to Journeyworker Ratio: 1:5</b>							
CEMENT MASONRY/PLASTERING	7/1/2024	\$49.19	\$13.35	\$16.43	\$7.78	\$1.80	\$88.55
BRICKLAYERS LOCAL 3							
BRICKLAYERS LOCAL 3 (BOSTON)							

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: CEMENT MASONRY/PLASTERING</b> <b>Effective Date: 7/1/2024</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$24.60	\$13.35	\$16.43	\$0.00	\$0.00	\$54.38
2	60.00	\$29.51	\$13.35	\$16.43	\$2.78	\$1.80	\$63.87
3	65.00	\$31.97	\$13.35	\$16.43	\$3.78	\$1.80	\$67.33
4	70.00	\$34.43	\$13.35	\$16.43	\$4.78	\$1.80	\$70.79
5	75.00	\$36.89	\$13.35	\$16.43	\$5.78	\$1.80	\$74.25
6	80.00	\$39.35	\$13.35	\$16.43	\$6.78	\$1.80	\$77.71
7	90.00	\$44.27	\$13.35	\$16.43	\$7.78	\$1.80	\$83.63
<b>Apprentice to Journeyworker Ratio: 1:3</b>							
CHAIN SAW OPERATOR	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	12/1/2025	\$60.48	\$16.05	\$13.25	\$3.25	\$0.00	\$93.03
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$61.81	\$16.05	\$13.25	\$3.25	\$0.00	\$94.36
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$63.29	\$16.05	\$13.25	\$3.25	\$0.00	\$95.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
COMPRESSOR OPERATOR	12/1/2025	\$37.97	\$16.05	\$13.25	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$38.83	\$16.05	\$13.25	\$3.25	\$0.00	\$71.38
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$39.78	\$16.05	\$13.25	\$3.25	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DELEADER (BRIDGE)	7/1/2025	\$58.51	\$10.30	\$11.95	\$12.50	\$0.00	\$93.26
PAINTERS LOCAL 35	1/1/2026	\$59.56	\$10.35	\$12.00	\$12.60	\$0.00	\$94.51
PAINTERS LOCAL 35 - ZONE 1							

<b>Apprentice: DELEADER (BRIDGE)</b> <b>Effective Date: 7/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$29.26	\$10.30	\$0.00	\$0.00	\$0.00	\$39.56
2	55.00	\$32.18	\$10.30	\$0.00	\$6.88	\$0.00	\$49.36
3	60.00	\$35.11	\$10.30	\$0.00	\$7.50	\$0.00	\$52.91
4	65.00	\$38.03	\$10.30	\$0.00	\$8.13	\$0.00	\$56.46
5	70.00	\$40.96	\$10.30	\$11.95	\$8.75	\$0.00	\$71.96
6	75.00	\$43.88	\$10.30	\$11.95	\$9.38	\$0.00	\$75.51

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: DELEADER (BRIDGE)</b>							
<b>Effective Date: 7/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
7	80.00	\$46.81	\$10.30	\$11.95	\$10.00	\$0.00	\$79.06
8	90.00	\$52.66	\$10.30	\$11.95	\$11.25	\$0.00	\$86.16
<b>Apprentice: DELEADER (BRIDGE)</b>							
<b>Effective Date: 1/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$29.78	\$10.35	\$0.00	\$0.00	\$0.00	\$40.13
2	55.00	\$32.76	\$10.35	\$0.00	\$6.93	\$0.00	\$50.04
3	60.00	\$35.74	\$10.35	\$0.00	\$7.56	\$0.00	\$53.65
4	65.00	\$38.71	\$10.35	\$0.00	\$8.19	\$0.00	\$57.25
5	70.00	\$41.69	\$10.35	\$12.00	\$8.82	\$0.00	\$72.86
6	75.00	\$44.67	\$10.35	\$12.00	\$9.45	\$0.00	\$76.47
7	80.00	\$47.65	\$10.35	\$12.00	\$10.08	\$0.00	\$80.08
8	90.00	\$53.60	\$10.35	\$12.00	\$11.34	\$0.00	\$87.29
<b>Apprentice to Journeyworker Ratio: 1:1</b>							
DEMO: ADZEMAN	12/1/2025	\$48.75	\$10.15	\$9.50	\$9.65	\$0.00	\$78.05
LABORERS	6/1/2026	\$50.30	\$10.15	\$9.50	\$9.65	\$0.00	\$79.60
LABORERS - ZONE 1	12/7/2026	\$51.80	\$10.15	\$9.50	\$9.65	\$0.00	\$81.10
	6/7/2027	\$53.40	\$10.15	\$9.50	\$9.65	\$0.00	\$82.70
	12/6/2027	\$55.00	\$10.15	\$9.50	\$9.65	\$0.00	\$84.30
	6/5/2028	\$56.68	\$10.15	\$9.50	\$9.65	\$0.00	\$85.98
	12/4/2028	\$58.35	\$10.15	\$9.50	\$9.65	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: BACKHOE/LOADER/HAMMER OPERATOR	12/1/2025	\$49.75	\$10.15	\$9.50	\$9.65	\$0.00	\$79.05
LABORERS	6/1/2026	\$51.30	\$10.15	\$9.50	\$9.65	\$0.00	\$80.60
LABORERS - ZONE 1	12/7/2026	\$52.80	\$10.15	\$9.50	\$9.65	\$0.00	\$82.10
	6/7/2027	\$54.40	\$10.15	\$9.50	\$9.65	\$0.00	\$83.70
	12/6/2027	\$56.00	\$10.15	\$9.50	\$9.65	\$0.00	\$85.30
	6/5/2028	\$57.68	\$10.15	\$9.50	\$9.65	\$0.00	\$86.98
	12/4/2028	\$59.35	\$10.15	\$9.50	\$9.65	\$0.00	\$88.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: BURNERS	12/1/2025	\$49.50	\$10.15	\$9.50	\$9.65	\$0.00	\$78.80
LABORERS	6/1/2026	\$51.05	\$10.15	\$9.50	\$9.65	\$0.00	\$80.35
LABORERS - ZONE 1	12/7/2026	\$52.55	\$10.15	\$9.50	\$9.65	\$0.00	\$81.85
	6/7/2027	\$54.15	\$10.15	\$9.50	\$9.65	\$0.00	\$83.45
	12/6/2027	\$55.75	\$10.15	\$9.50	\$9.65	\$0.00	\$85.05
	6/5/2028	\$57.43	\$10.15	\$9.50	\$9.65	\$0.00	\$86.73
	12/4/2028	\$59.10	\$10.15	\$9.50	\$9.65	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"							

**Construction**

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
DEMO: CONCRETE CUTTER/SAWYER LABORERS	12/1/2025	\$49.75	\$10.15	\$9.50	\$9.65	\$0.00	\$79.05
LABORERS - ZONE 1	6/1/2026	\$51.30	\$10.15	\$9.50	\$9.65	\$0.00	\$80.60
	12/7/2026	\$52.80	\$10.15	\$9.50	\$9.65	\$0.00	\$82.10
	6/7/2027	\$54.40	\$10.15	\$9.50	\$9.65	\$0.00	\$83.70
	12/6/2027	\$56.00	\$10.15	\$9.50	\$9.65	\$0.00	\$85.30
	6/5/2028	\$57.68	\$10.15	\$9.50	\$9.65	\$0.00	\$86.98
	12/4/2028	\$59.35	\$10.15	\$9.50	\$9.65	\$0.00	\$88.65
For apprentice rates see "Apprentice- LABORER"							
DEMO: JACKHAMMER OPERATOR LABORERS	12/1/2025	\$49.50	\$10.15	\$9.50	\$9.65	\$0.00	\$78.80
LABORERS - ZONE 1	6/1/2026	\$51.05	\$10.15	\$9.50	\$9.65	\$0.00	\$80.35
	12/7/2026	\$52.55	\$10.15	\$9.50	\$9.65	\$0.00	\$81.85
	6/7/2027	\$54.15	\$10.15	\$9.50	\$9.65	\$0.00	\$83.45
	12/6/2027	\$55.75	\$10.15	\$9.50	\$9.65	\$0.00	\$85.05
	6/5/2028	\$57.43	\$10.15	\$9.50	\$9.65	\$0.00	\$86.73
	12/4/2028	\$59.10	\$10.15	\$9.50	\$9.65	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: WRECKING LABORER LABORERS	12/1/2025	\$48.75	\$10.15	\$9.50	\$9.65	\$0.00	\$78.05
LABORERS - ZONE 1	6/1/2026	\$50.30	\$10.15	\$9.50	\$9.65	\$0.00	\$79.60
	12/7/2026	\$51.80	\$10.15	\$9.50	\$9.65	\$0.00	\$81.10
	6/7/2027	\$53.40	\$10.15	\$9.50	\$9.65	\$0.00	\$82.70
	12/6/2027	\$55.00	\$10.15	\$9.50	\$9.65	\$0.00	\$84.30
	6/5/2028	\$56.68	\$10.15	\$9.50	\$9.65	\$0.00	\$85.98
	12/4/2028	\$58.35	\$10.15	\$9.50	\$9.65	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"							
DIRECTIONAL DRILL MACHINE OPERATOR OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DIVER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 1)	8/1/2024	\$78.11	\$10.08	\$11.62	\$10.04	\$0.00	\$109.85
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Diver wage 70/80/90 2A \$69.83, 3A \$91.79,4A \$102.14 Total Rate							
DIVER TENDER PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 1)	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Piledriver wage 70/80/90 2A \$54.20, 3A \$73.93,4A \$82.05 Total Rate							
DIVER TENDER (EFFLUENT) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 1)	8/1/2024	\$83.69	\$10.08	\$11.62	\$12.67	\$0.00	\$118.06
For apprentice rates see "Apprentice- PILE DRIVER"							
DIVER/SLURRY (EFFLUENT) PILE DRIVER LOCAL 56 PILE DRIVER LOCAL 56 (ZONE 1)	8/1/2024	\$117.16	\$10.08	\$11.62	\$12.67	\$0.00	\$151.53
For apprentice rates see "Apprentice- PILE DRIVER"							

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
DRAWBRIDGE OPERATOR (Construction)	7/1/2020	\$26.77	\$6.67	\$3.93	\$0.00	\$0.16	\$37.53
DRAWBRIDGE - SEIU LOCAL 888							
DRAWBRIDGE - SEIU LOCAL 888							

ELECTRICIAN	9/1/2025	\$66.17	\$13.00	\$14.37	\$8.72	\$0.00	\$102.26
ELECTRICIANS LOCAL 103	3/1/2026	\$66.86	\$13.00	\$14.64	\$9.00	\$0.00	\$103.50
ELECTRICIANS LOCAL 103	9/1/2026	\$68.78	\$13.00	\$14.69	\$9.00	\$0.00	\$105.47
	3/1/2027	\$69.97	\$13.00	\$14.73	\$9.00	\$0.00	\$106.70
	9/1/2027	\$71.88	\$13.00	\$14.79	\$9.00	\$0.00	\$108.67
	3/1/2028	\$73.08	\$13.00	\$14.82	\$9.00	\$0.00	\$109.90

### Apprentice: ELECTRICIAN

Effective Date: 9/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$26.47	\$13.00	\$0.79	\$0.00	\$0.00	\$40.26
2	40.00	\$26.47	\$13.00	\$0.79	\$0.00	\$0.00	\$40.26
3	45.00	\$29.78	\$13.00	\$13.27	\$3.92	\$0.00	\$59.97
4	45.00	\$29.78	\$13.00	\$13.27	\$3.92	\$0.00	\$59.97
5	50.00	\$33.09	\$13.00	\$13.37	\$4.36	\$0.00	\$63.82
6	55.00	\$36.39	\$13.00	\$13.47	\$4.80	\$0.00	\$67.66
7	60.00	\$39.70	\$13.00	\$13.57	\$5.23	\$0.00	\$71.50
8	65.00	\$43.01	\$13.00	\$13.67	\$5.67	\$0.00	\$75.35
9	70.00	\$46.32	\$13.00	\$13.77	\$6.10	\$0.00	\$79.19
10	75.00	\$49.63	\$13.00	\$13.87	\$6.54	\$0.00	\$83.04

### Apprentice: ELECTRICIAN

Effective Date: 3/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$26.74	\$13.00	\$0.80	\$0.00	\$0.00	\$40.54
2	40.00	\$26.74	\$13.00	\$0.80	\$0.00	\$0.00	\$40.54
3	45.00	\$30.09	\$13.00	\$13.53	\$4.05	\$0.00	\$60.67
4	45.00	\$30.09	\$13.00	\$13.53	\$4.05	\$0.00	\$60.67
5	50.00	\$33.43	\$13.00	\$13.63	\$4.50	\$0.00	\$64.56
6	55.00	\$36.77	\$13.00	\$13.73	\$4.95	\$0.00	\$68.45
7	60.00	\$40.12	\$13.00	\$13.83	\$5.40	\$0.00	\$72.35
8	65.00	\$43.46	\$13.00	\$13.93	\$5.85	\$0.00	\$76.24
9	70.00	\$46.80	\$13.00	\$14.03	\$6.30	\$0.00	\$80.13
10	75.00	\$50.15	\$13.00	\$14.13	\$6.75	\$0.00	\$84.03

### Apprentice Notes

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Apprentice to Journeyworker Ratio: 2:3

ELEVATOR CONSTRUCTOR	1/1/2025	\$74.17	\$16.28	\$10.96	\$10.40	\$0.00	\$111.81
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2026	\$77.26	\$16.38	\$11.06	\$10.70	\$0.00	\$115.40



**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2027	\$80.55	\$16.48	\$11.16	\$11.00	\$0.00	\$119.19

**Apprentice: ELEVATOR CONSTRUCTOR****Effective Date: 1/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$37.09	\$0.00	\$0.00	\$0.00	\$0.00	\$37.09
2	55.00	\$40.79	\$16.28	\$10.96	\$10.40	\$0.00	\$78.43
3	65.00	\$48.21	\$16.28	\$10.96	\$10.40	\$0.00	\$85.85
4	70.00	\$51.92	\$16.28	\$10.96	\$10.40	\$0.00	\$89.56
5	80.00	\$59.34	\$16.28	\$10.96	\$10.40	\$0.00	\$96.98

**Apprentice: ELEVATOR CONSTRUCTOR****Effective Date: 1/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$38.63	\$0.00	\$0.00	\$0.00	\$0.00	\$38.63
2	55.00	\$42.49	\$16.38	\$11.06	\$10.70	\$0.00	\$80.63
3	65.00	\$50.22	\$16.38	\$11.06	\$10.70	\$0.00	\$88.36
4	70.00	\$54.08	\$16.38	\$11.06	\$10.70	\$0.00	\$92.22
5	80.00	\$61.81	\$16.38	\$11.06	\$10.70	\$0.00	\$99.95

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

ELEVATOR CONSTRUCTOR HELPER	1/1/2025	\$51.92	\$16.28	\$10.96	\$10.40	\$0.00	\$89.56
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2026	\$54.08	\$16.38	\$11.06	\$10.07	\$0.00	\$91.59
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2027	\$56.39	\$16.48	\$11.16	\$11.00	\$0.00	\$95.03

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY)	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	11/1/2025	\$53.56	\$16.05	\$13.25	\$3.25	\$0.00	\$86.11
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$55.00	\$16.05	\$13.25	\$3.25	\$0.00	\$87.55
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$56.29	\$16.05	\$13.25	\$3.25	\$0.00	\$88.84
	5/1/2027	\$57.72	\$16.05	\$13.25	\$3.25	\$0.00	\$90.27

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY	11/1/2025	\$55.17	\$16.05	\$13.25	\$3.25	\$0.00	\$87.72
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$56.62	\$16.05	\$13.25	\$3.25	\$0.00	\$89.17
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$57.92	\$16.05	\$13.25	\$3.25	\$0.00	\$90.47
	5/1/2027	\$59.37	\$16.05	\$13.25	\$3.25	\$0.00	\$91.92

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY	11/1/2025	\$26.03	\$16.05	\$13.25	\$3.25	\$0.00	\$58.58
OPERATING ENGINEERS LOCAL 4	5/1/2026	\$26.88	\$16.05	\$13.25	\$3.25	\$0.00	\$59.43

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$27.64	\$16.05	\$13.25	\$3.25	\$0.00	\$60.19
	5/1/2027	\$28.49	\$16.05	\$13.25	\$3.25	\$0.00	\$61.04
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIRE ALARM INSTALLER	9/1/2025	\$66.17	\$13.00	\$14.37	\$9.00	\$0.00	\$102.54
ELECTRICIANS LOCAL 103	3/1/2026	\$66.86	\$13.00	\$14.64	\$9.00	\$0.00	\$103.50
ELECTRICIANS LOCAL 103	9/1/2026	\$68.78	\$13.00	\$14.69	\$9.00	\$0.00	\$105.47
	3/1/2027	\$69.97	\$13.00	\$14.73	\$9.00	\$0.00	\$106.70
	9/1/2027	\$71.88	\$13.00	\$14.79	\$9.00	\$0.00	\$108.67
	3/1/2028	\$73.08	\$13.00	\$14.82	\$9.00	\$0.00	\$109.90
For apprentice rates see "Apprentice- ELECTRICIAN"							
FIRE ALARM REPAIR / MAINTENANCE	9/1/2025	\$52.94	\$13.00	\$13.97	\$6.98	\$0.00	\$86.89
/ COMMISSIONING	3/1/2026	\$53.49	\$13.00	\$14.23	\$7.20	\$0.00	\$87.92
ELECTRICIANS LOCAL 103	9/1/2026	\$55.02	\$13.00	\$14.28	\$7.20	\$0.00	\$89.50
ELECTRICIANS LOCAL 103	3/1/2027	\$55.98	\$13.00	\$14.31	\$7.20	\$0.00	\$90.49
	9/1/2027	\$57.50	\$13.00	\$14.36	\$7.20	\$0.00	\$92.06
	3/1/2028	\$58.46	\$13.00	\$14.38	\$7.20	\$0.00	\$93.04
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"							
FIREMAN (ASST. ENGINEER)	12/1/2025	\$47.69	\$16.05	\$13.25	\$3.25	\$0.00	\$80.24
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$48.75	\$16.05	\$13.25	\$3.25	\$0.00	\$81.30
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$49.93	\$16.05	\$13.25	\$3.25	\$0.00	\$82.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FLAGGER & SIGNALER (HEAVY & HIGHWAY)	12/1/2025	\$28.09	\$10.15	\$9.50	\$9.65	\$0.00	\$57.39
LABORERS	6/1/2026	\$29.21	\$10.15	\$9.50	\$9.65	\$0.00	\$58.51
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$29.21	\$10.15	\$9.50	\$9.65	\$0.00	\$58.51
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
FLOORCOVERER	9/1/2025	\$57.74	\$10.33	\$11.47	\$8.80	\$0.00	\$88.34
FLOORCOVERERS LOCAL 2168	3/1/2026	\$59.24	\$10.33	\$11.47	\$8.80	\$0.00	\$89.84
FLOORCOVERERS LOCAL 2168 ZONE I	9/1/2026	\$60.74	\$10.33	\$11.47	\$8.80	\$0.00	\$91.34
	3/1/2027	\$62.24	\$10.33	\$11.47	\$8.80	\$0.00	\$92.84

**Apprentice: FLOORCOVERER****Effective Date: 9/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$25.98	\$10.33	\$0.00	\$1.76	\$0.00	\$38.07
2	45.00	\$25.98	\$10.33	\$0.00	\$1.76	\$0.00	\$38.07
3	55.00	\$31.76	\$10.33	\$0.00	\$3.52	\$0.00	\$45.61
4	55.00	\$31.76	\$10.33	\$0.00	\$3.52	\$0.00	\$45.61
5	70.00	\$40.42	\$10.33	\$11.47	\$5.28	\$0.00	\$67.50
6	70.00	\$40.42	\$10.33	\$11.47	\$5.28	\$0.00	\$67.50
7	80.00	\$46.19	\$10.33	\$11.47	\$7.04	\$0.00	\$75.03
8	80.00	\$46.19	\$10.33	\$11.47	\$7.04	\$0.00	\$75.03

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: FLOORCOVERER</b>							
<b>Effective Date: 3/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$26.66	\$10.33	\$0.00	\$1.76	\$0.00	\$38.75
2	45.00	\$26.66	\$10.33	\$0.00	\$1.76	\$0.00	\$38.75
3	55.00	\$32.58	\$10.33	\$0.00	\$3.52	\$0.00	\$46.43
4	55.00	\$32.58	\$10.33	\$0.00	\$3.52	\$0.00	\$46.43
5	70.00	\$41.47	\$10.33	\$11.47	\$5.28	\$0.00	\$68.55
6	70.00	\$41.47	\$10.33	\$11.47	\$5.28	\$0.00	\$68.55
7	80.00	\$47.39	\$10.33	\$11.47	\$7.04	\$0.00	\$76.23
8	80.00	\$47.39	\$10.33	\$11.47	\$7.04	\$0.00	\$76.23

**Apprentice Notes**

Steps are 750 hrs.

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

FORK LIFT/CHERRY PICKER	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS	12/1/2025	\$37.97	\$16.05	\$13.25	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$38.83	\$16.05	\$13.25	\$3.25	\$0.00	\$71.38
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$39.78	\$16.05	\$13.25	\$3.25	\$0.00	\$72.33

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)	7/1/2025	\$53.80	\$10.30	\$11.95	\$12.50	\$0.00	\$88.55
GLAZIERS LOCAL 35	1/1/2026	\$54.85	\$10.35	\$12.00	\$12.60	\$0.00	\$89.80
GLAZIERS LOCAL 35 (ZONE 1)							

<b>Apprentice: GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)</b>							
<b>Effective Date: 7/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.90	\$10.30	\$0.00	\$0.00	\$0.00	\$37.20
2	55.00	\$29.59	\$10.30	\$0.00	\$6.88	\$0.00	\$46.77
3	60.00	\$32.28	\$10.30	\$0.00	\$7.50	\$0.00	\$50.08
4	65.00	\$34.97	\$10.30	\$0.00	\$8.13	\$0.00	\$53.40
5	70.00	\$37.66	\$10.30	\$11.95	\$8.75	\$0.00	\$68.66
6	75.00	\$40.35	\$10.30	\$11.95	\$9.38	\$0.00	\$71.98
7	80.00	\$43.04	\$10.30	\$11.95	\$10.00	\$0.00	\$75.29
8	90.00	\$48.42	\$10.30	\$11.95	\$11.25	\$0.00	\$81.92

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)</b>							
<b>Effective Date: 1/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$27.43	\$10.30	\$0.00	\$0.00	\$0.00	\$37.73
2	55.00	\$30.17	\$10.30	\$0.00	\$6.88	\$0.00	\$47.35
3	60.00	\$32.91	\$10.30	\$0.00	\$7.50	\$0.00	\$50.71
4	65.00	\$35.65	\$10.30	\$0.00	\$8.13	\$0.00	\$54.08
5	70.00	\$38.40	\$10.30	\$11.95	\$8.75	\$0.00	\$69.40
6	75.00	\$41.14	\$10.30	\$11.95	\$9.38	\$0.00	\$72.77
7	80.00	\$43.88	\$10.30	\$11.95	\$10.00	\$0.00	\$76.13
8	90.00	\$49.37	\$10.30	\$11.95	\$11.25	\$0.00	\$82.87

Apprentice to Journeyworker Ratio: 1:1

HOISTING ENGINEER/CRANES/GRADALLS	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58

<b>Apprentice: HOISTING ENGINEER/CRANES/GRADALLS</b>							
<b>Effective Date: 12/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$32.88	\$0.00	\$0.00	\$0.00	\$0.00	\$32.88
2	60.00	\$35.87	\$16.05	\$13.25	\$3.25	\$0.00	\$68.42
3	65.00	\$38.86	\$16.05	\$13.25	\$3.25	\$0.00	\$71.41
4	70.00	\$41.85	\$16.05	\$13.25	\$3.25	\$0.00	\$74.40
5	75.00	\$44.84	\$16.05	\$13.25	\$3.25	\$0.00	\$77.39
6	80.00	\$47.82	\$16.05	\$13.25	\$3.25	\$0.00	\$80.37
7	85.00	\$50.81	\$16.05	\$13.25	\$3.25	\$0.00	\$83.36
8	90.00	\$53.80	\$16.05	\$13.25	\$3.25	\$0.00	\$86.35

<b>Apprentice: HOISTING ENGINEER/CRANES/GRADALLS</b>							
<b>Effective Date: 6/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$33.32	\$0.00	\$0.00	\$0.00	\$0.00	\$33.32
2	60.00	\$36.35	\$16.05	\$13.25	\$3.25	\$0.00	\$68.90
3	65.00	\$39.38	\$16.05	\$13.25	\$3.25	\$0.00	\$71.93
4	70.00	\$42.41	\$16.50	\$13.25	\$3.25	\$0.00	\$75.41
5	75.00	\$45.44	\$16.50	\$13.25	\$3.25	\$0.00	\$78.44
6	80.00	\$48.46	\$16.50	\$13.25	\$3.25	\$0.00	\$81.46
7	85.00	\$51.49	\$16.50	\$13.25	\$3.25	\$0.00	\$84.49
8	90.00	\$54.52	\$16.50	\$13.25	\$3.25	\$0.00	\$87.52

Apprentice to Journeyworker Ratio: 1:6

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
HVAC (DUCTWORK)	8/1/2025	\$60.98	\$14.91	\$18.74	\$9.53	\$2.98	\$107.14
SHEETMETAL WORKERS LOCAL 17	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
SHEETMETAL WORKERS LOCAL 17 - A							
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (ELECTRICAL CONTROLS)	9/1/2025	\$66.17	\$13.00	\$14.37	\$8.72	\$0.00	\$102.26
ELECTRICIANS LOCAL 103	3/1/2026	\$66.86	\$13.00	\$14.64	\$9.00	\$0.00	\$103.50
ELECTRICIANS LOCAL 103	9/1/2026	\$68.78	\$13.00	\$14.69	\$9.00	\$0.00	\$105.47
	3/1/2027	\$69.97	\$13.00	\$14.73	\$9.00	\$0.00	\$106.70
	9/1/2027	\$71.88	\$13.00	\$14.79	\$9.00	\$0.00	\$108.67
	3/1/2028	\$73.08	\$13.00	\$14.82	\$9.00	\$0.00	\$109.90
For apprentice rates see "Apprentice- ELECTRICIAN"							
HVAC (TESTING AND BALANCING - AIR)	8/1/2025	\$60.98	\$14.91	\$18.74	\$9.53	\$2.98	\$107.14
SHEETMETAL WORKERS LOCAL 17	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
SHEETMETAL WORKERS LOCAL 17 - A							
For apprentice rates see "Apprentice- SHEET METAL WORKER"							
HVAC (TESTING AND BALANCING -WATER)	9/1/2025	\$69.08	\$13.45	\$13.75	\$9.30	\$0.00	\$105.58
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HVAC MECHANIC	9/1/2025	\$69.08	\$13.45	\$13.75	\$9.30	\$0.00	\$105.58
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HYDRAULIC DRILLS	12/1/2025	\$49.35	\$10.15	\$9.50	\$9.65	\$0.00	\$78.65
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$52.40	\$10.15	\$9.50	\$9.65	\$0.00	\$81.70
	6/1/2027	\$54.00	\$10.15	\$9.50	\$9.65	\$0.00	\$83.30
	12/1/2027	\$55.60	\$10.15	\$9.50	\$9.65	\$0.00	\$84.90
	6/1/2028	\$57.28	\$10.15	\$9.50	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.95	\$10.15	\$9.50	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
HYDRAULIC DRILLS (HEAVY & HIGHWAY)	12/1/2025	\$49.45	\$10.15	\$9.50	\$9.65	\$0.00	\$78.75
LABORERS	6/1/2026	\$51.00	\$10.15	\$9.50	\$9.65	\$0.00	\$80.30
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.50	\$10.15	\$9.50	\$9.65	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
INSULATOR (PIPES & TANKS)	9/1/2025	\$60.34	\$14.75	\$9.52	\$10.09	\$0.00	\$94.70
HEAT & FROST INSULATORS LOCAL 6	9/1/2026	\$63.76	\$14.75	\$9.52	\$10.09	\$0.00	\$98.12
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)							

**Apprentice: INSULATOR (PIPES & TANKS)****Effective Date: 9/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$30.17	\$14.75	\$9.27	\$5.05	\$0.00	\$59.24

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: INSULATOR (PIPES &amp; TANKS)</b> <b>Effective Date: 9/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
2	60.00	\$36.20	\$14.75	\$9.32	\$6.05	\$0.00	\$66.32
3	70.00	\$42.24	\$14.75	\$9.37	\$7.06	\$0.00	\$73.42
4	80.00	\$48.27	\$14.75	\$9.42	\$8.07	\$0.00	\$80.51
<b>Apprentice: INSULATOR (PIPES &amp; TANKS)</b> <b>Effective Date: 9/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$31.88	\$14.75	\$9.27	\$5.05	\$0.00	\$60.95
2	60.00	\$38.26	\$14.75	\$9.32	\$6.05	\$0.00	\$68.38
3	70.00	\$44.63	\$14.75	\$9.37	\$7.06	\$0.00	\$75.81
4	80.00	\$51.01	\$14.75	\$9.42	\$8.07	\$0.00	\$83.25
<b>Apprentice to Journeyworker Ratio: 1:4</b>							
IRONWORKER/WELDER	9/16/2025	\$57.87	\$9.05	\$12.75	\$14.50	\$0.00	\$94.17
IRONWORKERS LOCAL 7							
IRONWORKERS LOCAL 7 (BOSTON AREA)							
<b>Apprentice: IRONWORKER/WELDER</b> <b>Effective Date: 9/16/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$34.72	\$9.05	\$12.75	\$4.50	\$0.00	\$61.02
2	75.00	\$43.40	\$9.05	\$12.75	\$4.50	\$0.00	\$69.70
3	85.00	\$49.19	\$9.05	\$12.75	\$4.50	\$0.00	\$75.49
4	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
6	0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Apprentice to Journeyworker Ratio: 1:4</b>							
JACKHAMMER & PAVING BREAKER OPERATOR	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
LABORER	12/1/2025	\$48.60	\$10.15	\$9.50	\$9.65	\$0.00	\$77.90
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$51.65	\$10.15	\$9.50	\$9.65	\$0.00	\$80.95

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	6/1/2027	\$53.25	\$10.15	\$9.50	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.85	\$10.15	\$9.50	\$9.65	\$0.00	\$84.15
	6/1/2028	\$56.53	\$10.15	\$9.50	\$9.65	\$0.00	\$85.83
	12/1/2028	\$58.20	\$10.15	\$9.50	\$9.65	\$0.00	\$87.50

Apprentice: LABORER							
Effective Date: 12/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$29.16	\$10.15	\$9.50	\$9.65	\$0.00	\$58.46
2	70.00	\$34.02	\$10.15	\$9.50	\$9.65	\$0.00	\$63.32
3	80.00	\$38.88	\$10.15	\$9.50	\$9.65	\$0.00	\$68.18
4	90.00	\$43.74	\$10.15	\$9.50	\$9.65	\$0.00	\$73.04

Apprentice: LABORER							
Effective Date: 6/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$30.09	\$10.15	\$9.50	\$9.65	\$0.00	\$59.39
2	70.00	\$35.11	\$10.15	\$9.50	\$9.65	\$0.00	\$64.41
3	80.00	\$40.12	\$10.15	\$9.50	\$9.65	\$0.00	\$69.42
4	90.00	\$45.14	\$10.15	\$9.50	\$9.65	\$0.00	\$74.44

Apprentice to Journeyworker Ratio: 1:5

LABORER (HEAVY & HIGHWAY)	12/1/2025	\$48.70	\$10.15	\$9.50	\$9.65	\$0.00	\$78.00
LABORERS	6/1/2026	\$50.25	\$10.15	\$9.50	\$9.65	\$0.00	\$79.55
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.75	\$10.15	\$9.50	\$9.65	\$0.00	\$81.05

Apprentice: LABORER (HEAVY & HIGHWAY)							
Effective Date: 12/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$29.22	\$10.15	\$9.50	\$9.65	\$0.00	\$58.52
2	70.00	\$34.09	\$10.15	\$9.50	\$9.65	\$0.00	\$63.39
3	80.00	\$38.96	\$10.15	\$9.50	\$9.65	\$0.00	\$68.26
4	90.00	\$43.83	\$10.15	\$9.50	\$9.65	\$0.00	\$73.13

Apprentice: LABORER (HEAVY & HIGHWAY)							
Effective Date: 6/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	60.00	\$30.15	\$10.15	\$9.50	\$9.65	\$0.00	\$59.45
2	70.00	\$35.18	\$10.15	\$9.50	\$9.65	\$0.00	\$64.48
3	80.00	\$40.20	\$10.15	\$9.50	\$9.65	\$0.00	\$69.50



**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate																
<div>Apprentice: LABORER (HEAVY &amp; HIGHWAY)</div> <div>Effective Date: 6/1/2026</div> <table><thead><tr><th>Step</th><th>Percent</th><th>Apprentice Base Wage</th><th>Health</th><th>Pension</th><th>Annuity</th><th>Supplemental Unemployment</th><th>Total Rate</th></tr></thead><tbody><tr><td>4</td><td>90.00</td><td>\$45.23</td><td>\$10.15</td><td>\$9.50</td><td>\$9.65</td><td>\$0.00</td><td>\$74.53</td></tr></tbody></table> <div>Apprentice to Journeyworker Ratio: 1:5</div>								Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate	4	90.00	\$45.23	\$10.15	\$9.50	\$9.65	\$0.00	\$74.53
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate																
4	90.00	\$45.23	\$10.15	\$9.50	\$9.65	\$0.00	\$74.53																
LABORER: CARPENTER TENDER	12/1/2025	\$48.60	\$10.15	\$9.50	\$9.65	\$0.00	\$77.90																
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45																
LABORERS - ZONE 1	12/1/2026	\$51.65	\$10.15	\$9.50	\$9.65	\$0.00	\$80.95																
	6/1/2027	\$53.25	\$10.15	\$9.50	\$9.65	\$0.00	\$82.55																
	12/1/2027	\$54.85	\$10.15	\$9.50	\$9.65	\$0.00	\$84.15																
	6/1/2028	\$56.53	\$10.15	\$9.50	\$9.65	\$0.00	\$85.83																
	12/1/2028	\$58.20	\$10.15	\$9.50	\$9.65	\$0.00	\$87.50																
For apprentice rates see "Apprentice- LABORER"																							
LABORER: CEMENT FINISHER TENDER	12/1/2025	\$48.60	\$10.15	\$9.50	\$9.65	\$0.00	\$77.90																
LABORERS	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45																
LABORERS - ZONE 1	12/1/2026	\$51.65	\$10.15	\$9.50	\$9.65	\$0.00	\$80.95																
	6/1/2027	\$53.25	\$10.15	\$9.50	\$9.65	\$0.00	\$82.55																
	12/1/2027	\$54.85	\$10.15	\$9.50	\$9.65	\$0.00	\$84.15																
	6/1/2028	\$56.53	\$10.15	\$9.50	\$9.65	\$0.00	\$85.83																
	12/1/2028	\$58.20	\$10.15	\$9.50	\$9.65	\$0.00	\$87.50																
For apprentice rates see "Apprentice- LABORER"																							
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER	12/1/2025	\$48.75	\$10.15	\$9.50	\$9.65	\$0.00	\$78.05																
LABORERS	6/1/2026	\$50.30	\$10.15	\$9.50	\$9.65	\$0.00	\$79.60																
LABORERS - ZONE 1	12/7/2026	\$51.80	\$10.15	\$9.50	\$9.65	\$0.00	\$81.10																
	6/7/2027	\$53.40	\$10.15	\$9.50	\$9.65	\$0.00	\$82.70																
	12/6/2027	\$55.00	\$10.15	\$9.50	\$9.65	\$0.00	\$84.30																
	6/5/2028	\$56.68	\$10.15	\$9.50	\$9.65	\$0.00	\$85.98																
	12/4/2028	\$58.35	\$10.15	\$9.50	\$9.65	\$0.00	\$87.65																
For apprentice rates see "Apprentice- LABORER"																							
LABORER: MASON TENDER	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15																
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70																
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20																
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80																
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40																
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08																
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75																
For apprentice rates see "Apprentice- LABORER"																							
LABORER: MASON TENDER (HEAVY & HIGHWAY)	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25																
LABORERS	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80																
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30																
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"																							

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORER: MULTI-TRADE TENDER LABORERS	12/1/2025	\$48.60	\$10.15	\$9.50	\$9.65	\$0.00	\$77.90
LABORERS - ZONE 1	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
	12/1/2026	\$51.65	\$10.15	\$9.50	\$9.65	\$0.00	\$80.95
	6/1/2027	\$53.25	\$10.15	\$9.50	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.85	\$10.15	\$9.50	\$9.65	\$0.00	\$84.15
	6/1/2028	\$56.53	\$10.15	\$9.50	\$9.65	\$0.00	\$85.83
	12/1/2028	\$58.20	\$10.15	\$9.50	\$9.65	\$0.00	\$87.50

For apprentice rates see "Apprentice- LABORER"

LABORER: TREE REMOVER LABORERS	12/1/2025	\$48.60	\$10.15	\$9.50	\$9.65	\$0.00	\$77.90
LABORERS - ZONE 1	6/1/2026	\$50.15	\$10.15	\$9.50	\$9.65	\$0.00	\$79.45
	12/1/2026	\$51.65	\$10.15	\$9.50	\$9.65	\$0.00	\$80.95
	6/1/2027	\$53.25	\$10.15	\$9.50	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.85	\$10.15	\$9.50	\$9.65	\$0.00	\$84.15
	6/1/2028	\$56.53	\$10.15	\$9.50	\$9.65	\$0.00	\$85.83
	12/1/2028	\$58.20	\$10.15	\$9.50	\$9.65	\$0.00	\$87.50

This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"

LASER BEAM OPERATOR LABORERS	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

LASER BEAM OPERATOR (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3	8/1/2025	\$52.08	\$11.49	\$15.57	\$6.05	\$0.00	\$85.19
BRICKLAYERS LOCAL 3 - MARBLE & TILE	2/1/2026	\$53.16	\$11.49	\$15.57	\$6.05	\$0.00	\$86.27
	8/1/2026	\$54.92	\$11.49	\$15.57	\$6.05	\$0.00	\$88.03
	2/1/2027	\$56.04	\$11.49	\$15.57	\$6.05	\$0.00	\$89.15

**Apprentice: MARBLE & TILE FINISHERS****Effective Date: 8/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.04	\$11.49	\$15.57	\$6.05	\$0.00	\$59.15
2	60.00	\$31.25	\$11.49	\$15.57	\$6.05	\$0.00	\$64.36
3	70.00	\$36.46	\$11.49	\$15.57	\$6.05	\$0.00	\$69.57
4	80.00	\$41.66	\$11.49	\$15.57	\$6.05	\$0.00	\$74.77
5	90.00	\$46.87	\$11.49	\$15.57	\$6.05	\$0.00	\$79.98

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: MARBLE &amp; TILE FINISHERS</b> <b>Effective Date: 2/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.58	\$11.49	\$15.57	\$6.05	\$0.00	\$59.69
2	60.00	\$31.90	\$11.49	\$15.57	\$6.05	\$0.00	\$65.01
3	70.00	\$37.21	\$11.49	\$15.57	\$6.05	\$0.00	\$70.32
4	80.00	\$42.53	\$11.49	\$15.57	\$6.05	\$0.00	\$75.64
5	90.00	\$47.84	\$11.49	\$15.57	\$6.05	\$0.00	\$80.95
<b>Apprentice to Journeyworker Ratio: 1:5</b>							
MARBLE MASONS,TILELAYERS & TERRAZZO MECH	8/1/2025	\$67.97	\$11.49	\$15.57	\$7.99	\$0.00	\$103.02
BRICKLAYERS LOCAL 3	2/1/2026	\$69.32	\$11.49	\$15.57	\$7.99	\$0.00	\$104.37
BRICKLAYERS LOCAL 3 - MARBLE & TILE	8/1/2026	\$71.52	\$11.49	\$15.57	\$7.99	\$0.00	\$106.57
	2/1/2027	\$72.92	\$11.49	\$15.57	\$7.99	\$0.00	\$107.97
<b>Apprentice: MARBLE MASONS,TILELAYERS &amp; TERRAZZO MECH</b> <b>Effective Date: 8/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.99	\$11.49	\$15.57	\$7.99	\$0.00	\$69.04
2	60.00	\$40.78	\$11.49	\$15.57	\$7.99	\$0.00	\$75.83
3	70.00	\$47.58	\$11.49	\$15.57	\$7.99	\$0.00	\$82.63
4	80.00	\$54.38	\$11.49	\$15.57	\$7.99	\$0.00	\$89.43
5	90.00	\$61.17	\$11.49	\$15.57	\$7.99	\$0.00	\$96.22
<b>Apprentice: MARBLE MASONS,TILELAYERS &amp; TERRAZZO MECH</b> <b>Effective Date: 2/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$34.66	\$11.49	\$15.57	\$7.99	\$0.00	\$69.71
2	60.00	\$41.59	\$11.49	\$15.57	\$7.99	\$0.00	\$76.64
3	70.00	\$48.52	\$11.49	\$15.57	\$7.99	\$0.00	\$83.57
4	80.00	\$55.46	\$11.49	\$15.57	\$7.99	\$0.00	\$90.51
5	90.00	\$62.39	\$11.49	\$15.57	\$7.99	\$0.00	\$97.44
<b>Apprentice to Journeyworker Ratio: 1:5</b>							
MECH. SWEEPER OPERATOR (ON CONST. SITES)	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
MECHANICS MAINTENANCE	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4							

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 1)	1/6/2025	\$50.47	\$10.08	\$11.47	\$10.25	\$0.00	\$82.27
MILLWRIGHTS LOCAL 1121	1/5/2026	\$52.97	\$10.08	\$11.47	\$10.25	\$0.00	\$84.77
MILLWRIGHTS LOCAL 1121 - Zone 1							

**Apprentice: MILLWRIGHT (Zone 1)****Effective Date: 1/6/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$27.76	\$10.08	\$0.00	\$5.64	\$0.00	\$43.48
2	65.00	\$32.81	\$10.08	\$0.00	\$6.66	\$0.00	\$49.55
3	75.00	\$37.85	\$10.08	\$11.47	\$7.69	\$0.00	\$67.09
4	85.00	\$42.90	\$10.08	\$11.47	\$8.71	\$0.00	\$73.16

**Apprentice: MILLWRIGHT (Zone 1)****Effective Date: 1/5/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	55.00	\$29.13	\$10.08	\$0.00	\$5.64	\$0.00	\$44.85
2	65.00	\$34.43	\$10.08	\$0.00	\$6.66	\$0.00	\$51.17
3	75.00	\$39.73	\$10.08	\$11.47	\$7.69	\$0.00	\$68.97
4	85.00	\$45.02	\$10.08	\$11.47	\$8.71	\$0.00	\$75.28

**Apprentice Notes**

Step 1&2 Appr. indentured after 1/6/2020 receive no pension,

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

MORTAR MIXER	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS)	12/1/2025	\$25.68	\$16.05	\$13.25	\$3.25	\$0.00	\$58.23
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$26.27	\$16.05	\$13.25	\$3.25	\$0.00	\$58.82
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$26.94	\$16.05	\$13.25	\$3.25	\$0.00	\$59.49

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	12/1/2025	\$31.65	\$16.05	\$13.25	\$3.25	\$0.00	\$64.20
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$32.37	\$16.05	\$13.25	\$3.25	\$0.00	\$64.92
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$33.17	\$16.05	\$13.25	\$3.25	\$0.00	\$65.72

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS)	7/1/2025	\$58.51	\$10.30	\$11.95	\$12.50	\$0.00	\$93.26
PAINTERS LOCAL 35	1/1/2026	\$59.56	\$10.35	\$12.00	\$12.60	\$0.00	\$94.51
PAINTERS LOCAL 35 - ZONE 1							

**Apprentice: PAINTER (BRIDGES/TANKS)****Effective Date: 7/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$29.26	\$10.30	\$0.00	\$0.00	\$0.00	\$39.56
2	55.00	\$32.18	\$10.30	\$0.00	\$6.88	\$0.00	\$49.36
3	60.00	\$35.11	\$10.30	\$0.00	\$7.50	\$0.00	\$52.91
4	65.00	\$38.03	\$10.30	\$0.00	\$8.13	\$0.00	\$56.46
5	70.00	\$40.96	\$10.30	\$11.95	\$8.75	\$0.00	\$71.96
6	75.00	\$43.88	\$10.30	\$11.95	\$9.38	\$0.00	\$75.51
7	80.00	\$46.81	\$10.30	\$11.95	\$10.00	\$0.00	\$79.06
8	90.00	\$52.66	\$10.30	\$11.95	\$11.25	\$0.00	\$86.16

**Apprentice: PAINTER (BRIDGES/TANKS)****Effective Date: 1/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$29.78	\$10.35	\$0.00	\$0.00	\$0.00	\$40.13
2	55.00	\$32.76	\$10.35	\$0.00	\$6.93	\$0.00	\$50.04
3	60.00	\$35.74	\$10.35	\$0.00	\$7.56	\$0.00	\$53.65
4	65.00	\$38.71	\$10.35	\$0.00	\$8.19	\$0.00	\$57.25
5	70.00	\$41.69	\$10.35	\$12.00	\$8.82	\$0.00	\$72.86
6	75.00	\$44.67	\$10.35	\$12.00	\$9.45	\$0.00	\$76.47
7	80.00	\$47.65	\$10.35	\$12.00	\$10.08	\$0.00	\$80.08
8	90.00	\$53.60	\$10.35	\$12.00	\$11.34	\$0.00	\$87.29

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

PAINTER (SPRAY OR SANDBLAST, NEW) *	7/1/2025	\$55.20	\$10.30	\$11.95	\$12.50	\$0.00	\$89.95
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.	1/1/2026	\$56.25	\$10.35	\$12.00	\$12.60	\$0.00	\$91.20
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 1							

**Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) \*****Effective Date: 7/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$27.60	\$10.30	\$0.00	\$0.00	\$0.00	\$37.90

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
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**Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) \***

**Effective Date: 7/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
2	55.00	\$30.36	\$10.30	\$0.00	\$6.88	\$0.00	\$47.54
3	60.00	\$33.12	\$10.30	\$0.00	\$7.50	\$0.00	\$50.92
4	65.00	\$35.88	\$10.30	\$0.00	\$8.13	\$0.00	\$54.31
5	70.00	\$38.64	\$10.30	\$11.95	\$8.75	\$0.00	\$69.64
6	75.00	\$41.40	\$10.30	\$11.95	\$9.38	\$0.00	\$73.03
7	80.00	\$44.16	\$10.30	\$11.95	\$10.00	\$0.00	\$76.41
8	90.00	\$49.68	\$10.30	\$11.95	\$11.25	\$0.00	\$83.18

**Apprentice: PAINTER (SPRAY OR SANDBLAST, NEW) \***

**Effective Date: 1/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$28.13	\$10.35	\$0.00	\$0.00	\$0.00	\$38.48
2	55.00	\$30.94	\$10.35	\$0.00	\$6.93	\$0.00	\$48.22
3	60.00	\$33.75	\$10.35	\$0.00	\$7.56	\$0.00	\$51.66
4	65.00	\$36.56	\$10.35	\$0.00	\$8.19	\$0.00	\$55.10
5	70.00	\$39.38	\$10.35	\$12.00	\$8.92	\$0.00	\$70.65
6	75.00	\$42.19	\$10.35	\$12.00	\$9.45	\$0.00	\$73.99
7	80.00	\$45.00	\$10.35	\$12.00	\$10.08	\$0.00	\$77.43
8	90.00	\$50.63	\$10.35	\$12.00	\$11.34	\$0.00	\$84.32

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

PAINTER (SPRAY OR SANDBLAST, REPAINT)	7/1/2025	\$53.26	\$10.30	\$11.95	\$12.50	\$0.00	\$88.01
PAINTERS LOCAL 35	1/1/2026	\$54.31	\$10.35	\$12.00	\$12.60	\$0.00	\$89.26
PAINTERS LOCAL 35 - ZONE 1							

**Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)**

**Effective Date: 7/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.63	\$10.30	\$0.00	\$0.00	\$0.00	\$36.93
2	55.00	\$29.29	\$10.30	\$0.00	\$6.88	\$0.00	\$46.47
3	60.00	\$31.96	\$10.30	\$0.00	\$7.50	\$0.00	\$49.76
4	65.00	\$34.62	\$10.30	\$0.00	\$8.13	\$0.00	\$53.05
5	70.00	\$37.28	\$10.30	\$11.95	\$8.75	\$0.00	\$68.28
6	75.00	\$39.95	\$10.30	\$11.95	\$9.38	\$0.00	\$71.58
7	80.00	\$42.61	\$10.30	\$11.95	\$10.00	\$0.00	\$74.86
8	90.00	\$47.93	\$10.30	\$11.95	\$11.25	\$0.00	\$81.43

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: PAINTER (SPRAY OR SANDBLAST, REPAINT)</b>							
<b>Effective Date: 1/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$27.16	\$10.35	\$0.00	\$0.00	\$0.00	\$37.51
2	55.00	\$29.87	\$10.35	\$0.00	\$6.93	\$0.00	\$47.15
3	60.00	\$32.59	\$10.35	\$0.00	\$7.56	\$0.00	\$50.50
4	65.00	\$35.30	\$10.35	\$0.00	\$8.19	\$0.00	\$53.84
5	70.00	\$38.02	\$10.35	\$12.00	\$8.82	\$0.00	\$69.19
6	75.00	\$40.73	\$10.35	\$12.00	\$9.45	\$0.00	\$72.53
7	80.00	\$43.45	\$10.35	\$12.00	\$10.08	\$0.00	\$75.88
8	90.00	\$48.88	\$10.35	\$12.00	\$11.34	\$0.00	\$82.57

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

PAINTER / TAPER (BRUSH, NEW) *	7/1/2025	\$53.80	\$10.30	\$11.95	\$12.50	\$0.00	\$88.55
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.	1/1/2026	\$54.85	\$10.35	\$12.00	\$12.60	\$0.00	\$89.80
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 1							

<b>Apprentice: PAINTER / TAPER (BRUSH, NEW) *</b>							
<b>Effective Date: 7/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.90	\$10.30	\$0.00	\$0.00	\$0.00	\$37.20
2	55.00	\$29.59	\$10.30	\$0.00	\$6.88	\$0.00	\$46.77
3	60.00	\$32.28	\$10.30	\$0.00	\$7.50	\$0.00	\$50.08
4	65.00	\$34.97	\$10.30	\$0.00	\$8.13	\$0.00	\$53.40
5	70.00	\$37.66	\$10.30	\$11.95	\$8.75	\$0.00	\$68.66
6	75.00	\$40.35	\$10.30	\$11.95	\$9.38	\$0.00	\$71.98
7	80.00	\$43.04	\$10.30	\$11.95	\$10.00	\$0.00	\$75.29
8	90.00	\$48.42	\$10.30	\$11.95	\$11.25	\$0.00	\$81.92

<b>Apprentice: PAINTER / TAPER (BRUSH, NEW) *</b>							
<b>Effective Date: 1/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$27.43	\$10.35	\$0.00	\$0.00	\$0.00	\$37.78
2	55.00	\$30.17	\$10.35	\$0.00	\$6.93	\$0.00	\$47.45
3	60.00	\$32.91	\$10.35	\$0.00	\$7.56	\$0.00	\$50.82
4	65.00	\$35.65	\$10.35	\$0.00	\$8.19	\$0.00	\$54.19
5	70.00	\$38.40	\$10.35	\$12.00	\$8.82	\$0.00	\$69.57
6	75.00	\$41.14	\$10.35	\$12.00	\$9.45	\$0.00	\$72.94
7	80.00	\$43.88	\$10.35	\$12.00	\$10.08	\$0.00	\$76.31
8	90.00	\$49.37	\$10.35	\$12.00	\$11.34	\$0.00	\$83.06



## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice to Journeyworker Ratio: 1:1</b>							
PAINTER / TAPER (BRUSH, REPAINT)	7/1/2025	\$51.86	\$10.30	\$11.95	\$12.50	\$0.00	\$86.61
PAINTERS LOCAL 35	1/1/2026	\$52.91	\$10.35	\$12.00	\$12.60	\$0.00	\$87.86
PAINTERS LOCAL 35 - ZONE 1							

### Apprentice: PAINTER / TAPER (BRUSH, REPAINT)

Effective Date: 7/1/2025

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$25.93	\$10.30	\$0.00	\$0.00	\$0.00	\$36.23
2	55.00	\$28.52	\$10.30	\$0.00	\$6.88	\$0.00	\$45.70
3	60.00	\$31.12	\$10.30	\$0.00	\$7.50	\$0.00	\$48.92
4	65.00	\$33.71	\$10.30	\$0.00	\$8.13	\$0.00	\$52.14
5	70.00	\$36.30	\$10.30	\$11.95	\$8.75	\$0.00	\$67.30
6	75.00	\$38.90	\$10.30	\$11.95	\$9.38	\$0.00	\$70.53
7	80.00	\$41.49	\$10.30	\$11.95	\$10.00	\$0.00	\$73.74
8	90.00	\$46.67	\$10.30	\$11.95	\$11.25	\$0.00	\$80.17

### Apprentice: PAINTER / TAPER (BRUSH, REPAINT)

Effective Date: 1/1/2026

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.46	\$10.35	\$0.00	\$0.00	\$0.00	\$36.81
2	55.00	\$29.10	\$10.35	\$0.00	\$6.93	\$0.00	\$46.38
3	60.00	\$31.75	\$10.35	\$0.00	\$7.56	\$0.00	\$49.66
4	65.00	\$34.39	\$10.35	\$0.00	\$8.19	\$0.00	\$52.93
5	70.00	\$37.04	\$10.35	\$12.00	\$8.82	\$0.00	\$68.21
6	75.00	\$39.68	\$10.35	\$12.00	\$9.45	\$0.00	\$71.48
7	80.00	\$42.33	\$10.35	\$12.00	\$10.08	\$0.00	\$74.76
8	90.00	\$47.62	\$10.35	\$12.00	\$11.34	\$0.00	\$81.31

### Apprentice to Journeyworker Ratio: 1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	12/1/2025	\$48.70	\$10.15	\$9.50	\$9.65	\$0.00	\$78.00
LABORERS	6/1/2026	\$50.25	\$10.15	\$9.50	\$9.65	\$0.00	\$79.55
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.75	\$10.15	\$9.50	\$9.65	\$0.00	\$81.05

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)

PANEL & PICKUP TRUCKS DRIVER	12/1/2025	\$41.88	\$15.41	\$21.78	\$0.00	\$0.00	\$79.07
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$42.88	\$15.41	\$21.78	\$0.00	\$0.00	\$80.07
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$42.88	\$15.91	\$21.78	\$0.00	\$0.00	\$80.57
	12/1/2026	\$42.88	\$15.91	\$23.52	\$0.00	\$0.00	\$82.31

PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							

For apprentice rates see "Apprentice- PILE DRIVER"

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
PILE DRIVER	8/1/2024	\$55.79	\$10.08	\$11.62	\$12.67	\$0.00	\$90.16
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							

Apprentice: PILE DRIVER							
Effective Date: 8/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$25.11	\$10.08	\$0.00	\$2.53	\$0.00	\$37.72
2	55.00	\$30.68	\$10.08	\$0.00	\$5.07	\$0.00	\$45.83
3	70.00	\$39.05	\$10.08	\$11.62	\$7.60	\$0.00	\$68.35
4	80.00	\$44.63	\$10.08	\$11.62	\$10.14	\$0.00	\$76.47

Apprentice to Journeyworker Ratio: 1:5

PIPEFITTER & STEAMFITTER	9/1/2025	\$69.08	\$13.45	\$13.75	\$9.30	\$0.00	\$105.58
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							

Apprentice: PIPEFITTER & STEAMFITTER							
Effective Date: 9/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$27.63	\$13.45	\$13.75	\$9.30	\$0.00	\$64.13
2	45.00	\$31.09	\$13.45	\$13.75	\$9.30	\$0.00	\$67.59
3	60.00	\$41.45	\$13.45	\$13.75	\$9.30	\$0.00	\$77.95
4	70.00	\$48.36	\$13.45	\$13.75	\$9.30	\$0.00	\$84.86
5	80.00	\$55.26	\$13.45	\$13.75	\$9.30	\$0.00	\$91.76

Apprentice to Journeyworker Ratio: 1:3

PIPELAYER	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

PIPELAYER (HEAVY & HIGHWAY)	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

PLUMBERS & GASFITTERS	9/1/2025	\$71.74	\$14.32	\$12.61	\$8.00	\$0.00	\$106.67
PLUMBERS & GASFITTERS LOCAL 12	3/2/2026	\$73.89	\$14.32	\$12.61	\$8.00	\$0.00	\$108.82
PLUMBERS & GASFITTERS LOCAL 12	8/31/2026	\$76.04	\$14.32	\$12.61	\$8.00	\$0.00	\$110.97
	3/1/2027	\$78.19	\$14.32	\$12.61	\$8.00	\$0.00	\$113.12

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	8/30/2027	\$80.34	\$14.32	\$12.61	\$8.00	\$0.00	\$115.27
	2/28/2028	\$82.54	\$14.32	\$12.61	\$8.00	\$0.00	\$117.47
	9/4/2028	\$84.74	\$14.32	\$12.61	\$8.00	\$0.00	\$119.67
	3/5/2029	\$86.94	\$14.32	\$12.61	\$8.00	\$0.00	\$121.87
	9/3/2029	\$89.14	\$14.32	\$12.61	\$8.00	\$0.00	\$124.07
	3/4/2030	\$91.09	\$14.32	\$12.61	\$8.00	\$0.00	\$126.02

**Apprentice: PLUMBERS & GASFITTERS****Effective Date: 9/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.11	\$14.32	\$4.61	\$2.80	\$0.00	\$46.84
2	40.00	\$28.70	\$14.32	\$5.22	\$3.20	\$0.00	\$51.44
3	55.00	\$39.46	\$14.32	\$7.07	\$4.40	\$0.00	\$65.25
4	65.00	\$46.63	\$14.32	\$8.30	\$5.20	\$0.00	\$74.45
5	75.00	\$53.81	\$14.32	\$9.53	\$6.00	\$0.00	\$83.66

**Apprentice: PLUMBERS & GASFITTERS****Effective Date: 3/2/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.86	\$14.32	\$4.61	\$2.80	\$0.00	\$47.59
2	40.00	\$29.56	\$14.32	\$5.22	\$3.20	\$0.00	\$52.30
3	55.00	\$40.64	\$14.32	\$7.07	\$4.40	\$0.00	\$66.43
4	65.00	\$48.03	\$14.32	\$8.30	\$5.20	\$0.00	\$75.85
5	75.00	\$55.42	\$14.32	\$9.53	\$6.00	\$0.00	\$85.27

**Apprentice to Journeyworker Ratio: 1:2**

PNEUMATIC CONTROLS (TEMP.) PIPEFITTERS LOCAL 537 PIPEFITTERS LOCAL 537	9/1/2025	\$69.08	\$13.45	\$13.75	\$9.30	\$0.00	\$105.58
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For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

PNEUMATIC DRILL/TOOL OPERATOR LABORERS LABORERS - ZONE 1	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

POWDERMAN & BLASTER	12/1/2025	\$49.60	\$10.15	\$9.50	\$9.65	\$0.00	\$78.90
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**Construction**

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
LABORERS	6/1/2026	\$51.15	\$10.15	\$9.50	\$9.65	\$0.00	\$80.45
LABORERS - ZONE 1	12/1/2026	\$52.65	\$10.15	\$9.50	\$9.65	\$0.00	\$81.95
	6/1/2027	\$54.25	\$10.15	\$9.50	\$9.65	\$0.00	\$83.55
	12/1/2027	\$55.85	\$10.15	\$9.50	\$9.65	\$0.00	\$85.15
	6/1/2028	\$57.53	\$10.15	\$9.50	\$9.65	\$0.00	\$86.83
	12/1/2028	\$59.20	\$10.15	\$9.50	\$9.65	\$0.00	\$88.50
For apprentice rates see "Apprentice- LABORER"							
POWDERMAN & BLASTER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$49.70	\$10.15	\$9.50	\$9.65	\$0.00	\$79.00
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$51.25	\$10.15	\$9.50	\$9.65	\$0.00	\$80.55
	12/1/2026	\$52.75	\$10.15	\$9.50	\$9.65	\$0.00	\$82.05
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
POWER SHOVEL/DERRICK/TRENCHING MACHINE OPERATING ENGINEERS LOCAL 4	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (CONCRETE) OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (DEWATERING, OTHER) OPERATING ENGINEERS LOCAL 4	12/1/2025	\$37.97	\$16.05	\$13.25	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$38.83	\$16.05	\$13.25	\$3.25	\$0.00	\$71.38
	12/1/2026	\$39.78	\$16.05	\$13.25	\$3.25	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
READY MIX CONCRETE DRIVERS after 4/30/12 (Drivers Hired After 4/30/2012) TEAMSTERS 25 (Metro) - Aggregate TEAMSTERS 25 (Metro) - Aggregate	8/1/2022	\$30.40	\$11.91	\$15.25	\$0.00	\$0.00	\$57.56
READY-MIX CONCRETE DRIVER TEAMSTERS 25 (Metro) - Aggregate TEAMSTERS 25 (Metro) - Aggregate	8/1/2022	\$34.41	\$11.91	\$15.25	\$0.00	\$0.00	\$61.57
RECLAIMERS OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
RIDE-ON MOTORIZED BUGGY OPERATOR LABORERS	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ROLLER/SPREADER/MULCHING MACHINE	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg)	8/1/2025	\$53.53	\$13.28	\$12.67	\$9.03	\$0.00	\$88.51
ROOFERS LOCAL 33	2/1/2026	\$54.78	\$13.28	\$12.67	\$9.03	\$0.00	\$89.76
ROOFERS LOCAL 33							

**Apprentice: ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg)****Effective Date: 8/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.77	\$13.28	\$6.52	\$9.03	\$0.00	\$55.60
2	60.00	\$32.12	\$13.28	\$12.67	\$9.03	\$0.00	\$67.10
3	65.00	\$34.79	\$13.28	\$12.67	\$9.03	\$0.00	\$69.77
4	75.00	\$40.15	\$13.28	\$12.67	\$9.03	\$0.00	\$75.13
5	85.00	\$45.50	\$13.28	\$12.67	\$9.03	\$0.00	\$80.48

**Apprentice: ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg)****Effective Date: 2/1/2026**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$27.39	\$13.28	\$6.52	\$9.03	\$0.00	\$56.22
2	60.00	\$32.87	\$13.28	\$12.67	\$9.03	\$0.00	\$67.85
3	65.00	\$35.61	\$13.28	\$12.67	\$9.03	\$0.00	\$70.59
4	75.00	\$41.09	\$13.28	\$12.67	\$9.03	\$0.00	\$76.07
5	85.00	\$46.56	\$13.28	\$12.67	\$9.03	\$0.00	\$81.54

**Apprentice Notes**

\*\* 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1

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

ROOFER SLATE / TILE / PRECAST CONCRETE	8/1/2025	\$53.78	\$13.28	\$12.67	\$9.03	\$0.00	\$88.76
ROOFERS LOCAL 33	2/1/2026	\$55.03	\$13.28	\$12.67	\$9.03	\$0.00	\$90.01
ROOFERS LOCAL 33							

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER	8/1/2025	\$60.98	\$14.91	\$18.74	\$9.53	\$2.98	\$107.14
SHEETMETAL WORKERS LOCAL 17	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
SHEETMETAL WORKERS LOCAL 17 - A							

**Apprentice: SHEETMETAL WORKER****Effective Date: 8/1/2025**

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
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## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: SHEETMETAL WORKER</b>							
<b>Effective Date: 8/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	42.00	\$25.61	\$14.91	\$6.13	\$0.00	\$0.00	\$46.65
2	42.00	\$25.61	\$14.91	\$6.13	\$0.00	\$0.00	\$46.65
3	47.00	\$28.66	\$14.91	\$11.01	\$1.25	\$1.62	\$57.45
4	47.00	\$28.66	\$14.91	\$11.01	\$1.25	\$1.62	\$57.45
5	52.00	\$31.71	\$14.91	\$11.74	\$1.50	\$1.74	\$61.60
6	52.00	\$31.71	\$14.91	\$11.74	\$1.75	\$1.75	\$61.86
7	60.00	\$36.59	\$14.91	\$12.90	\$2.00	\$1.93	\$68.33
8	65.00	\$39.64	\$14.91	\$13.63	\$2.25	\$2.04	\$72.47
9	75.00	\$45.74	\$14.91	\$15.09	\$2.75	\$2.28	\$80.77
10	85.00	\$51.83	\$14.91	\$16.55	\$2.75	\$2.49	\$88.53
<b>Apprentice: SHEETMETAL WORKER</b>							
<b>Effective Date: 2/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	42.00	\$26.43	\$14.91	\$6.19	\$0.00	\$0.00	\$47.53
2	42.00	\$26.43	\$14.91	\$6.19	\$0.00	\$0.00	\$47.53
3	47.00	\$29.58	\$14.91	\$10.93	\$1.25	\$1.62	\$58.29
4	47.00	\$29.58	\$14.91	\$10.93	\$1.25	\$1.62	\$58.29
5	52.00	\$32.72	\$14.91	\$11.66	\$1.50	\$1.74	\$62.53
6	52.00	\$32.72	\$14.91	\$11.66	\$1.75	\$1.75	\$62.79
7	60.00	\$37.76	\$14.91	\$12.84	\$2.00	\$1.93	\$69.44
8	65.00	\$40.90	\$14.91	\$13.58	\$2.25	\$2.04	\$73.68
9	75.00	\$47.20	\$14.91	\$15.06	\$2.75	\$2.28	\$82.20
10	85.00	\$53.49	\$14.91	\$16.53	\$2.75	\$2.49	\$90.17
<b>Apprentice to Journeyworker Ratio: 1:4</b>							
SPECIALIZED EARTH MOVING EQUIP < 35 TONS	12/1/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$0.00	\$79.53
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$0.00	\$80.53
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$0.00	\$81.03
	12/1/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$0.00	\$82.77
SPECIALIZED EARTH MOVING EQUIP > 35 TONS	12/1/2025	\$42.63	\$15.41	\$21.78	\$0.00	\$0.00	\$79.82
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.63	\$15.41	\$21.78	\$0.00	\$0.00	\$80.82
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.63	\$15.91	\$21.78	\$0.00	\$0.00	\$81.32
	12/1/2026	\$43.63	\$15.91	\$23.52	\$0.00	\$0.00	\$83.06
SPRINKLER FITTER	10/1/2025	\$72.05	\$12.25	\$7.40	\$19.50	\$0.00	\$111.20
SPRINKLER FITTERS LOCAL 550	1/1/2026	\$72.05	\$13.45	\$7.45	\$18.25	\$0.00	\$111.20
SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1							

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: SPRINKLER FITTER</b> <b>Effective Date: 10/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.22	\$12.25	\$14.22	\$0.00	\$0.00	\$51.69
2	40.00	\$28.82	\$12.25	\$15.20	\$0.00	\$0.00	\$56.27
3	45.00	\$32.42	\$12.25	\$16.18	\$0.00	\$0.00	\$60.85
4	50.00	\$36.03	\$12.25	\$17.15	\$0.00	\$0.00	\$65.43
5	55.00	\$39.63	\$12.25	\$18.12	\$0.00	\$0.00	\$70.00
6	60.00	\$43.23	\$12.25	\$19.10	\$0.00	\$0.00	\$74.58
7	65.00	\$46.83	\$12.25	\$20.08	\$0.00	\$0.00	\$79.16
8	70.00	\$50.44	\$12.25	\$21.04	\$0.00	\$0.00	\$83.73
9	75.00	\$54.04	\$12.25	\$22.02	\$0.00	\$0.00	\$88.31
10	80.00	\$57.64	\$12.25	\$23.00	\$0.00	\$0.00	\$92.89
<b>Apprentice: SPRINKLER FITTER</b> <b>Effective Date: 1/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.22	\$13.45	\$13.84	\$0.00	\$0.00	\$52.51
2	40.00	\$28.82	\$13.45	\$14.75	\$0.00	\$0.00	\$57.02
3	45.00	\$32.42	\$13.45	\$15.67	\$0.00	\$0.00	\$61.54
4	50.00	\$36.03	\$13.45	\$16.57	\$0.00	\$0.00	\$66.05
5	55.00	\$39.63	\$13.45	\$17.49	\$0.00	\$0.00	\$70.57
6	60.00	\$43.23	\$13.45	\$18.40	\$0.00	\$0.00	\$75.08
7	65.00	\$46.83	\$13.45	\$19.32	\$0.00	\$0.00	\$79.60
8	70.00	\$50.44	\$13.45	\$20.22	\$0.00	\$0.00	\$84.11
9	75.00	\$54.04	\$13.45	\$21.15	\$0.00	\$0.00	\$88.64
10	80.00	\$57.64	\$13.45	\$22.05	\$0.00	\$0.00	\$93.14
<b>Apprentice Notes</b> Apprentice entered prior 9/30/10:							
<b>Apprentice to Journeyworker Ratio: 1:3</b>							
STEAM BOILER OPERATOR	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TELECOMMUNICATION TECHNICIAN	9/1/2025	\$52.94	\$13.00	\$13.97	\$6.98	\$0.00	\$86.89
TELECOMMUNICATION TECHNICIAN	3/1/2026	\$53.49	\$13.00	\$14.23	\$7.20	\$0.00	\$87.92



## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ELECTRICIANS LOCAL 103	9/1/2026	\$55.02	\$13.00	\$14.28	\$7.20	\$0.00	\$89.50
ELECTRICIANS LOCAL 103	3/1/2027	\$55.98	\$13.00	\$14.31	\$7.20	\$0.00	\$90.49
	9/1/2027	\$57.50	\$13.00	\$14.36	\$7.20	\$0.00	\$92.06
	3/1/2028	\$58.46	\$13.00	\$14.38	\$7.20	\$0.00	\$93.04

For apprentice rates and ratios see "Apprentice- ELECTRICIAN"

Apprentice: TELECOMMUNICATION TECHNICIAN							
Effective Date: 9/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$23.82	\$13.00	\$0.71	\$0.00	\$0.00	\$37.53
2	45.00	\$23.82	\$13.00	\$0.71	\$0.00	\$0.00	\$37.53
3	50.00	\$26.47	\$13.00	\$13.17	\$3.49	\$0.00	\$56.13
4	50.00	\$26.47	\$13.00	\$13.17	\$3.49	\$0.00	\$56.13
5	55.00	\$29.12	\$13.00	\$13.25	\$3.84	\$0.00	\$59.21
6	60.00	\$31.76	\$13.00	\$13.33	\$4.19	\$0.00	\$62.28
7	65.00	\$34.41	\$13.00	\$13.41	\$4.54	\$0.00	\$65.36
8	70.00	\$37.06	\$13.00	\$13.49	\$4.89	\$0.00	\$68.44
9	75.00	\$39.71	\$13.00	\$13.57	\$5.24	\$0.00	\$71.52
10	80.00	\$42.35	\$13.00	\$13.65	\$5.58	\$0.00	\$74.58

Apprentice: TELECOMMUNICATION TECHNICIAN							
Effective Date: 3/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$24.07	\$13.00	\$0.72	\$0.00	\$0.00	\$37.79
2	45.00	\$24.07	\$13.00	\$0.72	\$0.00	\$0.00	\$37.79
3	50.00	\$26.75	\$13.00	\$13.43	\$3.60	\$0.00	\$56.78
4	50.00	\$26.75	\$13.00	\$13.43	\$3.60	\$0.00	\$56.78
5	55.00	\$29.42	\$13.00	\$13.51	\$3.96	\$0.00	\$59.89
6	60.00	\$32.09	\$13.00	\$13.59	\$4.32	\$0.00	\$63.00
7	65.00	\$34.77	\$13.00	\$13.67	\$4.68	\$0.00	\$66.12
8	70.00	\$37.44	\$13.00	\$13.75	\$5.04	\$0.00	\$69.23
9	75.00	\$40.12	\$13.00	\$13.83	\$5.40	\$0.00	\$72.35
10	80.00	\$42.79	\$13.00	\$13.91	\$5.76	\$0.00	\$75.46

Apprentice to Journeyworker Ratio: 1:1

TERRAZZO FINISHERS	8/1/2025	\$66.89	\$11.49	\$15.57	\$8.02	\$0.00	\$101.97
BRICKLAYERS LOCAL 3	2/1/2026	\$68.24	\$11.49	\$15.57	\$8.02	\$0.00	\$103.32
BRICKLAYERS LOCAL 3 - MARBLE & TILE	8/1/2026	\$70.44	\$11.49	\$15.57	\$8.02	\$0.00	\$105.52
	2/1/2027	\$71.84	\$11.49	\$15.57	\$8.02	\$0.00	\$106.92

Apprentice: TERRAZZO FINISHERS							
Effective Date: 8/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

## Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
<b>Apprentice: TERRAZZO FINISHERS</b>							
<b>Effective Date: 8/1/2025</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.45	\$11.49	\$15.57	\$8.02	\$0.00	\$68.53
2	60.00	\$40.13	\$11.49	\$15.57	\$8.02	\$0.00	\$75.21
3	70.00	\$46.82	\$11.49	\$15.57	\$8.02	\$0.00	\$81.90
4	80.00	\$53.51	\$11.49	\$15.57	\$8.02	\$0.00	\$88.59
5	90.00	\$60.20	\$11.49	\$15.57	\$8.02	\$0.00	\$95.28
<b>Apprentice: TERRAZZO FINISHERS</b>							
<b>Effective Date: 2/1/2026</b>							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$34.12	\$11.49	\$15.57	\$8.02	\$0.00	\$69.20
2	60.00	\$40.94	\$11.49	\$15.57	\$8.02	\$0.00	\$76.02
3	70.00	\$47.77	\$11.49	\$15.57	\$8.02	\$0.00	\$82.85
4	80.00	\$54.59	\$11.49	\$15.57	\$8.02	\$0.00	\$89.67
5	90.00	\$61.42	\$11.49	\$15.57	\$8.02	\$0.00	\$96.50
<b>Apprentice to Journeyworker Ratio: 1:5</b>							
TEST BORING DRILLER	12/1/2025	\$52.70	\$10.15	\$9.50	\$9.80	\$0.00	\$82.15
LABORERS	6/1/2026	\$54.25	\$10.15	\$9.50	\$9.80	\$0.00	\$83.70
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$55.75	\$10.15	\$9.50	\$9.80	\$0.00	\$85.20
For apprentice rates see "Apprentice- LABORER"							
TEST BORING DRILLER HELPER	12/1/2025	\$48.82	\$10.15	\$9.50	\$9.80	\$0.00	\$78.27
LABORERS	6/1/2026	\$50.37	\$10.15	\$9.50	\$9.80	\$0.00	\$79.82
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$51.87	\$10.15	\$9.50	\$9.80	\$0.00	\$81.32
For apprentice rates see "Apprentice- LABORER"							
TEST BORING LABORER	12/1/2025	\$48.70	\$10.15	\$9.50	\$9.80	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.25	\$10.15	\$9.50	\$9.80	\$0.00	\$79.70
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$51.75	\$10.15	\$9.50	\$9.80	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"							
TRACTORS/PORTABLE STEAM GENERATORS	12/1/2025	\$58.62	\$16.05	\$13.25	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.90	\$16.05	\$13.25	\$3.25	\$0.00	\$92.45
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$61.34	\$16.05	\$13.25	\$3.25	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TRAILERS FOR EARTH MOVING EQUIPMENT	12/1/2025	\$42.92	\$15.41	\$21.78	\$0.00	\$0.00	\$80.11
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.92	\$15.41	\$21.78	\$0.00	\$0.00	\$81.11
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.92	\$15.91	\$21.78	\$0.00	\$0.00	\$81.61
	12/1/2026	\$43.92	\$15.91	\$23.52	\$0.00	\$0.00	\$83.35
TUNNEL WORK - COMPRESSED AIR	12/1/2025	\$60.93	\$10.15	\$9.50	\$10.25	\$0.00	\$90.83

**Construction**

<b>Classification</b>	<b>Effective Date</b>	<b>Base Wage</b>	<b>Health</b>	<b>Pension</b>	<b>Annuity</b>	<b>Supplemental Unemployment</b>	<b>Total Rate</b>
LABORERS	6/1/2026	\$62.48	\$10.15	\$9.50	\$10.25	\$0.00	\$92.38
LABORERS (COMPRESSED AIR)	12/1/2026	\$63.98	\$10.15	\$9.50	\$10.25	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE)	12/1/2025	\$62.93	\$10.15	\$9.50	\$10.25	\$0.00	\$92.83
LABORERS	6/1/2026	\$64.48	\$10.15	\$9.50	\$10.25	\$0.00	\$94.38
LABORERS (COMPRESSED AIR)	12/1/2026	\$65.98	\$10.15	\$9.50	\$10.25	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR	12/1/2025	\$53.00	\$10.15	\$9.50	\$10.25	\$0.00	\$82.90
LABORERS	6/1/2026	\$54.55	\$10.15	\$9.50	\$10.25	\$0.00	\$84.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	\$56.05	\$10.15	\$9.50	\$10.25	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR (HAZ. WASTE)	12/1/2025	\$55.00	\$10.15	\$9.50	\$10.25	\$0.00	\$84.90
LABORERS	6/1/2026	\$56.55	\$10.15	\$9.50	\$10.25	\$0.00	\$86.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	\$58.05	\$10.15	\$9.50	\$10.25	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"							
VAC-HAUL	12/1/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$0.00	\$79.53
TEAMSTERS JOINT COUNCIL NO. 10	6/1/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$0.00	\$80.53
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	8/1/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$0.00	\$81.03
	12/1/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$0.00	\$82.77
WAGON DRILL OPERATOR	12/1/2025	\$48.85	\$10.15	\$9.50	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$50.40	\$10.15	\$9.50	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.15	\$9.50	\$9.65	\$0.00	\$81.20
	6/1/2027	\$53.50	\$10.15	\$9.50	\$9.65	\$0.00	\$82.80
	12/1/2027	\$55.10	\$10.15	\$9.50	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.78	\$10.15	\$9.50	\$9.65	\$0.00	\$86.08
	12/1/2028	\$58.45	\$10.15	\$9.50	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$48.95	\$10.15	\$9.50	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$50.50	\$10.15	\$9.50	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$52.00	\$10.15	\$9.50	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
WASTE WATER PUMP OPERATOR	12/1/2025	\$59.28	\$16.05	\$13.25	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$60.58	\$16.05	\$13.25	\$3.25	\$0.00	\$93.13
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$62.03	\$16.05	\$13.25	\$3.25	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
WATER METER INSTALLER	9/1/2025	\$71.74	\$14.32	\$12.61	\$8.00	\$0.00	\$106.67
PLUMBERS & GASFITTERS LOCAL 12	3/2/2026	\$73.89	\$14.32	\$12.61	\$8.00	\$0.00	\$108.82
PLUMBERS & GASFITTERS LOCAL 12	8/31/2026	\$76.04	\$14.32	\$12.61	\$8.00	\$0.00	\$110.97
	3/1/2027	\$78.19	\$14.32	\$12.61	\$8.00	\$0.00	\$113.12
	8/30/2027	\$80.34	\$14.32	\$12.61	\$8.00	\$0.00	\$115.27
	2/2/2028	\$82.54	\$14.32	\$12.61	\$8.00	\$0.00	\$117.47
	9/4/2028	\$84.74	\$14.32	\$12.61	\$8.00	\$0.00	\$119.67

**Construction**

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	3/5/2029	\$86.94	\$14.32	\$12.61	\$8.00	\$0.00	\$121.87
	9/3/2029	\$89.14	\$14.32	\$12.61	\$8.00	\$0.00	\$124.07
	3/4/2030	\$91.09	\$14.32	\$12.61	\$8.00	\$0.00	\$126.02

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

**Additional Apprentice Information**

All apprentices must be registered with the Division of Apprenticeship Training(DAS) in accordance with M.G.L.c. 23, §§ 11E-11L. Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the hourly prevailing wage rate established by the Commissioner under the provisions of M.G.L.c. 149, §§ 26-27D.

Apprentice ratios are established by DAS pursuant to M.G.L.c. 23, §§ 11E-11L. Ratios are expressed as the allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified. The ratios listed herein have been taken from relevant private collective bargaining agreements(CBAs) and are provided for illustrative purposes only. They have not been independently verified as being accurate or continuing to be accurate.

Parties having questions regarding what ratio to use should contact DAS.

**DIVISION 01**  
**GENERAL REQUIREMENTS**

SECTION 01 1010

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY

- A. This Section summarizes the Work of the Project, including the following:
1. Project Description
  2. Time of Completion
  3. Work Under Other Contracts
  4. Work Day
  5. Work Sequence
  6. Contractor's Use of Premises
  7. Owner Occupancy
  8. Pre-Ordered Products
  9. Owner-Furnished Items
  10. Miscellaneous Provisions, including Environmental Performance, where applicable.

1.2 PROJECT DESCRIPTION

- A. The Project "**Wicked Cool Mystic II – Cooling Interventions**" consists of Walkways, Site Furnishings, landscaping, and miscellaneous site improvements at the Project Site, as shown on Contract Documents prepared by BSC Group, Inc., dated June 2025.
- B. The following generally describes the proposed scope of work. Refer to the complete set of Drawings and Specifications for more complete information.
1. Mobilization, site preparation, demobilization, and close-out: mobilize all necessary personnel, tools and equipment; prepare the Project Site as shown on the Drawings, as called for in the Specifications, and as required to complete the work in a safe and controlled manner; establish and maintain temporary facilities or work practices as shown on the Drawings, as called for in the Specifications, and as required to complete the work including, but not necessarily limited to, administrative facilities, fencing, erosion and sedimentation controls and related facilities. At the conclusion of work restore and stabilize affected areas and fully demobilize all temporary facilities, equipment, and materials; complete close-out as shown on the Drawings and as called for in the Specifications.
  2. Erosion and Sedimentation Controls: Provide costs for the installation of all temporary and permanent erosion controls as called for in the Specifications and/or shown on the Drawings. **(Minimal disturbance is anticipated Erosion control features may be omitted if excavated soils are not stored on site for more than 24 hours)**

3. Site Preparation: Demolish and completely remove those improvements and appurtenances as called-for in the Specifications and/or shown on the Drawings. Provide for the off-site removal and legal disposal of all demolition waste unless otherwise noted.
4. Construction of Site Improvements: Installation of overhead pergola with concrete pad footings (phase 2, NIC), demolition of bituminous concrete walks, install concrete pad, drinking fountain, and trellis fence (phase 2 – NIC), and landscape improvements as depicted on the Drawings and as called for in the Specifications.
5. Incidental Work: Perform all incidental work items required to complete the work as shown on the Drawings and as called for in the Specifications. Incidental work shall be defined as all work not otherwise specified but obviously necessary for the proper completion of the work, including, but not necessarily limited to, permitting, meetings, submittals, mock-ups, exploratory excavations, construction layout, measurements, general project coordination, health and safety, and project documentation.
6. Protection for the public, building, grounds from damage during this contract is always the responsibility of Contractor for this project.

### 1.3 TIME OF COMPLETION

- A. Work required by the project shall commence immediately upon receipt of a Notice to Proceed.
- B. The successful bidder shall obtain the Certificate of Substantial Completion **by June 15, 2026**.
- C. Final completion shall be no later than **June 30, 2026** upon Notice to Proceed.

### 1.4 WORK UNDER OTHER CONTRACTS

- A. Owner reserves the right to award other contracts in connection with other portions of the Project under these or similar contract conditions, even if the work of such contracts is of similar nature, character or trade.
- B. Owner reserves the right to perform operations related to the Project with the Owner's own forces.

### 1.5 WORK DAY

- A. The normal workday shall be between 6:00 a.m. to 7:00 p.m. Monday through Saturday, excluding State granted Holidays. Permission must be requested and approved in writing to perform work outside the normal working hours or on a State Holiday.
- B. In addition to reasons determined by Owner, approval of deviations in work hours is dependent upon availability of Owner's supervisory personnel.
- C. If Contractor determines that work on this project must be performed during a time other than normal working hours of Owner, costs for any premium time must be included in the Base Bid.



1.6 WORK SEQUENCE

- A. Sequencing of the work will be at Contractor's discretion to meet the require work objectives within the required time of completion.

1.7 CONTRACTOR USE OF PREMISES

- A. General: Limit use of the premises to construction activities in areas indicated; allow for Owner/ Public occupancy and use.
- B. **Portions of the site beyond areas in which construction operations are indicated may be accessed for use but are not to be disturbed. This assumes use of on street parking and loading areas near work site require flexibility due to active public use.**
- C. Keep driveways and entrances serving the premises clear and available to the Owner, Owner's employees, and visitor's at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
- D. Keep access ways and entrances serving the Owner's facilities clear and available to the Owner, Owner's employees, and visitor's at all times.

1.8 OWNER OCCUPANCY

- A. Full Owner Occupancy: The Owner will occupy the property during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner's operations.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 3120

QUALITY CONTROL

PART 1 GENERAL

1.1 SUMMARY

- A. **Mockup of elements will be at the Contractors discretion for approval of elements prior to installation. A temporary Staging area is made available for this purpose and for temporary storage of project features at Airforce Road in Everett, MA.**
- B. Section includes:
  - 1. Quality assurance and control of installation
  - 2. References
  - 3. Field samples
  - 4. Mock up
  - 5. Inspection and testing laboratory services
  - 6. Manufacturers' field services and reports.
- C. Contractor shall coordinate work between all Contractors, sections, and trades required for the proper completion of the work.
- D. Contractor is responsible for all health and safety.

1.2 REFERENCES

- A. Reference to any technical society, organization, group or regulation are made in accordance with applicable designation and unless otherwise noted or specified, all work shall conform to the latest edition as applicable.
- B. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.

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 Engineer.
- C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to

show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

- D. **Preconstruction Testing:** Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- E. **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.
- F. **Source Quality-Control Testing:** Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- G. **Field Quality-Control Testing:** Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. **Testing Laboratory:** An entity engaged to perform specific laboratory tests.
- I. **Testing Agency:** An entity engaged to collect samples, perform specific in-field tests, and/or inspections. The Testing Laboratory may provide the services of the Testing Agency.
- J. **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.
- K. **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(s).
- L. **Experienced:** When used with an entity or individual, “experienced” means having successfully completed the minimum number and type of projects indicated in individual Specification Sections, or in the absence of such specified minimum number and type, a minimum of ten (10) years in the execution of projects that are similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of all authorities having jurisdiction.

#### 1.4 SUBMITTALS

- A. **Contractor’s Quality-Control Plan:** For quality-assurance and quality-control activities and responsibilities.
- B. **Qualification Data:** For Contractor’s quality-control personnel.
- C. **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:
- D. **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.
- E. **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.

#### 1.5 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Personnel: 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. Project quality-control manager, who may also serve as Project superintendent.
- B. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- C. Testing and Inspection: In quality-control plan, include 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.
- D. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Engineer 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.

#### 1.6 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 re-inspecting.
- 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.

## 1.7 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- C. Monitor quality control over suppliers, manufacturers, products, services, site conditions and workmanship, to produce Work of specified quality.
- D. Comply fully with manufacturers' instructions, including each step in sequence.
- E. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- F. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship.
- G. Perform work by persons qualified to produce workmanship of specified quality.
- H. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
- I. 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.
- J. 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.
- K. 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.
- L. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

- M. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
  - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- N. Testing Laboratory and Testing Agency Qualifications: An independent agency with the experience and capability to conduct inspection, sampling, testing, and analysis required, 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.
- O. Preconstruction Testing: Where Testing Agency or Testing Laboratory 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.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
    - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
    - e. When testing is complete, remove test specimens, assemblies, and mockups,; do not reuse products on Project.
  - 2. Testing Agency /Testing Laboratory Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Engineer, with copy to Owner. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- P. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
  - 1. Build mockups in location and of size indicated or, if not indicated, as directed by Engineer.
  - 2. Notify Engineer seven (7) working days in advance of dates and times when mockups will be constructed.
  - 3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
  - 4. Demonstrate the proposed range of aesthetic effects and workmanship.
  - 5. Obtain Engineer's approval of mockups before starting work, fabrication, or construction.

- a. Allow seven (7) working days for initial review and each re-review of each mockup.
6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed unless otherwise indicated.

## 1.8 QUALITY CONTROL

### A. Sampling, Testing, and Inspection

1. Reports will be submitted by the independent firm to Engineer, Owner, Construction Manager, affected Engineers and Contractor, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
2. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm as required and/or on instructions by Engineer. Payment for retesting will be charged to Contractor by deducting inspection or testing charges from the Contract Sum/Price.
3. Testing by Owner, Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified Testing Agency to perform these services.
  - a. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
  - b. Payment for these services will be made from testing and inspecting allowances, as authorized by Change Orders.
  - c. Costs for re-testing and re-inspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by deduct Change Order.
4. Testing by Owner, Discretionary Testing
  - a. Engineer reserves the right to perform any material testing or in-field testing on the project, reserves the right to determine the suitability of all materials to be used for in the work, and to reject any material or completed construction that is not in conformance with applicable Specifications or standards.
5. Contractor Responsibilities: Where quality-control services are indicated as Contractor's responsibility, retain the services of a third-party Testing Agency and Testing Laboratory to perform sampling, testing, monitoring, or inspection as required. 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.



- a. 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.
  - b. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
  - c. Notify Testing Agency at least 24 hours in advance of time when Work that requires sampling, testing, monitoring, or inspecting will be performed.
  - d. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  - e. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  - f. 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.
- 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 pre-installation 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. Re-testing/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Engineer and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Engineer 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.

- F. 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. Delivery of samples to testing agencies.
  - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. 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.
- H. 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 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, Engineer, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

#### 1.9 FIELD SAMPLES

- A. Install field samples at the site as required by individual specifications Sections for review.
- B. Acceptable samples represent a quality level for the Work.
- C. Where field sample is specified in individual Sections to be removed, clear area after field sample has been accepted by Engineer.

#### 1.10 MOCK-UP

- A. Assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals and finishes.
- B. Where mock up is specified in individual Sections to be removed, clear area after mock-up has been accepted by Engineer.

#### 1.11 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment and test, adjust and balance of equipment as applicable and to initiate instructions when necessary.
- B. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: 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 Engineer.
  - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Engineer'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 01 Section "Execution."
- 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

## SECTION 01 3300

### SUBMITTAL PROCEDURES

#### PART 1 GENERAL

##### 1.1 SUMMARY

###### A. Section Includes

1. Requirements and procedures for preparing and transmitting data to Engineer.
2. Various submittals are specified under applicable Specification Sections.

- B. Unless otherwise stipulated herein, all submittals requiring review for conformance with the design documents shall be transmitted by electronic mail to Engineer.

##### 1.2 DEFINITIONS

- A. **Conforms:** The term “Conforms,” when applied by the Engineer to the Contractor’s submittals, drawings or documents, shall mean the submittals, drawings or documents are satisfactory from the standpoint that the Engineer has not observed any statement or feature that appears to deviate from the Specifications requirements. The Contractor shall retain the entire responsibility for complete conformance with all of the Specification’s requirements.

- B. **Conforms As Noted:** The term “Conforms As Noted” when applied by the Engineer to the Contractor’s submittals, drawings or documents, shall mean the submittals, drawings or documents conform as defined above, except that the changes shown are necessary to be in conformance with the Specification’s requirements. On the basis that the Contractor shall retain the entire responsibility for compliance with all of the Specification’s requirements, the Contractor shall either:

1. Incorporate the changes into its work, drawings, or documents if the change does not affect the Contractor’s responsibility under warranty.
2. Inform the Engineer that the changes cannot be made without prejudice to the Contractor’s responsibility under the warranty and resubmit with explanations of the reasons therefore.

- C. **Does Not Conform or Revise and Resubmit:** The terms “Does Not Conform” or “Revise and Resubmit” when applied by Engineer to Contractor’s submittals, drawings, or documents, shall mean the submittals, drawings or documents are not satisfactory from the standpoint that the Engineer has observed statements or features that appear to deviate from the Specifications requirements.

##### 1.3 CONTRACTOR RESPONSIBILITIES

- A. Prepare submittals and review for accuracy prior to submission and respond to Engineer’s action.

B. Determine and verify:

1. Field measurements;
2. Field construction criteria; and

3. Conformance to Specifications.
- C. Coordinate each submittal with requirements of Work and of Contract Documents.
- D. Notify Engineer in writing, at time of submission, of any deviations in submittals from requirements of drawings, Specifications and Contract Documents.

#### 1.4 SUBMITTAL PROCEDURES

- A. Coordinate preparation and processing of submittals with performance of construction activities. Unless a specific submittal time-frame is specified in the related specification Section, transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
  1. Coordinate each submittal with phases of the Work that require sequential activity.
  2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
    - a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
  3. At a minimum, submittals shall be provided to Owner and Engineer in duplicate. Additional requirements for the number of submittals are contained in the specific Specification Sections.
  4. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for re-submittals.
    - a. Allow five (5) working days for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Engineer will promptly advise the Contractor when a submittal being processed must be delayed for coordination.
    - b. Any submittals which may require review and/or approval by an outside Agency (City, Town, utility, etc.) shall be allocated a minimum of twenty (20) working days. The Owner shall not be held responsible for any delay associated with the approval or rejection of any substitution or other revisions proposed by the Contractor.
    - c. If an intermediate submittal is necessary, process the same as the initial submittal.
    - d. Allow five (5) working days for reprocessing each submittal.
    - e. No extension of Contract Time will be authorized because of failure to transmit submittals to the Engineer sufficiently in advance of the Work to permit processing.
- B. Submittal Preparation: Place a permanent label, cover page or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label, cover page or title block.
  1. Provide a space approximately 4" x 5" on the label, cover page or beside the title block to record the Contractor's review and approval markings and the action taken.

2. Include the following information on the label for processing and recording action taken:
  - a. Submittal name, number and topic.
  - b. Date of submission.
  - c. Name and address of Contractor.
  - d. Number and title of appropriate Specification Section annotated in accordance with this Section.
  - e. Drawing number and detail references, as appropriate.
  - f. Identification of revisions on re-submittals.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Engineer using a transmittal form. Submittals received from sources other than Contractor will be returned without action.
  1. All submittals shall be sent with an official transmittal.
  2. With each submittal, provide the Specification Section or sheet number the item submitted is found under and a descriptive generic name based on its content.
  3. Number each transmittal consecutively starting with 001. If requested by Engineer, match the submittal numbering indicated on the Submittal Schedule or Submittal Log.
  4. All submittals shall be numbered conforming to the following example, with each component separated by a dash (-):

Submittal Numbering Format

A	B	C	D	E
001	01 5713	Date	Silt Fence	New
002	31 2310	Date	Granular Fill	New
002A	31 2310	Date	Granular Fill	Resubmitted
002B	31 2310	Date	Granular Fill	Additional Information

- a. The chronological identification number assigned to the submittal package.
- b. The Specification Section or sheet number the item submitted is found under.
- c. Keyword(s) from the descriptive generic submittal name.
- d. The status of the submittal.

Example

001-01 5713-Silt Fence-New
----------------------------

5. When re-submitting a rejected submittal or additional information, identify submittal with the original submittal number followed by a letter, starting with "A" and continuing for each subsequent re-submittal, to designate the additional submission(s).
6. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.
7. Distribution: Following response to the initial submittal, Contractor shall print and distribute copies to the Subcontractors and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.
8. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

#### 1.5 SUBMITTAL SCHEDULE

- A. As part of the development and acceptance of Contractor's construction schedule, prepare a schedule of submittals, complete and accurate to the best of Contractor's ability. Submit the schedule to the Engineer within five (5) business days following Contractor's receipt of the Notice of Award.
- B. Coordinate submittal schedule with the list of subcontracts, schedule of values and the list of products as well as the Contractor's construction schedule.
- C. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted and verify that each item, and the submittal for it, conforms in all respects with the requirements of the Contract Documents. By affixing his signature to each submittal, Contractor is certifying that this coordination has been performed.
- D. Coordinate the schedule with all necessary subcontractors to ensure their understanding of the importance of adhering to the approved schedule and their ability to so adhere. Coordinate as required to ensure the grouping of submittals as appropriate.
- E. Distribution: Following response to initial submittal schedule, print and distribute copies to the Engineer, Subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
  1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- F. Tracking: Provide Engineer, at the beginning of each month, a list of all submittals over the previous month. Include the date each submittal was sent to Engineer, the content of each transmittal and the disposition of the submittal.

#### 1.6 ENGINEER'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Engineer will review each submittal, mark to indicate action taken, and return promptly.

1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Stamp: The Engineer will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:
1. No Exceptions Taken or Conforms: The term "No Exceptions Taken" or "Conforms," when applied by the Engineer to the Contractor's submittals, drawings or documents, shall mean the submittals, drawings or documents are satisfactory from the standpoint that the Engineer has not observed any statement or feature that appears to deviate from the Contract Specifications, Drawings, or other applicable Contract Documents. That part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Specifications, Drawings, or other applicable Contract Documents; final acceptance will depend upon that compliance. Contractor shall retain the entire responsibility for complete conformance with such Contract Specifications, Drawings, or other applicable Contract Documents.
  2. Conforms As Noted or Furnish as Corrected: The term "Conforms as Noted" or "Furnish as Corrected" when applied by the Engineer to the Contractor's submittals, drawings or documents, shall mean the submittals, drawings or documents conform as defined above, except that the changes shown are necessary to be in conformance with the Contract Specifications, Drawings, or other applicable Contract Documents. That part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Specifications, Drawings, or other applicable Contract Documents; final acceptance will depend on that compliance. On the basis that, Contractor shall retain the entire responsibility for compliance with all of the Specification's requirements, the Contractor shall either:
    - a. Incorporate the changes into its work, drawings or documents if the change does not affect the Contractor's responsibility under warranty.
    - b. Inform the Engineer that the changes cannot be made without prejudice to the Contractor's responsibility under the warranty and resubmit with explanations of the reasons therefore.
  3. Does Not Conform or Revise and Resubmit: The terms "Does Not Conform" or "Revise and Resubmit" when applied by Engineer to Contractor's submittals, drawings or documents, shall mean the submittals, drawings or documents are not satisfactory from the standpoint that the Engineer has observed statements or features that appear to deviate from the Contract Specifications, Drawings, or other applicable Contract Documents. Contractor shall not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. In response to this stamp, Contract shall either:
    - a. Revise the submittal to conform with the Contract Specifications, Drawings, or other applicable Contract Documents and re-submit.
    - b. Update the submittal with additional information as required and re-submit.
    - c. Prepare a new submittal in accordance with notations and/or the requirements of the Contract Specifications, Drawings, or other applicable Contract Documents and re-submit.



4. Rejected: The term “Rejected,” when applied by Engineer to Contractor’s submittals, drawings or documents, shall mean the submittals, drawings or documents are not satisfactory from the standpoint that the Engineer has observed statements or features that appear to deviate from the Contract Specifications, Drawings, or other applicable Contract Documents. Contractor shall not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Submittals that are rejected shall be revised as required to conform with the Contract Specifications, Drawings, or other applicable Contract Documents.
  - a. Do not permit submittals marked “Rejected” to be used at the Project site, or elsewhere where Work is in progress.
5. Other Action: Where a submittal is primarily for information or record purposes, special processing or other activity, the submittal will not be returned unless specifically requested and will be marked “Action Not Required” on Contractor’s record of submittal. Submittals which are prepared but are not required will not be processed.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 5713

EROSION AND SEDIMENTATION CONTROL

PART 1 GENERAL

1.1 SUMMARY

- A. This Section specifies requirements for temporary erosion and sedimentation control (ESC) provisions.
- B. **Due to the nature of the project Erosion control needs should be limited. If in the opinion of the Contractor or Engineer circumstances arise appropriate erosion control measures will be applied.**
- C. The work includes:
  - 1. Providing all temporary erosion control measures as required during the life of the Contract to control soil erosion and water pollution.
  - 2. The installation and maintenance of catch basin filters and other approved erosion control devices or methods.
- D. Related Work: The following Sections contain work related to this Section:
  - 1. Section 02 4101 Site Preparation

1.2 REFERENCES

- A. Massachusetts Department of Transportation 2025 Standard Specification for Highways and the American National Standards Institute (ANSI).
- B. Code of Federal Regulations (CFR)
  - 1. 29 CFR 1926, Safety and Health Regulations for Construction.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Catch Basin Filters shall be “Silt Sak” by Jennian, “Dandy Bag” by Dandy Products, “Drain Pac”, or approved equivalent.
- B. Straw Wattle shall be 9-inch diameter straw wattle by U.S. Straw Wattle or approved equal.

PART 3 EXECUTION

3.1 GENERAL

- A. Erosion and sediment controls shall be in place prior to any soil disturbing activities including, but not limited to, dewatering, and excavation work.
- B. All disturbed soils shall be stabilized, either permanently or temporarily, within two (2) weeks of disturbance.

- C. At a minimum, the following shall apply:
1. Drainage leaving the site shall flow to water courses in such a manner as to prevent erosion.
- D. When it becomes necessary, the Engineer will inform the Contractor of construction procedures and operations that jeopardize erosion control provisions. If these construction procedures and operations are not corrected promptly, the Engineer may suspend the performance of any or all construction activities until corrections have been made, and such suspension shall not be the basis of any claim by the Contractor for additional compensation from the Owner nor for an extension of time to complete the Work.
- E. The Engineer has the authority to order immediate, additional, temporary control measures to prevent contamination of adjacent streams or other watercourses, or other areas of water impoundment and damage by erosion at no additional cost to the owner.
- F. The Contractor shall construct all permanent erosion and sediment control features at the earliest practical time as outlined in the accepted schedule. Temporary erosion and sediment control measures shall be used to correct conditions that develop during construction which were unforeseen, but are needed prior to installation of permanent control features, or that are needed temporarily to control erosion or sedimentation which develops during construction operations.
- G. Where erosion is likely to be a problem, clearing and grubbing operations shall be scheduled and performed so that grading operations and permanent erosion and sediment control features can follow immediately thereafter, if conditions permit; otherwise, temporary control measures will be required between successive construction stages.
- H. Failure by the Contractor to control erosion, pollution, and siltation shall be cause for the Owner to employ outside assistance to provide the necessary corrective measures. The cost of such assistance, including engineering costs, will be charged to the Contractor and appropriate deductions made to the Contractor's monthly progress payment request.
- I. Temporary and permanent erosion and sedimentation control measures are shown on the Drawings. The Contractor shall strictly adhere to the provisions. Additionally, temporary measures shall be constructed to accommodate field conditions that develop during construction.
- J. Temporary sedimentation traps or basins shall be employed as required during construction. The Contractor shall direct all possible site runoff to the temporary sedimentation basins.
- K. The temporary sedimentation basins shall be maintained from the start of construction until construction of the permanent detention basins is completed and perimeter areas are stabilized. A temporary outlet shall be constructed above the expected sediment levels. Construction of the basins shall be sequenced so that the temporary outlet is installed and basin embankment is constructed with the material available from the initial site excavations.

### 3.2 MAINTENANCE AND CLEAN UP

- A. The Contractor shall inspect erosion control devices weekly, immediately after each storm event and daily during prolonged rainfall and maintain them in good operating condition for the life of the contract. Hay bales shall be replaced when deteriorated, rotted or destroyed, and as directed by the Engineer.

- B. The Contractor shall inspect the condition of diversion dikes and ditches, filter berms, interceptor dikes, sediment basins and other erosion and sedimentation control devices after each rainstorm and during major storm events. Repairs shall be made as necessary and as directed by the Engineer.
- C. Accumulated sediment trapped by erosion and sedimentation control devices shall be removed as follows or as otherwise directed by the Engineer:
  - 1. Sedimentation traps: remove sediment buildup if greater than  $\frac{1}{2}$  the depth of the trap.
  - 2. Silt sacks: remove sediment buildup if greater than two (2) inches deep or if sediment is preventing flow from entering basin; replace sacks if they are torn or have been punctured.
- D. During construction, temporary outlets of the drainage systems shall direct the flow to temporary or permanent sedimentation basins.
- E. Temporary soil erosion and sedimentation control devices shall be removed and adjacent areas outside the limits of grading restored upon completion of the work or when directed by the Engineer. Upon removal of the temporary controls, the site shall be restored to original condition.

END OF SECTION

SECTION 01 7113

MOBILIZATION

PART 1 GENERAL

1.1 SUMMARY

- A. This Section specifies requirements for general preparation of the Project Site as required for construction operations including:
  - 1. General Mobilization
  - 2. Construction Site Safety
  - 3. Utility Mark-Out
- B. Contractor shall coordinate work between all Contractors, sections, and trades required for the proper completion of the work.
- C. Contractor shall be responsible for all health and safety.
- D. Contractor is solely responsible for obtaining permits or approvals which may be required to perform the work, including all costs, fees and taxes required or levied. Notify and obtain such permits or approvals from all agencies having jurisdiction prior to starting work.

1.2 REFERENCES

- A. Reference herein to any technical society, organization, group or regulation are made in accordance with the following abbreviations and, unless otherwise noted or specified, all work under this Section shall conform to the latest edition as applicable.
- B. American National Standards Institute (ANSI)
  - 1. ANSI Z535.1 – American National Standard, Safety Colors.
- C. Code of Federal Regulations (CFR)
  - 1. 29 CFR 1926, Safety and Health Regulations for Construction.

### 1.3 SAFETY REQUIREMENTS

- A. As a specialist in its field of work, Contractor accepts complete responsibility for performing its work safely. This includes sole responsibility for the health and safety of its employees, agents, subcontractors (and their employees) and any other person on or adjacent to the work area. Contractor's responsibility includes compliance with all current laws, codes, ordinances, rules, regulations, standards and requirements of applicable public and private agencies and authorities ("Laws"). Contractor must take all measures and safeguards necessary to protect: (1) employees, (whether or not working for the Contractor), (2) employees and agents of Owner, (3) members of the general public and (4) public and private property.
- B. Contractor is an independent contractor, with responsibility for its means and methods and the safety of its workers and Owner is not intended to be and shall not be considered an employer of Contractor's employees. As such, it shall be Contractor's sole duty to monitor the performance and practices of its employees and subcontractors for safety, to ensure that the practices and methods of performing the work are safe and to immediately stop any unsafe practices by its employees or its second or subsequent tier subcontractors ("subcontractors") or their employees. No actions taken by Owner or its consultants to monitor practices or performance of the work for safety or to stop any unsafe practices by Contractor or its subcontractors shall be construed to suggest or imply that Owner or its consultants has or has assumed any obligation or duty to take such actions.
- C. Contractor accepts complete responsibility for compliance with safety procedures and policies contained in the Contract Documents and compliance with all applicable Laws, relating to health or safety, including, but not limited to the Occupational Safety and Health Act of 1970, as amended, and the regulations and standards of the Occupational Safety & Health Administration and similar state agencies ("OSHA") ("Health and Safety Laws").
- D. All obligations and requirements of Contractor in this document also apply to Contractor's subcontractors. No person or entity performing work for or on behalf of Contractor is excluded from compliance.

### 1.4 UTILITY MARK-OUT

- A. Prior to commencing work, comply with utility mark-out requirements of the Dig Safe (811).
  - 1. Verify the location of all subsurface utilities marked through the Dig Safe
- B. Not all subsurface facilities or structures will be identified through the Dig Safe. Confirm the location of other subsurface utilities and other subsurface facilities or structures prior to commencing work.

## PART 2 PRODUCTS – NOT USED

### 2.1 CONSTRUCTION SIGNS

- 1. NOT USED
- B. Temporary Sign Mounting
  - 1. Fence Mounted: Heavy duty nylon cable ties, stainless steel wire, or other approved method.

2. Post-mounted: All temporary signage shall be designed in accordance with MassDOT 2025 Standard Specifications for Highways and Bridges.
  - a. Mounting height: 7 ft. Horizontal clearance: Locate post such that no portion of sign is within 2 ft of roadway/travelway edge.

### PART 3 EXECUTION

#### 3.1 GENERAL MOBILIZATION

##### A. Sedimentation and Erosion Control

1. Install sedimentation and erosion controls in accordance with Section 01 5713 – Temporary Erosion and Sedimentation Controls.

##### B. Construction Entrance

1. NOT USED

##### C. Fencing and Barriers

1. Temporary Construction Fencing

- a. NOT USED

2. Other Barriers and Similar Facilities

- a. Provide other safety barriers, including but not limited to, fencing, barricades, and signage as required to prevent unauthorized entry to the Project Site, construction areas or open excavations. Provide barriers which are necessary for proper control of operations on the Project Site and as required to complete the work in a safe and secure manner. Comply at all times with applicable federal, state and local regulations. Adapt barriers and associated protection to evolving site conditions throughout the progress of the work.

##### D. Other Safety Devices and Work Controls

1. Provide other safety devices, including but not limited to, signs, cones, barrels, lights, warning lights, and sirens as required for safety. Provide those safety devices which are necessary for proper control of operations on the Project Site and as required to complete the work in a safe and secure manner. Comply at all times with applicable federal, state and local regulations. Adapt safety devices to evolving site conditions throughout the progress of the work.
- END OF SECTION

SECTION 01 7700  
PROJECT CLOSE-OUT

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Substantial Completion.
  - 2. Warranties.
  - 3. Inspections.
  - 4. Final cleaning.
  - 5. Final Acceptance.
  - 6. Project record documents.

1.2 SUBMITTALS

- A. Submit Close-Out Submittals as indicated herein. Provide other Close-Out submittals that may be called-for in other Specification Sections.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for Certification of Substantial Completion, complete the following (list exceptions in the request).
- B. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as Substantially Complete. Include supporting documentation for completion as indicated in the Contract Documents and a statement showing an accounting of changes to the Contract Sum if applicable.
- C. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
- D. Submit warranties, workmanship bonds, maintenance agreements, testing results, final certifications, and similar documents.
- E. Obtain and submit releases enabling the Owner unrestricted use of the work and access to services and utilities; include occupancy permits, operating certificates and similar releases.
- F. Deliver spare parts, extra stock, equipment, and similar items required.
- G. Complete start up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock ups, and similar elements.



- H. Complete final clean up requirements, including touch up painting. Touch up and otherwise repair and restore marred exposed finishes.
- I. Coordinate temporary erosion and sedimentation control measures with permanent erosion control features to the extent practical to ensure economical, effective and continuous erosion control post-construction.

#### 1.4 INITIAL CLOSE-OUT INSPECTION

- A. On receipt of a request for inspection, Engineer will either proceed with inspection or advise Contractor of unfilled requirements.
- B. Following Initial Inspection, Engineer will prepare a list of items to be completed or corrected ("Punch List").
- C. Engineer will prepare a Certificate of Substantial Completion following Initial Inspection, or advise Contractor of construction that must be completed or corrected before the certificate will be issued. If a Certificate of Substantial Completion is issued, the Punch List will be attached.

#### 1.5 WARRANTIES

- A. Submit written warranties to Engineer prior to the date certified for Substantial Completion. If the Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of Engineer.

#### 1.6 FINAL CLEANING

- A. Remove all temporary controls unless otherwise indicated to remain.
- B. Remove tools, construction equipment, machinery, and surplus materials.
- C. Remove and properly dispose of all garbage, rubbish, litter, and other substances.
- D. Clean exposed surfaces of installed equipment and similar items.

#### 1.7 FINAL CLOSE-OUT INSPECTION

- A. On receipt of a request for Final Inspection, Engineer will either proceed with inspection or advise Contractor of unfilled Punch List requirements.
- B. Results of the Final Inspection will form the basis of requirements for final acceptance.
- C. Engineer will repeat Final Inspection following notation of Punch List items that must be completed or corrected.

#### 1.8 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final acceptance and final payment, complete the following (list exceptions in the request).
  - 1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted.

2. Submit an updated final statement, accounting for final additional changes to the Contract Sum if applicable.
  3. Submit Consent of Surety to final payment, and final lean releases (lien waiver) from all suppliers, subcontractors, and second-tier subcontractors.
- B. Following completion of acceptable Close-Out Inspection and receipt of all required Close-Out Submittals, Engineer will prepare a certificate of final acceptance.

#### 1.9 RECORD DOCUMENT SUBMITTALS

- A. Record Drawings: In addition to Record Drawing requirements that may be defined in individual Specification Sections, at a minimum, maintain a clean, undamaged set of blue or black line white prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever Drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
1. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.
  2. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
  3. Note related Change Order numbers where applicable.
  4. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.
  5. Upon completion of the project, submit (2) copies of Record Drawings to Engineer.
- B. Record Product Data: Maintain one copy of each Product Data submittal. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned later by direct observation. Note related Change Orders and mark up of Record Drawings and Specifications.
1. Upon completion of mark up, submit complete set of record Product Data to Engineer.
- C. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately prior to the date of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Engineer.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

**DIVISION 02**  
**EXISTING CONDITIONS**

SECTION 02 1401

SITE PREPARATION

PART 1 GENERAL

1.1 SUMMARY

- A. Provide all labor, equipment, materials and perform all operations necessary to complete the work of this Section as indicated within the Drawings and specified herein which shall include but is not limited to the following:
- B. The work includes:
  - 1. Protection of existing site conditions to remain.
  - 2. Protection of existing trees to remain.
  - 3. Clearing and grubbing of vegetation, refuse, trash, and debris within the indicated limits.
  - 4. Topsoil stripping, stockpiling and/or removal off-site, storage and return to the site.
  - 5. Filling of voids and excavations resulting from the work.
  - 6. Removal of pavement.
  - 7. Removal or relocation of existing site features.
  - 8. Demolition of miscellaneous structures, signage, fencing, light standards, and other appurtenances that interfere with construction.
  - 9. Erosion control.
- C. Related Work: The following Sections contain work related to this Section:
  - 1. Section 01 5713 Erosion and Sedimentation Control

1.2 REFERENCES

- A. Massachusetts Department of Transportation 2025 Standard Specification for Highways and Bridges and the American National Standards Institute (ANSI).
- B. Code of Federal Regulations (CFR)
  - 1. 29 CFR 1926, Safety and Health Regulations for Construction.

1.3 FEES AND PERMITS

- A. Obtain and pay for all necessary permits, licenses and certificates and give all notices as required during the performance of the demolition work.

1.4 PROJECT CONDITIONS

- A. Examination of Conditions

1. The Contractor shall be solely responsible for judging the full extent of work requirements involved, including but not limited to the potential need for storing materials temporarily and/or rehandling items prior to final installation.
2. Traffic: Conduct site-clearing operations to ensure minimum interference with roads and other used facilities. Do not close or obstruct roads or used facilities without permission from authorities having jurisdiction.

#### 1.5 EXISTING SERVICES

- A. All locations of existing utilities shown on the plan have been developed from existing utility records and/or above ground inspection of the site. Completeness or accuracy of locations or depth of underground utility or structures cannot be guaranteed. Contractor must verify the location and depth of all underground utilities or structures prior to the start of work.
  1. Call Dig-Safe at 811 seventy-two (72) hours prior to excavation and construction. Record locations on Project Record Documents from Dig-Safe field location markings.
- B. Notify affected utility companies in advance and obtain written approval prior to commencing this Work.
  1. Coordinate and pay all applicable fees for disconnecting, removing, capping, and plugging utility services.
- C. The Contractor shall be responsible for the location, sealing, disconnection and/or protection of all existing utilities such as water, sewers, drains, electricity and telephone in accordance with the regulations of the utility concerned.
- D. Place markers to indicate location of disconnected services. Identify service lines and capping locations on Project Record Documents.

#### 1.6 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain on the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site and disposed of in a legal manner.
- B. Historical items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to the Owner, which may be encountered during site preparation, remain the Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to the Owner.

#### PART 2 PRODUCTS – NOT USED

#### PART 3 EXECUTION

##### 3.1 GENERAL

- A. Before commencing Site Preparation work, the Contractor shall meet jointly with the Owner and the Engineer in order to discuss the procedures to be utilized. Contractor shall be held responsible for any damage to all vegetation designated to remain. The Engineer will be sole judge as to damage inflicted.

1. The Engineer shall make the final determination of action required regarding any and all items indicated for removals, stockpiling, disposal, adjustment and protection.
- B. The Contractor shall give the Owner adequate advance notice of his readiness to start Site Preparation work in order that the Owner can review the Contractor's plans for parking and access to the construction site.
- C. The work shall be conducted with prime consideration given to the following:
  1. Compliance with governing laws and building codes.
  2. Safety, protection, and convenience of the public and workmen.
  3. Minimization of dirt and dust proliferation.
  4. Neat and accurate cutting and trimming of elements to be partially removed, subject to the Engineer's approval.
  5. Avoidance of any damage to existing vegetation to remain.

### 3.2 UTILITIES

- A. Notify all corporations, companies, individuals or local authorities owning, or having jurisdiction over, utilities running to, through or across areas to be affected by demolition operations.
- B. Locate and identify existing utilities that are to remain and protect them from damage.
- C. Have all discontinued utility services disconnected in accordance with the requirements of the utility owner.

### 3.3 PROTECTION OF EXISTING CONDITIONS

- A. Protection of Existing Improvements: Provide protections necessary to prevent damage to existing improvements indicated to remain in place. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Engineer at no additional cost to the Owner.
  1. Protect improvements on adjoining properties and on Owner's property.
- B. Before clearing begins, protect designated trees with tree protection fencing to the approximate diameter of foliage (dripline) to prevent damage to the trunk, foliage and root system by construction equipment and procedures. Do not stockpile materials within the drip line of existing trees to remain.
- C. Place tree protection fencing as required protecting other plants, monuments, existing improvements and adjacent property areas that are designated to remain from damage.
- D. The Contractor shall repair or replace immediately any damage to existing trees or root systems that are to remain. The Contractor shall employ an arborist licensed in the Commonwealth of Massachusetts to determine the repair and replacement needs and methods for approval by the Engineer.
- E. Replace damaged shrubs and other vegetation designated to remain with the same size and species.

- F. Tree-protection fencing shall be maintained for the duration of construction operations. The work shall include immediate replacement of any damaged fence.
- G. Maintain protected vegetation in a healthy growing condition during construction.
- H. The Contractor shall be liable for all damage and/or disturbance to existing trees and shrubs not otherwise designated for clearing and removal. When the Contractor's operations damage trees and/or other vegetation to remain, comparable replacement shall be performed as approved by the Engineer at full replacement cost to the Contractor.

### 3.4 DEMOLITION REQUIREMENTS

- A. Conduct demolition operations in accordance with the accepted site plan and in a manner that will prevent damage to adjacent structures, utilities, pavements and other facilities to remain.
- B. Cease operations immediately if any damage, settlement or other adverse effect on adjacent structures occurs. Immediately notify the Engineer and regulatory authorities.
- C. Do not resume operations until conditions are corrected, damage repaired, and approval has been received from the Engineer.
- D. Provide hoses and water connections. Spray water on demolition debris to minimize dust.
- E. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to start of work.
- F. Locate demolition equipment and remove materials in a manner that prevents excessive loading to supporting walls, floors, or framing.
- G. All hazardous waste removal shall be performed by a hazardous waste Contractor qualified and duly licensed by the Commonwealth of Massachusetts to remove, transport and dispose of each type of hazardous substance.

### 3.5 REMOVAL OF EXISTING PAVEMENT

- A. All items to be removed, stockpiled or designated for reuse shall include, but are not limited to those items as indicated on the Contract Drawings.
- B. Remove existing bituminous concrete pavement, concrete pavement, concrete slabs and all other pavements as indicated on the Drawings. All material shall be removed from the site and returned to a recycling plant for reuse. Said pavements and concrete materials shall not be transported to landfills, incinerators or other disposal areas.
- C. Included in this item will be all saw cutting of pavement, in areas where existing pavement is to remain as indicated within the Drawings. All sawed edges of paving shall be protected from damage until new is placed against it. Existing pavement that is damaged, disturbed or settled, shall be cut back by the same method and replaced as directed by the Engineer at no additional cost to the Owner.
- D. If, after the existing pavement and base materials are removed to the depth required, and the Engineer deems the underlying gravel satisfactory for pavement subbase, he shall direct the Contractor to leave the existing gravel in place and/or supplement it with additional material as required to bring the subbase to the proper depth.

3.6 PATCHING AND REPAIRS

- A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Burning: Burning on Owner's property is not permitted.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION



**DIVISION 03**  
**CONCRETE**

SECTION 03 30 00  
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 DESCRIPTION

- A. This Section specifies requirements for concrete cast-in-place on the site.
- B. The work includes cast-in-place concrete pavement and bases.

1.2 RELATED SECTIONS

- A. Sections which directly relate to the work of this Section include:

1.3 REFERENCE STANDARDS

- A. References herein are made in accordance with the following abbreviations and all work under this Section shall conform to the latest editions as applicable.

1. American Concrete Institute (ACI)

- a. ACI 301 - Specifications for Structural Concrete for Building
- b. ACI 305R - Hot Weather Concreting
- c. ACI 306R - Cold Weather Concreting
- d. ACI 316R - Recommendations for Construction of Concrete Pavements and Concrete Bases

2. American Society for Testing and Materials (ASTM)

- a. ASTM 185 - Welded Wire Steel Fabric for Concrete Reinforcement
- b. ASTM 615 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement
- c. ASTM C33 - Concrete Aggregates
- d. ASTM C94 - Ready-Mixed Concrete
- e. ASTM C143 - Slump of Portland Cement Concrete
- f. ASTM C150 - Portland Cement
- g. ASTM C171 - Sheet Materials for Curing Concrete
- h. ASTM C231 - Air Content of Freshly Mixed Concrete by the Pressure Method
- i. ASTM C260 - Air Entraining Admixtures for Concrete

- j. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete
- k. ASTM C494 - Chemical Admixtures for Concrete

3. Concrete Reinforcing Steel Institute (CRSI)

- a. CRSI - Manual of Standard Practice.

4. Americans with Disabilities Act and State Regulations

1.4 QUALITY ASSURANCE

- A. Work and materials for construction of the cement concrete walks shall conform to ACI 316R. Other cast-in-place concrete shall conform to ACI 301.
- B. Work, materials, and color of the wheelchair ramp paving shall conform to applicable sections of Americans with Disabilities Act (ADA) and State standards, whichever is more stringent.
- C. Dimensions, locations, and details of equipment pads, anchors, supports, and similar features shown on the drawings are approximate. Manufacturer's approved shop Drawings of equipment to be supported, anchored, or contained thereby shall be consulted for exact location, size and details.

1.5 SUBMITTALS

- A. Description of methods and sequence of placement for each type of specially-finished concrete, including description of methods and sequence of placement.
- B. Manufacturer's product data for the following:
  - 1. Form release agent.
  - 2. Preformed joint filler.

1.6 TESTING

- A. The Owner may employ an independent testing laboratory to inspect and test concrete paving and other cast-in-place concrete work.
- B. Testing of materials and installed work may occur at any time during progress of the work. Rejected materials and installed work shall be removed and replaced at no additional cost to the Owner.

PART 2 PRODUCTS

2.1 PORTLAND CEMENT CONCRETE

- A. Portland cement concrete shall:
  - 1. Have a maximum water cement ratio of 0.45 conforming to ACI 316R.

2. Be Air-entrained type conforming to ASTM C94. Air content by volume shall be 6 percent  $\pm$  1 percent, and shall be tested in accordance with ASTM C260.
3. Placed with a slump not less than 3 inches nor greater than 4 inches, determined in accordance with ASTM C143.
4. Use cement conforming to ASTM C150, Type I or II. Only one color of cement, all of the same manufacturer, shall be used for the work.
5. Use fine and coarse aggregates conforming to ASTM C33.
6. Contain a water reducing agent to minimize cement and water content of the concrete mix at the specified slump. Water reducing agent shall conform to ASTM C494, Type A.
7. Contain no calcium chloride or admixtures containing calcium chloride shall be added to the concrete. No admixtures other than those specified shall be used in the concrete without the specific written permission of the Engineer in each case.

## 2.2 CURING MATERIALS FOR UNCOLORED CONCRETE

- A. Curing shall be accomplished by the following methods:
  1. Moist curing with burlap covering.
  2. Curing paper, non-staining, fiber reinforced laminated Kraft bituminous product conforming to ASTM C171. Four mil polyethylene sheeting may be substituted for curing paper.
  3. Curing compound, a resin-base, white pigmented compound conforming to ASTM C309, Type 2.

## 2.3 EXPANSION JOINTS

- A. Expansion joint filler shall be pre-formed, flexible, polyethylene, closed-cell type conforming to ASTM D4819, Type II, similar to Sealtight Deck-O-Foam Joint Filler, manufactured by W.R. Meadows, Inc., Elgin, IL 60120, or approved equivalent.
  1. Premolded filler shall be one piece for the full depth and width of the joint.
- B. Smooth dowel shall be hot rolled plain steel dowel bonded at one end and operating in smooth close-fitting sleeve (of same material) at the other.

## 2.4 FORMS

- A. Cylindrical Forms: Sonotube Fibre Forms, wax-impregnated strippable forms manufactured by Sonoco Products Company, General Products Division, ABS or PVC plastic reusable forms, or approved equivalent.
- B. Forms for Unexposed Finish: Plywood, lumber or metal, with lumber dressed on at least two edges and one side.
- C. Form Ties: Prefabricated, adjustable length galvanized steel snap-off ties, with brackets, cones, cornerlocks and other accessories as necessary.
- D. Form Release Agent: Commercial formulation compounds that will not bond with, stain or adversely affect concrete.

# PART 3 EXECUTION

## 3.1 PREPARATION OF SUBGRADE

- A. The subgrade of areas to be paved shall be graded and compacted as specified in Section 32 10 00, Bases Balast and Pavement.
- B. Excavation required in pavement subgrade shall be completed before fine grading and final compaction of subgrade are performed. Where excavation must be performed in completed subgrade, subbase, base, or pavement, subsequent backfill and compaction shall be performed as required by the Engineer.
- C. **Where existing pavement base material meets the specifications for proposed base material it may be regraded and compacted in place for re-use with approval of Engineer.**
- D. Prepared subgrade will be inspected by the Engineer. Subgrade shall be approved for installation of the gravel base course. Disturbance to subgrade caused by inspection procedures shall be repaired.

### 3.2 BASE COURSE

- A. Base course for concrete paving shall be pavement subbase course or gravel base materials specified in Section 32 10 00, Base Balast and Pavement.
- B. Width of base course shall extend beyond edge of the proposed pavement as shown on the Drawings.
- C. Material shall be placed in lifts no more than 6 inches thick, compacted measure. Each lift shall be separately compacted to specified density.
  - 1. Material shall be placed adjacent to wall, manhole, catch basin, and other structures only after they have been set to required grade.
  - 2. Rolling shall begin at sides and progress to center of crowned areas, and shall begin on low side and progress toward high side of sloped areas. Rolling shall continue until material does not creep or wave ahead of roller wheels.
  - 3. Surface irregularities which exceed 1/2 inch as measured by means of a 10 foot long straightedge, shall be regraded and recompactd.
- D. Base course shall be compacted at optimum moisture content to not less than 95 percent of maximum density as determined by ASTM D1557.
- E. The base course shall be kept clean and uncontaminated. Less select materials shall not be permitted to become mixed with the base course material.

### 3.3 FORMS

- A. General: Design, erect, support, brace, and maintain formwork to support vertical, lateral, static, and dynamic loads that might be applied until concrete structure can support such loads. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position. Maintain formwork construction
  - 1. Provide Class A tolerances for concrete surfaces exposed to view.
  - 2. Provide Class C tolerances for other concrete surfaces.
- B. Construct forms to provide for openings, offsets, sinkages, keyways, recesses, moldings, chamfers, blocking, screeds, bulkheads, anchorages, and inserts, and other features required for the work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joints to prevent cement paste from leaking.
- C. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Kerf wood inserts for forming keyways, reglets, recesses, and other features for easy removal.

- D. Chamfer exposed corners and edges, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- E. Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before placing concrete. Re-tighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

### 3.4 INSTALLING EMBEDDED ITEMS

- A. General: Set and build into formwork the anchorage devices and other embedded items required for work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached.
- B. Forms for Slabs: Set edge forms, and intermediate screen strips for slabs to achieve required elevations and contours in finished surfaces. Provide and secure units to support screed strips using strike-off templates or compacting-type screeds.

### 3.5 PREPARING FORM SURFACES

- A. Coat contact surfaces of forms with an approved, nonresidual, low-VOC form-coating compound before placing reinforcement.

### 3.6 CONCRETE PLACING

- A. Equipment, methods of mixing and placing, and precautions to be observed as to weather, and condition of base shall meet the requirements of ACI 316R.
- B. The Engineer shall be notified of scheduled concrete placement sufficiently in advance of start of operation to allow preliminary inspection of the work, including subgrade, forms, and reinforcing steel.
- C. Work shall not be performed during rainy weather or when temperature is less than 40°F (4.4°C).
- D. Adjacent work shall be protected from stain and damage. Damaged and stained areas shall be replaced or repaired to equal their original conditions.
- E. Existing concrete, earth, and other water-permeable material against which new concrete is to be placed shall be thoroughly damp when concrete is placed. There shall be no free water on surface.
- F. Concrete which has set or partially set, before placing shall not be used. Retempering of concrete will not be permitted.
- G. Concrete shall be thoroughly vibrated, or otherwise consolidated to secure a solid and homogeneous mass, thoroughly worked around reinforcement and into corners of forms.
- H. When joining fresh concrete to concrete which has attained full set, latter shall be cleaned of foreign matter, and mortar laitance shall be removed by chipping and washing. Clean, roughened base surface shall be saturated with water, but shall have no free water on surface. A coat of 1:1 cement-sand grout, approximately 1/8 inch thick, shall be well scrubbed into the thoroughly dampened concrete base. New concrete shall be placed immediately, before grout has dried or set.

### 3.7 FINISHING

- A. Concrete surfaces shall be screeded and finished true to line and grade, and free of hollows and bumps. Surface shall be dense and smooth.
  - 1. Finished concrete surface for concrete subbases shall be woodfloated to a slightly rough surface. Surface shall not deviate more than 1/4 inch in 10 feet.
  - 2. Finished concrete surfaces shall be wood-floated and steel troweled, or broom finished, to a uniform surface. Surface shall not deviate more than 1/8 inch in 10 feet.
- B. Horizontal surfaces of concrete surfaces which will be exposed shall be given a light broomed finish, with direction of grooves in concrete surface perpendicular to length of concrete band, slab, or pad. After concrete has set sufficiently to prevent coarse aggregate from being torn from surface, but before it has completely set, brooms shall be drawn across the surface to produce a pattern of small parallel grooves. Broomed surface shall be uniform, with no smooth, unduly rough or porous spots, or other irregularities. Coarse aggregate shall not be dislodged by brooming operation.
- C. Immediately following finishing operations, arises at edges and both sides of expansion joints shall be rounded to a 1/4 inch radius. Control joints to be tooled shall be scored into slab surface with scoring tool. Adjacent edges of control joint shall at same time be finished to a 1/4 inch radius.
- D. Where finishing is performed before end of curing period, concrete shall not be permitted to dry out, and shall be kept continuously moist from time of placing until end of curing period, or until curing membrane is applied.

### 3.8 CURING

- A. Concrete shall be kept continuously damp from time of placement until end of specified curing period or cured by other methods. Water shall not be added to surface during floating and troweling operations, and not earlier than 24 hours after concrete placement. Between finishing operations, surface shall be protected from rapid drying by a covering of waterproofing paper. Surface shall be damp when the covering is placed over it, and shall be kept damp by means of a fog spray of water, applied as often as necessary to prevent drying, but not sooner than 24 hours after placing concrete. None of the water so applied shall be troweled or floated into surface.
- B. Concrete surfaces shall be cured by completely covering with curing paper or application of a curing compound.
  - 1. Concrete cured using waterproof paper shall be completely covered with paper with seams lapped and sealed with tape. Concrete surface shall not be allowed to become moistened between 24 and 36 hours after placing concrete. During curing period surface shall be checked frequently, and sprayed with water as often as necessary to prevent drying, but not earlier than 24 hours after placing concrete.
  - 2. Concrete cured with a curing compound shall have the compound applied at a rate of 200 square feet per gallon, in two applications perpendicular to each other.
  - 3. Curing period shall be seven days minimum.
- C. Only if additional protection is absolutely required, the surface should remain uncovered after the seven day period for at least 4 days, after which time new and unwrinkled non-staining reinforced waterproof Kraft curing paper may be used.

### 3.9 EXPANSION JOINTS

- A. Expansion joints shall be 1/2 inch wide and located where shown on the Drawings. Expansion joints shall be troweled in the concrete to required width with preformed joint filler in place. Joint filler shall extend the full depth of the slab and full length of the expansion joint.
  - 1. For concrete walks, pavements, and pads, depth of joint filler shall be placed to form a 1-1/4 inch deep recess for sealant and backer rod below finished concrete surface.
  - 2. Use of multiple pieces to make up required depth and width of joint will not be permitted.

### 3.10 CONSTRUCTION JOINTS:

- A. Construction joints shall be placed whenever placing of concrete is suspended for more than 30 minutes.
  - 1. Butt joint with dowels or thickened edge joint shall be used if construction joints occur at control joint locations.
  - 2. Keyed joints with tiebars shall be used if the joint occurs at any other location.

### 3.11 CONTROL JOINTS

- A. Control joints shall be tooled into the concrete slab, with 3-inch wide border and troweled edges, in pattern shown on the Drawings, or every 4 feet o.c. maximum. Joint shall be made after concrete is finished and when the surface is stiff enough to support the weight of workmen without damage to the slab, but before slab has achieved its final set.
- B. Scoring shall cut into slab surface at least 1 inch, but in no case not less than 25 percent of slab depth.

### 3.12 COLD WEATHER CONCRETING

- A. Materials for concrete shall be heated when concrete is mixed, placed, or cured when the mean daily temperature is below 40°F or is expected to fall to below 40°F within 72 hours. The concrete, after placing, shall be protected by covering, heat, or both.
- B. Details of handling and protecting of concrete during freezing weather shall be subject to the approval and direction of the Engineer. Procedures shall be in accordance with provisions of ACI 306R.

### 3.13 HOT WEATHER CONCRETING

- A. Concrete just placed shall be protected from the direct rays of the sun and the forms and reinforcement just prior to placing shall be sprinkled with cold water. Every effort shall be made to minimize delays which will result in excessive mixing of the concrete after arrival on the site.
- B. During periods of excessively hot weather (95°F., or above), ingredients in the concrete shall be cooled with cold mixing water to maintain the temperature of the concrete at permissible levels in accordance with the provisions of ACI 305. Any concrete with a temperature above 95°F., when ready for placement, will be rejected.
- C. Temperature records shall be maintained throughout the period of hot weather giving air temperature, general weather conditions (calm, windy, clear, cloudy, etc.) and relative humidity. Records shall include checks on temperature of concrete as delivered and after placing in forms. Data should be correlated with the progress of the work so that conditions surrounding the construction of any part of the structure can be ascertained.

### 3.14 PROTECTION OF CONCRETE SURFACES



- A. Concrete surfaces shall be protected from traffic or damage until surfaces have hardened sufficiently.
- B. Work under this project occurs within the public right of way where temporary alternate access must be maintained. Coordinate with Municipal representative to secure and close adjacent roadway space for staging and for alternative pedestrian access, provide temporary stanchions and caution tape to identify this route of travel. Provide wood cover for 24 hr curing period where access over new concrete where access can be returned to sidewalk after initial placement and curing.

END OF SECTION

**DIVISION 12**  
**FURNISHINGS**

SECTION 12 93 00  
SITE FURNISHINGS

PART 1 GENERAL

1.1 GENERAL REFERENCE

- A. This section is only a portion of the Contract Documents. All of the Contract Documents, including Division 1 General Requirements, apply to this section.

1.2 SUMMARY

- A. Provide all labor, equipment, materials and perform all operations necessary to complete the work of this section as indicated within the drawings and specified herein which shall include, but is not limited to, the following:
  - 1. Pavilion

1.3 RELATED WORK SPECIFIED IN OTHER SECTIONS

- A. Related Sections
  - 1. Section 03 30 00 – Site Cast-in-Place Concrete

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data (to include, but not limited to: specifications, storage and handling requirements, installation methods and instructions) for:
  - 1. Trellis fence (Phase 2 – NIC)
  - 2. Pergola (Phase 2 – NIC)
- B. Shop Drawings: Prepare and submit Shop Drawings for approval by the Owner's Representative prior to ordering the listed materials. Shop drawings shall show, required sizes, dimensions, sections, profiles of units, the arrangement of and provision for jointing, anchoring, fastening, and support, and other necessary details for delivery and lifting devices and reception or installation of other work. Show in large-scale details any unique fabrication and setting requirements or any other specified areas seen as necessary or as directed by the Owner's Representative.
- C. Material Data sheets: Manufacturers product specification sheet for approval of make, model, colors, finishes and related details.
- D. Samples: Submit manufacturer's samples of materials, finishes, hardware and colors for selection by Landscape Architect:
  - 1. Not used
- E. Warranty: Submit Manufacturer's standard warranty for all site furnishings and fabricated items.

1.5 QUALITY ASSURANCE

- A. Installation of site furnishings work shall be assigned to experienced and qualified subcontractors employing experienced workmen who will work under the full-time supervision of a qualified foreman with a minimum of five (5) years of experience on projects comparable to this project. The contractor shall use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work in this Section. The contractor shall demonstrate that he has successfully completed work of similar size and scope.

## 1.6 PRODUCT DELIVERY STORAGE AND HANDLING

- A. The Contractor shall be responsible for timing the delivery of site improvement materials so as to minimize on-site storage time prior to installation. All stored materials shall be protected from weather, careless handling and vandalism.
- B. General Contractor, Sub-Contractors, and suppliers are all individually to furnish their own equipment necessary to get workers, material, and equipment from the point of delivery at the project site to the point of use or installation within the project site.
- C. Deliver materials in original sealed containers marked with name of manufacturer and identification of contents. Store materials under waterproof covers on planking clear of ground and protect from handling damage, dirt, stain, water and wind.
- D. Take all necessary precautions to prevent all items from chipping, cracking, or other damage during the transportation of these materials to the project, unloading and storage on the site. Lift with wide-belt type slings wherever possible; do not use wire rope or ropes containing tar or other substances which might cause staining. If required, use wood rollers and provide cushion at end of wood slides. Damaged items will not be allowed to be installed and should any damaged items be found in constructed work, such items shall be removed immediately and replaced, and the Contractor shall assume all expenses incurred therefrom.
- E. Stored materials shall be adequately protected against moisture by one (1) stacking in such a manner as to allow a complete circulation of air under each stack, and two (2) covering each stack, top and sides with a waterproof paper or membrane. Coverings shall remain in place at all times, when not working from the particular stack.

## 1.7 EXAMINATIONS OF CONDITIONS

- A. The Contractor shall fully inform themselves of existing conditions of the site and shall be fully responsible for carrying out all work required to fully and properly execute the work of the Contract, regardless of the conditions encountered in the actual work. The installer shall examine previous work, related work, and conditions under which this work is to be performed and notify the Contractor in writing of all deficiencies and conditions detrimental to the proper completion of this work. Beginning work means installer accepts substrates, subgrades, previous work, and conditions. No claim for extra compensation or extension of time will be allowed on account of actual conditions inconsistent with those assumed.
- B. The Contractor shall be solely responsible for judging the potential need for storing materials temporarily and/or rehandling items prior to final installation.

## 1.8 STANDARDS

- C. Except as modified by governing code and by the Contract Documents, comply with applicable provisions and recommendations of the following:
  - 1. ASTM: American Society for Testing and Materials, latest edition.
    - a. ASTM A36 – Carbon Structural Steel
    - b. ASTM A500, Grade B – Cold Formed Welded and Seamless Carbon Structural Steel  
Tubing in rounds and shapes
    - c. ASTM F3101 – Standard Specification for Unsupervised Public Outdoor Use Equipment

2. ADA: Americans with Disabilities Act, latest edition
3. AAB: Massachusetts Architectural Access Board regulations (521 CMR), latest edition
4. Massachusetts Department of Transportation (MassDOT), Highway Division, Standard Specification for Highways and Bridges, latest edition, referred to as MHDSSHB.

## PART 2 PRODUCTS

### 2.1 PRODUCT LIST

- A. Trellis fence (phase 2 – NIC): Model GreenScreen by Tournesol or approved equivalent.
  1. Vertical Panel Mount
  2. Surface mount square steel posts 8’ht., welded flat cap, Welded base plate, Mount with manufacturers recommended hardware.
  3. Wall mount clips CLIP 5132G (connection to pergola)
  4. Edge trim 5105 Angle ½”, snap clip 5133x fasteners,
  5. Add ½” eyelet screws and #10 galvanized fence tension wire to top of abutting pergola structure to facilitate vine transition.
  6. Color white. (or standard color to be verified in shop drawing by the owner)
- B. Pergola (phase 2 – NIC): stick built post and beam timber framed structure with structural steel brackets.
  1. Timber elements #1 grade pressure treated southern yellow pine
    - a. Posts 6”x6”x 10’ max height (trimmed to lengths for level canopy per sidewalk slopes or related existing conditions)
    - b. Beams 6”x6”x 8’ max span, Lap joint corners and overlap for running span
    - c. Rafters 2”x8”x 12’
    - d. Stringers 2”x4”
    - e. Field verify fit of existing conditions and notify Landscape Architect for adjustments to heights or lengths as needed.
  2. Hardware:
    - a. Post surface mount Brackets, Simpson Strong-Tie (SST) SAGE-B SS 6x6 Suply anchor mounting template for formwork cast in place L-anchors are preferable, drilled anchor connections are acceptable if upgraded to to SST 3” wedge anchors
    - b. Beam Corner Connectors: SAGE-C66-KT2 (6x6) Sage-C Black Powder-Coated Corner Connector
    - c. Beam Middle T Connectors: SAGE-T66-KT1 (6x6) Sage-T Middle-T Connector
    - d. Cantilevered Beam Lap Joint HL35PC 3x5 Heavy Angle
    - e. Exterior edge rafter brackets Simpson APVA21 Avant Ornamental Angle finish black
    - f. Interior Rafter Brackets Galv. Steel Deck joist anchors above the beam
    - g. Secure Stringers to rafters with deck screws.
  3. Finish:
    - a. Stain all wood members with Penofin Pressure Treated Formula color Yosemite, or equivalent Dark Brown.
  4. Coordinate connections with associated trellis where applicable.
- C. Major furnishing manufacturers meeting the requirements of this specification will be considered. All furnishing suppliers and installers must meet or exceed the qualifications

outlined within this section and must demonstrate that proposed equipment is equal or equivalent to intended design equipment.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Inspect all surfaces and verify that they are in proper condition to receive the work of this Section. Verify that prepared openings are ready to receive the work of this Section and opening dimensions are as indicated on the shop drawings. Verify that all blocking is set in place and secure.
- B. Submit details of proposed departures due to field conditions or other causes to the Landscape Architect for approval.
- C. Beginning of installation means acceptance of existing project conditions.

#### 3.2 INSTALLATION

- A. Locate and install features as indicated on the drawings and as directed by the Owner's Representative in accordance with manufacturer's written instructions and in accordance with approved shop drawings. Install fire table level, plumb, true, and positioned at locations indicated on Drawings.
- B. Prefabrication: All component parts to be preassembled to the fullest extent possible, to preclude any on site drilling, cutting, plugging or sanding.
- C. Installation: Structure to be supplied with all necessary hardware and complete instructions to provide for efficient on-site assembly.

#### 3.3 PROTECTION

- A. Protect finishes from damage during construction period with temporary protective coverings. Remove protective covering at the time of Substantial Completion.
- B. Restore finishes damaged during installation and construction so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit; or provide new units.

#### 3.4 CLEANING

- A. Clean work, removing excess dirt and foreign materials, restoring finishes, leaving work in condition acceptable to Owners representative.
- B. Repair surface damage immediately following installation.

END OF SECTION



**DIVISION 31**  
**EARTHWORK**



SECTION 31 01 30  
EARTHWORK

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. This Section is only a portion of the Contract Documents. All of the Contract Documents, including Division 1 General Requirements, apply to this Section.

1.2 DESCRIPTION

- A. Provide facilities, labor, materials, tools, equipment, appliances, transportation, supervision, and related work necessary to complete the work specified in this section, and as shown on the Drawings.
- B. The work of this section includes but is not necessarily limited to:
  - 1. Excavation, fill, and backfill, including compaction as indicated or required, to the lines and grades indicated on the Drawings.
  - 2. Excavation and disposal of unsuitable or excess materials off-site, unless other on-site locations are allowed. Excavation shall include removal and satisfactory disposal of all unclassified material encountered throughout the site.
  - 3. Rough grading, including placement, moisture conditioning and compaction of fills and backfills.
  - 4. Placement of base and subbase course materials under structures, slabs and footings, including compaction. Placement of base and subbase course materials under pavement is located under Section 32 10 00 –Bases Ballast and Pavement.
  - 5. The removal, hauling and stockpiling of suitable excavated materials for subsequent use in the work. Stockpiling shall include protection to maintain materials in a workable condition at no additional cost to the owner.
  - 6. Rehandling, hauling and placing of stockpiled materials for use in refilling, filling, backfilling, grading and such other operations at no additional cost to the owner.
  - 7. Protection of existing buildings, pavements, and utilities to remain at no additional cost to the owner.
  - 8. Furnishing and installing all sheeting, shoring, and bracing of structural and trench excavations at no additional cost to the owner.
  - 9. Providing products in sufficient quantities to meet the project requirements.
  - 10. Obtaining all required permits, licenses, and approvals of appropriate municipal and utility authorities, prior to commencing the work of this Section, and pay costs incurred there from.
- C. Contractor shall be responsible for notifying all owners of affected utilities and for contacting Dig Safe at least 72 hours prior to excavation.

### 1.3 RELATED SECTIONS

- A. Carefully examine all of the Contract Documents for requirements which affect the work in this section. Other specification sections which directly relate to the work of this section include, but are not limited to, the following:
  - 1. Section 02 41 01-Site Preparation
  - 2. Section 01 57 13-Erosion and Sedimentation Control
  - 3. Section 32 92 00-Turf and Grasses

### 1.4 DEFINITIONS

- A. Unacceptable material is soil material that contains organic silt, peat, vegetation, wood or roots, stones or rock fragments over 6 inches in diameter or exceeding 40 percent by weight of the backfill material, porous biodegradable matter, loose or soft fill, construction debris, or refuse, or material which cannot be compacted to the specified or indicated density. Percentage of rock shall be determined by the Contractor's independent testing laboratory. Acceptable material is material that is not "unacceptable material", classified as defined herein.
- B. Surplus material is excavated acceptable material that cannot be utilized elsewhere on the site as backfill or embankment fill, or as otherwise directed by the Engineer.

### 1.5 EXCAVATION CLASSIFICATIONS

- A. Excavation: Excavation shall be unclassified and no consideration will be given to the nature of the materials, with the exception of rock and hazardous materials. Excavation shall comprise and include the satisfactory removal and disposal of all materials encountered regardless of the nature of the materials and shall be understood to include, but not limited to, earth, fill, foundations, pavements, curbs, piping, railroad track and ties, cobblestones, footings, bricks, concrete, previously abandoned drainage structures and utility structures abandoned and not removed by the utility and debris.
- B. Rock Excavation: Rock is defined for payment purposes as stone or hard shale in original ledge, boulders over two cubic yards (2yd<sup>3</sup>) in volume in open areas and one cubic yard (1yd<sup>3</sup>) in volume in trenches, and masonry or concrete that cannot be broken or removed by normal job equipment (power shovels, scoops, or D-8 bulldozers with ripper attachment) without the use of explosives or drills. The classification does not include materials that can be removed by means other than drilling and blasting or drilling and wedging but which, for reasons of economy in excavating, the Contractor prefers to remove by drilling and blasting. The word "trenches" shall mean excavation having vertical sides the depths of which exceed the width, made for drain, sewer, water, and gas pipes; electric and steam conduits; and the like.
- C. Hazardous Waste
  - 1. The Contractor shall be familiar with the State Department of Environmental Protection (DEP) Hazardous Waste Regulations 310 CMR 30.00 and the Massachusetts Contingency Plan (MCP) 310 CMP 40.00 when conducting earthwork operations.
  - 2. In general, a hazardous waste (contaminated with oil or hazardous materials) is a waste or combination of wastes which, because of its quantity, concentration or physical, chemical or infectious characteristics, may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or pose a substantial present or potential hazard to human health, safety, or welfare, or to the environment when improperly stored, treated, transported, or disposed of, or otherwise managed. (Additional criteria and characteristics to determine if a waste is hazardous are contained in 310 CMR 30.111, 30.112 and 30.120 through 30.125).

## 1.6 LAWS AND REGULATIONS

- A. Work shall be accomplished in accordance with federal state and local laws and regulations of local, county and state agencies and national or utility company standards as they apply.

## 1.7 QUALITY ASSURANCE

- A. Through the Engineer the Owner may retain and pay for the services of a Geotechnical Consultant to perform on-site observation and testing during the following phases of the construction operations. The scope of services will be determined by the Architect/Engineer and Owner and the Geotechnical Consultant. The Owner reserves the right to modify or waive Geotechnical Consultant services.
- B. The Geotechnical Consultant's presence does not include supervision or direction of the actual work by the Contractor, his employees or agents. Neither the presence of the Geotechnical Consultant, nor any observations and testing performed by him, nor any notice of failure to give notice shall excuse the Contractor from defects discovered in his work.
- C. Costs related to retesting due to failures shall be paid for by the Contractor at no additional expense to Owner. The Contractor will pay for all additional costs for re-testing.

## 1.8 SUBMITTALS

- A. Submit an analysis of each type of off-site fill and aggregate materials that are to be used at the, a minimum of one week prior to delivery to the site. Use of these proposed materials by the Contractor prior to testing and approval or rejection shall be at the Contractor's risk.
- B. The Engineer will be responsible for the approval or rejection of the suitability of all materials.
- C. Submit the name of each material supplier and specific type and source of each material. Any change in source throughout the job requires approval of the Engineer.
- D. For use of fabrics or geogrids, submit manufacturer's literature for approval by the Engineer.

## 1.9 COORDINATION

- A. Prior to start of earthwork the Contractor shall arrange an on-site meeting with the Engineer for the purpose of establishing the Contractor's schedule of operations and scheduling observation and testing procedures and requirements.
- B. As construction proceeds, the Contractor shall be responsible for notifying the Engineer prior to the start of earthwork operations requiring observation and/or testing.

## 1.10 TOLERANCES

- A. Construct finished non-paved surfaces to plus or minus 1 inch of the elevations indicated. Complete embankment slopes to plus or minus six horizontal inches of the slope line (toe or tip) shown. Maintain the moisture content of fill materials as it is being placed within plus or minus two percent of the optimum moisture content of the material as determined by the laboratory tests herein specified.

## 1.11 APPROVALS

- A. No earthwork materials will be accepted on the jobsite without written approval from the Engineer.

## 1.12 OTHER SPECIFICATIONS

- A. The requirements of the Massachusetts Department of Transportation 2025 Standard Specification for Highways and Bridges, are also made part of these Specifications.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Crushed Stone shall conform to MHDSSHB Specification Section M2.01.1.
- B. Dense Graded Crushed Stone shall conform to MHDSSHB Specification Section M2.
- C. Gravel Borrow Base shall conform to MHDSSHB Specification Section M1.03.0 C.
- D. Pump Track Path Soil shall be sandy loam.
- E. Pump Track Jump Soil shall be screened loam with high clay content.

## PART 3 EXECUTION

### 3.1 GENERAL REQUIREMENTS

- A. The Contractor shall control the grading so that ground is pitched to prevent water from running to excavated areas, eroding slopes, damaging other structures, or adjacent properties.
- B. Control dust during the course of the contract.
- C. Construction Traffic. Disperse travel paths of traffic and construction equipment over entire width of compacted surfaces to aid in obtaining uniform compaction. Protect exposed soil layers with high moisture content from excessive wheel loads.
- D. Use of Materials Found of Site
  - 1. Suitable excavated materials shall be used for embankment, backfill, or any other purpose as directed and the material shall be placed and compacted in a manner conforming to the specifications for the particular type of work required at no additional cost to the Owner.
  - 2. Suitable material that cannot be readily placed shall be stockpiled at the jobsite in an area designated by the Engineer and used in the manner and purpose described above or removed from the site. All work necessary to stockpile and re-handle suitable material will be at no additional cost to the Owner and will be included in the Contract price. If the Contractor desires to store suitable material off the jobsite, or remove suitable material from the jobsite, written permission shall be obtained from the Engineer.
  - 3. No excess soil is to be removed from the site unless approved by the Engineer.
  - 4. Do not excavate or remove any material from within the site which is not within the excavation, as indicated, without written authorization from the Engineer.
- E. Salvaging Topsoil. Salvage topsoil within the neat lines as indicated, or as otherwise designated by the Engineer, and stockpile at the jobsite at locations approved by the Engineer. Prevent topsoil from contamination by other materials, and provide adequate drainage and erosion protection. Clear, grub, and rough-grade storage areas so that the maximum amount of stockpiled material will be available for reuse.

- F. Stockpiling of Excavated Material. Establish excavated material stockpiles on site only in locations where they will not interfere with the progress of the work and only as approved by the Engineer.
- G. Surplus and/or Unsuitable Material. Stockpile and dispose of excavated materials which are in excess and/or are determined to be unsuitable for topsoil, embankment and backfill, at no additional expense to the Owner. The Contractor shall assume that the material is urban fill and meets the criteria for disposal in lined or unlined Massachusetts landfills. When approved by the Engineer, such material may be disposed of at designated locations within the site. Offsite disposal facilities and any soil testing associated with offsite disposal is to be provided by the Contractor and approved by the Engineer.
- H. Unfavorable Weather. Do not place, spread, roll or compact fill material that is frozen or thawing, or during unfavorable weather conditions. If interrupted by heavy rain or other unfavorable conditions, do not resume until ascertaining that the moisture content and density of the previously placed soil are as specified.
- I. Maintenance of Excavation, Slopes and Embankments.
  - 1. Excavate and remove material outside the limits of excavation which in the opinion of the Engineer, is unsuitable and constitutes potential slides, and material which comes into excavations for any reason including the driving of piles therein.
  - 2. Maintain slopes and embankments until final completion and acceptance of the work. Promptly repair slides, slip outs, washouts, settlements, and subsidence which occur for any reason, and refinish the slope or embankment to the original lines and grades or as required by the Engineer.
  - 3. Provide earth retention systems as required by federal, state and local regulations. Shoring and bracing of trenches and other excavations shall be in accordance with the latest OSHA Standards and Interpretation, Subpart P – Trenches and Shoring, and to all other applicable codes, rules and regulations of the federal, state and local authorities.
- J. Hazardous Material:
  - 1. The Contractor shall immediately halt soil movement activities and notify the Architect/Engineer and Owner if visual, olfactory or other evidence suggests that soils are contaminated with oil or hazardous materials.
  - 2. Any contaminated soils shall be managed and handled in compliance with the referenced state/federal regulations, guidelines and policies.

### 3.2 OBSTRUCTIONS NOT INDICATED AND NOT VISIBLE

- A. All available information was used to establish the location of pipes, drains, structures, and utilities, as shown on the Drawings. However, accuracy and completeness of such drawings cannot be guaranteed. Therefore, if the Contractor encounters such items within the indicated limits of excavation, which will be damaged if work is to continue or which will cause delays, notify the Engineer immediately so the obstruction can be addressed and documented for payment, as authorized by the Owner.

### 3.3 TEST PITS

- A. Test pits may be ordered by the Engineer during the course of contracted work, to locate existing pipes, drains, structures, or utilities at no additional costs.

### 3.4 GENERAL EXCAVATION REQUIREMENTS

- A. Excavate to the lines and grades indicated. Exercise care to preserve the material below and beyond the lines of excavation. Where excavation is carried out, through error, below indicated grade or beyond the lines of excavation, backfill to the indicated grade and compact with approved fill at no additional cost to the Owner, and at the direction of the Engineer.
- B. Limits of the excavation shall allow for adequate working space for installing forms and as required for safety of personnel. Cut excavations in solid rock accurately to the neat lines indicated, or, if not indicated, to the width of the trench.
- C. Excavation for the convenience of the Contractor shall conform to the limits acceptable to the Engineer and shall be at no additional cost to the Owner. Contractor shall not over excavate below proposed design grades for the purpose of obtaining borrow for use off-site.
- D. When any excavation is extended beyond the limits indicated, backfill and compact the additional excavated area with material indicated to be under the pipe, conduit, or structure which was being excavated for, at no additional cost to the Owner.
- E. Limit the length of trench open at any one time as to eliminate interference with traffic and the operations of others and to reduce conditions dangerous to personnel, equipment and existing site improvements, all according to site conditions.
- F. Excavate by use of hand tools when within 2 feet of existing pipes, conduits, or other structures.

### 3.5 TRENCH EXCAVATION

- A. Excavate trenches for utilities, drain and sewer pipes, and utility structures by the open cut method except where tunneling or jacking is indicated or approved by the Engineer.
- B. Excavate trench to permit pipe, conduit or structure to be laid or constructed at the elevation, slope and depth of cover indicated on the Drawings, and at uniform slopes between indicated elevations. Make trenches no wider than indicated and do not widen by scraping or loosening materials from the sides during construction or operation of equipment in or adjacent of the trench or by surcharging excavation with material piled next to the trench. Keep sides firm and undisturbed until backfilling and compaction has been completed.
- C. When pipe, conduit or structures are to be laid in gravel or crushed stone bedding, excavate trench by machine to indicated aggregate subgrade. Compact any disturbed material at the bottom of the trench to 95 percent prior to placing the bedding material.
- D. When pipe, conduit, or structures are to be laid directly on the bottom of the trench, do not excavate the lower part of the trenches to subgrade by machinery. Remove last of material by use of hand tools and form a flat or shaped bottom, true to grade, so that pipe or structure will have a uniform and continuous bearing.
- E. In paved areas, saw cut pavement on the neat lines at the width indicated for the trench. After compacting the backfill, restore pavement to a condition equivalent to that existing at the start of construction. Restore pavement damaged outside the neat lines at no additional cost to the Owner.
- F. Trench Excavation in Fill:
  - 1. Place and compact to 95 percent of maximum density indicated fill material to top of proposed fill or to a minimum height of 1 foot above top of pipe or structure, whichever is less, when pipe or structure is to be laid in fill.

### 3.6 ROCK EXCAVATION

- A. Cross Sectioning: When rock is encountered during excavation, it shall be uncovered and exposed, and the Engineer shall be notified in writing by the Contractor before removal work proceeds. The areas in question shall then be measured, and payment shall be determined. Excavation of material in question before agreement by the Engineer as to the character of the material, or failure to notify the Engineer or to take measurements will forfeit the Contractor's right to payment for rock excavation. The quantity of rock to be removed shall be based on the limits established below. Measurements shall be made by a Registered Surveyor, paid for by the Contractor, and approved by the Engineer.
- B. Measurement: Excavation of rock, as defined in paragraph 1.04B, if ordered in writing by the Engineer with the prior written approval of the Owner, measured in place within the Contract limits as defined on the Plans or in any duly authorized modifications thereto. Measurement for rock excavation will be made for:
  - 1. Foundations within the limits of the concrete lines as defined by the working plans or by duly authorized modifications thereto, plus twelve inches (12") outside the vertical concrete lines and twelve inches (12") below base.
  - 2. Pipe trenches to a depth of six inches (6") below the bottom of the bell and for a width equal to the inside diameter of the pipe, plus fifteen inches (15") beyond the inside diameter on each side, provided that overlapping computed volumes of any ledge or boulder excavation shall be paid for only once
  - 3. Paved areas to the underside of the respective subbase for such areas.
  - 4. Lawns and planting areas to a depth of twenty-four (24") below finished grade.
  - 5. Any foreseen rock or boulder encountered, which must be removed for construction of the work defined on the plans or in modification thereto, shall be measured in its original position to the limits of clearly defined vertical construction lines and to the depth required for the defined construction; payment will be at the unit prices stated above.
- C. Blasting:
  - 1. Blasting is not allowed

### 3.7 UNACCEPTABLE SUBGRADE

- A. If unacceptable material (defined in paragraph 1.3) is encountered below or at the subgrade which excavation was indicated to be taken to, remove such materials and dispose of it as specified herein. Limits of removal shall be as directed by the Engineer. After removal of unsuitable materials, backfill with crushed stone or gravel borrow, and compact to specified density requirements. For such work not caused by the Contractor's operations or lack of surface drainage control, the Contractor shall be paid as Extra Work, as approved by the Architect/Engineer and Owner.
- B. Where subgrade has been softened or eroded by flooding, equipment traffic or placement during unfavorable weather, it shall be considered "unacceptable material" and handled in accordance with paragraph A above, at no additional cost to the Owner.

### 3.8 SUBGRADE PREPARATION AND PROTECTION

- A. General Requirements  
All subgrade areas shall be made ready for fill by removal of all organic material, topsoil, loose fill, unsuitable soils and deleterious materials, as directed by the Engineer.

B. Proof Rolling Subgrades

Prior to placement of fill, proof roll natural ground above groundwater levels by making a minimum of two passes with approved compaction equipment.

C. Rock Subgrades

1. Subgrades outside building area may have a maximum 2-foot zone of overblast rock provided that:
  - a. Loose rock is covered with suitable layer of crushed stone or choke stone; and
  - b. Prior to placing crushed stone or choke stone, the area is rolled with at least four passes of a heavy vibratory roller.
2. Bottom of rock excavations for support of foundations shall be cleaned of all loose materials.
3. Rock surface for footings shall have a maximum slope of 4 horizontal to 1 vertical.
4. Rock excavations for footings carried below design grades shall be backfilled by placement of concrete with same strength as footing at the Contractor's cost. At the discretion of the structural engineer, footings could be dropped below design elevation onto competent rock.

### 3.9 PLACEMENT AND COMPACTION OF MATERIALS

A. General Requirements

1. The soils testing laboratory will determine the optimum moisture content to achieve the maximum dry density for all soils specified or indicated to be compacted to a percentage of its maximum dry density.
2. Unless other material is indicated or specified, place excavated acceptable material for backfilling trenches and around structures and filling for embankments. The composition of these materials and tests performed to determine moisture-density relationships will govern both their acceptability for backfill and method best suited for their placement and compaction. If sufficient excavated acceptable material is not available from the excavations, provide backfill material of ordinary borrow, or as otherwise directed by the Engineer.
3. Provide adequate pumping and drainage facilities to keep the excavation area dry from groundwater and/or surface runoff so that it does not adversely affect construction procedures or cause excessive disturbance of underlying natural ground.
4. Compaction by puddling or jetting is prohibited.
5. Protect fill area by grading to drain and providing a smooth surface, which will readily shed water. Grade the surface of the areas in such a manner as to prevent ponding of surface runoff water in areas to receive compacted fill.
6. Do not place frozen fill. Do not place fill on frozen ground.
7. Placement of fill shall not begin prior to observation and approval of subgrade conditions by Engineer.
8. To the extent that is practicable, each layer of fill shall be compacted to the specified density the same day it is placed. Fill shall be placed in horizontal layers. Where the horizontal layer meets a natural rising slope, the layer shall be keyed into the slope by cutting a bench during spreading of preceding lift.
9. Prior to backfilling between foundation wall and excavation limits, remove unsuitable material, including rubbish, organic materials or other debris.



10. Do not commence filling operations until Engineer and/or Architect have observed conditions.
11. Protect foundations, footings, foundation waterproofing, and site utilities during backfilling. Repair damage at no cost to Owner.
12. Backfill shall not be placed against masonry, concrete or walls until they are braced or have cured sufficiently to develop strength necessary to withstand, without damage, pressure from backfilling and compacting operations.
13. Provide shoring, sheeting, and/or bracing of excavations as required to assure complete safety against collapse of the earth at the side of excavations. Alternatively, lay back excavations to a stable slope.
14. Upon completion of the work, the final ground surface shall be left in a firm, unyielding, true, uniform condition, free from ruts. Repair disturbed areas caused by equipment traffic at no cost to Owner.

B. Equipment

1. Compaction equipment used in open areas where space permits shall consist of vibratory rollers weighing at least 10,000 pounds.
2. Compaction equipment for fill against foundation walls and in other confined areas shall be accomplished by means of drum-type, power-driven, or by hand-guided vibratory plate compactors.

C. Compaction

1. Compaction Requirements
  - a. The degree of compaction is expressed as a percentage of the maximum dry density at optimum moisture content as determined by ASTM Test D1557, Method C. The compaction requirements are as follows:

Area	Minimum Degree of Compaction
Pavement base and subbase courses	95%
General fill below pavement subbase	95%
Trench backfill (inside bldg.)	95%
Trench backfill (outside bldg.):	
- Below pipe to spring line	95%
- Spring line to 1 ft. above pipe	95%
- 1 ft. above pipe to pavement subbase or finish grade	95%
Landscape areas	90%

Compactions percentages are based on the laboratory derived Maximum Density values.

2. Moisture Control
  - a. Discontinue backfilling and compaction from November to April (wet season) unless the Contractor demonstrates successful moisture and compaction control techniques to achieve the indicated or specified density requirements.
  - b. Fill material that is too wet for proper compaction shall be harrowed, or otherwise dried to a proper moisture content to allow compaction to the required density. If fill cannot be dried within 24 hours of placement, it shall be removed and replaced with drier fill at his expense.

- c. Fill material that is too dry for proper compaction shall receive water uniformly applied over the surface of the loose layer. Sufficient water shall be applied until the optimum moisture content is reached, as determined by the soil testing laboratory, as specified in paragraph 3.09.A.1.
- d. In no case shall fill be placed over material that is frozen. No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by heavy rains, fill operations shall not be resumed until the moisture content and the density of the previously placed fill are as specified.
- e. The Contractor shall continue to compact until the indicated or specified density requirements are achieved.

3. Placement and Lift Thickness of Material

Distribute material such that stones and lumps do not become nested, causing voids between stones. Distribute such that voids are completely filled with fine materials regardless of compaction method.

Deposit and spread material in uniform parallel layers not to exceed 12 inches (12") in thickness when utilizing heavy compaction equipment, and 6 inches (6") when utilizing light hand-operated compaction equipment.

D. Trench backfill and compaction:

- 1. Begin backfilling and proceed until completed after the pipes and conduits have been laid, joints have acquired maximum degree of hardness, pipelines and conduits have successfully passed tests and inspections required under their applicable specification sections, and concrete or masonry within the trench have reached their design strength to support all loads.
- 2. Utilize compaction devices which will not damage the pipe, conduit, or structure within the trench.
- 3. Compact material around circumference of pipe by hand tamping 6 inch layers of indicated material in the area between the trench wall and the pipe to meet density requirements stated herein.
- 4. Compact material above the pipe by tamping or mechanical means if trench width is wide enough to accommodate the compaction equipment and if the load from the equipment does not damage the pipe.

E. Fill and Backfill Under and Around Structures:

- 1. Use gravel borrow, crushed stone, or fine aggregate for fill and backfill material under structures. Place and compact material in 6 inch lifts to the specified degree of compaction as specified herein.
- 2. Use excavated acceptable material (as defined in paragraph 1.3) to backfill around structures, except as otherwise indicated on the Drawings or specified herein. Backfill around retaining walls shall be crushed stone or gravel, as indicated on the Drawings.
- 3. Do not place backfill against or on concrete structures until they have attained the strength capable of withstanding the loading to which they will be subjected.
- 4. Place material evenly around structures to maintain equal soil pressure on all sides of structure.

### 3.10 OBSERVATION AND TESTING

- A. The Owner may retain a Geotechnical Consultant to perform on-site observation and testing during the earthwork phase of the construction operations. The Contractor shall allow the Geotechnical Consultant sufficient time to make necessary observations and tests. The services of Geotechnical Consultant shall include, but not be limited to, the following:
  - 1. Observation during excavation and dewatering of building and controlled fill areas.
  - 2. Observation during backfilling and compacting operations within that area defined as building area or controlled fill area and other areas as appropriate.
  - 3. Laboratory testing and analysis of fill materials specified, as required or the testing of excess soils generated during the course of the work.
  - 4. Observation of construction and performance of water content, gradation and compaction tests at a frequency and locations that he shall select. The results of these tests will be submitted to the Owner, on a timely basis so that action can be taken to remedy indicated deficiencies. During the course of construction, the Geotechnical Consultant will advise the Owner in writing if at any time in his opinion or failure to give notice, shall excuse the Contractor from defects discovered in his work.

### 3.11 DISPOSAL OF SURPLUS, UNACCEPTABLE OR HAZARDOUS MATERIAL

- A. No excavated material shall be removed from the site or disposed of by the Contractor unless approved by the Engineer.
- B. Surplus excavated acceptable materials (as defined in paragraph 1.03B) shall be used to backfill normal excavations in rock or to replace other materials unacceptable for use as backfill or as otherwise directed by the Engineer. Upon written approval of the Engineer, surplus excavated materials shall be neatly deposited and graded so as to make or widen fills, flatten side slopes, or fill depressions; or shall be neatly deposited for other purposes as indicated by the Architect/Engineer and Owner, within its jurisdictional limits; all at no additional cost to the Owner.
- C. Surplus excavated material not needed as specified above shall be hauled away and disposed of by the Contractor at no additional cost to the Owner.
- D. Disposal of all unacceptable, surplus, and hazardous materials shall be in accordance with all applicable local, state and federal regulations.

END OF SECTION

## **SECTION 31 25 43 GEOTEXTILES**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. **Geotextile is proposed for separation of material in utility trenches section 2.01 and for supplemental stability of base and ballast under concrete pad footing. Section 2.03**
- B. Section includes:
  - 1. Furnishing and installation geotextile materials for the separation of earth materials.
  - 2. Furnishing and installation geotextile materials for the stabilization of earth materials.
- C. Contractor shall coordinate work between all Subcontractors, sections, and trades required for the proper completion of the work.
- D. Contractor is responsible for all health and safety.

#### **1.02 REFERENCES**

- A. Massachusetts Department of Transportation 2025 Standard Specification for Highways and Bridges and the Boston Public Works Rules and Specifications for Excavation Activity Within the City of Boston, latest edition.
- B. ASTM International (ASTM).
  - 1. ASTM D4355 – Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus.
  - 2. ASTM D4491 – Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
  - 3. ASTM D4533 – Standard Test Method for Trapezoid Tearing Strength of Geotextiles.
  - 4. ASTM D4632 – Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
  - 5. ASTM D4751 – Standard Test Method for Determining Apparent Opening Size of a Geotextile.
  - 6. ASTM D4873 – Guide for Identification, Storage, and Handling of Geotextiles.
  - 7. ASTM D6241 – Standard Test Method for Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe.
  - 8. ASTM D6706 – Standard Test Method for Measuring Geosynthetic Pullout Resistance in Soil.
- C. Code of Federal Regulations (CFR)

1. 29 CFR Part 1926 Subpart P – OSHA Excavation Regulations 1926.560 through 1926.562 including Appendices A through F.

### 1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods required for proper performance of the work in this Section.

### 1.04 SUBMITTALS

- A. Submit to Engineer for approval material specifications, manufacturer's product data, manufacturer's installation guidelines, and shop drawings for all materials furnished under this Section.
- B. Connection details for geotextile.
- C. Proposed mechanical connection devices.

### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Geotextile labeling, shipment, and storage shall follow ASTM D4873. Product labels shall be clearly labeled and/or marked to specifically identify each product and clearly show the manufacturer's name, style name, and roll number.
- B. Each geotextile roll shall be wrapped with a material that will protect the geotextile from damage due to shipment, water, sunlight, and contaminants. Protect rolls from crushing or abrasion during shipping and hauling.
- C. Geotextile shall be stored on a prepared surface (not wooden pallets) and should not be stacked more than two rolls high. Storage shall be such that the geotextile is protected from puncture, dirt, grease, water, moisture, mud, mechanical abrasions, excessive heat or cold, or other damaging circumstances. Temporary storage at the Project Site shall be away from standing water such that crushing or flattening of roll goods does not occur.

## PART 2 - PRODUCTS

### 2.01 SEPARATION GEOTEXTILE

- A. Separation Geotextile shall be utilized to separate layers of earth materials in utility trenches, drains, layered systems and similar installations in a non-structural configuration.

2. Composition: Woven geotextile made of 100% polypropylene slit film yarns.

3. Physical properties:

Mechanical and Physical Properties of Separation Geotextile

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value
Grab Tensile Strength, Ultimate	ASTM D4632	Pounds	120
Grab Tensile Strength, Elongation at Ultimate	ASTM D4632	Percent (%)	50
Trapezoid Tear Strength	ASTM D4533	Pounds	50
CBR Puncture Strength	ASTM D6241	Pounds	310

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Apparent Opening Size (AOS)	ASTM D4751	(U.S. Sieve)	70
Permittivity	ASTM D4491	sec <sup>-1</sup>	1.7
Flow Rate	ASTM D4491	gal/min/ft <sup>2</sup>	135
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	70

## 2.02 LIGHT-DUTY STABILIZATION GEOTEXTILE

A. Light-Duty Stabilization Geotextile shall be utilized under temporary sidewalks and unit pavers when called-for.

1. Composition: Woven geotextile made of 100% polypropylene slit film yarns.
2. Physical properties:

### Mechanical and Physical Properties of Light-Duty Stabilization Geotextile

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value
Tensile Strength @2% Strain (MD/CD)	ASTM D4595	Pounds/foot	600/600
Tensile Strength @5% Strain (MD/CD)	ASTM D4595	Pounds/foot	1620/1620
Flow Rate	ASTM D4491	Gal/min/ ft <sup>2</sup>	70
Permittivity	ASTM D4491	sec <sup>-1</sup>	90
Apparent Opening Size (AOS)	ASTM D4751	(U.S. Sieve)	40
Interaction Coefficient	ASTM D6706	-	0.89
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	90

MD – Machine Direction

CD – Transverse (Crosswise) Direction

## 2.03 STABILIZATION GEOTEXTILE

A. Stabilization Geotextile shall be utilized for stabilization of subgrades where unsuitable subsurface soil conditions are present. Stabilization geotextile shall only be utilized with the approval of Engineer.

1. Composition: Woven geotextile made of 100% polypropylene slit film yarns.
2. Physical properties:

### Mechanical and Physical Properties of Stabilization Geotextile

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value
Grab Tensile Strength, Ultimate (MD/CD)	ASTM D4595	Pounds/foot	7200/5760
Tensile Strength at 2% Strain	ASTM D4595	Pounds/foot	1370/1560
Tensile Strength at 5% Strain	ASTM D4595	Pounds/foot	3600/3600

Geotextiles

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Tensile Strength at 10% Strain	ASTM D4595	Pounds/foot	6600/5760
Flow Rate	ASTM D4491	Gal/min/ ft <sup>2</sup>	15
Permittivity	ASTM D4491	sec <sup>-1</sup>	0.23
Apparent Opening Size (AOS)	ASTM D4751	(U.S. Sieve)	20
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	80

MD – Machine Direction

CD – Transverse (Crosswise) Direction

### **PART 3 - EXECUTION**

#### **3.01 GENERAL**

- A. Install geotextile as shown on the Drawings or as called-for in the Specifications. Follow manufacture's guidelines.
- B. Ensure that geotextile is protected during installation from clogging, tears, and other damage.

#### **3.02 PIPE OR DRAINAGE SYSTEMS**

- A. Provide smooth side and bottom trench surfaces so the fabric does not bridge depressions in the soil and is not damaged by rock projections.
- B. Use fabric of a width to permit a minimum trench-width overlap across the backfill at the trench top.
- C. Lay the fabric flat in the prepared trench without stretching. Lay the top of the fabric back on the sides to allow for the placement of the aggregate backfill and pipe.
- D. Overlap ends of rolls an amount equal to the trench width prior to fabric placement. Where pockets or cavities occur in the trench bottom or sides, fill them with acceptable granular material to prevent distortion or damage to the fabric.
- E. Backfill aggregate and install pipe in a manner to prevent damage to the fabric. Compact aggregate backfill and overlap the fabric across the trench top. Do not allow the fabric to be exposed for more than 2 weeks without covering with backfill.

#### **3.03 LAYER SEPARATION AND/OR STABILIZATION**

- A. Place fabric on a normally prepared subgrade area attending the full width of the sub-base layer being protected.
- B. Place fabric in a loose and unstretched condition to minimize shifting, puncture, and/or tearing. Overlap fabric roll-ends and edges a minimum of 12 inches with adjacent material.
- C. Place subbase material within 2 weeks after placement of fabric to minimize exposure. Place sub-base material in a manner to minimize slippage of the fabric. If excessive slippage occurs, use steel securing pins per manufacturer's guidelines.

- END OF SECTION 31 25 00 -

Geotextiles

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**DIVISION 32**  
**EXTERIOR IMPROVEMENTS**



SECTION 32 10 00  
BASES, BALLASTS, AND PAVING

PART 1 GENERAL

1.1 GENERAL REFERENCE

- A. The work of this Section is integral with the whole of the Contract Documents and is not intended to be interpreted outside that context.

1.2 DESCRIPTION OF WORK

- A. Provide all labor, materials, equipment, services and accessories necessary to install granular pavement subbase, base materials, bituminous concrete roadway, temporary trench, parking area, and driveway pavements., complete and functional, as indicated in the Contract Documents and as specified herein.
- B. The principal work of this Section includes, but may not be limited to, the following:
  - 1. Fine grading and compaction of pavement subgrade.
  - 2. Furnishing, placing and compacting of subbase and base materials.
  - 3. Preparation for bituminous concrete paving.
  - 4. Bituminous concrete overlays over existing pavement, including surface preparation, and leveling courses, tack coating and all other associated operations required.
  - 5. Temporary trench pavements.
  - 6. Sawcutting existing pavements.
  - 7. Pavement markings.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Contract Drawings and Supplemental and General Conditions in the Contract Specifications.

1.4 REFERENCE STANDARDS

- A. All work done under this contract shall be in conformance with the Massachusetts Department of Transportation 2025 Standard Specification for Highways and Bridges, the English Supplemental Specifications latest edition, and the Standard Special Provisions latest edition; the Construction Standard Details latest edition, the Construction and Traffic Standard Details (as relates to traffic standard details only) latest edition; the Manual on Uniform Traffic Control Devices with Massachusetts Amendments latest edition; the Standard Drawings for Signs and Supports; the Standard Drawings for Traffic Signals and Highway Lighting latest edition; the latest edition of American Standard for Nursery Stock; and the Contract Drawings and these Contract Specifications.
- B. References herein are made in accordance with the following abbreviations and, all work under this Section shall conform to the latest editions as applicable.

MS-2: Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types The Asphalt Institute (AI).

MS-3: Asphalt Plant Manual, The Asphalt Institute (AI)

Hot Mix Asphalt Paving Handbook, US Army Corps of Engineers, UN-13 (CE MP-ET)

MS-19: Basic Asphalt Emulsion Manual, The Asphaltic Institute (AI)

ASTM D946 Specification for Penetration - Graded Asphalt Cement for use in Pavement Construction

## 1.5 WEATHER LIMITATIONS

- A. Construct paving when atmospheric temperature is above 40°F and when base is dry.
- B. The required temperature of the bituminous concrete mixture, within a tolerance of plus or minus 15°F, when delivered at the site, will be governed by the temperature of the base upon which the mix is placed, as follows:

Base Temperature in Degrees F	Required Material Temperature in Degrees F For Course Thickness in Inches			
	1	1-1/2	2	3 and Greater
35-40	-	305	295	280
41-50	310	300	285	275
51-60	300	295	280	270
61-70	290	285	275	265
71-80	285	280	270	265
81-90	275	270	265	260
91 & over	270	265	260	255

- C. Tack coat shall be applied only when the ambient temperature is above 40°F, and when the temperature has been above 35°F for 12 hours immediately prior to application. Do not apply when base is wet, contains excess moisture, or during rain.

## 1.6 SUBMITTALS

- A. Design Mix: Before any paving is constructed, submit actual design mix to the Engineer for review and approval. Design mix submittal shall follow the format indicated in the Asphalt Institute Manual MS-2, Marshall Stability Method; and shall include the type/name of the mix, gradation analysis, grade of asphalt cement used, Marshall Stability (lbs.), flow, and effective asphalt content (percent).
- B. Material Certificates: Submit materials certificate signed by the material producer and Contractor, to the independent testing laboratory certifying that materials comply with, or exceed, the requirements herein.

## 1.7 AS-BUILT DRAWINGS

- A. Submit As-Built Drawings upon completion and acceptance of work.
- B. As-Built Drawings shall be complete and shall indicate the true measurement and location, horizontal and vertical, of all new drainage system construction. As-Built drawings shall include a minimum of three ties showing the distance to each catch basin and manhole from fixed permanent objects. As-Built drawings shall also contain any additional information required by the municipality, and shall be stamped with the seal of a Licensed Land Surveyor and Licensed Professional Engineer.

## 1.8 COORDINATION

- A. The Contractor shall coordinate paving with all other work, especially underground utility construction, to prevent covering up unfinished or uninspected work and loss of time or labor by improper scheduling. Any repaving required shall be done at no additional cost to the Owner.

## 1.9 PAVEMENT WITHIN PUBLIC RIGHT-OF-WAY

- A. The construction of all pavements within public rights-of-way shall be in accordance with the rules, regulations and requirements of the Public Agency having control and ownership of such rights-of-way.

### 1.10 GUARANTEE

- A. All pavement placed shall be maintained by the Contractor for a period of one year. During this period, all areas have settled or are unsatisfactory for traffic shall be replaced at no additional cost to the Owner.

### 1.11 WARRANTIES

- A. Attention is directed to provisions of the CONDITIONS OF CONTRACT and applicable parts of Division 1 regarding guaranties and warranties.
- B. Manufacturers shall provide their standard guaranties for work specified in this Section. However, such guaranties shall be in addition to and not in lieu of all other liabilities which manufacturers and Contractor may have by law or by other provisions of the Contract Documents.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Gravel Subbase and Base:
  - 1. Gravel borrow shall conform to the requirements of Section 31 01 30.
- B. Crushed Stone Subbase and Base:
  - 1. Crushed stone for subbase shall conform to the requirements of Section 31 01 30.
- C. Mineral Aggregate:
  - 1. Coarse Aggregate shall be clean, crushed rock free from dirt and other objectionable material and shall have a percentage of wear, as determined by the Los Angeles Abrasion Test (AASHTO-T96), of not more than 30.
  - 2. Fine Aggregate:
 

The fine aggregate shall consist of one of the following:

    - a. 100% Natural sand,
    - b. 100% Stone sand,
    - c. A blend of natural sand and stone sand.

The fine aggregate, as delivered to the mixer, shall meet the following gradation requirement:

Sieve	Percent Passing	
	Minimum	Maximum
3/8 inch	95	100
No. 8	70	95
No. 50	20	40
No. 200	2	16

In the fine aggregate sieve analysis (passing No. 8), the amount between two successive sieves (No. 16, 30, 50, and 100) shall not exceed 33 percent of the fine aggregate total.

- 3. The use of reclaimed asphalt pavement in new bituminous pavement will not be permitted.
- E. Tack Coat: Emulsified asphalt; AASHTO M-140/ASTM D 997 or AASHTO M 208/ASTM D 2397, SS-1h, CSS-1, or CSS-1h, diluted with one part water to one part emulsified asphalt.

- F. Mineral Filler: Rock or slag dust, Portland cement, or other inert material complying with AASHTO M-17/ASTM D 242.
- G. Asphalt-Aggregate Mixture: The design mix shall have a minimum stability based on a 50-blow Marshall Method, complying with AASHTO T245 (ASTM D 1559), of 1200 lb. with a flow between 8 and 16. The Design Mix shall provide the aggregate gradation and bitumen content, as follows:

SIEVE ANALYSIS OF MIX  
PERCENT BY WEIGHT PASSING

Sieve	Top Course	Dense Top Course	Binder Course	Dense Binder Course	Base Course	Dense Mix
2 inch					100	
1 inch			100	100	55-80	
3/4 inch			80-100	80-100		
5/8 inch	100					
1/2 inch	95-100	100	55-75	65-80	40-65	100
3/8 inch	80-100	90-100				80-100
No. 4	50-76	50-76	28-50	48-65	20-45	55-80
No. 8	37-54	37-54	20-38	37-51	15-33	48-63
No. 16	26-40	26-40				36-49
No. 30	17-29	17-29	8-22	17-30	8-17	24-38
No. 50	10-21	10-21	5-15	10-22	4-12	14-27
No. 100	5-16	5-16				6-18
No. 200	2-7	2-7	0-5	0-6	0-4	4-8
Bitumen	5.5-7.0	5.5-7.0	4.5-5.5	5-6	4-5	7-8

Air Voids 3-5%

Allowable variance of percent bitumen by weight of total mix = 0.4+%.

## 2.2 BITUMINOUS CONCRETE FOR DRIVEWAYS

Bituminous concrete for driveways shall conform to the requirements for Dense Mix as specified in paragraph 2.1. The maximum allowable percentage of wear, as determined by the L.A. Abrasion Test (AASHTO-T96), shall be 35 percent.

## 2.3 TEMPORARY TRENCH PAVEMENT

Bituminous concrete for trenches shall conform to the requirements for Binder Mix as specified in paragraph 2.1.

## 2.4 PAVEMENT MARKINGS

- B. Pavement markings shall conform to the requirements of MHD 860
- C. The mixture of the marking material shall be within the composition limits for reflectorized pavement markings as described in the MHD Specifications as follows:
1. Fast drying traffic paint – M7.01.10/11.

- D. Application of the glass beads to be used as reflector material on the striping shall conform to Sections 860.62 and M7.03.07 of the MHD Specifications.

### PART 3 EXECUTION

#### 3.1 GENERAL

- A. The Contractor shall install all pavements in the location and to the grades shown on the Drawings, or approved by the Engineer. The type and thickness of pavement courses shall be as shown on the Drawings.
- B. Equipment: Maintain equipment in satisfactory operating condition and correct breakdowns in a manner that will not delay or be detrimental to progress of paving operations.

#### 3.2 SUBGRADE PREPARATION

- A. All subsurface utility construction shall be completed before fine grading begins.
- B. The pavement and curb subgrade shall be graded to match the existing conditions.
- C. Subgrades in in-situ soils in excavation areas and in embankment areas shall be compacted during fine grading to 95% of maximum dry density in conformance with Section 31 01 30.

#### 3.3 SUBBASE MATERIAL PLACEMENT

- A. Subbase material shall not be placed until the Engineer has approved the fine grading, compaction and condition of the subgrade.
- B. Subbase material shall be placed and spread on the approved subgrade in layers not exceeding eight inches in thickness by approved self spreading equipment. Any displacement of the compacted subgrade material by the equipment shall be restored to the required grade and re-compacted before placement of the subbase material.
- C. Subbase material shall be compacted to 95% of maximum dry density in conformance with Section 31 01 30.
- D. The surface of the subbase material shall be fine graded to the location, elevations and cross slope shown on the Drawings during final layer compaction operations.

#### 3.4 BASE MATERIAL PLACEMENT

- A. Base material shall not be placed until the Engineer has approved the fine grading, compaction and condition of the subbase material.
- B. Base material shall be spread on the approved subbase in layers not exceeding four inches in thickness by approved self spreading equipment. Any displacement of the subbase material by equipment shall be restored to the required grade and recompact before of the base material.
- C. Base material shall be compacted to 95% of dry density in conformance with Section 31 01 30.
- D. The surface of the base material shall be fine graded to the proposed location, elevations and cross slope shown on the Drawings during final layer compaction operations.

### 3.5 PAVEMENT PREPARATION

- A. Proof roll prepared base material surface to identify areas requiring removal and re-compaction, and to provide a uniform degree of compaction over the entire pavement area.
- B. Do not begin paving work until deficient base material areas have been corrected and are ready to receive paving. Paving shall not be applied until the Engineer inspects and approves the finished base.
- C. Check all frames, covers, grates, water valve boxes and other miscellaneous castings that are located in the proposed pavement areas to ensure that all have been correctly positioned and set to the proper slope and elevation. All covers and grates shall be set flush with the required finished surface. No depressions or mounds will be permitted in the pavement to accommodate inaccuracies in the setting of castings.
- D. All vertical surfaces of structures and existing concrete surfaces in contact with new bituminous pavement shall be painted with a uniform coating of an approved tack coat material. Extreme care shall be exercised in the application of this material to prevent splattering or staining of surfaces that will be exposed after the paving is completed. Surfaces that are stained as a result of the Contractor's operation shall be repaired or replaced at no additional cost to the Owner.
- E. All existing paved surfaces to be overlaid shall be thoroughly cleaned by a self-propelled sweeper. Areas inaccessible by power sweeper shall be broom swept until the pavement surface is clean.

### 3.6 PAVEMENT APPLICATION

- A. Tack Coat:
  - 1. Apply to contact surfaces of all cement concrete and other surfaces abutting or projecting into pavement.
  - 2. Apply tack coat to existing pavement surfaces to receive bituminous concrete overlay at a rate of 0.05 gallons per square yard of surface.
  - 3. Allow to dry until at proper condition to receive paving.

### 3.7 ROLLING AND COMPACTION

- A. The mixture, after being spread, shall be thoroughly compacted by rollers having a minimum weight of 240 pounds per inch of wheel width as soon as it will bear the weight of the rollers without undue displacement. The number, weight, and types of rollers and sequences of rolling operations shall be such that the required density and surface are consistently attained while the mixture is in a workable condition.
- B. Compact mixture with hot hand tampers or hand rollers in areas inaccessible by self-propelled rollers.
- C. Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling, if required, with hot material.
- D. Follow breakdown rolling as soon as possible, while mixture is hot. Continue second rolling until mixture has been thoroughly compacted.
- E. Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained maximum density.

- F. Remove and replace paving areas mixed with foreign materials and defective areas and fill with fresh, hot top or binder course material. Compact by rolling to maximum surface density and smoothness.
- G. After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Erect barricades to protect paving from traffic.

### 3.8 TEMPORARY TRENCH PAVEMENT

- A. Where specified and as directed by the Engineer and after placement of the gravel subbase, temporary bituminous concrete pavement shall be placed above the trench, between the edges of the existing pavement. Temporary trench pavement shall be installed to the dimensions shown on the drawings.
- B. The temporary trench pavement shall be repaired as necessary to maintain the surface of the pavement until completion of the contract.
- C. Final pavement shall not be placed over trenches until the Base Course pavement has been in place over an entire winter season (November 15 to April 15) unless otherwise directed in writing by the Engineer.

### 3.9 FIELD QUALITY CONTROL

- A. Independent Testing Laboratory, selected and paid by Owner, shall be retained to perform construction testing of in-place bituminous concrete courses for compliance with requirements for thickness and surface smoothness. Top and base courses will be randomly cored by the testing laboratory technicians at a minimum rate of one core for every 20,000 square feet of paving, however, no less than three cores in light duty areas and three cores in heavy duty areas will be obtained. Core holes shall be immediately filled with bituminous or cement concrete by the Contractor. Pavement samples will be tested for conformance with the mix design.
- B. Grade Control: Establish and maintain required lines and elevations.
- C. Thickness: In-place compacted thickness shall not be less than thickness specified on the drawings. Areas of deficient paving thickness shall receive a tack coat and a minimum 1 inch compacted thickness overlay; or shall be removed and replaced to the proper thickness, at the discretion of the Engineer, until specified thickness of the course is met or exceeded at no additional cost to the Owner.
- D. Surface Smoothness: Testing shall be performed on the finished surface of each course for smoothness, using 10-foot straightedge applied parallel with, and at right angles to centerline of paved area. The results of these tests shall be made available to the Owner upon request. Surfaces will not be acceptable if they exceed the following tolerances for smoothness:
 

Base and binder course surface:	1/4 inch
Top course surface:	3/16 inch
- E. Check surface areas at intervals necessary to eliminate ponding areas. Remove and replace unacceptable paving as directed by Owner.
- F. Compaction: Field density test for in-place materials shall be performed by examination of field cores and shall have a minimum compacted density of 95% of laboratory Marshall Density in accordance with one of the following standards:
  - 1. Bulk Specific Gravity and Density of Compacted Bituminous Mixture Using Paraffin-Coated Specimens: ASTM D-1188.
  - 2. Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface Dry Specimens: ASTM D-2726.

Areas of insufficient compaction shall be delineated, removed, and replaced in compliance with the specifications at no additional cost to the Owner.

### 3.10 MEETING EXISTING PAVEMENTS

- A. Where new pavements will abut existing pavements, the Contractor shall sawcut the existing pavements to produce a uniform, smooth joint surface. Sawcutting of existing pavements shall be neat, straight and even lines, and done in a manner that prevents damage to the pavement to remain.
- B. Full-Depth Pavement: Sawcut by approved method to the full depth of the pavement prior to placement of any new pavement. The sawcut surface shall be a neat true line with straight vertical edges free from irregularities. The sawcut surface shall be tack coated immediately prior to the installation of the new abutting bituminous concrete material to provide a bond between the old and new pavement. The new compacted pavement surface shall be finished flush with the abutting pavement.
- C. Bituminous Concrete Overlays: The existing bituminous pavement shall be sawcut to a neat true line with straight vertical edges free of irregularities for a minimum depth of one and one half inches. One and one-half inches of pavement shall be removed to form a transition section across the entire pavement width and with a length of two feet at driveways and six feet in roadways and parking areas. Immediately prior to the placement of the bituminous concrete overlay, the sawcut edges of the existing pavement shall be tack coated to bond the new pavement to the old pavement. The new pavement surface shall be finished flush with the abutting pavement. The surface seam of the pavement joint shall be sealed with tack coat and back sanded.

### 3.11 PAVEMENT MARKINGS

- A. All existing traffic striping disturbed within the areas of the Contractors operations shall be replaced with fast drying traffic paint over the Base and Binder Course pavement and with thermo-plastic reflectorized traffic striping over the final pavement. New striping shall conform to Massachusetts Department of Transportation 2025 Standard Specification for Highways and Bridges and materials used shall exactly match the existing striping. The work shall include but not be limited to multiple centerlines, sidelines, intersecting layouts including cross walks and traffic warning signs.
- B. New striping shall be installed by a Contractor possessing the capability necessary to perform the Work in an acceptable manner. New striping shall be placed on both the temporary pavement that will be in place over a winter season and on the final pavement.

### 3.12 ADDITIONAL PAVING

- A. If the Engineer determines that the existing bituminous concrete pavement on local streets is thicker than the permanent pavement specified herein, the Contractor may be required to install additional bituminous concrete to obtain the depth of the existing pavement
- B. If for the installation of full width paving, the Engineer determines that the existing road surface requires additional leveling pavement, then the Contractor shall install additional bituminous concrete to bring the section to proper line and cross section. Additional paving required to restore the proper line and cross section of binder course installed by the Contractor which has become rough and uneven shall be furnished and installed at the expense of the Contractor.

END OF SECTION



SECTION 32 00 00  
PLANTING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. This section is only a portion of the Contract Documents. All of the Contract Documents, including Division 1 General Requirements, apply to this section.

1.2 SECTION INCLUDES

- A. Provide all facilities, labor, materials, tools, equipment, appliances, transportation, supervision, and related work necessary to complete the work specified in this section, and as shown on the Drawings.
- B. The work of this section includes the planting work as indicated on the drawings and/or as specified herein. Information on plant species, sizes, locations, and planting details are located in the drawings. The work shall include but not be limited to the provision and installation of trees, shrubs, and groundcover plants, and associated staking, fertilizing, backfill soil mix, one-year maintenance contract, clean-up, and guarantee.

1.3 RELATED SECTIONS

- A. Section 31 01 30 – EARTHWORK
- B. Section 32 92 00 - TURF AND GRASS

1.4 SUBMITTALS

- A. Submit the following under provisions of Section 01 33 00 - Submittal Procedures:
  - 1. Plant Material Availability Confirmation: At least 60 days prior to anticipated planting, the Contractor shall submit a confirmation of availability for all plants on the list, accompanied by nursery sources. No substitutions shall be made without the written consent of the Landscape Architect.
- B. Tagging Schedule:
  - 1. At least 30 days prior to planting, the Contractor shall submit a schedule for tagging material to the Landscape Architect. Once tagged, the Contractor shall provide written documentation to the Landscape Architect that trees have been paid for or a retainer has been placed on the plant material to ensure that the nursery will hold the plants until planting operations can begin. If, due to schedule delays, the planting will be delayed and the plant material needs to be released, the Contractor shall submit the request to release material in writing, for approval of the Landscape Architect. No plant material shall be released without approval in writing from the Landscape Architect.
- C. Manufacturers Product Data:
  - 1. Specifications Instructions: Submit material specifications, manufacturer's literature and installation instructions where applicable attesting that the following materials meet the requirements specified:
  - 2. Fertilizer

3. Mulch
  4. Stakes
  5. Soil Amendments
- D. Soil Test Reports:
1. See Section 32 92 00 - TURF AND GRASS for requirements.
  2. Written approval of loam borrow shall be obtained prior to delivery of any materials to the site.
- E. Submittal Schedule
1. Before Installation:
    - a. Schedule
    - b. Manufacturer's Product Data
    - c. Soil Test Reports
    - d. Plant Availability Confirmation
    - e. Tagging Schedule

## 1.5 QUALITY ASSURANCE

- A. Conduct all planting operations by experienced personnel under competent supervision. Education, experience and/or certification or license by appropriate organization may be reviewed to evaluate competence. The Contractor must show previous evidence of having successfully installed and maintained landscape projects of similar scope to the subject project with regard to quantities of plants involved, sizes of plants involved, anticipated cost, complexity and a minimum of five (5) years experience on projects similar to this one.
- B. Work to be done shall be coordinated with all other trades on site. Work includes furnishing all labor, materials, equipment and services required to complete all planting indicated on the drawings, as specified in this section.
1. Loam/Topsoil: Landscape Contractor shall be responsible for screening, amending and spreading of loam and/or existing topsoil (if available).
  2. Plant Approval: All plants will be subject to the approval of the Landscape Architect. Plants shall be inspected at the grower's nursery and upon delivery at the site for conformity to specification requirements. Approval of plants at the source does not alter the right of inspection and rejection at the site, or during the progress of the work. Rejected plants shall be removed immediately from the site. A Landscape Contractor's representative shall be present at all inspections. The Landscape Architect shall provide plastic tags for marking the plants that are selected. All plants on the Plant List shall be pre-selected by the Landscape Contractor to ensure that plants of specified size and species are available at the nursery before the plant selection trip is scheduled. Unless otherwise specified, inspection outside the Commonwealth of Massachusetts shall be made at the expense of the Landscape Contractor, including transportation, accommodations and meals. If, at the discretion of the Owner, nursery tagging and review of the plant materials during delivery at the site are waived, the Contractor is still obligated to supply materials that meet or exceed the quality as established by these specifications. If additional tagging will be necessary, Contractor shall compensate Owner for such tagging.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver plant or associated planting materials to the site, until all specified submittals have been submitted to, and approved by, the Landscape Architect.

- B. Deliver plant materials to site in healthy and undamaged condition. Tree trunks shall be protected during shipping by a heavy walled cardboard sleeve or other suitable material. Plants shall either be shipped in enclosed trucks or all surfaces, leaves and branches shall be wrapped to prevent damage and desiccation.
- C. Rootballs shall be moist upon arrival and shall be kept moist until installation. All balled and burlapped plants that cannot be planted at once must be heeled in by setting them in the ground, covering the rootballs with soil, and watering them adequately.
- D. All plants on-site shall meet the requirements specified on the planting plan. Any plant material on site which does not meet the criteria specified shall be replaced with approved plants at the Contractor's expense. Prior approval of plants at the source shall not alter the right of inspection or rejection at the site or during the progress of the work.
- E. Only move plant material with solid balls wrapped in burlap or synthetic wrapping or in wire baskets.
- F. Deliver plant materials immediately prior to placement. Keep plant materials moist. As required by temperature or wind conditions, apply anti-desiccant emulsion to prevent drying out of plant materials. If installation is delayed more than six (6) hours after delivery, store plants in shade and cover rootballs with mulch. Plants shall not be stored on pavement. Plants shall be watered daily.
- G. Reject plants when ball of earth surrounding roots has been cracked or broken prior to, or during, process of planting.
- H. Reject plants when burlap, staves and ropes required in connection with transplanting have been displaced prior to acceptance.

#### 1.7 REFERENCE STANDARDS

- A. References herein to any technical society, organization, group or body are made in accordance with the following abbreviations and, unless otherwise noted or specified, all work under this section shall conform to the latest edition as applicable:
  - 1. NAA - National Arborist Association, 3537 Stratford Road, Wantagh, New York, 11793, USA, as published in Standards for Pruning Shade Trees, 1979, or latest edition (for pruning standards).
  - 2. ASNS - American Standard for Nursery Stock prepared by the American Association of Nurserymen, latest edition.
  - 3. MHDSSHB- Massachusetts Highway Department Standard Specifications for Highways and Bridges as most recently amended
  - 4. AOAC - Association of Official Agricultural Chemists
  - 5. SPN - Standardized Plant Names as Designated by the American Joint Committee on Horticultural Nomenclature
  - 6. ANSI - American National Standard Institute

#### 1.8 LAWS AND REGULATIONS

- A. Do not close or obstruct any street, sidewalk, alley or passageway without prior notification and permission. Conduct operations as to interfere as little as possible with the use ordinarily made of roads, driveways, alleys, sidewalks, or other facilities near enough to the Work to be affected thereby.
- B. Contractor shall verify all utility locations and elevations prior to excavation. The Contractor shall be responsible for any damages done by himself or his workmen to existing utilities, which shall be repaired or paid for by the Contractor. Before construction starts, all utility companies, public and private, must be contacted including those in control of utilities not shown on the plans. Contractor must contact Dig Safe

at 1-888-344-7233, seventy-two (72) hours prior to any excavation. Report any discrepancies in writing to the Landscape Architect and receive written instructions prior to proceeding.

## 1.9 INSPECTION FOR ACCEPTANCE

- A. After the minimum ninety (90) day maintenance period, the Contractor shall request the Landscape Architect, in writing, for an inspection to determine whether the plant material is acceptable. If the plant material and workmanship are acceptable, written notice will be given by the Landscape Architect to the Contractor stating that the guarantee period begins from the date of the Certificate of Acceptance.
- B. If a substantial number of plants are sickly and dead at the time of inspection, acceptance will not be granted, and the Contractor's responsibility for maintenance of all the plants shall be extended until replacements are made. All dead and unsatisfactory plants shall be promptly removed from the project. Replacements shall conform in all respects to the specification for new plants and shall be planted in the same manner.

## PART 2 PRODUCTS

### 2.1 PLANT MATERIAL

- A. The Contractor shall furnish and plant all plants shown on the drawings. Plants shall conform to measurements and species designated on plant list and standards as established in American Standard for Nursery Stock ANSI Z60.1-1996 or as most recently amended. All plants shall be typical of their species or variety in growth habit. Plant sizes, habit, rootballs, and containers shall be in accordance with the American Standard for Nursery Stock (ASNS, latest edition), Standards of the American Association of Nurserymen (AAN) as a minimum requirement for acceptance. No substitutions will be accepted, without prior approval of the Landscape Architect. Such requests shall be made at least one (1) month prior to nursery inspections. Requests shall list at least five (5) major nursery sources contacted for confirmation of unavailability.
- B. All plant material shall be nursery grown and shall be shapely, well-grown, healthy, sound and free of disease, insect pests, eggs or larvae, and shall have a well developed root system. All plants shall be typical of their species or variety and shall have a normal habit of growth. They shall conform to the trade classification of "heavy specimen".
- C. All trees shrubs and vines shall be freshly dug; no heeled-in plants and no plants from cold storage will be accepted. Plants shall have been transplanted or root pruned at least once in the last 3 years. All plants shall be hardy under climatic conditions similar to those in the locality of the project. All plant materials shall be properly identified by name on legible, weatherproof labels securely attached thereto.
- D. Deciduous Trees: Provide trees of height and caliper scheduled or shown and with branching configuration recommended by ANSI Z60.1 for type and species required. Provide single stem trees except where special forms are shown or listed.
  - 1. The height of trees (measured from the crown of the roots to the tip of the top branch) shall not be less than the minimum size designated. Take caliper measurement six inches above ground level. The trunk of each tree shall be a single trunk growing from a single unmutilated crown of roots. No part of the trunk shall be conspicuously crooked as compared with normal trees of the same variety. The trunk shall be free from sunscald, frost cracks, or wounds resulting from abrasions, fire and other causes. No pruning wounds shall be present having a diameter exceeding two inches and such wounds must show vigorous bark on all edges. Plants shall not be pruned prior to delivery.

- E. Deciduous Shrubs: Provide shrubs of the height shown or listed and with not less than minimum number of canes required by ANSI Z60.1 for type and height of shrub required.
  - 1. Shrubs shall meet the requirements for spread or height specified in the "Plant Schedule". The measurements for height shall be taken from the ground level to the average height of the shrub and not to the longest branch. The thickness of each shrub shall correspond to the trade classification "No.
  - 2. Single stemmed or thin plants will not be accepted. The side branches must be generous, well twigged, and the plant as a whole well branched to the ground. The plants must be in a moist vigorous condition, free from dead wood, bruises, or other root or branch injuries. Plants shall not be pruned prior to delivery.
- F. Coniferous and Broad leafed Evergreens: Provide evergreens of sizes shown or listed. Dimensions indicate minimum spread for spreading and semi-spreading type evergreens and height for other types, such as globe, dwarf, cone, pyramidal, broad upright, and columnar. Provide normal quality evergreens with well-balanced form complying with requirements for other size relationships to the primary dimension shown.
- G. Ground cover plants, vines, and perennials shall be of size, age and/or condition listed in the "Plant Schedule". Plants shall be healthy, free of insects and diseases. Ground cover plants shall be potted. Perennials shall be container-grown. Vines shall be balled and burlapped or container-grown. Provide plants established and well rooted in removable containers or integral peat pots and with not less than minimum number and length of runners required by ANSI Z60.1 for the pot size shown or listed.
- H. Container-grown stock shall have been in a container long enough for the root system to have developed sufficiently to hold its soil together firm and whole.
- I. Container grown plants shall have sufficient roots to hold planting mix intact after removal from containers without being root-bound.
- J. Plants that meet the measurements specified, but do not possess a normal balance between height and spread shall be rejected.
- K. Plants shall not be pruned before delivery. Trees which have a damaged or crooked leader, or multiple leaders, will be rejected. Trees with abrasion of the bark, sunscalds, disfiguring knots or fresh cuts of limbs over 1-1/4 inches which have not completed calloused, will be rejected.
- L. Certificates of inspection shall accompany the invoice for each shipment of plants as may be required by laws for transportation. File certificates with the construction manager prior to unloading of the material. Inspection at place of growth does not preclude rejection of the plants at the site.
- M. Plant material which, under special conditions, is approved in advance by Landscape Architect to be planted after the specified seasons for planting shall be dug during the normal season for digging of the particular plant material and be stored and maintained in good health until planting. The Contractor shall assume all costs for maintaining plant material while it is being stored.
- N. Plant List - If there is any discrepancy between quantities shown on the Plant List and work shown on the drawings, the Landscape Contractor shall supply the plants necessary to complete the work as intended on the drawings. Where the size of a plant on the Plant List is a variation between a minimum and maximum dimension, the sizes of the plants furnished will be equal to the average of the two dimensions. Where a single dimension is given, this dimension represents the minimum size of the plants to be furnished.

## 2.2 TOPSOIL

- A. The landscape contractor shall be responsible for screening, amending and spreading existing topsoil.
- B. Utilize previously stripped and stockpiled topsoil prior to obtaining additional loam borrow from off-site sources. If quantity of stockpiled topsoil is insufficient, provide additional loam borrow as required to complete the landscape work at no additional cost to the Owner
- C. Topsoil, which has been stockpiled on the site, may be used provided it can be made to comply with these Specifications herein for loam borrow/planting soil as outlined in Section 32 92 00 – TURF AND GRASS

## 2.3 LOAM BORROW

- A. The Contractor shall provide loam borrow, as outlined in Section 32 92 00 Turf and Grass.

## 2.4 SOIL AMENDMENTS

- A. See Section 32 92 00 Turf and Grass - Part 2 - for soil amendments.

## 2.5 MULCH

- A. Native shredded hardwood mulch. Mulch shall not contain pieces more than 2 inch thick or an excess of fine particles. Mulch shall be light in color.

## 2.6 PLANT BACKFILL MIXTURE

- A. Topsoil/loam, organic material and amendments for plant backfill for both planting beds and individual plants shall be thoroughly premixed to meet bedding soil requirements as directed by the Landscape Architect.
- B. The plant backfill mixture shall have an acidity range of between 5.5 pH and 6.0 pH. Minimum 10% organic with a balanced profile of nutrients within normal to optimal range as described by University Extension Services soil laboratory.

## 2.7 WATER

- A. Water shall be furnished by the Contractor and shall be potable and suitable for irrigation and free from ingredients harmful to plant life. Hose and other watering equipment required for the work shall be furnished by the Contractor.
- B. Provide a moisture retention matt for each feature planting consisting of a 12" tube of presaturated granular hydrogel wrapped in organic burlap min. 3' diameter. Or equivalent product such as Tree diaper.

## 2.8 STAKING MATERIALS

- A. Staking shall be at the discretion of the Landscape Architect.
- B. Wire and hose shall NOT be used for staking and guying. Arbortape, or equal, shall be used to fasten trees to stakes.

- C. Stakes shall be 2' x 2" minimum hardwood stakes, pointed at one end. Length shall be 8' minimum.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- D. Inspect all surfaces and verify that they are in proper condition to receive the work of this Section.
- E. Any defects, such as incorrect grading, etc., shall be reported to the Owner's representative prior to beginning work.
- F. Commencement of work by Contractor indicates acceptance of and full responsibility for planting areas.

### 3.2 PLANTING DATES

- A. Plant within the following dates or as specified in drawing notes:
  - 1. Evergreen trees and shrubs:
    - a. Spring: April 15-June 1
    - b. Fall: September 1 – November 12
  - 2. Deciduous Trees and shrubs:
    - a. Spring: April 1 – June 15
    - b. Fall: October 1 – November 15
- B. Planting shall be prohibited in frozen or muddy ground.
- C. Special conditions may warrant a variance in the above dates. Contractor shall notify the Landscape Architect of the conditions and the proposed variance. Permission will be given if the variance is warranted.
- D. Approximate planting dates schedule shall be furnished by Contractor to the Landscape Architect for approval. Material planted out-of-season shall be given extra care and attention by the Contractor. Out-of-season planting shall be entirely at the Contractor's risk.
- E. Contractor shall schedule tree selection and digging operations so as to comply with nursery industry recognition of "Spring Dig Only"/"Fall Hazard" plant materials. No substitutions of plant materials will be allowed for fall planting based on unavailability due to the "Spring Dig Only"/"Fall Hazard" restrictions. Contractor shall have selected and had the material dug during the previous spring or shall obtain material from a nursery skilled at fall digging.

### 3.3 PREPARATION OF PLANTING BACKFILL MIXTURE

- A. Mix specified soil amendments and fertilizers with topsoil and/or loam borrow, prior to spreading, at rates specified by testing agency and Landscape Architect. Delay mixing in of fertilizer if planting will not follow placing of planting soil within a few days. Thoroughly and evenly incorporate amendments throughout the soil by approved methods.
- B. Topsoil/loam, organic material and bone meal for plant backfill for both planting beds and individual plants shall be thoroughly premixed in the proportions of one (1) part of organic material with seven (7) parts of loam together with ten (10) pounds of bone meal per cubic yard of mixture or directed by the Landscape Architect.

- C. For pit and trench type backfill, mix amendments into planting soil prior to backfilling, and stockpile at site.
- D. For planting beds, mix amendments for planting soil prior to planting.
- E. Mix amendments with dry soil prior to mixing of fertilizer.
- F. Apply fertilizer (other than that constituting a portion of complete fertilizers) directly to subgrade before applying planting soil and tilling.
- G. Maintain at all times during the planting operations one or more stockpiles of approved planting soil.

### 3.4 EXCAVATION OF TREE PITS AND PLANTING BEDS

- A. Stake out on the ground locations for trees and outlines of all planting beds. Obtain approval of Landscape Architect before excavation.
- B. If rock, utilities, underground construction work, tree roots or obstructions are encountered in the excavation of shrub beds and tree pits, alternate locations may be selected by the Landscape Architect.
- C. Prior to excavation of tree pits, Contractor shall remove soil and wrapping covering trunk flare. Measurement between trunk flare and bottom of root ball shall be determined for each tree prior to excavation of tree pit for each tree.
- D. Excavate tree pits and planting beds to depths required by drawings. Remove subsoil and dispose of properly. Do not mix with planting soil or use as backfill. Tree pits shall be circular in outline. Tree pits shall be three times wider than the root ball diameter. Planting beds for shrubs shall be continuous and continue for at least 18 inches from the edge of ball. Scarify bottom and edges of pit.
- E. Test drainage of planting beds and pits by filling with water twice in succession. Owner's representative shall be present at time of testing. Conditions permitting the retention of water for more than 24 hours shall be brought to attention of the Landscape Architect.
- F. Notify the Landscape Architect in writing of all soil or drainage conditions which the Contractor considers detrimental to growth of plant material.

### 3.5 PLANTING

- A. Remove all wrappings so that the plant canopy and stems and trunks may be reviewed for damage or disease.
- B. Place trees in the center of the holes. Set the trunk flare of the plant 2-3" above finish grade.
- C. Cut and remove all ropes, wires, burlap, synthetic wrap, and wire baskets completely from root balls and dispose of off site. Owner's representative shall be shown removed materials prior to backfilling and disposal off site.
- D. Set plant plumb, turned to face best side of plant forward, and brace firmly in position. Loosen surface soil of root ball and comb out any exposed roots. Prune all broken or girdling roots.
- E. Use planting mix to backfill plant pits. Planting mix shall be a minimum of 12" deep within planting/shrub bed areas. See Drawings for specific depths. Place planting mix in layers not to exceed 8



inches. When plant pits have been backfilled approximately two-thirds full, water thoroughly before installing remainder of the planting soil to eliminate air pockets. Add remainder of backfill. Using the end of a shovel handle, push handle into soil at a 45 degree angle down into backfill to provide water access to eliminate air pockets. Do not use foot to compact soil. Holes should be provided around circumference of root ball. Add water until soil is thoroughly saturated.

- F. Manually disentangle root ball of all container grown plants prior to planting.
- G. Form 3" deep soil saucers around tree pits and shrub beds.
- H. Water all plants immediately after planting. All plants shall be flooded with water twice within first 24 hours of planting.
- I. Mulch all pits and beds to depth indicated on details immediately after first watering. Depth shall be measured after settlement. No mulch shall be applied prior to first watering of plants.
- J. Plants shall not be wrapped after installation. A shade barrier of plastic mesh shall be placed at the base of all trees whose flares were covered with soil to prevent sunscald on the newly exposed bark. Mesh shall be at 12" in height and shall not come into contact with the truck.

### 3.6 PRUNING

- A. Each tree and shrub shall be pruned by a Massachusetts Certified Arborist in accordance with American Nurserymen Association standards to preserve the natural character of the plant and in a manner to meet its particular requirements in the landscape.
- B. Pruning and trimming shall include the following:
  - 1. Remove all dead wood, suckers and broken or badly bruised branches. Never cut a leader.
  - 2. Prune to preserve natural character of plant.
  - 3. Use only clean, sharp tools.
  - 4. Disinfect tools between each plant.
    - a. Wound shall not be painted.
    - b. Apply anti-desiccant to foliage if conditions warrant as deemed appropriate by Landscape Contractor or Landscape Architect.
- C. Time of Pruning:
  - 1. At installation: pruning shall consist of removing dead branches, and broken or badly bruised branches.
  - 2. Near end of Guarantee Period: prune as noted in A, above and to remove rubbing branches etc.

### 3.7 CLEAN-UP

- A. Soil or other material brought onto paved areas shall be promptly removed. Keep paved areas clean at all times.
- B. Upon completion of work under this section, all excess stones, debris and soil resulting from planting work shall be cleaned up and removed from the project site.
- C. Broom and hose clean all pavements.
- D. Repair any damage to site or structures to restore them to original condition at no additional cost to the Owner.

### 3.8 MAINTENANCE AND PROTECTION OF PLANTINGS

- A. Maintenance shall begin immediately after each plant is planted and shall continue until final acceptance, but in no case less than one year after substantial completion of planting.
- B. Maintenance shall include but not be limited to the following:
  - 1. Maintenance of new planting shall consist of pruning, watering, cultivating, weeding, mulching, tightening and repairing of stakes or guys, resetting plants to proper grades or upright position, restoration of the planting saucer and furnishing and applying such sprays as are necessary to keep the planting free of insects and disease.
  - 2. Planting areas and plants shall be protected at all times against trespassing and damage of all kinds for the duration of the maintenance period. If any plants become damaged or injured, they shall be treated or replaced as directed at no additional cost.
  - 3. All plantings shall be watered at least twice per week during maintenance period. At each watering the soil around each tree or shrub shall be thoroughly saturated. If sufficient moisture is retained in the soil, as determined by the Landscape Architect, the required watering may be reduced.
  - 4. Watering shall be provided from April through November.
- C. The Contractor shall provide a maintenance manual for all plant material under his direction. This manual shall contain all necessary maintenance and scheduling information which will enable the Owner to maintain new plantings in a vigorous condition. Before planting work is completed, one copy of the manual is to be submitted to the Landscape Architect for approval. Before the acceptance of the planting work, two copies of the manual shall be furnished to the Owner for his future reference. The Landscape Architect may require re-submittals of the Owner maintenance manual if it is determined that the information provided is not sufficient to allow for proper maintenance.

### 3.9 REJECTION AND REPLACEMENT

- A. Promptly remove rejected plant material from site.
- B. Replace as soon as planting conditions permit all such rejected material with plants of same species and of the quality stated in Contract documents.

### 3.10 ONE YEAR GUARANTEE AND INSPECTIONS

- A. One year after the date of acceptance, the Contractor, at the request of the Owner, shall arrange for a meeting with the Landscape Architect to review the condition of the plantings. Prior to the meeting, the Contractor shall remove tree support systems and tags on plants. The Contractor's certified arborist shall provide final pruning of trees for shape and form and to remove items such as crossing branches, dead or broken branches. Any disease or insect pests, eggs or larvae shall be treated/removed. A letter from the arborist certifying the above has been completed shall be provided with the meeting request. The Landscape Architect will provide a written report on the results of the inspection. At the Owner's discretion, the Contractor shall replace any dead or unhealthy plants at this time or provide a credit to the Owner.

**END OF SECTION**

SECTION 329200  
TURF AND GRASSES

PART 1 GENERAL

1.1 GENERAL

- A. This section is only a portion of the Contract Documents. All of the Contract Documents, including Division 1 General Requirements, apply to this section.
- B. **No defined lawn areas are included. Work for this section includes repair of lawn areas disturbed by construction access, wildflower meadow, and naturalized groundcover areas. Cross reference these soil requirements to related planting sections.**

1.2 SECTION INCLUDES

- A. This Section specifies requirements for topsoil, and seed for site landscape areas.
- B. This work includes:
  - 1. Furnishing, spreading, and fine grading of topsoil and loam borrow.
  - 2. Application of soil amendments.
  - 3. Seeding, and mulching.
  - 4. Maintenance of seeded areas.

1.3 SUBMITTALS **(submittals may be waived per discussion with construction administrator with the understanding that standard best practices are met and materials are approved in writing per onsite inspection)**

- A. Manufacturers Product Data:
  - 1. Submit material specifications and installation instructions where applicable attesting that the following materials meet the requirements specified:
    - a. Fertilizer
    - b. Seed
    - c. Soil conditioners
    - d. Organic Matter (compost)
  - 2. Submit product information with mix ratios or recommended application rates.
- B. Soil Test Reports:
  - 1. Prior to ordering the topsoil, submit soil test report to the Engineer for review and approval. Do not order materials until approval has been obtained. Delivered materials shall closely match the approved samples.
- C. Submittal Schedule:
  - 1. Before Installation:
    - a. Manufacturer's Product data
    - b. Soil Test Reports
    - c. Seed mix cert.

1.4 QUALITY ASSURANCE

- A. All work shall be performed by personnel experienced in plant and native seed installation under the supervision of a qualified foreman.
- B. Work shall be coordinated with all other trades on site.

## 1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver material to the site in original unopened packages, showing weight, manufacturer's name and guaranteed analysis.
- B. Store materials in a manner that their effectiveness and usability will not be diminished or destroyed. Materials shall be uniform in composition, dry, unfrozen and free flowing. Any material which has become caked or otherwise damaged or does not meet specified requirements will be rejected.
- C. Loam borrow/ Compost loam and topsoil (if available) shall be provided and spread by the landscape contractor.
- D. Source Quality Control:
  - 1. Invasive plant material: Source of loam borrow and the surrounding area shall be reasonably free of invasive plants, especially knotweed, by a licensed plant scientist or horticulturalist.
  - 2. Analysis and standards: Package standard products with manufacturers certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.
- E. All work shall be performed by personnel experienced in lawn installation under the full time supervision of a qualified foreman.
- F. Work shall be coordinated with all other trades on site.

## 1.6 TESTING LABORATORY SERVICES

- A. All topsoil obtained from on-site and/or loam borrow obtained from off-site used for work of this section shall be tested prior to being spread or mixed. All testing shall be done by an approved independent test laboratory or by an agriculture unit of the State University System in accordance with the most current "Standards" of the Association of Official Agricultural Chemists. A single lab shall perform all testing. Contractor shall provide required representative samples of material proposed for use to testing facility for analysis and recommended treatment. Separate tests are required for each loam borrow source. The Contractor shall bear any and all costs incurred in testing and analysis. Test reports shall also contain specific recommendations as to the exact types, times and rates of application of soil additives and fertilizers based upon the soil test results and type of material to be planted. A copy of all soil test reports shall be provided to the Engineer. Materials shall be stockpiled and covered so as not to interfere with other work or with other subgrade or fill materials. Recommendations shall be followed during planting operations.
- B. Report shall have name of project, date of testing, and location of sample source. Analysis shall include:
  - 1. Classification of soil by mechanical sieve with soil classification
  - 2. Percent sand, silt and clay particles
  - 3. Percent organic content by weight on combustion
  - 4. Percent soluble salt index (1:2 soil-water ratio)
  - 5. Percent pH (1:1 soil-water ratio and buffer)
  - 6. Percent Nitrogen (nitrate and ammonium), Phosphorous and Potash
  - 7. Calcium, Aluminum, Magnesium, Manganese, Ferric Iron and Sulfur
  - 8. Lead
- C. Test reports shall have been conducted within the three (3) months prior to planting operations. If planting operations extend for more than one season, Contractor shall provide additional testing reports at no additional cost to the Owner.

- D. Note that any and all materials and procedures with respect to soil additive and fertilizers, contained herein, are approximate and that all soil additives will be adjusted to comply with test reports and with the recommendations of the Engineer.

## 1.7 INSPECTION FOR ACCEPTANCE

- A. Conditions of Acceptance:
  - 1. Acceptance shall be given for the entire portion of the seeded areas. No partial acceptance will be given.
  - 2. Lawns shall exhibit a uniform, thick, well-developed stand of grass. Lawn areas shall have not bare spots in excess of two inches in diameter and bare spots shall comprise no more than two percent of the total area of that lawn.
  - 3. Lawn areas shall not exhibit signs of damage from erosion, washouts, gullies, or other causes.
  - 4. Pavement surfaces and site improvements adjacent to lawn areas shall be clean and free of spills or overspray from placing or handling of topsoil and seeding operations.
- B. Inspection and Acceptance:
  - 1. Upon written request of the Contractor, the Engineer will inspect all lawn areas to determine completion of work. This request must be submitted at least five days prior to the anticipated inspection date.
  - 2. If the lawn areas are not acceptable, the Engineer will indicate corrective measures to be taken, and shall extend the maintenance period as necessary for the completion of the work. The Contractor shall request a second inspection of the lawns after corrective measures have been accomplished. This process shall be repeated until the total area of the lawn being inspected is acceptable.
  - 3. When the lawn areas are acceptable, a meeting of the Contractor and Owner's representative will be arranged to accept the lawn work. A final inspection will be a part of this meeting. At this meeting, the Contractor shall be furnished with a written acceptance of the lawn section being approved. The Contractor shall turn over maintenance of the lawn to the Owner at this meeting.
  - 4. Following the acceptance of lawns, the Contractor shall provide the Owner with access to all lawn areas as required for the Owner's maintenance work.
- C. Site Clean-Up:
  - 1. The Contractor shall leave the site in a clean and neat condition. Final acceptance will not be granted until this condition is met.

## PART 2 PRODUCTS

### 2.1 SOILS

- A. If available, utilize previously stripped and stockpiled topsoil prior to obtaining additional loam borrow from off-site sources. If quantity of stockpiled topsoil is insufficient, provide additional loam borrow as required to complete the landscape work at no additional cost to the Owner.
  - 1. Topsoil, which has been stockpiled on the site, may be used provided it can be made to comply with the Specifications herein for loam borrow/planting soil.
  - 2. **Provide a minimum depth of twelve (12) inches of planting soil in all areas indicated for seeding.**
  - 3. **Provide 18" minimum depth for planting beds.**
- B. The Contractor shall provide 1" screened loam borrow, which shall be a "loam", or "fine sandy loam" as determined by mechanical analysis and based on the "USDA Textural Classification". It shall conform to the following mechanical analysis:

- C. Maximum grain size shall be one (1) inch largest dimension. The maximum retained on the one-quarter inch sieve shall be 20 percent by weight of the total sample. Test shall be by combined hydrometer and wet sieving in compliance with ASTM D422 after destruction of organic matter by ignition.
- D. Loam borrow shall consist of natural topsoil, free from subsoil, obtained from an area that has never been stripped. The location of the source of loam shall be submitted for approval. It shall be removed to a depth of one (1) foot or less if subsoil is encountered. Planting soil shall be of uniform quality screened free of hard clods, stiff clay, hardpan, sods, partially disintegrated stone, lime, cement, ashes, slag, concrete, tar residues, tarred paper, boards, chips, glass, sticks, or any other undesirable material.
- E. Loam borrow shall be screened loam and shall be free of plants and their roots, debris, and other debris and other extraneous matter. It shall be uncontaminated by salt, water, foreign matter and substances harmful to plant growth. The electrical conductivity (EC2) of a 1:2 soil-water suspension shall be equal to or less than 1.0 milliohms/cm. (test material passing #4 sieve).
- F. Loam borrow shall have an acidity range of pH 5.5 to pH 6.5 and **shall contain not less than 7% nor more than 10% (20% for planting beds) organic matter as determined by the loss on ignition of oven-dried samples.** Test samples shall be oven-dried to a constant weight at a temperature of 230°F ± 9°. To adjust organic matter content, the soil may be amended, prior to site delivery, by the addition of composted humus. Use of organic amendments is acceptable only if random soil sampling indicates thorough incorporation.
- G. All soil provided from off-site sources shall be brought to the site meeting all specification requirements. There shall be no mixing or amending of imported soil on site. No loam shall be spread prior to screening and review and approval by the Engineer. The loam borrow must not be handled or moved when in a wet or frozen condition.
- H. To adjust organic matter content, the soil may be amended, prior to delivery, by the addition of composted leaf mold or other acceptable organic matter. Use of organic amendments is accepted only if random soil sampling indicates a thorough incorporation of these materials.
- I. If raising of pH is required to amend the screened loam to bring it within pH range, it shall be accomplished using a combination of basalt dust, volcanic ash, or biochar. Limestone is only acceptable if calcium levels are below acceptable range. If applied pH or Lime amendment shall be no more than 200 pounds per 1,000 square feet of loam may be incorporated into the soil prior to placement, (or 20 pounds per 1,000 square feet if applied by surface application) within a single season.
- J. Prior to placing loam for lawns, pH shall be adjusted by means of soil additives to not less than 6.0 nor more than 6.8, as recommended by soils tests.
- K. Commercial fertilizer, limestone, humus, organic matter or other additives shall be used to counteract soil deficiencies as recommended by the soil analysis and as directed by the Engineer.
- L. Testing shall confirm that the topsoil, obtained from the site or loam from off-site, contains not less than 7 percent nor more than 20 percent organic matter as determined by the loss on ignition of oven-dried samples. Test samples shall be oven-dried to a constant weight at a temperature of 230 degrees F (+5) and certified test results shall be sent to the Engineer by the laboratory for approval.

## 2.2 SOIL CONDITIONING MATERIALS

- A. For soils under 10% organic apply 1lb/1000sf. hydrogel soil moisture conditioner bountigel or approved equivalent.

- B. Lime: Lime shall be an approved agricultural limestone containing no less than 50 percent total carbonates, and 25 percent total magnesium with a neutralizing value of at least 100 percent. The material shall be ground to such a fineness that 40 percent will pass through a No. 100 U.S. Standard Sieve, and 98 percent will pass through a No. 20 U.S. Standard Sieve. The lime shall be uniform in composition, dry and free flowing, and shall be delivered to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis. Any lime that becomes caked or otherwise damaged (making it unsuitable for use) will be rejected.
- C. Fertilizer: Fertilizer shall be a complete, standard product complying with State and Federal Fertilizer Laws. The fertilizer shall be uniform in composition, dry and free flowing, and shall be delivered to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis, and submitted to the Engineer for approval. Fertilizer shall contain the following minimum percentage of available plant food by weight: 10 percent nitrogen, 10 percent phosphorus, 10 percent potash, in which 75 percent of the nitrogenous elements shall be derived from organic sources or Urea-form. Exact percentages of fertilizer may vary in accordance with the soil test report. Any fertilizer that becomes caked or otherwise damaged (making it unsuitable for use) will be rejected.
- D. Superphosphate: is not acceptable.
- E. Manure - shall be well-rotted, unbleached stable manure not less than eight months and not more than two years old. It shall be free from sawdust, shavings or refuse of any kind and shall not contain over twenty-five (25) percent straw. The Contractor shall furnish information as to the kind of disinfectant or chemicals, if any, that may have been used in storage of the manure.
- F. Sulfur - shall be in elemental granular form, powder shall not be used. Aluminum sulfate shall not be used.
- G. Bonemeal - shall be of commercial quality, raw, finely ground; with 4 percent nitrogen and 20 percent phosphoric acid.
- H. Iron Sulfate – iron sulfate shall be constituent of an approved horticultural product produced as a fertilizer.
- I. Magnesium Sulfate – Magnesium Sulfate shall be a constituent of an approved horticultural product produced as a fertilizer.
- J. Potash – potash (potassium oxide) shall be a constitute of an approved horticultural product produced as a fertilizer.

## 2.3 WATER

- A. Water shall be furnished by the Contractor, suitable for irrigation, and free from ingredients harmful to plant life. Hoses and other watering equipment required for the work shall be furnished by the Contractor. **The owner is obliged to provide an on site water source at no additional cost to the project.**

## 2.4 SEED

- A. Lawn Seed: Seed shall be fresh, clean and selected from the previous year's crop; weed seed content not to exceed 1 percent; complying with applicable Federal and State seed laws; furnished and delivered premixed in unopened containers in the following proportions:

B.

	Percent Proportion	Percent Germination Minimum	Percent Purity Minimum
1. For Lawns:			
Creeping Red Fescue	50%	85%	95%
Kentucky Bluegrass (improved varieties)	40	85	90
Manhattan Perennial Rye	10	90	95
2. For Temporary Lawns:			
Annual Rye	60%	90%	95%
Perennial Rye	40	90	95

C. **Wildflower seed mix shall be PA Coastal Plain Province UPL Meadow Mix (ERNMX-270-1) Or approved equivalent applied over two growing seasons ant a rate of 1lb per 1000sf. or equivalent.**

1. Submit a certificate from the supplier outlining the type and percentage of plants in the mix.
2. Meadow seed shall be spread with a standard bulking agent and dry hydrogel.

### PART 3 EXECUTION

#### 3.1 SEED BED PREPARATION

- A. Grade all seeded areas to finish grades as indicated on the drawings. When no grades are shown, areas shall have a smooth and continual grade between existing or fixed controls and elevations shown on Drawings. Roll, scarify, and rake, as required, to obtain uniform, even lawn surfaces. All lawn areas shall slope to drain away from buildings / structures. Finish grades shall be approved by the Engineer.
- B. If no new topsoil is required, thoroughly loosen soil in areas to be seeded or sodded to a minimum depth of 6 inches with approved power or hand equipment. Remove rocks, debris, clods and other undesirable substances, and maintain grading and drainage patterns.
- C. When topsoil is required, place topsoil on previously scarified subsoil to a minimum depth of 6 inches. Subsoil shall be cleaned of debris and stones larger than 2 inches prior to topsoil spreading.
- D. Apply fertilizer, superphosphate, and lime, at rates recommended by the testing agency and approved by the Engineer. Thoroughly and evenly incorporate fertilizer and lime into the soil to a depth of 3 inches, by discing or other approved methods. In areas inaccessible to power equipment, fertilizer and lime shall be incorporated into the soil by manual methods. At existing trees, the depth shall be adjusted to avoid disturbance of the roots.
- E. Seeding and sodding shall be done immediately after final grading, provided the bed has remained in a good, friable condition, and has not become muddy or compacted. Any undulations or irregularities in the surface resulting from fertilizing, liming, tilling, or other causes, shall be egarded prior to seeding and sodding. The surface shall be free of stones, cleared of all trash, debris, roots, brush, wire, grade stakes and other objects that would interfere with establishment of grass and grass maintenance operations.

#### 3.2 SEEDING

- A. Seeding shall be done between April 1 to June 1, or September 15 to October 15, except as otherwise authorized in writing by the Engineer.
- B. All disturbed areas not covered by buildings, paving, or otherwise developed, shall be seeded.



- C. In areas having slopes 3:1 or steeper, and in drainage swales, the Contractor shall carry out a separate overseeding operation immediately after sowing the specified seed mix. The overseeding shall be sown at the rate of 3 pounds per 1,000 square feet or as required by seed mix supplier (New England Wetland Plants Inc. or approved equal.)

### 3.3 MAINTENANCE AND PROTECTION

- A. Maintenance of seeded areas shall begin immediately after installation and continue until final acceptance, but in no case, less than the following period.
  - 1. Sixty (60) days after substantial completion of seeding.
    - a. Maintenance may continue until the next growing season if in the opinion of the Engineer the season enters winter dormancy and no maintenance should continue.
    - b. Seeded areas shall be maintained until all areas have a close stand of vegetation, and at least 90% shall be permanent specified species.
- B. Maintenance includes watering, weeding, mowing and edging, reseeding, replacement of dead sod, disease and insect pest control, repair of all erosion damage, and any other procedures consistent with good horticultural practice, required to ensure normal, vigorous, and healthy growth. Maintenance shall continue until final acceptance of the work.
- C. Maintenance shall also include all temporary protection fences, barriers, signs, and all other work incidental to proper maintenance.

### 3.4 SITE CLEAN-UP

- A. The Contractor shall leave the site in a clean and neat condition. Final acceptance will not be granted until this condition is met.
- B. Protect seeding work and materials from damage due to landscape operations, operations by other contractors or trades, and trespassers.
- C. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged seeded areas as directed.

### 3.5 INSPECTION AND ACCEPTANCE

- A. After the minimum specified maintenance period, the Contractor shall request the Engineer, in writing, for an inspection to determine whether the grass stand is acceptable.
  - 1. The request shall be received at least ten (10) days before the anticipated date of inspection.
  - 2. Acceptance shall be given for the entire portion of the grass areas. No partial acceptance will be given.
  - 3. Pavement surfaces and site improvements adjacent to lawn areas shall be clean and free of spills or overspray from placing or handling of topsoil and seeding operations.
- B. If the grass material and workmanship are acceptable, written notice will be given by the Engineer to the Contractor of a "Certificate of Acceptance".
  - 1. If the seeding work is unacceptable the Contractor shall continue the maintenance of the seeded areas by over seeding, patching, replacing erosion control materials, applying additional amendments as required, and other work as necessary to achieve an acceptable stand of grass as determined by the Engineer.
  - 2. When the seeded areas are acceptable, a meeting of the Contractor and Owner's representative will be arranged to accept the seeding work. A final inspection will be a part of this meeting. At this meeting, the Contractor shall be furnished with a written acceptance of the section being approved. The Contractor shall turn over maintenance to the Owner at this meeting.

- C. Remove erosion control measures after grass establishment period and repair the area to match adjacent conditions.

END OF SECTION

**DIVISION 33**  
**UTILITIES WATER**

SECTION 33 1901

WATER SUPPLY SYSTEM (Drinking Fountains)

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

**New Drinking fountains/ installation of drinking fountains provided by others, Provision of spare parts.**

Pipe fittings, valves, and valve boxes.

Anchors and thrust blocks.

Miscellaneous water system appurtenances.

Connections to existing water systems.

Disinfection and testing of new systems and appurtenances.

B. Contractor shall coordinate work between all Subcontractors, sections, and trades required for the proper completion of the work.

C. Contractor is responsible for all health and safety.

1.2 COORDINATION WITH JURISDICTIONAL AUTHORITY

A. Contractor shall notify and coordinate the work of this Section with the local authority having jurisdiction over water supply, whether public or private system owner/operator.

B. Obtaining permits or approvals which may be required to perform the work of this section, including all costs, fees and taxes required or levied.

C. Contractor shall obtain all required approvals for connection to, or extension of, any portion of the domestic or fire protection water systems.

D. The closing of valves necessary for making connections with the existing water systems will be done by Contractor with the assistance of Engineer. Sufficient notice shall be given the jurisdictional authority for a planned connection. No allowance will be made for any delay in the closing of valves. A 48-hour notice shall be given to adjacent buildings/residences affected by the shutdown, and shall be done by Contractor to the satisfaction of jurisdictional authority and Engineer. Jurisdictional authority or Engineer may require the work be completed outside of normal working hours during low use time periods.

1.3 REFERENCE STANDARDS

A. Reference herein to any technical society, organization, group or regulation are made in accordance with the following abbreviations and, unless otherwise noted or specified, all work under this Section shall conform to the latest edition as applicable.

B. Code of Federal Regulations (CFR)

29 CFR 1926, Safety and Health Regulations for Construction

C. American Society for Testing and Materials (ASTM)

ASTM B88 - Standard Specification for Seamless Copper Water Tube.

ASTM F477 - Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

ASTM D3139 - Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.

ASTM A536 - Ductile Iron Castings.

ASTM D1557 - Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>)).

D. American National Standards Institute (ANSI)

ANSI A21.50 - Thickness Design of Ductile-Iron Pipe

ANSI A21.51 - Ductile-Iron Pipe, Centrifugally Cast, for Water

ANSI A21.4 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water

ANSI A21.10 - Ductile-Iron and Gray-Iron Fittings, 3 in through 48 in (75 mm through 1200 mm), for Water and Other Liquids

ANSI 61 - Drinking Water System Components - Health Effects

E. American Water Works Association (AWWA)

AWWA C104 - Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings.

AWWA C110 - Standard for Ductile-Iron and Gray-Iron Fittings.

AWWA C111 - Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

AWWA C150 - Standard for Thickness Design of Ductile-Iron Pipe.

AWWA C151 - Standard for Ductile-Iron Pipe, Centrifugally Cast.

AWWA C207 - Standards for Steel Pipe Flanges for Waterworks Service- Sizes 4 In. through 144 In. (100 mm Through 3,600 mm).

AWWA C502 - Standard for Dry-Barrel Fire Hydrants.

AWWA C504 - Standard for Rubber-Seated Butterfly Valves.

AWWA C509 - Standard for Resilient-Seated Gate Valves for Water Supply Service.

AWWA C550 - Standard for Protective Epoxy Interior Coatings for Valves and Hydrants.

AWWA C651 - Disinfecting Water Mains.

AWWA C900 - Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In.-12 In. (100 mm-300 mm), for Water Transmission and Distribution.

AWWA C800 - Standard for Underground Service Line Valves and Fittings.

State Building Code, including all Amendments, Supplements, and Errata.

F. Local Jurisdictional Authority

Comply with standards of the Local Jurisdictional Authority. Should this Specification differ from those standards, the standards of the Local Jurisdictional Authority will govern.

1.4 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods required for proper performance of the work in this Section.
- B. Use equipment of adequate size, capacity and quantity to accomplish the work of this Section in a timely manner.
- C. Maintain all temporary facilities and controls in proper and safe condition throughout the progress of the work.

1.5 COORDINATION WITH JURISDICTIONAL AUTHORITY

- A. Contractor shall notify and coordinate the work of this Section with the local authority having jurisdiction over water supply, whether public or private system owner/operator.
- B. Contractor shall obtain all required approvals for connection to, or extension of, any portion of the domestic or fire protection water systems.
- C. Service Interruption: Provide Jurisdictional Authority five (5) days advanced notice for any planned interruption associated with the work. Comply with customer notification requirements of the Jurisdictional Authority.

Jurisdictional Authority may require the work be completed outside of normal working hours during low use time periods.

1.6 SAFETY

- A. Contractor shall conduct all excavation activities in conformance with applicable regulations, including those relating to warning signs, excavation safety, sheeting, shoring, and stabilization.
- B. Contractor shall provide and maintain barricades, signs, lights, etc., required for the protection of personnel, materials and property. Temporary barricades, etc. shall conform all applicable codes and regulations, and shall be lighted at night with lanterns, flares and reflectorized paint as required for safety. Adapt barricades, signs, lights, etc. to evolving site conditions throughout the progress of the work.
- C. Provide other safety devices as required, including adaptation of such safety devices to changing site conditions, to prevent unauthorized entry to construction areas and open excavations. Provide warning signs and other temporary construction safety devices necessary for proper completion of the work in compliance with applicable safety regulations.

- D. Contractor shall properly design and furnish all labor, materials, equipment, and tools necessary to completely construct the excavation support system, permanent or temporary, including sheet piling, trench shields, trench boxes, timber trench shoring, pneumatic/hydraulic shoring, steel sheeting or sheeting using other materials, sloping and benching. All of the proper materials and all equipment necessary to protect employees in excavations against cave-ins shall be furnished and installed.
- E. Any time an excavation is to remain open, at a minimum, provide full enclosure with safety barriers and fencing, warning signs, and additional safety control measures as appropriate.

#### 1.7 SUBMITTALS

- A. Copies of all permits and/or approvals from Jurisdictional Authority.
- B. Shop Drawings:

Submit shop drawings, descriptive literature, or both, showing pipe materials and appurtenances to be furnished. Shop Drawings shall be submitted to Engineer for approval prior to ordering materials.

Shop drawings showing the configuration, dimensions, layout, and spacing of major and minor components such as pipe, joints, restraints, valves, and other proposed details of assembly. Show in large-scale details any unique assembly, and/or installation requirements.
- C. Copies of manufacturer-provided installation instructions, operation instructions, and maintenance material for all equipment furnished under this Section.
- D. Manufacturer's warranties and associated warranty registration data in Owner's name. Submit two (2) copies of each warranty to Engineer in the manufacturer's/supplier's standard form or if there is no standard form available, in a form specified by Engineer.
- E. As-Built Drawings.

#### 1.8 DELIVERY, STORAGE AND HANDLING

- A. Storage of pipe, fittings, valves, hydrants and other water line appurtenances on the site shall be in accordance with the manufacturer's recommendations, subject to the approval of Engineer.
- B. Care shall be taken in loading, transporting and unloading to prevent injury to the pipe, fittings, valves, hydrants, and other water line appurtenances. Pipe or fittings shall not be dropped. All pipe or fittings shall be examined before laying and no piece shall be installed which is found to be defective. Any damage to pipe and fitting coatings shall be repaired as directed by Engineer.
- C. Pipe, fittings, valves, hydrants and other water system appurtenances which are defective from any cause, including damage caused by handling, and determined by Engineer as non-repairable, shall be unacceptable for installation and shall be replaced at no cost to the Owner.
- D. Pipe, and all water system appurtenances that are damaged or disturbed through any cause prior to acceptance of the work shall be repaired, realigned or replaced as required by Engineer at no additional cost to the Owner.

## PART 2 PRODUCTS

### 2.1 GENERAL

- A. The drawings are diagrammatic only and are intended to indicate the extent, but not all details, of the system, which shall be constructed. All materials and fittings are not shown; but Contractor shall furnish and install all materials and fittings required for the complete system.

### 2.2 DUCTILE IRON PIPE

- A. Centrifugally-cast ductile iron pipe, AWWA C151/A21.51, thickness Class 52, AWWA C150/A21.50. Pipe shall be furnished in 18-foot or 20-foot nominal lengths, unless otherwise required by Jurisdictional Authority standards.

Interior: cement-mortar lined, ANSI A21.4/AWWA C104 with additional asphaltic seal-coat, ANSI A21.4/AWWA C104.

Exterior: factory-coated with a double coat of asphaltic material, ANSI A21.51-02/AWWA C151.

- B. Fittings

Ductile iron pipe fittings shall have a pressure rating of 350 psi and shall conform to AWWA C110/ANSI A21.10. All fitting shall be compatible with pipe.

The type of fittings for pipe and valve connections shall be determined by Contractor in accordance with the requirements shown on the Drawings prior to ordering the fittings.

Fittings shall be cement-mortar lined and coated as specified for pipe.

- C. Joints

Joints between pipe (pipe-to-pipe): push-on joint, ANSI/AWWA C111/A21.11.

Pipe size 3" to 24": Tyton Joint

Pipe size 30"-48": Fastite Joint

Joints at fittings (pipe-to-fitting; fitting-to-fitting): Mechanical joints, ANSI A21.11/AWWA C111. Mechanical joints shall be provided with required gaskets, lubricant, gland, T-bolts, and accessories conforming to ANSI A21.11/AWWA C111. T-bolts shall be corrosion resistant to handle corrosive conditions on any buried bolts.

Fully-Restrained Joints:

At push-on joint: 1700 Megalug Restraint Harness by EBBA Iron, Inc. or approved equal.

At mechanical joint: MJ Field Lok Gasket by U.S. Pipe & Foundry, Allgrip 3600 by Star Pipe Products, or approved equal.

- D. Couplings



Couplings and accessories shall be pressure rated at least equal to that of the pipe. Couplings shall be provided with corrosion resistant nuts and bolts. The interior of the coupling shall be epoxy-coated, AWWA C550.

Transition couplings for joining pipe of different diameters shall be provided with corrosion resistant nuts and bolts.

After assembly, all exterior surfaces including the bolts and nuts shall be completely coated with two coats of a heavy-duty protective asphaltic coating.

## 2.3 POLYVINYL CHLORIDE (PVC) CROSS BONDED POLYETHENE (PEX) WATER PIPE

- A. If approved by Engineer, PVC water pipe may be substituted for ductile iron pipe. PEX may be substituted for Copper water pipe in landscape water systems.
- B. PVC Plastic Municipal Water pipe shall have integral bell and spigot joints and shall meet the requirements of AWWA C900-97 PVC Pressure Pipe and Fabricated Fittings, 4" through 12", for "water distribution". Class 150 pipe shall conform to the requirements of DR18.
- C. All pipe shall be suitable for use as a pressure conduit. Provisions must be made for expansion, and contraction at each joint with an elastomeric ring, which meets the requirements of ASTM F477-02, Standard for Elastomeric Seals (Gaskets) for Joining Plastic Pipe. The wall thickness in the bell section shall conform to the requirements of ASTM D3139-98, Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals. When used in potable water systems, the pipe shall meet ANSI/NSF 61-99. The pipe shall be manufactured to cast iron outside dimensions in accordance with AWWA C900-97.

## 2.4 GATE VALVES

- A. Gate valves shall be resilient seated conforming to the requirements of AWWA C509-01.
- B. Gate valves shall be cast iron body, bronze mounted, double disk, non-rising stem, O-ring type stuffing box.
- C. Gate valves shall open to the left (counter clockwise) and shall be mechanical joint type.
- D. Bolts, studs and nuts shall be made from a corrosion-resistant material such as low-zinc bronze, nickel copper alloy, or stainless steel.
- E. The operating nut shall be 2 inches square at the base, tapering to 1-15/16 inches square at the top.

## 2.5 BUTTERFLY VALVES

- A. Butterfly valves are generally used on pipe 16 inches and greater in diameter, and shall be installed in accordance with the standard practices of the Jurisdictional Authority.
- B. Butterfly valves shall be pressure Class 150B mechanical joint end with ductile iron body conforming to ASTM A536-84, Grade 65-45-R and stainless steel body seat, all in accordance with ANSI F1433-97/AWWA C504-00 Rubber-Seated Butterfly Valves.

## 2.6 VALVE BOXES

- A. Each gate valve shall be provided with a valve box and cover.
- B. Valve boxes shall be of the adjustable, telescoping, heavy-pattern type designed and constructed to prevent the direct transmission of traffic loads to the pipe or valve.
- C. Valve boxes shall be cast iron, asphalt coated with cast iron covers. The smallest inside diameter of the shaft shall not be less than 5-1/4 inches. The lower section of the box shall be designed to enclose the operating nut and stuffing box of the valve. Provisions shall be made for adjustment through at least 6-inches vertically while retaining a lap of at least 4 inches between sections.
- D. Covers shall be close fitting and substantially dirt-tight. The top of the cover shall be flush with the top of the box rim. Unless otherwise required by the Jurisdictional Authority, the word 'WATER' shall be cast in the top surface of the cover.

## 2.7 DRINKING FOUNTAINS

- A. Fountains:
- B. Parlin Library Fountain provided by owner model TBD
- C. Main St. Meadow at 88 Main Transit stop: [https://www.elkayfiles.com/spec-sheets/lk4420bf1u\\_spec.pdf](https://www.elkayfiles.com/spec-sheets/lk4420bf1u_spec.pdf) Elkay | SKU: LK4420BF1UEVG with Elkay LK4420BF1U | Freestanding Bottle Filling Station, Filterless, Non-refrigerated. By Elkay
- D. (4) Freeze Resistant Bury Valve For Single Fountain Model 6518FR is a fully engineered pneumatic operated freeze-resistant valve system installed below frost line. By Haws Co, or approved equivalent. To be purchased and delivered to Everett DPW facility 11 Norman St. Everett MA.

## 2.8 YARD HYDRANT (SEVEN ACRE PARK) (VERIFY ALTERNATES) (PHASE 2 - NIC)

- A. Hydrants: Aquor self draining quick connect hydrant with check valve 36" stem, 1/2" NPT outlet 3/4". Or equivalent.

Type of Thread: National Standard.

Number of Outlets: 1 at 3/4 inch hose connections

Depth of cover: 4'-0" minimum. (Hydrant depth plus box depth)

Bolts and nuts: corrosion-resistant material.

NDS standard irrigation hand hole 17"x30"X 24" polypropylene box, cover HDPE green

## 2.9 TAPPING SLEEVE AND VALVE

- A. Tapping sleeves: AWWA C223, bolted-sleeve type with mechanical joint connection to the existing water pipe and flanged end outlets for connecting the tapping valves. Tapping sleeves shall be suitable for a working water pressure of 200 psi and outlet flanges shall conform to the 125-pound American Standard with Cor-Ten or cadmium plated cast iron nuts and bolts.

## 2.10 THRUST BLOCKS

- A. Thrust blocks shall be installed as required by the Jurisdictional Authority.

- B. Concrete: Minimum 28-day compressive strength of 3,000 psi.
- C. In certain areas, thrust blocks cannot be used because of the density of other utilities and inability to construct thrust blocks bearing against "undisturbed soil". In such case, restrained joints shall be used at that location.

#### 2.11 CORPORATION STOPS AND CURB STOPS

- A. Corporation stops: ball type corporation valves threaded to a receive compression-type fitting as manufactured by Mueller Co., Ford Meter Box Co., Grand Junction Pipe & Supply, or approved equal.
- B. Curb stops: ball valve threaded to receive compression-type fittings by Mueller Co., Ford Meter Box Co., Grand Junction Pipe & Supply, or approved equal.
- C. Stops shall be sized to receive the service tubing without the use of enlargement/reduction fittings.

#### 2.12 SERVICE BOXES

- A. Service boxes shall be cast iron improved extension type with arch pattern base. Covers shall be held in place with bronze bolts and the word "WATER" shall be cast into the top surface of the cover. Service box shafts shall have a minimum inside diameter of 2-1/2 inches. Service boxes shall be as manufactured by Mueller Co., Ford Meter Box Co., Grand Junction Pipe & Supply, or approved equivalent.

#### 2.13 WATER SERVICE

- A. Services, two inches or smaller: Pex A or Copper water tubing, Type K, ASTM B88 and ANSI Standard 61 for underground water service.  
  
Joints: Three part compression couplings or an approved equal.
- B. Water Service Fittings: Fittings, couplings, adapters, check valves and service saddles shall be in conformance with AWWA C800.

#### 2.14 METER PITS/VAULTS

- A. As required by Jurisdictional Authority. (N/A for drinking fountain and locking frost free yard hydrant).

#### 2.15 BACKFLOW PREVENTERS

- A. As required by Jurisdictional Authority. (N/A for drinking fountain and locking frost free yard hydrant). Back flow preventor is integral to the feature installed or where these are an extension of existing landscape irrigation meter and backflow preventer are existing upstream of the proposed connections.

#### 2.16 PRESSURE REDUCING VALVES

- A. As required by Jurisdictional Authority.

#### 2.17 METERS

- A. As required by Jurisdictional Authority.

## 2.18 BEDDING

- A. Unless otherwise indicated, bedding shall consist of screened gravel, maximum size 3/4 inches and minimum size 3/8 inches.
- B. When clay, wet, soft or silty soil conditions prevail, 3/4-inch crushed stone shall be used for bedding.

## PART 3 EXECUTION

### 3.1 GENERAL

- A. All water pipes, fittings, valves, hydrants and other appurtenances shall be installed at the locations as shown on the Drawings and/or directed by Engineer.
- B. The proposed location and vertical alignment may be altered to avoid conflicts with existing and proposed utilities, as approved by Engineer.

### 3.2 LAYING DUCTILE IRON PIPE AND FITTINGS

- A. Ductile iron pipe and fittings shall be installed in accordance with the requirements of AWWA C600.
- B. Each length of pipe shall be laid with firm, full and even bearing throughout its entire length, in a trench prepared and maintained in accordance with Section 31 0130 - Earthwork.
- C. All pipe shall be clean before laying. When installation is stopped for any reason, the open ends of the pipe shall be closed by watertight plugs or other approved means. If water is in the trench when work is resumed, the plug shall not be removed until the trench has been dewatered and all danger of water entering the pipe has been eliminated.
- D. Fittings, in addition to those shown on the Drawings, shall be provided if required to avoid utility conflicts.
- E. When cutting of pipe is required, the cutting shall be done by machine, leaving a smooth cut at right angles to the axis of the pipe. Cut ends of pipe to be used with a push-on bell shall be beveled to conform to the manufactured spigot end. Cement lining shall be undamaged.
- F. Maximum allowable deflection for pipe laid without fittings shall not exceed the allowable amount established by the pipe manufacturer and shall not exceed those shown in AWWA C600.
- G. The pipe shall be laid with a minimum cover of 4 1/2 feet (4.5 ft) below finished grade, unless otherwise required by the Municipality or directed by Engineer.

### 3.3 JOINTING DUCTILE IRON PIPE, PUSH-ON TYPE

- A. Push-on joints shall be made in strict accordance with the manufacturer's instructions. A rubber gasket shall be inserted in the groove of the bell end of the pipe and the joint surface cleaned and lubricated using the pipe manufacturer's suggested methods and materials. The plain end of the pipe to be laid shall be inserted in alignment with the bell of the pipe to which it is to be jointed and pushed home with a jack or by other means. After joining the pipe, a metal feeler

gauge shall be used to make certain that the rubber gasket is correctly located and has not been twisted or otherwise displaced.

### 3.4 JOINTING MECHANICAL JOINT PIPE AND FITTINGS

- A. Mechanical joints shall be made in strict accordance with the manufacturer's instructions. Mechanical joints shall be made by first cleaning the surfaces against which the gaskets will come in contact with a wire brush. The gasket, bell and spigot shall be lubricated by washing with soapy water just prior to assembling the joint. After the nuts have been made up finger tight, the bottom nut, then top and then diametrically opposite nuts shall be progressively tightened. Bolts shall be tightened to the torques listed:

Bolt Size (Inches)	Range of Torque (Foot-Pounds)
5/8	45-60
3/4	75-90
1	85-100

- B. Under no conditions shall extension wrenches or a pipe over the handle of an ordinary ratchet wrench be used to secure greater leverage. After installation, a heavy bitumastic coating shall be applied to all bolts and nuts.
- C. Restraining device shall be ductile iron and shall have dimensions such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI A21.11 and ANSI A21.53-00/AWWA C153 latest revision.

### 3.5 PVC WATER PIPE

- A. PVC Water Pipe shall be installed in accordance with Uni-Bell Standard UNI-B-3-Recommended Practice for the Installation of Polyvinyl Chloride (PVC) Pressure Pipe (Nominal Diameters 4-36 inch) and AWWA C605-94.

- B. Assemble joints as follows:

Inspect the bell and remove any foreign matter.

Clean off the spigot end of the pipe and apply lubricant to the spigot end, covering the beveled nose and sealing surface.

Place the beveled end in the companion bell and provide straight alignment

Push the pipe straight into the bell with a block and bar until the stop mark on the spigot is even with the end of the bell.

Do not assemble the joint by swinging or stabbing, or by using a backhoe bucket.

- C. PVC pipe may be tapped directly or by using saddles. Only AWWA C900-97, DR 18 and DR 14 in sizes 6" through 12" can be directly tapped. When direct tapping, follow the procedures in Uni-Bell Standard UNI-B-8-Recommended Practice for the Direct Tapping of Polyvinyl Chloride (PVC) Pressure Water Pipe.
- D. Saddles or service clamps used with PVC Water Pipe shall provide full support around the pipe circumference and provide a bearing area of sufficient width along the pipe axis (minimum of 2 inches).
- E. Each length of pipe shall be laid with firm, full and even bearing throughout its entire length, in a trench prepared and maintained in accordance with Section 31 2310 - Earthwork.
- F. The pipe shall be laid with a minimum cover of 4 1/2 feet (4.5 ft) below finished grade.

### 3.6 CONCRETE THRUST BLOCKS

- A. Where pipes change horizontal and vertical direction, at hydrants, tees and other fittings, and wherever abnormal thrust forces may be developed, the Contractor shall construct thrust and anchor blocks as detailed on the Drawings. They shall be concrete, of minimum dimensions as detailed on the drawings or of adequate additional size to suit actual conditions to withstand pressures anticipated, and shall be founded in undisturbed soil.
- B. Concrete for thrust blocks shall have a minimum 28-day compressive strength of 3,000 psi.
- C. Fittings, which do not use thrust blocks resting against natural occurring material with passive resistance pressure of 1,500 psf, shall be installed with a restrained joint system as specified in Article 3.7.

### 3.7 RESTRAINED JOINTS

- A. Restrained joints shall be installed at bends, reducers, tees, valves, dead ends, and hydrants. The minimum length of pipe to be restrained on either side of the joint shall be as shown on the table below. The fittings of the new piping shall be for restrained joints, as marked on the Drawings.

Number of Joints to Restrain  
on Either Side of Fitting

Fitting Type	Number of Joints to Restrain on either Side of Fitting (Based on 18-foot pipe length)
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90 Degree bend	3
45 Degree bend	2
22 ½ degree bend	2
Tee, Branch	3
Tee, Run	2

- B. No restraining is required in the direction of the existing pipe if only a short length of it is exposed in the trench for making a connection.
- C. Restrained joint assemblies for push-on pipe and fittings shall be made in strict accordance with the manufacturer's recommended installation procedures.
- D. Restrained joint assemblies for mechanical joint pipe shall be EBAA Iron MEGALUG, Cascade Waterworks Rapidfit, U.S Pipe Co. MJ Field Lok, or approved equivalent.

### 3.8 WATER / SANITARY SEWER SEPARATION

- A. When a sewer pipe crosses above or below a water pipe, Contractor shall comply with these following procedures:

#### Relation to Water Mains

Horizontal Separation: Whenever possible, sewers shall be laid below, and at a minimum at least 10 feet, horizontally, from any existing or proposed water main. Should local conditions prevent a lateral separation of 10 feet, a sewer may be laid closer than 10 feet, but no closer than 2 feet, to a water main if:

It is laid in a separate trench, or

It is laid in the same trench with the water main located at one side on a bench of undistributed earth, and

In either case, the elevation of the top (crown) of the sewer is at least 18 inches below the bottom (invert) of the water main.

Vertical Separation: Whenever sewers must cross under water mains, the sewer shall be laid at such an elevation that the top of the sewer is at least 18 inches below the bottom of the water main. When the elevation of the sewer cannot be varied to meet the above requirements, the water main shall be relocated to provide this separation or reconstructed with mechanical-joint pipe for a distance of 10 feet on each side of the sewer. One full length of water main should be centered over the sewer so that both joints will be as far from the sewer as possible.

When it is impossible to obtain horizontal and/or vertical separation as stipulated above, both the water main and sewer shall be constructed of mechanical-joint cement lined

ductile iron pipe, or other equivalent based on watertightness and structural soundness. Both pipes shall be pressure tested by an approved method to assure watertightness, or both pipes shall be encased in concrete.

### 3.9 GATE VALVES AND BOXES

- A. Valves shall be set in firmly compacted and shaped soil. Where the soil in the trench subgrade is found to be soft, loose, freshly filled earth, unstable or unsuitable as a base, the unsuitable material shall be excavated to such additional depth and width as required. The excavated area shall be backfilled with gravel or crushed stone, compacted and shaped.
- B. Valve boxes shall be set centered and plumb over the operating nuts of all valves. The top of each valve box shall be set to finished grade with at least 10 inches of overlap remaining between the upper sections for vertical adjustment. Minimum overlap for lower, extension pieces shall be 4 inches.
- C. Boxes shall be adequately supported during backfilling to maintain vertical alignment.

### 3.10 TAPPING SLEEVES AND GATE VALVES

- A. Installation shall be made under pressure and the flow of water through the existing pipe shall be maintained at all times. The diameter of the tap shall be a minimum of 1/4 inch less than the inside diameter of the branch line.
- B. The entire operation shall be conducted by workmen thoroughly experienced in the installation of tapping sleeves and valves, and under supervision of qualified personnel furnished by the manufacturer. The tapping machine shall be furnished by the Contractor.
- C. Contractor shall determine the location of the existing pipe to be tapped to confirm that interference will not be encountered from existing utilities or a joint or a fitting. No tap shall be made closer than 3 feet from a pipe joint.
- D. Pipe upon which tapping sleeve is to be installed shall be thoroughly cleaned of all foreign matter with scraping tools and wire brushes to a minimum of six inches beyond each side of the sleeve. The cleaned area shall be washed with a hypochlorite solution. The interior of tapping valve shall also be washed with hypochlorite solution.
- E. Tapping sleeves and valves with boxes shall be set vertically and squarely centered on the pipe to be tapped. Adequate support shall be provided under the sleeve and valve during the tapping operation. Thrust blocks shall be provided behind all tapping sleeves. the supporting earth around and under the valve and sleeve shall be compacted. After completing the tap, the valve shall be flushed to ensure that the valve set is clean.
- F. Before backfilling, all exposed portions of any bolts used to hold the two halves of the sleeve together shall be heavily coated with two coats of bituminous paint.

### 3.11 HYDRANTS

- A. Hydrants shall be installed at the locations and in conformance with the details shown on the drawings.



- B. Each hydrant shall be set vertically and be properly braced. Hydrants shall be installed with thrust blocks or restrained joints as specified in Articles 3.6 and 3.7. Care shall be taken to ensure that thrust block concrete does not plug the drain ports.

### 3.12 WATER SERVICES

- A. Service Pipe: Care shall be exercised in placing and laying of services to prevent kinks or sharp bends and contact with sharp stones or ledge which would damage to the pipe. At least 6 inches of sand shall be placed adjacent to, under, and above the pipe, and no stone larger than 2 inches shall be placed over the pipe until the depth of backfill above the pipe is in excess of 1 foot.
- B. Corporation Stop: Taps to the pipe shall be threaded and shall be made at the horizontal diameter of the main. The tap shall be made by means of a tapping machine manufactured for this purpose and supplied by the Contractor. The tap and drill shall be kept sharp and shall have threads matching those of the stop. Corporation stop threads shall be coated with sealing compound and the stop screwed firmly into the water with the key upward and the inlet end projecting at least 1/8-inch beyond the inside face of the pipe. The corporation stop shall be left in the on (open) position after installation of the service pipe.
- C. Curb Stop and Curb Boxes shall be of a size equal to the size of the service pipe and shall be installed in the locations shown on the drawings, or as ordered by Engineer. The boxes shall be set in a vertical position and flush with the proposed finish grade.
- D. Ductile Iron Service Pipe: ductile iron service pipe connections to the water main shall be made with tee fittings or tapping sleeves.

### 3.13 POLYETHYLENE ENCASEMENT

- A. Installation of polyethylene encasement shall be in accordance with the recommended procedures contained in ANSI A21.5-99/AWWA C105 and when directed by Engineer Water Department or Engineer.
- B. Care shall be taken during backfilling to prevent damage to polyethylene wrap. backfilling shall be in accordance with AWWA C600-99.

### 3.14 PRESSURE TESTING

- A. Hydrostatic and leakage test shall be conducted in accordance with AWWA Standard C600-99 and C900-97, and as directed by Engineer. Testing shall be conducted by a certified Independent Water Testing Company.
- B. Conduct pipe tests after concrete thrust blocks have cured to the required 3000-psi strength. Fill pipe 24 hours prior to testing, and apply test pressure to stabilize system. Use only potable water.
- C. Prior to pressure testing, the entire pipe section shall be flushed to remove any rocks or debris, which may have inadvertently entered the pipe during construction.

- D. Once the pipe section has been filled at normal pressure and all entrapped air removed, the Contractor shall raise the pressure to 150 psi or two times the operating pressure (whichever is greater) by a special pressure pump, taking water from a small tank of proper dimensions for satisfactorily measuring the rate of pumping into the pipe. This pressure shall be maintained for a minimum of 2 hours, during which time the line shall be checked for leaks. Measured rate of water leakage shall not exceed the allowable leakage listed below.

Maximum Allowable Leakage

Test Pressure	Nominal Pipe Diameter (inches)	Allowable Leakage (gallons per hour, per 1,000 feet of exterior pipeline)
150 pounds per square inch	4	0.36
150 pounds per square inch	6	0.55
150 pounds per square inch	8	0.74
150 pounds per square inch	10	0.92
150 pounds per square inch	12	1.10
150 pounds per square inch	16	1.47

- E. Interior piping in vaults, buildings, etc. shall have zero leakage.
- F. Should leakage exceed this rate, the Contractor shall immediately locate the leak or leaks and repair them. Pipe will be accepted only when leakage is zero, or less than the allowable amount. Approval does not absolve the Contractor from responsibility if leaks develop later within the period of warranty.

### 3.15 DISINFECTION

- A. Before being placed in service, all new water pipe shall be chlorinated in accordance with AWWA C651-99 Standard for Disinfecting Water Mains or Engineer requirements/regulations, whichever is the more stringent.
- B. The location of the chlorination and sampling points will be determined by the jurisdictional authority in the field. Taps for chlorination and sampling shall be installed by Contractor. Contractor shall uncover and backfill the taps as required.

- C. The pipe section being disinfected shall be flushed to remove discolored water and sediment from the pipe. a 25-mg/l chlorine solution in approved dosages shall be inserted through a tap at one end while water is being withdrawn at the other end of the pipe section. The chlorine concentration in the water in the pipe shall be maintained at a minimum 25-mg/l available chlorine during filling. To assure that this concentration is maintained, the chlorine residual shall be measured at regular intervals in accordance with procedures described in Standard Methods and AWWA M12, Simplified Procedure for Water Examination [Section K].
- D. During the application of the chlorine, valves shall be manipulated to prevent the treatment dosage from flowing back into the pipe supplying the water. Chlorine application shall not cease until the entire pipe section is filled with chlorine solution. The chlorinated water shall be retained in the pipe for at least a twenty-four hour period. the treated water shall contain chlorine residual throughout the length of the pipe section as indicated in AWWA C651-99.
- E. Following the chlorination period, all treated water shall be flushed from the pipe section and replaced with water from the distribution system. Prior to disposal of treated water the Contractor shall check with local authorities to determine if the discharge will cause damage to the receiving body or sewer and, if required, the Contractor shall neutralize the chlorinated water in accordance with AWWA recommendations. Bacteriological sampling and analysis of the replacement water may then be made by the Contractor in full accordance with AWWA C651-99. A minimum of three samples shall be taken by the Contractor at locations directed by Engineer along the length of water pipe being chlorinated and sent to a State approved private laboratory for analyses. The Contractor shall rechlorinate if the samples show presence of coliform, and the pipe section shall not be placed in service until all of the repeat samples show no presence of coliform.
- F. Furnish two copies of a Certificate of Disinfection Report to Engineer and one copy to Engineer.
- G. Contractor shall pay all costs for all testing, flushing, chlorinating, laboratory analyses, sampling, water supply and municipal charges.

### 3.16 AS-BUILT DRAWINGS

- A. Contractor shall be solely responsible for complying with the requirements of local permitting authorities for preparation and submittal of as-built drawings. The requirements for the preparation of as-built drawings as defined herein shall be considered the minimum requirements of Engineer, but shall in no way relive Contractor from satisfying the requirements of local permitting authorities.
- B. As work progresses, record the following on two (2) sets of Drawings:
  - All changes and deviations from the design in location, grade, size, material, or other feature as appropriate.
  - Any uncharted locations of utilities or other subsurface feature encountered during installation, including the characteristics of such uncharted utility or subsurface feature such as utility type, size, depth, material of construction, etc.

- C. Recording of changes shall be clearly and neatly marked in red pen or pencil. All changes shall be noted on the appropriate Drawing sheets.
- D. Make measurements from fixed, permanent points on the Project Site to accurately locate the work completed. Such measurements shall consist of at least three (3) ties showing the distance of each item relative to each of the fixed, permanent points.
- E. As-Built Drawings shall be complete and shall indicate the true measurement and location, horizontal and vertical, of all new construction. As-Built drawings shall also contain any additional information required by Engineer.

END OF SECTION