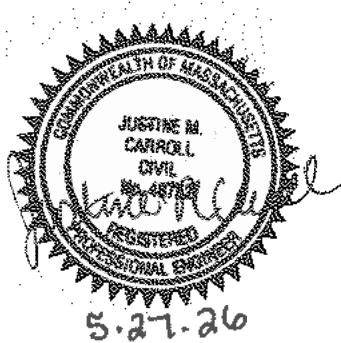




CITY OF EVERETT, MASSACHUSETTS
Lead Service Replacement Project – Phase 4

CITY PROJECT NO.: ENG-26-120



Delivery Method: M.G.L. c. 30 § 39M

OWNER:

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

ENGINEER:

Tata and Howard
201 Boston Post Road West
Marlborough, MA 01752

May 27, 2026



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**CITY OF EVERETT, MASSACHUSETTS
Lead Services Replacement Project – Phase 4**

CITY PROJECT NO.: ENG-26-120

INVITATION TO BID AND INSTRUCTIONS TO BIDDERS

GENERAL CONTRACTOR SERVICES

I. SUMMARY OF WORK AND PROJECT SCHEDULE

The Work of this Contract generally consists of the replacement of suspected lead water service connections in the City of Everett, Massachusetts, generally on Adams Avenue, Amos Terrace, Ashton Street, Bell Rock Street, Bettison Avenue, Calhoun Avenue, Clarence Street, Clay Avenue, Clifton Avenue, Dartmouth Street, Dean Street, Edith Street, Elm Street, Freeman Avenue, Freemont Street, Fremont Avenue, Garland Street, Garland Way, Glendale Avenue, Griswold Street, Hancock Street, Harding Avenue, Harvard Street, Haskell Avenue, Jackson Avenue, Jefferson Avenue, Lawrence Street, Lewis Street, Liberty Street, Lincoln Street, Madison Avenue, Maplewood Avenue, Mead Street, Moreland Place, Mt. Washington Street, Nichols Street, Parlin Street, Richdale Avenue, Shute Street, Springvale Avenue, Summer Street, Wellington Avenue, Wilbur Street, Woodlawn Street, Woodlawn Avenue, Woodside Avenue. Approximately 26 services will require full replacement from the water main to the house, approximately 52 services will be replaced from the water main to the curb stop, and approximately 86 services will be replaced from the curb stop to the house. Additionally, in the service area there are approximately 155 services identified as lead status unknown and may contain lead. Up to three test pits will be required for each service with unknown material and the service will be replaced if lead is identified or at the discretion of the City and the Engineer. The Work also includes approximately 20 additional services at the discretion of the City and Engineer. Service connections shall be replaced with 3/4-inch, 1-inch, and 2-inch copper tubing as required in the field. All locations shall be restored to equal or better than prior conditions including pavement, sidewalk and curbing restoration, and loam and seed.

The total estimated value of the Project is approximately \$2,630,000; however, the City anticipates issuing approximately \$2,000,000 of work during the current construction season. Remaining work will be released in subsequent phases as funding becomes available. Contractors shall be prepared to mobilize for Phase 4 immediately upon award and shall demonstrate capacity to perform additional phases when authorized. All work to be performed in accordance with the Bid Documents as herein defined.

MassDOT prequalification of contractors with the class of work as, Sewer & Water, for the project with an estimated value of \$2,630,224 will be required. Prospective bidders are not expected to submit a R109 form. Contractors may obtain informational copies of the bid documents, but will not be considered an eligible bidder without having obtained MassDOT prequalification prior to the date and time of the bid opening. The Contract will only be awarded to a MassDOT prequalified contractor.



On-Site Construction Start:	<u>July 20, 2026</u>
Substantial Completion:	<u>July 16, 2027</u>
Final Completion:	<u>July 31, 2027</u>

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:ENG-26-120.
Project Name:Lead Service Replacement Project – Phase 4.
Bidder's Name
Business Address
Phone Number

Bids must 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.

- (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: Wednesday, May 27, 2026 at 9:00 AM.
- Question/Clarification Period closes: Wednesday, June 10, 2026 at 5:00 PM.
- Bid Due Date and Time: **Wednesday, June 17, 2026 at 2:00 PM** at the office of the **Kiara M. Freeman, Chief Procurement Officer, Everett City Hall, Purchasing Department, 484 Broadway, Room 14 Everett Ma, 02149.**



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 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 or by fax as follows:

Engineer:

Tata and Howard
Justine Carroll, PE
201 Boston Post Road West
Marlborough, MA 01752
jcarroll@tataandhoward.com



COPY:

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

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 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.

The City reserves the right to award this contract to **multiple contractors**. Work assignments will be issued based on availability, performance, capacity, and project needs. No minimum quantity of work is guaranteed to any contractor. All contractors shall perform work in accordance with the unit prices, specifications, and contract terms established in this solicitation.

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.
- C. Phase 1 Construction Schedule and Capacity Statement
Bidders shall submit a **Phase 4 construction schedule** showing staffing, sequencing, and availability for the initial funded portion of the work (approximately \$2,000,000). Bidders shall also provide a **capacity statement**



confirming their ability to perform additional phases as they are released. The City may consider the bidder's demonstrated capacity and readiness to perform Phase 1 in its evaluation.

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 publicly 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 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 (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,



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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.

Estimated quantities are provided for bidding and comparison purposes only. Actual quantities issued during the contract term will depend on available funding and project phasing. The City may increase, decrease, or eliminate quantities at its sole discretion. No allowance will be made for lost profits or unassigned quantities.

- (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 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



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



CITY OF EVERETT, MASSACHUSETTS

Project Number: ENG-26-120

Lead Services Replacement Project – Phase 4

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 in accordance with the accompanying plans and specifications prepared by Tata & Howard, Inc. and entitled Lead Service Replacement Project dated May 27, 2026, 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 Bidder agrees to perform the bid work described in the specifications and shown on the plans for the following contract price: \$ _____.

<u>ITEM NO</u>	<u>ESTIMATED QUANTITY</u>	<u>ITEM DESCRIPTION AND UNIT AND LUMP SUM PRICES IN WORDS</u>	<u>UNIT PRICES DOLLARS/CENTS IN FIGURES</u>	<u>EXTENDED AMOUNT DOLLARS/CENTS IN FIGURES</u>
1	1 L.S.	Mobilization and Demobilization _____ Per Lump Sum in Words	\$ _____	\$ _____
2	3,375 C.Y.	Test Pits _____ Per Cubic Yard in Words (Min. \$100 per Cubic Yard)	\$ _____	\$ _____
3	140 C.Y.	Excavation Below Grade _____ Per Cubic Yard in Words	\$ _____	\$ _____



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<u>ITEM NO</u>	<u>ESTIMATED QUANTITY</u>	<u>ITEM DESCRIPTION AND UNIT AND LUMP SUM PRICES IN WORDS</u>	<u>UNIT PRICES DOLLARS/CENTS IN FIGURES</u>	<u>EXTENDED AMOUNT DOLLARS/CENTS IN FIGURES</u>
4	25 C.Y.	Rock Removal _____	\$ _____	\$ _____
		Per Cubic Yard in Words		
5	680 L.F.	Reset Existing Granite Curb _____	\$ _____	\$ _____
		Per Linear Foot in Words		
6	1,225 S.Y.	Cement Concrete Sidewalks _____	\$ _____	\$ _____
		Per Square Yard in Words		
7	2,415 L.F.	3/4-Inch Copper Water Service Tubing _____	\$ _____	\$ _____
		Per Linear Foot in Words		
8	1 EA.	3/4-Inch Corporation _____	\$ _____	\$ _____
		Per Each in Words		
9	51 EA.	3/4-Inch Curb Stop and Box _____	\$ _____	\$ _____
		Per Each in Words		
10	2,415 L.F.	1-Inch Copper Water Service Tubing _____	\$ _____	\$ _____
		Per Linear Foot in Words		
11	36 EA.	1-Inch Corporation _____	\$ _____	\$ _____
		Per Each in Words		



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<u>ITEM NO</u>	<u>ESTIMATED QUANTITY</u>	<u>ITEM DESCRIPTION AND UNIT AND LUMP SUM PRICES IN WORDS</u>	<u>UNIT PRICES DOLLARS/CENTS IN FIGURES</u>	<u>EXTENDED AMOUNT DOLLARS/CENTS IN FIGURES</u>
12	85 EA.	1-Inch Curb Stop and Box _____	\$ _____	\$ _____
		Per Each in Words		
13	50 L.F.	2-Inch Copper Water Service Tubing _____	\$ _____	\$ _____
		Per Linear Foot in Words		
14	1 EA.	2-Inch Corporation _____	\$ _____	\$ _____
		Per Each in Words		
15	1 EA.	2-Inch Curb Stop and Box _____	\$ _____	\$ _____
		Per Each in Words		
16	57 EA.	Curb Box Only _____	\$ _____	\$ _____
		Per Each in Words		
17	100 TON.	Temporary Trench Pavement (Public) _____	\$ _____	\$ _____
		Per Ton in Words		
18	400 TON.	Permanent Trench Pavement (Public) _____	\$ _____	\$ _____
		Per Ton in Words		
19	100 TON.	Driveway Trench Pavement _____	\$ _____	\$ _____
		Per Ton in Words		



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<u>ITEM NO</u>	<u>ESTIMATED QUANTITY</u>	<u>ITEM DESCRIPTION AND UNIT AND LUMP SUM PRICES IN WORDS</u>	<u>UNIT PRICES DOLLARS/CENTS IN FIGURES</u>	<u>EXTENDED AMOUNT DOLLARS/CENTS IN FIGURES</u>
20	50 EA.	Repair and Replace Sewer Service Conflicts in Trench Width _____	\$ _____	\$ _____
		Per Each in Words		
21	30 EA.	Repair and Replace Drain Conflicts in Trench Width _____	\$ _____	\$ _____
		Per Each in Words		
22	107 EA.	Connection to Meter _____	\$ _____	\$ _____
		Per Each in Words		
23	80 EA.	Coring _____	\$ _____	\$ _____
		Per Each in Words		
24	10 EA.	Jackhammer Basement Floor _____	\$ _____	\$ _____
		Per Each in Words		
25	475 S.Y.	Loam and Seed _____	\$ _____	\$ _____
		Per Square Yard in Words		
26	1 L.S.	Rodent Control _____	\$ _____	\$ _____
		Per Lump Sum in Words		
27	1 ALL	On-Call Plumber <u>Five Thousand Dollars</u> Per Allowance in Words	<u>\$5,000.00</u>	<u>\$5,000.00</u>



CITY OF EVERETT MASSACHUSETTS
 LEAD SERVICES REPLACEMENT PROJECT – PHASE 4
 CITY PROJECT # ENG-26-120

<u>ITEM NO</u>	<u>ESTIMATED QUANTITY</u>	<u>ITEM DESCRIPTION AND UNIT AND LUMP SUM PRICES IN WORDS</u>	<u>UNIT PRICES DOLLARS/CENTS IN FIGURES</u>	<u>EXTENDED AMOUNT DOLLARS/CENTS IN FIGURES</u>
28	1 ALL	On-Call Electrician <u>Five Thousand Dollars</u> Per Allowance in Words	 <u>\$5,000.00</u>	 <u>\$5,000.00</u>
29	1 ALL	Price Adjustment: Fuel <u>Five Thousand Dollars</u> Per Allowance in Words	 <u>\$5,000.00</u>	 <u>\$5,000.00</u>
30	1 ALL	Price Adjustment: Hot Mix Asphalt <u>Five Thousand Dollars</u> Per Allowance in Words	 <u>\$5,000.00</u>	 <u>\$5,000.00</u>
31	100 HR.	Crew Hours _____	 \$ _____	 \$ _____
		Per Hour in Words		

TOTAL AMOUNT OF BID ITEMS 1 THRU 31 FOR COMPARISON OF BIDS

_____ Dollars (\$ _____)
 (In Words) (In Figures)

(C) ALTERNATES – NOT APPLICABLE

For Alternate No.1 - Add \$ _____

For Alternate No.2 - Add \$ _____

For Alternate No.3 - Add \$ _____

(D) **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.

(E) **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 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.

(F) **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.

(G) **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.

(H) **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.

(I) **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 Architect.

(J) **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.

(K) **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.

(L) **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).

(M) **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.

(N) **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.

(O) **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.

Name of Contractor

Date: _____

Signature

Name & Title of Person Signing Bid



CITY OF EVERETT MASSACHUSETTS
LEAD SERVICES REPLACEMENT PROJECT – PHASE 4
CITY PROJECT # ENG-26-120

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: _____



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, 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 June 30, 2027. Final Completion of the entire Work shall be achieved fourteen (14) calendar days after the date of Substantial Completion. The Owner shall have the right to extend the substantial



completion date (and contract) for a period of two (2) additional years beyond the date stated above. Any time extension granted by the Owner shall not be used by the contractor as a reason for a price adjustment in the contract.

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. Liquidated damages shall be in the amount of \$1,500.00 per calendar day for each day the work is not substantially complete beyond the date of substantial completion.

- (1) 95% of Work competed (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 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:

Managing Department

Date Signed

City Engineer

Date Signed

Chief Procurement Officer

Date Signed



CITY OF EVERETT MASSACHUSETTS
LEAD SERVICE REPLACEMENT PROJECT – PHASE 4
CITY PROJECT # ENG-26-120

Chief Financial Officer/City Auditor

Date Signed

Approved as to Form:

City Solicitor

Date Signed

Mayor

Date Signed



CITY OF EVERETT MASSACHUSETTS
LEAD SERVICE REPLACEMENT PROJECT – PHASE 4
CITY PROJECT # ENG-26-120

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



CITY OF EVERETT MASSACHUSETTS
LEAD SERVICE REPLACEMENT PROJECT – PHASE 4
CITY PROJECT # ENG-26-120

EXHIBIT A

LIST OF SPECIFICATIONS



CITY OF EVERETT MASSACHUSETTS
LEAD SERVICE REPLACEMENT PROJECT – PHASE 4
CITY PROJECT # ENG-26-120

EXHIBIT B

LIST OF DRAWINGS

(NOT APPLICABLE)



CITY OF EVERETT MASSACHUSETTS
LEAD SERVICE REPLACEMENT PROJECT – PHASE 4
CITY PROJECT # ENG-26-120

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.



- 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.



CITY OF EVERETT MASSACHUSETTS
LEAD SERVICE REPLACEMENT PROJECT – PHASE 4
CITY PROJECT # ENG-26-120

EXHIBIT F

FORM OF PROJECT WORKFORCE MONTHLY REPORT



CITY OF EVERETT MASSACHUSETTS
LEAD SERVICE REPLACEMENT PROJECT – PHASE 4
CITY PROJECT # ENG-26-120

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
LEAD SERVICE REPLACEMENT PROJECT – PHASE 4
CITY PROJECT # ENG-26-120

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 Liability¹	-	\$1,000,000 per Occurrence/ \$2,000,000 Aggregate
Auto²	-	\$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

¹ Must evidence per location aggregate or per project aggregate.

² 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 Liability³	-	No less than \$2,000,000

³ 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
LEAD SERVICES REPLACEMENT PROJECT – PHASE 4
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City Project #: ENG-26-120



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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.



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.



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



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



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.



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



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



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.



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]



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



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



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



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



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,



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,



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



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



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



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



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



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.



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



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



- (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



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



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



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



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 (5th) 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



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 (65th) 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.



(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



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 Manger 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



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.

11.2.16The 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.

11.2.17The 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.

11.2.18The 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.



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.



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.



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.



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



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.



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,



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



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



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



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.



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



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



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

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SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

The Work of this Contract generally consists of the replacement of suspected lead water service connections in the City of Everett, Massachusetts, generally on Adams Avenue, Amos Terrace, Ashton Street, Bell Rock Street, Bettison Avenue, Calhoun Avenue, Clarence Street, Clay Avenue, Clifton Avenue, Dartmouth Street, Dean Street, Edith Street, Elm Street, Freeman Avenue, Fremont Street, Fremont Avenue, Garland Street, Garland Way, Glendale Avenue, Griswold Street, Hancock Street, Harding Avenue, Harvard Street, Haskell Avenue, Jackson Avenue, Jefferson Avenue, Lawrence Street, Lewis Street, Liberty Street, Lincoln Street, Madison Avenue, Maplewood Avenue, Mead Street, Moreland Place, Mt. Washington Street, Nichols Street, Parlin Street, Richdale Avenue, Shute Street, Springvale Avenue, Summer Street, Wellington Avenue, Wilbur Street, Woodlawn Street, Woodlawn Avenue, Woodside Avenue. Approximately 26 services will require full replacement from the water main to the house, approximately 52 services will be replaced from the water main to the curb stop, and approximately 86 services will be replaced from the curb stop to the house. Additionally, in the service area there are approximately 155 services identified as lead status unknown and may contain lead. Up to three test pits will be required for each service with unknown material and the service will be replaced if lead is identified or at the discretion of the City and the Engineer. The Work also includes approximately 20 additional services at the discretion of the City and Engineer. Service connections shall be replaced with 3/4-inch, 1-inch, and 2-inch copper tubing as required in the field. All locations shall be restored to equal or better than prior conditions including pavement, sidewalk and curbing restoration, and loam and seed.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01013

FACILITY INTERFERENCE WITH PROPOSED WORK

PART 1 GENERAL

1.01 LOCATION OF UNDERGROUND FACILITIES

- A. Facilities and other underground locations shown on the Drawings are from the best sources available to the Owner at the time of this Contract preparation and are furnished only for information and convenience of the Contractor and are not guaranteed.
1. It is agreed and understood that the Owner does not warrant or guarantee that the subsurface locations of existing pipes, structures or other underground phenomena actually encountered during construction shall be the same as those shown on the Drawings.
 2. It is further agreed and understood that the Contractor shall not use or be entitled to use any of the information made available to him on the plans or obtained in any examination made by him as a basis of any claim or demand against the Owner or the Engineer, because of any variance between the information made available and the subsurface locations of natural phenomena, existing pipes or other structures as actually encountered during the construction work, except as may otherwise be provided for this Section.
 3. In general, main line facilities only are shown and not individual connections from main line to buildings.
 4. The presence of a structure along a proposed pipeline generally indicates that there will be a corresponding connection to it from whatever main line facilities are in the street.
 5. The Contractor shall take all necessary steps, including field inspections and consultations with the Utility Owner and Property Owners, to ensure that the most up to date information and accurate information available is used to mark the field location of the facilities, including service connections, prior to construction.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.03 PIPE LOCATIONS

- A. Pipe lines and structures installed under this Contract will be located substantially as indicated on the Drawings. The Engineer reserves the right to make such modifications in location and grade as may be found desirable to avoid interference with existing structures and/or facilities or to avoid unsatisfactory locations, all as he may see fit as in the best interests of the Owner.

1.04 PROTECTION OF UNDERGROUND FACILITIES AND DAMAGES THERETO

- A. The Contractor shall notify “Dig Safe” of his operations at least 72 hours prior to construction on any portion of the project.
 - 1. The Contractor shall notify all utility companies of his operations sufficiently in advance of construction and take all measures necessary to avoid damage or undue interruption to the utilities’ normal services.
 - 2. Utility poles shall be braced by the Contractor as directed by the utilities’ owner and all costs shall be included in the contract unit prices.
 - 3. No additional compensation shall be allowed because of damage to facilities due to test pit excavation.

1.05 CONDITION OF EXISTING FACILITIES

- A. In general, poor physical condition of existing facilities shall not be an acceptable basis for claiming additional compensation.
 - 1. Further, protection or repair of existing facilities outside of the Trench Width shall not be considered as a valid basis for additional compensation.
 - 2. The Contractor shall take all prudent steps to make himself aware of the physical condition of the existing facilities expected to be encountered, and to adjust his operations accordingly.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 INTERFERENCE AND RELOCATION OF FACILITIES

- A. Interference by Utilities
 - 1. Interference shall be considered to exist when the facility intrudes within the Trench Width for various depths to invert, as shown on the Drawings.

3.02 INTERFERENCE COSTS AND CLAIMS

- A. Claims for the costs of protecting, repairing, and/or replacing facilities which interfere will only be considered when the Engineer determines that:
 - 1. The facility is not shown on the Drawings.
 - 2. The facility is shown but the facility is found in a location substantially different from the location shown.
 - 3. The Contractor has necessarily incurred additional cost because of the interference.
 - 4. In general, claims will not be considered for cross trench service connections which are not shown on the Drawings or incorrectly shown.
- B. It is routine and customary in work of this kind to encounter subsurface or other conditions which require changes in pipe line grade, alignment and/or relocation of facilities or other adjustments which may necessitate rescheduling of the Contractor’s work.

1. The Contractor should allow contingency in his bid for schedule adjustments commonly encountered.
 2. The Engineer shall in general not approve claims for delay because of changes in alignment or rescheduling of construction.
- C. Where facilities are shown on the Drawings to interfere, the Contractor is required to maintain facilities in operation in their existing locations.
1. Such interferences and the protection and repair of such facilities shall not constitute the basis of an approvable claim.
 2. The cost to maintain such facilities in operation in their existing location shall be included by the Contractor in his bid.

3.03 RELOCATION OF FACILITIES

- A. Relocation of facilities is required:
1. Where indicated on the Drawings.
 2. When a clearance of at least three (3) inches vertical and horizontal separation cannot be achieved between the existing facility and the new pipe line.
 3. To comply with minimum water/sewer separation.
 4. To comply with minimum requirements of the utility owner.

Relocation may be avoided in certain cases by line and grade adjustments.

- B. Existing facilities shall not be disturbed until the facility owner and the Engineer agree to the arrangements and the Engineer requests the relocation to proceed in writing.
1. If the owners of the facilities permit, and the Engineer so requests, the Contractor shall do the whole or any portion of the relocation work.
 2. Relocation of facilities will generally be by new pipe and appurtenances, approved and furnished by the facility owner, except where it is feasible in the opinion of the Engineer and facility owner to utilize existing materials.
 3. If so requested by the facility owner, the Engineer may direct the Contractor to furnish the material.
 4. All removed materials remain the property of the facility owner.

3.04 RELOCATION COSTS AND CLAIMS

- A. All costs of temporary relocations for the Contractor's convenience shall be borne by the Contractor.
- B. Relocation costs for all facilities specified on the Drawings to be relocated shall be the responsibility of the Contractor and be included in the Contractor's bid prices, including those specifically for facility relocations, if such are included.
- C. Relocation costs for publicly owned facilities not specified on the Drawings to be relocated, but directed to be relocated by the Engineer in writing, shall be paid in accordance with General Conditions.
- D. Relocation costs for privately owned utilities for which relocation is required by the work of this Contract, will not be approved by the Engineer for payment as Extra Work.

- E. Exceptions as determined by the Engineer shall be paid in accordance with General Conditions.

3.05 PRIVATE FACILITY COMPANY CLAIM DISTINCTIONS

- A. Claims against the Owner by the Contractor for the cost of delays or damage repair sustained by the Contractor because of damage to or interferences between privately owned public facilities and the proposed work will not be considered valid for additional compensation.
 - 1. Claims involving privately owned facilities must be settled between the Contractor and the facility owner.
- B. The Owner reserves the right to exercise, or not to exercise, any rights he may have to require relocation of privately owned public facilities at the facility company's expense in case of interferences.
 - 1. If the Owner does not exercise such rights, no claims against the Owner for not exercising such rights shall be approved by the Engineer.

3.06 FACILITY SERVICE CONNECTIONS AND WORK

- A. The Contractor shall make all arrangements with the facility companies for temporary and permanent services and relocations required under this Contract, subject to the conditions described elsewhere in these Specifications.
 - 1. Facility companies in the area of work, and/or expected to provide service to the work, shall be arranged for and if required paid for at no additional expense to the Owner.

END OF SECTION

SECTION 01020

ALLOWANCES

PART 1 GENERAL

1.01 DESCRIPTION

The stated allowances as specified in Section 01025 Measurement and Payment:

Bid Item No. 27 - On-Call Plumber: Five Thousand Dollars (\$5,000.00)

Bid Item No. 28 - On-Call Electrician: Ten Thousand Dollars (5,000.00)

Bid Item No. 29 - Price Adjustment: Fuel: Five Thousand Dollars (\$5,000.00)

Bid Item No. 30 - Price Adjustment: Hot Mix Asphalt Mixtures: Five Thousand Dollars (\$5,000.00)

1.02 RELATED WORK SPECIFIED ELSEWHERE

Section 01025 - Measurement And Payment

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. The purpose of this Section is to define the method of measurement and payment for each of the unit prices or lump sums listed in the Bid Form. If no bid item appears in the Bid Form for any of the following described items, no work of that description is anticipated on the project.
1. The Contractor shall thoroughly review the work required for each payment item.
 2. The Contractor shall have included in his various bid items, an amount to cover costs for additional work which may be necessary, to construct the water mains in the close proximity of underground facilities, services, poles and other facilities which may exist.
 3. The discovery of an underground facility during the construction shall not constitute automatic initiation of a change order. The additional work to cross or pass this underground facility must be substantial for consideration for additional payment.
 - a. The word “substantial” as used above shall mean that an additional amount of work is required, beyond the work that is normally required in the crossing or paralleling of an underground facility.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include City of Everett’s General Conditions, and all Divisions of these Specifications.

1.03 TRENCH PAYMENT LIMITS

- A. The measurements for trench payment limits shall be used for the volume of computing excavation below grade and trench related items.
1. Trench limits in earth and rock shall be measured within vertical lines. The measured lines shall not exceed a width equal to the outside pipe diameter, plus three (3) feet.
 2. Grade shall be measured vertically from the surface of the existing ground to a maximum point of six (6) inches below the bottom of the pipe, for trenches in earth.
 - a. In trenches where rock is encountered, grade shall be one (1) foot below the bottom of the pipe.
 3. In paved roadways, the trench width at the roadway surface to a depth of twelve (12) inches below the surface shall not exceed a width of six (6) feet.
 4. If the Owner orders additional width beyond the above-specified limits, or below grade excavation, the width or depth ordered will be considered for payment, as will the refill material.

1.04 EARTH EXCAVATION FOR PIPELINE TRENCHES

- A. Earth excavation for pipeline trenches from the existing ground surface to pipe sub-grade shall not be paid for separately, and all costs for this excavation shall be included in the unit prices paid for the various pipe laying items.

1.05 PIPE BEDDING

- A. Measurement taken for pipe bedding shall be by the ton for reasonably dry material as delivered to the site and which is subsequently placed. The Contractor shall furnish the Engineer with receipts from the plant showing the weight of each load of reasonably dry sand material which is furnished and placed, however the Engineer reserves the right to adjust the payment in the event the volume of material is either not entirely used, and/or the material is excessively wet, and/or the shipment has arrived on the site as already partially used.

1.06 SURPLUS MATERIAL

- A. All costs for stockpiling, loading, hauling, and legal disposing of surplus material shall be included in the various pipe laying items.

1.07 DEWATERING

- A. All costs for furnishing, installing and operating a dewatering system shall be included in the various pipe laying items.

1.08 EXCESS EXCAVATED MATERIAL

- A. All costs for transporting, placing, and compacting excess material obtained within this Contract shall be included in the various pipe laying items.

1.09 CRUSHED STONE BEDDING, BANK-RUN SAND, AND GRAVEL

- A. There will be no separate measurement or payment for furnishing and placing crushed stone bedding, bank run sand and gravel. The cost of such materials and work shall be included in the unit price for the various pipe laying items.

1.10 PRESSURE/LEAKAGE TESTING AND DISINFECTION

- A. No separate payment shall be made for labor, materials, tools and equipment necessary for or incidental to the performance of the pressure/leakage tests and the disinfection of the water main and its appurtenances. The costs associated with pressure/leakage testing and disinfection shall be included in the unit price for the various pipe laying items.

1.11 EXISTING WATER MAIN SHUTDOWN COORDINATION

- A. No separate payment shall be made for labor, materials, tools, and equipment necessary for or incidental to the coordination of shutdowns of existing water mains in the event of an emergency. The Contractor shall assist the Owner in a shutdown as necessary to properly remove a failed wet tap, existing corporation leak, etc. The cost for this item shall be included in the unit price for the various pipe laying items.

1.12 CAPPING, REMOVAL AND/OR ABANDONMENT (IN-PLACE) OF OLD SERVICES

- A. No separate payment shall be made for labor, materials, tools and equipment necessary for or incidental to the capping of and/or abandonment (in-place) or the removal and disposal of the water service connections and appurtenances including restoration. The cost for this item shall be included in the unit price for the various pipe laying items.

1.13 RESTORATION OF DAMAGED AREAS

- A. The homeowner shall be responsible for site restoration. The homeowner shall remove and/or replace trees, walks, walls, ornamental items, etc. within the limits of work. The limit of work shall be defined as 5-feet on either side of the existing service line on private property. The Contractor will be responsible for loam and seed and/or driveway/pavement trench restoration only. Contractor is responsible for restoring all disturbed areas beyond the limit of work.
- B. All public or private monuments, iron pipes or other types of property line and geodetic markers damaged or disturbed by operations under this Contract shall be reset by a licensed land surveyor, all at no additional cost to the Owner. All other work, under this Section, shall not be paid separately, but shall be considered incidental to the work and included in the unit price and lump sum items.

1.14 UNIFORMED POLICE OFFICERS

- A. The Police Department will bill the City of Everett directly.
- B. Traffic persons ordered by the Contractor for his convenience or unforeseen problems which are not part of the original project, shall be paid at his own expense.
- C. The Contractor is responsible for contacting the Police Department in regard to scheduling requirements.
- D. Uniformed Police Officers required for purposes other than public safety and/or control of traffic shall not be eligible for payment. No payment will be made for overtime traffic persons unless emergency conditions exist. If the Contractor elects to work more than eight (8) hours in one day, or more than forty (40) hours in one week, he shall assume all such costs and will not be reimbursed under any bid item. However, if the Owner approves emergency overtime, the Owner shall reimburse the Contractor for services rendered.

1.15 TRAFFIC REGULATION

- A. There shall be no separate measurement or payment for the work performed under Section 01570 Traffic Regulation. All costs for furnishing lighted barricades and traffic protection devices and for labor, equipment and services involved in the erecting, maintaining, moving, adjusting, relocating and storing of signs, flashers, lights, barricades, traffic cones, traffic delineators and other devices furnished by the Contractor, as well as the cost of all labor and equipment involved in the maintenance of traffic lanes and detours ordered or included in the approved scheme for maintenance of traffic shall be included in the unit price for various pipe laying items. No additional payment will be made for maintaining access to the work area for emergency vehicles, school buses, and residents. No additional payment will be made for temporary pedestrian walkways required by the Engineer.

- B. Construction Vehicle Warning Devices and Personal Protective Safety Equipment shall be incidental to the work of the Contract and shall not be measured for payment.

1.16 MEASUREMENT OF QUANTITIES

- A. The quantities of the various items of work performed shall be determined, for purposes of progress and final payment, by the Contractor and reviewed by the Engineer.
- B. The method of measurements to be used in the determination of quantities of the work of this Contract shall be as specified in this Section.
 - 1. Area Measurements
 - a. Unless otherwise specified, measurement for area computations shall be made along the surface and taken to the nearest half (1/2) foot.
 - 2. Linear Measurements
 - a. All items such as pipe, service tubing, and curbing, etc., shall be made along the alignment of the item, at the surface, and taken to the nearest foot.
 - 3. Volume Measurements - In figuring volumes, the following shall apply:
 - a. Excavation Below Grade: Measurements shall be taken to the grade actually excavated as ordered, and within the trench payment limits specified in this Section.
 - b. Test Pits: Measurements shall be taken to the lines and grade actually excavated.
 - c. Rock and Boulder: Only boulders greater than one (1) cubic yard in volume and rock as defined in Section 02227, shall be measured for payment. Measurements shall be taken to the lines and grades as specified, in the trench payment limits in this Section.
 - 4. Weight Measurements: Measurement for fittings shall be measured for payment by the pound excluding weight of accessories such as bolts, nuts, glands, and gaskets.
 - 5. Lump Sum: The term "lump sum" when used as a unit of payment, shall mean complete payment for the work described in the Contract Documents.
 - 6. Per Each: The term "per each" when used as a unit of payment, shall mean complete payment for each unit furnished and installed, completed and accepted, as described in the Contract Documents.
 - 7. Ton: When used as a pavement payment item, shall be arrived at by the following method:
 - a. Payment shall be calculated by measurements of the surface area, within the payment limits, by square yards, times the depth of the pavement, times a factor of .056, for a conversion to ton basis.
 - b. A five (5) percent service factor shall be allowed if a comparison between measurements and delivery slips indicate that additional material was placed. If a comparison between delivery slips and measurements indicate less material was placed, the slip quantity shall be used for payment. The Contractor shall submit to the Engineer, one (1) copy of the certified weight slips for all asphaltic concrete used in the Work.

1.17 BITUMINOUS (ASPHALTIC) CONCRETE PAVEMENT

A. Measurement

1. "Trench" Pavement shall be measured by the ton installed along the full length of the street for the standard trench width as identified in the specifications.
 - a. Included in this item shall be the adjustment of all castings if required to finish grade within the trench area, and a binder course.
2. No separate measurement shall be made for cutting of existing pavement, cutting of edges, tack coating, backfilling, compaction, preparation of subgrade; furnishing and installing additional gravel base course; or disposal of materials.
3. No separate measurement shall be made for furnishing and installing reflectorized pavement markings and the removal and resetting of manhole frames, gate boxes, catch basins, and private utility castings.
4. No separate measurement shall be made for vehicle loop detectors.

1.18 DUST CONTROL

A. Measurement

1. All costs for furnishing, stockpiling, hauling, placing, and spread materials required for dust control (i.e. calcium chloride, water) shall be included in the various pipe laying items.

1.19 ENVIRONMENTAL CONTROLS

- A. All costs for furnishing, installing and maintaining erosion controls shall be included in the various pipe laying items.

1.20 PAYMENT

ITEM NO.	DESCRIPTION
1	Mobilization and Demobilization
2	Test Pits
3	Excavation Below Grade
4	Rock Removal
5	Reset Existing Granite Curb
6	Cement Concrete Sidewalks
7	3/4-Inch Copper Water Service Tubing
8	3/4-Inch Corporation
9	3/4-Inch Curb Stop and Box
10	1-Inch Copper Water Service Tubing
11	1-Inch Corporation
12	1-Inch Curb Stop and Box
13	2-Inch Copper Water Service Tubing
14	2-Inch Corporation
15	2-Inch Curb Stop and Box
16	Curb Box Only
17	Temporary Trench Pavement (Public)
18	Permanent Trench Pavement (Public)
19	Driveway Trench Pavement
20	Repair and Replace Sewer Service Conflicts in Trench Width

21	Repair and Replace Drain Conflicts in Trench Width
22	Connection to Meter
23	Coring
24	Jackhammer Basement Floor
25	Loam and Seed
26	Rodent Control
27	On-Call Plumber
28	On-Call Electrician
29	Price Adjustment: Fuel
30	Price Adjustment: Hot Mix Asphalt
31	Crew Hours

Item No. 1: Mobilization and Demobilization

Payment for mobilization and demobilization shall be at the lump sum price bid under Bid Item No. 1 in the Bid Form. The total price bid for mobilization and demobilization shall not exceed five (5) percent of the total amount of the remaining bid items. Payment shall be full compensation for bonds, insurance, transportation of equipment and materials to the various construction sites, obtaining of all permits including trench permit, street opening permit, set up of storage yard, maintenance of same, telephone, electric, and the removal of equipment and materials upon completion of the Work.

Contractor may be required to mobilize, demobilize, and remobilize various times throughout the project on various streets due to conflicting schedules with private homeowners. Costs associated with scheduling and remobilization shall be incorporated into the bid price for Item No. 1. The Engineer shall make percentage payments as he deems appropriate during the course of the Work.

Item No. 2: Test Pits

Payment shall be made at the unit price bid per cubic yard under Bid Item No. 2 in the Bid Form. Payment shall be full compensation for pavement cutting and removal, excavation, hand digging, sheeting, shoring, dewatering, backfill material, and backfilling and compaction of the backfill, all as required by the Contract Documents. No payment will be made under this item unless the Owner verifies test pits will not be used for service installation. Test pits shall be paid for under the various pipe laying items if excavation is to be used for a service installation.

Item No. 3: Excavation Below Grade

Under Bid Item No. 3, the Contractor will be paid the contract unit price bid per cubic yard of excavation below grade and the disposal of all undesirable material(s), which unit price shall include full compensation for all labor, materials, tools, equipment and all incidental work necessary to complete the work under this item, as shown on the plans or Construction Details, as directed by the Engineer and as specified herein. No payment will be made under this item unless the excavation below grade is ordered by the Owner.

Any off-site material needed to refill the trench, as pre-approved by the Engineer, and as specified herein, shall be paid under the applicable service tubing bid item.

Item No. 4: Rock Removal

Under Bid Item No. 4, the Contractor will be paid the contract unit price bid per cubic yard for rock excavation and/or for rock removed greater than one (1) cubic yard in volume from the trench(es) and subsequently disposed at an off-site location, which unit price shall be full compensation for all labor, tools, equipment and all incidental work necessary to complete the work under these items as shown on the plans, as directed by the Engineer and as specified herein.

Item No. 5: Reset Existing Granite Curb

Payment shall be made at the unit price bid per linear foot under Bid Item No. 5 to reset existing granite curb, complete in place, which unit price shall include full compensation for all labor, materials, tools and equipment, and all incidentals necessary to complete the work under this item, as shown on the plans, as directed by the Engineer and as specified herein.

Item No. 6: Cement Concrete Sidewalks

Payment shall be made at the unit price bid per square yard under Bid Item No. 6 in the Bid Form for cement concrete sidewalks, complete in place, which unit price shall include full compensation for all labor, materials, tools and equipment, and all incidentals necessary to complete the work under this item as directed by the Engineer and as specified herein.

Item Nos. 7, 10, and 13: 3/4-Inch, 1-Inch, and 2-Inch Copper Water Service Tubing

Under Bid Item Nos. 7, 10, and 13, the Contractor will be paid the contract unit price bid per linear foot for all labor, materials, tools, equipment, and all incidentals necessary to complete the work under this item as directed by the Engineer and as specified herein. The work includes pre-construction photographs, furnishing water service tubing, saw cutting, excavating, trenching, laying of the pipe, pipe bedding, sand borrow, gravel borrow, processed gravel for roadway base, and the subsequent backfilling of 3/4-inch, 1-inch, and 2-inch copper tubing, complete in place, inclusive of the excavation, removal, and disposal of all unsuitable material(s) and existing service tubing being replaced, compaction testing, dust control, catch basin siltation sacks, environmental controls, dewatering, sedimentation basins, blue metallic warning tape, temporary sidewalk restoration with asphalt, and traffic regulation including traffic control plan. Contractor will be responsible for shoring, trenchless methods, open cut methods, hand digging, bracing utility poles as required, and other means necessary for installation of the service tubing. The Contractor shall ream and connect to the existing corporation. The Contractor will also be responsible for notifications and coordination with homeowners and City of Everett Department of Public Works. Contractor shall coordinate work to be completed within private residences to determine method of entering residence (jackhammer or core) and connection to existing meter. Contractor will be responsible for providing as-built ties of the new services. No additional payment shall be made for failed trenchless service tubing installations requiring open cut excavation.

Item No. 8 and Item No. 9: 3/4-Inch Corporation, Curb Stop and Box

Under Bid Item No. 8 and Bid Item No. 9, the Contractor will be paid the contract unit price bid per each for furnishing and installing each corporation, service saddles (where necessary), adaptors, and each curb stop and curb box complete in place.

Under Item No. 8 and Bid Item No. 9, the unit prices shall include full compensation for all labor, materials, tools and equipment and all incidentals necessary to complete the work under these items as shown on the plans, as directed by the Engineer, and as specified herein, inclusive of excavation and the disposal of all undesirable material(s), backfilling, connection to water main with repair saddle, bracing utility poles as required, as-built ties, and notifications. The work also includes removal and disposal of existing curb stop, curb box, and corporation stop.

Item No. 11 and Item No. 12: 1-Inch Corporation, Curb Stop and Box

Under Bid Item No. 11 and Bid Item No. 12, the Contractor will be paid the contract unit price bid per each for furnishing and installing each corporation, service saddles (where necessary), adaptors, and each curb stop and curb box complete in place.

Under Item No. 11 and Bid Item No. 12, the unit prices shall include full compensation for all labor, materials, tools and equipment and all incidentals necessary to complete the work under these items as shown on the plans, as directed by the Engineer, and as specified herein, inclusive of excavation and the disposal of all undesirable material(s), backfilling, connection to water main with repair saddle, bracing utility poles as required, as-built ties, and notifications. The work also includes removal and disposal of existing curb stop, curb box, and corporation stop.

Item No. 14 and Item No. 15: 2-Inch Corporation, Curb Stop and Box

Under Bid Item No. 14 and Bid Item No. 15, the Contractor will be paid the contract unit price bid per each for furnishing and installing each corporation, service saddles (where necessary), adaptors, and each curb stop and curb box complete in place.

Under Item No. 14 and Bid Item No. 15, the unit prices shall include full compensation for all labor, materials, tools and equipment and all incidentals necessary to complete the work under these items as shown on the plans, as directed by the Engineer, and as specified herein, inclusive of excavation and the disposal of all undesirable material(s), backfilling, connection to water main with repair saddle, bracing utility poles as required, as-built ties, and notifications. The work also includes removal and disposal of existing curb stop, curb box, and corporation stop.

Item No. 16: Curb Box Only

Under Bid Item No. 16 the Contractor will be paid the contract unit price bid per each for furnishing and installing each curb box with rod, complete in place. The work also includes removal and disposal of existing curb box. Work will only be paid under Bid Item No. 16 where the existing curb stop is remaining in place, the existing curb box is damaged, and replacement is requested at the discretion of the Owner or Engineer. Decision to replace the curb box only will be made at the discretion of the Owner and/or Engineer.

Item No. 17 Temporary Trench Pavement (Public)

Payment shall be made at the price bid per ton under Bid Item No. 17 in the Bid Form. Payment shall be full compensation for all preparatory work and furnishing, placing and compacting the asphaltic concrete pavement as required by the Contract Documents. The price shall include the cost of furnishing and placement of bituminous material, maintenance of the construction to include additional materials and labor required due to settlement and/or maintenance over a settling period, tack coat, cutting or keying of the pavement, removal and resetting all manhole frames, gate boxes, catch basins, etc., temporary plates, repair of traffic loop detectors, and replacement of street markings.

Item No. 18 Permanent Trench Pavement (Public)

Payment shall be made at the price bid per ton under Bid Item No. 18 in the Bid Form. Payment shall be full compensation for all preparatory work and furnishing, placing and compacting the asphaltic concrete pavement within the public right-of-way as required by the Contract Documents. The price shall include the cost of removal and disposal of temporary pavement materials, furnishing and placement of bituminous material, tack coat, cutting or keying of the pavement, removal and resetting all manhole frames, gate boxes, catch basins, etc., temporary plates, repair of traffic loop detectors, and replacement of street markings.

Item No. 19 Driveway Trench Pavement

Payment shall be made at the price bid per ton under Bid Item No. 19 in the Bid Form. Payment shall be full compensation for all preparatory work and furnishing, placing and compacting the asphaltic concrete pavement within private property as required by the Contract Documents. The price shall include the cost of removal and disposal of temporary pavement materials, furnishing and placement of bituminous material, tack coat, cutting or keying of the pavement, removal and resetting all manhole frames, gate boxes, catch basins, etc., and temporary plates.

Item No. 20: Repair and Replace Sewer Service Conflicts in Trench Width

Payment shall be made at the unit price bid per each under Bid Item No. 20 in the Bid Form. Payment shall be full compensation for repair or replacement of existing sewer services damaged within the trench limits during construction as a result of the location not being marked or the location being mismarked by more than 5 feet, and shall include SDR 35 PVC Pipe, Fernco couplings, excavation, dewatering, shoring, bedding, backfilling and compacting, restoration of private and public property to original condition, pavement cutting, temporary and permanent paving, leveling course, restoration of driveways and sidewalks to original condition, removal and disposal of existing concrete or pavement, and testing, all as required by the Contract Documents.

Item No. 21: Repair and Replace Drain Conflicts in Trench Width

Payment shall be made at the unit price bid per each under Bid Item No. 21 in the Bid Form. Payment shall be full compensation for repair or replacement of existing drains damaged within the trench limits during construction as a result of the location not being marked or the location being mismarked by more than 5 feet, and shall include SDR 35

PVC pipe to match existing/required pipe, Fernco couplings, excavation, dewatering, shoring, bedding, backfilling and compacting, restoration of private and public property to original condition, pavement cutting, temporary and permanent paving, leveling course, restoration of driveways and sidewalks to original condition, removal and disposal of existing concrete or pavement, and testing, all as required by the Contract Documents.

Item No. 22: Connection to Meter

Payment shall be made from unit price bid per each noted under Bid Item No. 22 in the Bid Form. The unit price shall include full compensation for all labor, materials, fittings, shut off valves, tools and equipment, coordination with homeowner, and all incidentals necessary to complete the work under this item in accordance with the details, as directed by the Engineer, and as specified herein.

Item No. 23: Coring

Payment shall be made from unit price bid per each noted under Bid Item No. 23 in the Bid Form. The unit price shall include full compensation for all labor, materials, including non-shrink grout and water tight plugs, tools and equipment, coordination with homeowner, and all incidentals necessary to complete the work under this item, as directed by the Engineer, and as specified herein.

Item No. 24: Jackhammer Basement Floor

Payment shall be made from unit price bid per each noted under Bid Item No. 24 in the Bid Form. The unit price shall include full compensation for all labor, materials, including hydraulic cement, tools and equipment, coordination with homeowner, and all incidentals necessary to complete the work under this item, as directed by the Engineer, and as specified herein.

Item No. 25: Loam and Seed

Payment shall be made at the unit price bid per square yard measured under Bid Item No. 25 in the Bid Form. Payment shall be full compensation for furnishing and installing loam and seed as required by the Contract Documents. Payment made under this section shall include full compensation for furnishing all labor, materials, equipment and services to reproduce grassed lawn in areas disturbed by construction operations no greater than 5 feet on either side of the existing service line on private property. The payment shall be full compensation to produce new grassed lawn areas. All areas disturbed as a result of the Contractors operations which are outside the standard width shall be at the Contractor's expense. The topsoil shall be furnished from off-site sources, treated, spread, seeded and fertilized and shall be paid under Item No. 25.

Item No. 26: Rodent Control

Payment shall be made at the lump sum bid under Bid Item No. 26 in the Bid Form. Payment shall be full compensation for providing rodent control in the project area as specified in Appendix G including, but not limited to planning meetings, survey of the areas, baiting (surface and subsurface), maintenance of baiting, cleanup, responding to

pest-related complaints, record keeping, and all else incidental thereto for which separate payment is not provided under other items in the Bid Form.

Item No. 27: On-Call Plumber

Payment shall be made from the cash allowance noted under Bid Item No. 27 in the Bid Form. Payment will be made for the actual amount invoiced to the Contractor by the plumber without markup. Progress payments will be made only upon receipt of paid invoices from the Contractor.

Item No. 28: On-Call Electrician

Payment shall be made from the cash allowance noted under Bid Item No. 28 in the Bid Form. Payment will be made for the actual amount invoiced to the Contractor by the electrician without markup. Progress payments will be made only upon receipt of paid invoices from the Contractor.

Item No. 29: Price Adjustment: Fuel

Payment shall be made from the cash allowance noted under Bid Item No. 29 in the Bid Form. Payment shall be full compensation for adjusting the unit cost per gallon per cubic yard or gallon per ton upward, for fuel usage (diesel and gasoline) from excavation, backfilling, and surfacing work, as a result of an increase in the price of fuel as described in specification section 01000. Note that this is an allowance only and the actual payment will be based on active pricing as described in specification section 01000. If the price decreases, a credit shall be applied by change order to the Contract.

Item No. 30: Price-Adjustment: Hot Mix Asphalt

Payment shall be made from the cash allowance noted under Bid Item No. 30 in the Bid Form. Payment shall be full compensation for adjusting the unit cost per ton upward, for asphaltic concrete installed and in place, as a result of an increase in the price of liquid asphalt as described in specification section 01000. The price increase shall only be applied to the liquid asphalt percentage of the asphalt tons installed. Note that this is an allowance only and the actual payment will be based on active pricing as described in specification section 01000. If the price decreases, a credit shall be applied by change order to the Contract.

Item No. 31: Crew Hours

Payment for crew hours shall be made at the unit price per hour under Bid Item No. 31 in the Bid Form for all labor, equipment, and associated expenses. Payment shall be made for down time associated with unforeseen circumstances outside of the Contractor's control as approved on-site by the Owner and the Engineer, including unmarked or mismarked utilities, causing time spent cleaning up or waiting for on-site assistance.

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: Provide such field engineering services as are required for proper completion of the work including, but not necessarily limited to:
 - 1. Establishing and maintaining lines and levels.
 - 2. Structural design of shores, forms, and similar items provided by the Contractor as part of his means and methods of construction.

1.02 RELATED WORK

- A. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- B. Additional requirements for field engineering may also be described in other Sections of these Specifications.

1.03 QUALITY ASSURANCE

- A. 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 the proper performance of the work of this Section.

1.04 PROCEDURES

- A. In addition to procedures directed by the Contractor for proper performance of the Contractor's responsibilities:
 - 1. Locate and protect control points before starting work on the site.
 - 2. Preserve permanent reference points during progress of the work.
 - 3. Verification of all reference points.
 - a. If a discrepancy is found, promptly notify the Engineer.
 - 4. Promptly advise the Engineer when a reference point is lost or destroyed, or requires relocation because of other changes in the Work.
 - a. Upon direction of the Engineer, require the Field Engineer to replace reference stakes or markers.
 - b. Locate such replacements according to the original survey control.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01092

ABBREVIATIONS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Listing of Abbreviations: The listing of abbreviations in this Specification Section represent the Standard Organization named.
- B. Related Work:
 - 1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. All related Specification Sections shall be used in conjunction with this Section.

1.02 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the Standard, except when more stringent requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date for receiving bids.

1.03 LISTING OF STANDARD ORGANIZATIONS AND THEIR ABBREVIATIONS

AA	Aluminum Association
AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Institute
ADC	Air Diffusion Council
AGA	American Gas Association
AGCA	Associated General Contractors of America
AHDGA	American Hot Dip Galvanizers Association
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Constructors
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association

BIA	Brick Institute of America
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
DCAM	Comm. of Massachusetts Division of Capital Asset Management
DEP	Department of Environmental Protection
DHI	Door and Hardware Institute
DIPRA	Ductile Iron Pipe Research Association
EJCDC	Engineers Joint Contract Documents Committee
EPA	Environmental Protection Agency
FM	Factory Mutual
Fed. Spec.	Federal Specification
HI	Hydraulic Institute
IEEE	Institute of Electrical and Electronics Engineers
ISA	Instrument Society of America
ISO	International Standards Organization
MIA	Masonry Institute of America
MIL.	Military Specification
MSBC	Massachusetts State Building Code
MSS	Manufacturers Standardization Society of the Valve and Fitting Industry
NAAMM	National Association of Architectural Metal Manufacturers
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NRCA	National Roofing Contractors Association
NSPC	National Standard Plumbing Code
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PPI	Plastic Pipe Institute
PS	Product Standards of the National Bureau of Standards
SDI	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPI	Society of the Plastics Industry
SSPC	Steel Structures Painting Council
TCA	Tile Council of America
TPI	Truss Plate Institute
UL	Underwriters Laboratories

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01100

SPECIAL PROJECT PROCEDURES

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work of this section consists of special project procedures during construction including:
1. Construction Sequence and Schedule
 2. Permits
 3. Contractor's Emergency Service
 4. Pipe Locations
 5. Delivery of Materials
 6. Protection of Underground Facilities and Damages Thereto
 7. Disposal of Excavated Pipe and Construction Debris
 8. Disposal of Native Excavated Material
 9. Groundwater Conditions
 10. Sidewalks and Curb Restoration
 11. Service Tubing and Connections
 12. Rock Removal
 13. Test Pits
 14. Pavement Schedule
 15. Contractor's Responsibilities
 16. Limits of Work
 17. Police Details
 18. MWRA Funding
 19. Record Tie Cards and Photos
 20. Advertisements
 21. Personal Protection
 22. Compliance with Reduction of Lead in Drinking Water Act and Section 1417 of the Safe Drinking Water Act (SDWA)
 23. Rodent Control

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 CONSTRUCTION SEQUENCE AND SCHEDULE

- A. The construction sequence will be established at the preconstruction conference. Contractor shall construct water service replacements in sequence as requested by the Owner. No additional compensation will be provided due to the sequence selected or modification thereof during construction.
- B. The project may require service replacement outside of the project area or replacement of services out of sequence with typical project progress.

- C. The Contractor shall schedule work to avoid conflicts with school buses and nearby school activities.
- D. Contractor is responsible for notifying residents in writing at least 48 hours in advance of shutdowns.
- E. The Contractor shall notify the City of Everett Executive Director of Public Works and Engineering and Police Chief in writing one (1) week prior to commencement of work. This notification shall include the name, address, and telephone number of the Contractor.
- F. The Contractor shall be permitted to work from 7:00 AM to 3:00 PM, Monday through Friday. No work shall be permitted on weekends or legal holidays except in an emergency event or special circumstances as determined by the Executive Director of Public Works and Engineering.

3.02 PERMITS

- A. The Contractor is required to obtain a single Trench Permit/Street Opening Permit from the City of Everett Department of Public Works Engineering Division, covering all streets in which the work will take place. The fees for these permits will be waived by the Owner. The Contractor is also required to provide a Street Opening Bond in the amount of \$5,000 as required by the Department of Public Works Engineering Division. This Street Opening Bond is separate from the required Performance and Payment Bonds.
- B. The Contractor shall submit a traffic control plan to the City for approval as part of the permit process and prior to the start of construction. The traffic control plan shall show how vehicular and pedestrian traffic shall be accommodated during construction. All costs associated with the preparation and submittal of the traffic plan shall be included in the unit price for the various service tubing items as outlined in Section 01025 Measurement and Payment.
- C. The Contractor shall provide a construction schedule indicating times of completion for review and approval by the City Engineer before all permits are issued.
- D. All excavations in the public way must be permitted for inspection and maintenance. The excavation and all work associated with the work are required to meet the standards of the City of Everett Department of Public Works.
- E. Several water services on Shute Street cross an MWRA main. The Contractor shall comply with all requirements in the MWRA 8(m) permit associated with this project. The permit is included in Appendix H. Contractor shall maintain a minimum of 18 inches vertical and 3 feet horizontal clearance from all MWRA mains, unless identified otherwise, as specified in the 8(m) permit. Construction details are included in Appendix F.

3.03 CONTRACTOR'S EMERGENCY SERVICE

- A. Any Contractor whose place of business is located beyond the vicinity of the site of the Work and who does not maintain local headquarters 24 hours a day must complete the following:
 - 1. Make satisfactory arrangements with the Owner to service emergencies or complaints which may occur at night, over the weekend, or when the job is shut

down. If he does not, the Owner may make arrangements and the cost will be charged to the Contractor.

Before the final estimate is certified for payment, the Contractor shall make similar arrangements to cover the guarantee period.

3.04 PIPE LOCATIONS

- A. New service connections installed under this Contract will be located substantially close to the existing location, but the Engineer reserves the right to make such modifications in location and grade as may be found desirable to avoid interference with existing structures and/or underground facilities or to avoid unsatisfactory locations, all as he may see fit as in the best interests of the Owner.

3.05 DELIVERY OF MATERIALS

- A. New service tubing shall be delivered to the site with plugs sealing the ends. Plugs shall remain in place until the service tubing is installed.

3.06 PROTECTION OF UNDERGROUND FACILITIES AND DAMAGES THERETO

- A. The Contractor shall notify all utility companies of his operations sufficiently in advance of construction and take all measures necessary to avoid damage or undue interruption to the utilities' normal services.
- B. Where directed or permitted at the Contractor's request, the Contractor shall dig test pits to locate the various underground facilities.
 - 1. Size of test pit and method of payment shall be as specified in Section 02015 of these Specifications.
- C. The Contractor shall pay, at no additional expense to the Owner, all costs associated with:
 - 1. Protecting and supporting underground facilities.
 - 2. Repairing, replacing, or relocating underground facilities which are damaged by the Contractor's operations.
 - 3. Temporarily or permanently relocating underground facilities for the Contractor's convenience.
- D. The Contractor shall take all prudent steps to make himself aware of the physical condition of the existing underground facilities expected to be encountered.
 - 1. Claims by the Contractor for repair of damages alleged to be the result of the physical condition or faulty installation workmanship of the existing underground facilities, outside of the specified trench width, will in general not be considered by the Owner for extra work payment.
 - 2. For such underground facilities within the specified trench width, claims will be considered if, in the opinion of the Engineer, such damage was unavoidable.

3.07 DISPOSAL OF EXCAVATED PIPE AND CONSTRUCTION DEBRIS

- A. The Contractor shall contact the Massachusetts Department of Environmental Protection, Division of Solid Waste, for approval of the demolition waste landfill chosen for disposal

of the excavated pipe and construction debris. All excavated pipe and construction debris shall be disposed legally by the Contractor at no expense to the Owner.

3.08 DISPOSAL OF NATIVE EXCAVATED MATERIAL

- A. All unsuitable material, as determined by the City's Resident Project Representative, shall be removed and disposed off-site and replaced with approved gravel borrow. The Contractor shall remove and properly dispose any excavated materials not required or not suitable for backfilling. The Contractor shall not store excess excavated material within the City of Everett right of way.

3.09 GROUNDWATER CONDITIONS

- A. Exact groundwater conditions due to seasonal fluctuations shall be verified by the Contractor. It is the Contractor's responsibility to perform all work related to dewatering at no additional cost to the Owner.

3.10 SIDEWALKS AND CURB RESTORATION

- A. All sidewalks, curbs, walkways, and driveways disturbed by the Contractor shall be replaced in kind throughout the project area.
- B. Temporary sidewalk restoration using asphalt pavement is required within one (1) day of service installation, unless specified differently by Owner or Engineer.

3.11 SERVICE TUBING AND CONNECTIONS

- A. All lead service tubing shall be replaced with Type "K" copper tubing with a minimum diameter of 3/4-inch. Existing services 3/4-inch or less will be replaced with 3/4-inch copper tubing, and services greater than 3/4-inch will be replaced with the existing service size.
- B. Services shall be installed using trenchless methods where possible. No additional payment shall be made for failed trenchless installations.
- C. All service tubing installed through basement walls shall be sleeved and patched with non-shrink grout. All penetrations shall be sealed and watertight. Flushing of the service line and meter if necessary, and any interior basement damage shall be completed/repaired by the Contractor at no additional cost to the Owner.
- D. All service connections to the existing water main shall connect to the existing corporation and shall be reamed at the water main. Installation of a new corporation shall be determined by the Owner and Engineer in the field. For direct taps, a minimum separation of 3 feet is required between the new tap and the existing tap. If a new corporation is required, corporation and service line material shall be 1-inch.
- E. For service replacements on private property only, the new service tubing shall connect to the existing curb stop.

- F. Where the existing curb stop is to remain in place and the existing curb box is found to be damaged, replacement of the curb box may be requested at the discretion of the Owner or Engineer. This work shall be paid under Bid Item No. 16.
- G. In some instances, the City may replace the existing meter while the service is being replaced. Owner shall install new meter and Contractor shall connect new service to new meter.
- H. The Contractor shall not reconnect any lead services after they have been disturbed for any reason.
- I. Any existing grounding connections at the meter which are determined to be too damaged to be reconnected by the Contractor will be reconnected by the on-call electrician. All electrical repairs shall be approved by Owner in advance in order to qualify for payment.
- J. Should any issues with existing plumbing fittings arise when connecting new services to the existing water meter, the Contractor shall coordinate with a licensed plumber directly and have the plumber submit invoices to the Contractor for approved repairs. Costs shall be paid through the allowance in Bid Item No. 27. All plumbing repairs shall be approved by Owner in advance in order to qualify for payment.

3.12 ROCK REMOVAL

- A. No payment shall be made for rock removal should a water service be relocated at the convenience of the Contractor.

3.13 TEST PITS

- A. Up to three test pits shall be conducted for each service with unknown material as indicated on the City's tie card records and service line inventory to confirm the presence or absence of lead between the water main and the curb stop and between the curb stop and the meter connection. Test pits will not be required for services that are indicated as lead. If test pits indicate that a service is not lead, and the Owner decides to not replace the existing service, this work shall be paid under Bid Item No. 2 Test Pits. Paving work shall be paid under the appropriate bid item for paving. If the test pit indicates that the service shall be replaced, this work will be paid for under the appropriate copper tubing bid item.
- B. Test pits located on private property shall be completed by hand or through the use of vacuum equipment only.

3.14 PAVEMENT SCHEDULE

- A. All work within the paved roadway in the project extents shall receive 2-inches of temporary pavement and 4.5-inches of permanent pavement. Paving along private ways and driveways shall be 2.5-inch thickness.
- B. The Contractor is responsible for maintaining all trenches and paving all open cut trench areas every Friday throughout the duration of the project. Paving may be required more often if rain is expected.
- C. The Contractor is required to install cold patch when requested by the Owner.

- D. Permanent pavement shall be installed a minimum of 65 days after temporary pavement is installed, and shall be installed no later than November 30.
- E. Permanent trench pavement placed shall be maintained by the Contractor for a period of one year following substantial completion. No additional payment shall be made for the maintenance of permanent pavement during the one-year guarantee period throughout the project area.

3.15 CONTRACTOR'S RESPONSIBILITIES

- A. Contractor may be required to mobilize, demobilize, and remobilize various times throughout the project on various streets due to conflicting schedules with homeowners. This shall be incorporated into the bid price for Bid Item No. 1. The Engineer shall recommend percentage payments under Bid Item No. 1 to the Owner as appropriate during the course of the Work.
- B. The Contractor shall schedule work with homeowners. The Contractor shall be available to schedule and attend preconstruction appointments with each homeowner to observe interior and exterior conditions at each property prior to scheduling work.
- C. The Contractor may encounter above grade obstacles during the installation of the service. Trenchless methods shall be used if conditions allow. The Contractor shall familiarize himself with the potential obstacles by reviewing the pictures located in Appendix E and by visiting the sites.
- D. The Contractor, following the installation of a maximum of 25 service connections or all services on an individual street, shall restore all properties to equal or better than preconstruction condition before beginning the installation of another service connection.
- E. Communication between the Contractor, the Owner, the Engineer, and the homeowners is of the utmost importance in this project. Contractor shall carry the costs of all communications in the bid prices.
- F. Contractor is responsible for flushing out the service line and restoring service to the homeowner.
- G. Contractor will be required to avoid large trees on private property, if possible, and install the service in a new trench as directed by the Owner and Engineer. Contractor shall obtain permission from the City of Everett Department of Public Works to remove trees on public property prior to tree removal. Trees removed by the Contractor without permission from the appropriate party will be replaced at no cost to the Owner.
- H. The homeowner shall be responsible for site restoration on their private property within the limit of work. The limit of work shall be defined as five (5) feet on either side of the service line. The homeowner shall remove and/or replace trees, walks, walls, ornamental items, etc. within the limits of work. The Contractor shall be responsible for loam and seed and/or driveway/trench restoration only. The Contractor shall be responsible for restoring all disturbed areas beyond the limit of work.

- I. The Contractor is not responsible for the removal or protection of items within the limit of work on private property. The limit of work shall be defined as five (5) feet on either side of the service line. The Contractor is responsible for all restoration outside the listed limit of work.
- J. The homeowner shall be responsible for basement restoration. Finished basements shall be repaired by the homeowner. The Contractor shall minimize disturbance to the basement to the greatest extent possible during construction. The existing condition of the basement will be observed during the preconstruction appointment and the homeowner will be informed of any potential modifications necessary.
- K. The Contractor shall guarantee passage through the project site for emergency vehicles, school buses, and local residents.
- L. The Contractor shall complete a tie card of each new service replacement. The new tie card shall provide a sketch including (where applicable):
 - 1. Property address, street name, and water main location.
 - 2. Building location, edge of pavement, and water service location.
 - 3. A minimum of two swing ties each to corporation stops and curb stops, preferably from building corners, though other fixed objects such as utility poles and hydrants are acceptable where building corners are not feasible.
 - 4. Distance from building to curb stop and from curb stop to main.
 - 5. Type and size of pipe, corporation stop, curb stop, and any fittings used.

3.16 LIMITS OF WORK

- A. The limit of work shall be defined as 5-feet on either side of the existing service line on private property.

3.17 POLICE DETAILS

- A. Prior to the start of construction, the Contractor shall familiarize himself and adhere to the scheduling requirements of the Everett Police Department. It is the Contractor's responsibility to arrange for the details directly with the Police Department, as well as receive approval from the Owner regarding the level of police effort required. Police slips will be collected in the field and provided to the DPW through the Engineer. Police Department shall invoice the DPW directly.

3.18 MWRA FUNDING

- A. The Lead Services Replacement Project is funded by the Massachusetts Water Resources Authority (MWRA). Replacement of existing services found not containing lead or brass materials shall only occur if approved and funded by the City of Everett. The Contractor and the Resident Project Representative will record these items for separate payment. All materials will be paid for at the prices listed in the Bid Form.

3.19 RECORD TIE CARDS AND PHOTOS

- A. Photos of properties requiring service replacements were taken in person and from Google Street View and are available in Appendix E.

B. Tie cards are available upon request and will be provided during construction.

3.20 ADVERTISEMENTS

A. No advertisements or company signs shall be displayed within the area of work.

3.21 PERSONAL PROTECTION

A. The Contractor, in general, is solely responsible for safety on the job site. The Contractor is required to comply with all OSHA health and safety regulations regarding personal protection of employees. Hard hats shall be worn at all times during construction operations. Additional personal protection equipment shall be donned as required according to the Contractor's approved Health and Safety Plan for this project.

3.22 COMPLIANCE WITH REDUCTION OF LEAD IN DRINKING WATER ACT AND SECTION 1417 OF THE SAFE DRINKING WATER ACT (SDWA)

A. All pipes, pipe fittings, plumbing fittings and fixtures must meet the requirements of the 2011 Reduction of Lead in Drinking Water Act and amendments to SDWA Section 1417 for potable water use.

B. Certification of compliance shall be provided for all applicable materials herein.

3.23 RODENT CONTROL

A. The Contractor shall be required to implement a Rodent Control Plan in accordance with Everett City Council Ordinances C-0368-16 and C-0369-16. A copy of the Contractor's Rodent Control Plan shall be provided to the Owner and Engineer for record purposes and is required as part of the City's Trench Permit/Street Opening Permit approval process. Copies of the ordinances are included in Appendix G.

END OF SECTION

SECTION 01200

PROJECT MEETINGS

PART 1 GENERAL

1.01 DESCRIPTION

A. Preconstruction Meeting:

1. The Contractor shall not commence work until a conference has been held at which representatives of the Contractor, Engineer, and Owner are present. The preconstruction conference will be arranged by the Engineer.
2. The meeting shall include a site visit and shall address start dates of construction, schedule, acceptable layout areas, and all issues regarding construction.
3. The meeting shall be held no less than one week prior to the start of any construction, delivery or storage of materials or equipment, or any work on the site.

B. Progress Meetings:

1. The Contractor shall be available for progress meetings on site during construction every week, or as determined by the Engineer/Owner, dependent on the status of the project.
2. The weekly progress report and schedule update shall be delivered to the City at least twenty-four (24) hours prior to each scheduled progress meeting.
3. The purpose of the meeting is to review progress, address the concerns of the City, Engineer, and Contractor, and to review the schedule and related issues.
4. The progress meetings shall be held at the site or at the City of Everett Department of Public Works at 19 Norman Street.

C. Project Close-Out Meeting

1. A project close-out meeting shall be held at the end of construction and prior to the final payment to the Contractor. The purpose of this meeting is to review the finished work with respect to the Contract, develop a punch list of outstanding work to be performed, address problems and concerns with the quality or completeness of work, and review original and final end date.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Make submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.
- B. Work Not Included:
 - 1. Submittals which are not required shall not be reviewed by the Engineer.
 - 2. The Contractor may require his subcontractors to provide drawings, setting diagrams and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Engineer unless specifically called for within the Contract Documents.

1.03 SHOP DRAWINGS AND SAMPLES

- A. The Contractor shall submit to the Engineer for review all shop drawings, catalog cuts, setting schedules and such other drawings as may be necessary for the prosecution of the work in the shop and in the field as required by the Contract Documents.
 - 1. Submittals which are incomplete or difficult to read shall be rejected.
 - 2. Deviations from the Contract Documents shall be called to the attention of the Engineer at the time of the first submission of shop drawings and other drawings for consideration.
 - 3. The Engineer's review of any drawings shall not release the Contractor from responsibility for such deviations.
 - 4. Shop drawings shall be submitted with such promptness as to cause no delay in the Contractor's work or the work of any other Contractor.
 - 5. Schedules for reinforcing steel shall receive the Contractor's immediate attention, upon award of Contract.
- B. When submitted for the Engineer's review, all shop drawings shall bear the Contractor's certification that he has reviewed, checked and approved the shop drawings, that they are in compliance with the requirements of the Contract Documents, and that he has verified all field measurements and construction criteria, materials, catalog numbers and similar data.
- C. All samples called for in the Specifications or required by the Engineer shall be furnished by the Contractor and shall be submitted to the Engineer for his review.

1. Samples shall be furnished so as not to delay fabrication, and to allow the Engineer reasonable time for the consideration of the samples submitted.
- D. Checking of submittals is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents.
1. Any action shown is subject to the requirements of the Contract Documents.
 2. Contractor is responsible for: dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.
- E. The Contractor may only proceed with fabrication and construction for items on returned submittals marked “1-No Exception Taken” or “2-Make Corrections Noted – Resubmittal Not Required.”
1. Resubmit submittals if marked “3-Amend and Resubmit” or “4-Rejected.”
 2. Submittals provided for information purposes only will be marked “5-Not Subject to Review – Receipt Acknowledged.”
- F. The Contractor shall identify each submittal numerically in accordance with the following format: [SPECIFICATION SECTION] - [SUBMITTAL NUMBER] - [RESUBMITTAL].
1. The first number corresponds to the specification section under which the particular shop drawing is submitted.
 2. The second number is the numerical order of the submittal within a particular specification section based on when the submittal is transmitted.
 3. The third number is zero for an original submittal. The first resubmittal of a shop drawing previously reviewed by the Engineer, if necessary, shall be identified by the same numbering system with (-A) used as a suffix to indicate it is a resubmittal. Each additional resubmittal shall be identified by the same numbering system with the following letter alphabetically used as the suffix.
 4. For example, 02200-1-0 is the original submittal for the first shop drawing submitted under specification section 02200. 02200-2-A is the resubmittal for the second shop drawing submitted under specification section 02200.
- G. A maximum of two (2) submittals of each shop drawing will be reviewed by the Engineer. If additional submittals are required due to the Contractor’s neglect to meet the requirements of the Contract Documents or the corrections and modifications noted by the Engineer in the first two submittals, then the Engineer will review the additional submittals at the expense of the Contractor.
- H. The Contractor shall furnish such samples of material as may be required for examination and testing.
1. All samples of materials for tests shall be taken according to ASTM specifications or as provided in the Contract Documents.
- I. Within 14 days of the date fixed in the Notice to Proceed, the Contractor shall submit a Schedule of Submittals to the Engineer for review and approval in accordance with the General Conditions. The Schedule of Submittals including, but not limited to, shop drawings and samples shall include a list of required submittals, the date when each submittal will be transmitted for review and approval, and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

3.01 GENERAL

- A. The Contractor shall transmit all shop drawings to the Engineer in electronic (PDF) format.
- B. The intent of the electronic submittals is to expedite the construction process reducing paperwork, improving information transfer, and decreasing administration time.
- C. The electronic submittal process is not intended to replace the requirement to submit actual color samples or physical material samples for review and approval by the Engineer.

END OF SECTION

SECTION 01310

CONSTRUCTION SCHEDULES

PART 1 GENERAL

1.01 SUMMARY

- A. To assure adequate planning and execution of the work so that the Work is completed within the number of calendar days allowed in the Contract, and to assist the Engineer in appraising the reasonableness of the proposed schedule and in evaluating progress of the Work, prepare and maintain the schedules and reports described in this Section.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- B. Definitions:
 - 1. "Day," as used throughout the Contract unless otherwise stated, means "calendar day."

1.03 QUALITY ASSURANCE

- A. Reliance upon the approved schedule:
 - 1. The construction schedule as approved by the Engineer shall be an integral part of the Contract and shall establish interim completion dates for the various activities under the Contract.
 - 2. Should any activity not be completed within 15 days after the stated scheduled date, the Engineer may request the reason for the delay in schedule from the Contractor. The Contractor shall supply the requested information and the steps which he intends to take to get back on schedule.
 - 3. It is expressly understood and agreed that failure by the Engineer to exercise the option either to order the Contractor to expedite an activity or to expedite the activity by other means shall not be considered to set a precedent for any other activities.

1.04 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Within 14 calendar days of the date fixed in the Notice to Proceed, submit a proposed construction schedule to the Engineer for review.
 - 1. Schedule shall include expected dates for beginning and completing various activities which make up the work, expected duration of activities, and expected milestone dates.
 - 2. Work shall not commence on the project until the schedule has been approved by the Engineer.

- C. Periodic Reports: Contractor shall monitor the schedule regularly and submit periodic updates to the Engineer or as required by the Engineer.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01385

PRE-CONSTRUCTION PHOTOGRAPHS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: The Contractor shall provide all labor, materials, tools, and equipment necessary to furnish photographs of the site prior to the start of the work.

1.02. RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and all Divisions of these Specifications.

1.03 QUALITY ASSURANCE

- A. 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.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 PHOTOGRAPHS

- A. Equipment
 - 1. The equipment used to take the pre-construction photographs shall be sufficient to provide a clear, full color, visual description of each location.
- B. Area Included
 - 1. The areas included in the photographs shall include the actual location of the work, the adjacent property and all other areas which could reasonably be anticipated to be affected by the work.
 - 2. Particular attention should be paid to the existing condition of private property immediately adjacent to the work.
- C. Documentation
 - 1. The photographs shall depict the physical conditions in the areas described above.
 - 2. The photographs shall include a description of the address and location.
 - 3. Contractor shall furnish electronic copies of the photographs to the Engineer prior to the start of the work.

D. Personnel

1. All personnel employed by the Contractor to take photographs shall be experienced in all aspects of the process, including recognition of important physical conditions in and around the site of the Work.

END OF SECTION

SECTION 01505

MOBILIZATION

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Includes: The transportation and storage of all equipment and materials necessary to the Work and the field offices.
- B. Related Work
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 STORAGE AREA

- A. It shall be the Contractor's sole responsibility to procure and maintain a suitable storage area for tools, materials, and equipment necessary to perform the work.
 - 1. The storage area obtained by the Contractor shall not obstruct or interfere with pedestrian or vehicular movement, and shall not occupy any space within the public right-of-way, except with specific permission from the Owner.
 - 2. The storage area shall be kept neat at all times.
 - 3. The Owner shall not be a party to negotiations related to acquisition of areas for storage or cleanup of the same (unless the storage area is on Owner's property), but reserves the right to inspect such area(s) for compliance with Owner regulatory requirements.
 - 4. Contractor shall not use storage area for bulk storage of hazardous materials (e.g., gasoline, solvents, oil).

3.02 EQUIPMENT

- A. Contractor shall transport all equipment to the site, assemble the equipment as needed to proceed with the work and maintain the equipment as needed during the work.

END OF SECTION

SECTION 01510

TEMPORARY FACILITIES

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work of this Section shall consist of providing the following temporary facilities:
 - 1. Water,
 - 2. Sanitary Facilities,
 - 3. Storage.

PART 2 PRODUCTS

2.01 TEMPORARY WATER

- A. Drinking water shall be provided by the Contractor for his personnel.
 - 1. Drinking water shall be tested and approved by the State Agency as “safe drinking water suitable for human consumption.”
- B. Water for construction shall be provided and metered by the City of Everett.
 - 1. The Contractor is responsible for providing the City with an appropriately sized meter with a backflow preventer. The meter must be read in cubic feet. If the meter set-up is to remain on the hydrant beyond the hours of work, the meter and backflow meter must be protected with a box or cage and remain accessible.
 - 2. The Contractor, through means of water pumper truck or other equipment as needed (at the expense of the Contractor), shall apply and/or spread the water as directed by the City for dust control.
- C. Any of use hydrants for water is expressly prohibited without a prior written request by the Contractor and written approval by the City. Use of temporary bypass water mains, hydrants, and services for construction water is prohibited. Any hydrants approved for use by the Contractor shall be opened and closed by the Department of Public Works on a daily basis.

2.02 TEMPORARY SANITARY FACILITIES

- A. The Contractor shall provide and maintain in a sanitary condition, enclosed, weathertight, chemical toilets for the use of all construction personnel at a location within the contract limit lines. Installation of toilets shall be in accordance with all applicable codes and regulations of the authorities having jurisdiction. The number of facilities required shall be in accordance with State and local applicable codes.
- B. Sanitary conveniences shall be properly screened from public observation and available for the use of all persons employed on the work beginning with the first person engaged in preliminary operations through the completion of work.
- C. Contractor shall be diligent in maintaining sanitary facilities, pumping weekly or more often as required to protect soil and water quality.

2.03 MATERIALS STORAGE

- A. Materials storage in the work area will be limited, at best, and will be under constant review by the City. Materials stored on site shall be the sole responsibility of the Contractor of record and will not be monitored by any agency of the City and its employees.
- B. Temporary storage areas shall be cleaned and restored to original conditions upon completion of the work.

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01545

PROTECTION OF PROPERTY

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: The Contractor shall provide all necessary protection of existing property to prevent any damage to property adjacent to the construction and within the limits of work.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 thru 3 of these Specifications.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 PROTECTION OF PROPERTY

- A. The Contractor shall, at his own expense, preserve and protect from injury all property either public or private along and adjacent to the line of work, and be responsible for and repair any and all damage and injury thereto, arising out of or in consequence of any act or omission of the Contractor.
 - 1. All existing pipes, culverts, poles, wires, fences, mailboxes, stone walls, curbs, bounds, etc., shall be temporarily removed, supported in place or otherwise protected from injury, and shall be restored to at least as good condition as that in which they were found immediately prior to the start of work.
 - 2. Lawns, shrubs, bushes, planting beds and decorative trees disturbed or damaged by the Contractor beyond the limit of work shall be restored to a condition equal to that found prior to the start of construction, either by temporary transplant or replacement in kind.
 - 3. Property which has been damaged and replaced shall be equal in quality and workmanship to the damaged property and shall be subject to the approval of the property owner.
 - 4. Branches which interfere with construction may be removed, only upon approval of the Owner.
 - a. Limbs and branches shall be trimmed off neatly and cleanly, close to the trunk of the tree or to its main branch. The cut surfaces shall be coated with an approved tree wound coating.

END OF SECTION

SECTION 01567

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work covered by this section of the specifications consists of furnishing all labor, materials, equipment and services, and performing all work required for the prevention of environmental pollution during and as a result of construction operations under this contract.
- B. The requirements set forth in this section of the specifications apply to any areas adjacent to wetlands, unless otherwise specifically stated.
- C. All work under this Contract shall be in accordance with the conditions stated herein and in the General Conditions.
- D. All erosion control devices shall be constructed or installed prior to beginning any form of excavation, grading, placement of materials, or general construction.
- E. Insofar as possible, construction activities shall be confined to those areas defined by the plans and specifications. All land resources within the project shall be preserved in their present condition or be restored to a condition after completion of construction at least equal to that which existed prior to work.
- F. The location of storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared, as approved.
- G. Adequate measures for erosion and sediment control such as the placement of baled hay or straw around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation.
- H. Any water that is pumped and discharged from an excavation shall be filtered by an approved method prior to its discharge into a receiving water or drainage system.
- I. The pumped water shall be filtered through baled hay, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. The vegetated channel shall be constructed such that the discharge flow rate shall not exceed a velocity of more than one foot per second. The sediment shall be cleared from the channel periodically.
- J. In order to trap sediment and to prevent sediment from clogging drainage systems, baled hay or straw shall be used as shown on the following detail(s) or as directed by the Owner. Care shall be taken to keep them from breaking apart. The bales should be securely staked to prevent overturning, flotation, or displacement. All deposited sediment shall be removed periodically.

- K. Where material or debris has washed or flowed into or has been placed in existing watercourses, ditches, drains, pipes or structures, such material or debris shall be entirely removed and satisfactorily disposed of during progress of the work, and the ditches, channels, drains, pipes, structures, and work shall, upon completion of the work, be left in a clean and neat condition.
- L. The Contractor shall maintain a clean and pollution free site at all times and under all conditions. Waste generated shall be contained on the site and removed on a daily basis. Storage or contaminated materials which have been found at the site and which could potentially contaminate soil and/or groundwater shall not be stored directly on the ground surface but shall be completely contained to the satisfaction of the Engineer. Such materials shall not remain on the site for extended periods of time.

PART 2 PRODUCTS

2.01 HAY BALES

- A. Hay bales shall be made of hay with forty pounds minimum weight and one hundred and twenty pounds maximum weight. Wood stakes shall be a minimum of one inch by one inch nominal size by a minimum of three feet long.

2.02 SILT FENCE

- A. The silt fence shall consist of a 3-foot wide continuous length sediment control fabric, stitched to a 25-foot wide continuous length support netting, and stapled to preweathered oak posts spaced at a maximum of 7-feet. The oak posts shall be 2-inches by 2-inches by 4-feet 6-inches and shall be tapered. The support netting shall be industrial strength polypropylene. The sediment control fabric should conform to the following properties:
 - 1. Minimum weight of 2.5 oz/sy (ASTM D3776-79)
 - 2. Minimum thickness of 17 mils (ASTM D1777-79)
 - 3. Minimum tear strength of 65 lbs. (ASTM D1117-80)
 - 4. Minimum burst strength of 210 psi (ASTM D3786-80)
 - 5. Minimum coeff. of permeability of 0.0009 cm/sec.
 - 6. Equivalent opening size (EOS) 20 (U.S. Standard Sieve)
 - 7. Water flow rate of 40 gal/min/st.
- B. Sediment control fabric shall be non-rotting, acid and alkali resistant and have sufficient strength and permeability for the purpose intended, including handling and backfilling operations. Fibers shall be low water absorbent. The fiber network must be dimensionally stable and resistant to delamination. The fabric shall be free of any chemical treatment or coating that will reduce its permeability. The fabric shall also be free of any flaws or defects which will alter its physical properties. Torn or punctured fabrics shall not be used. For each specific use, only commercially available fabric which is certified in writing by the manufacturer for the purpose intended shall be used. The Contractor shall submit a two-foot square sample of each type of fabric to be used, along with technical data sheet and certified test reports. The Owner reserves the right to reject any fabric which he deems unsatisfactory for a specific use. The brand name shall be labeled on the fabric or the fabric container.

- C. Fabrics which are susceptible to damage from sunlight or heat shall be so identified by suitable warning information on the packaging material. Fabrics susceptible to sunlight damage shall not be used in any installations where exposure to light will exceed 30 days, unless specifically authorized in writing by the Owner.

2.03 CATCH BASIN SILT FILTERING SYSTEM

- A. Silt filtering system for catch basins accepting drainage from the site shall be Siltsack as manufactured by ACF Environmental Inc. Richmond, VA and distributed by A.H. Harris, or approved equal.
 - 1. Manufactured to fit opening of catch basins or drop inlet.
 - 2. Two dump straps attached to the bottom to facilitate emptying the sack.
 - 3. Lifting loops as an integral part of the Siltsack to be used in lifting the Siltsack from the basin.
 - 4. A restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls.
 - 5. Manufactured from woven polypropylene fabric with the following properties:
 - a. Grab Tensile ASTM D-4632 300 lbs.
 - b. Grab Elongation ASTM D-4632 20%
 - c. Puncture ASTM D-4833 120 lbs.
 - d. Mullen Burst ASTM D-3786 800 psi.
 - e. Trapezoid Tear ASTM D-4533 120 lbs.
 - f. Apparent Opng. ASTM D-4751 40 US Sieve
 - g. Flow Rate ASTM D-4491 40 gpm/sf

2.04 CONSTRUCTION FENCE

- A. Construction fence shall have the following properties:
 - 1. Height: 4 feet
 - 2. Color: Orange
 - 3. Tensile Yield: 3,200 psi
 - 4. Ultimate Tensile Strength: 2600 psi
 - 5. Nominal Mesh Opening: 2-1/2 inch
- B. Construction fence shall be installed in accordance with the manufacturer's recommendations.

PART 3 EXECUTION

3.01 NOTIFICATION

- A. The Owner will notify the Contractor in writing of any non-compliance with the foregoing provisions. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails to act promptly, the Owner may order stoppage of all or part of the work until satisfactorily corrective action has been taken. No claim for an extension of time or for excess costs or damage incurred by the Contractor as a result of time lost due to any stop orders shall be made unless it was later determined that the Contractor was in compliance.

3.02 AREAS OF CONSTRUCTION ACTIVITY

- A. Insofar as possible, the Contractor shall confine his construction activities to those areas defined by the plans and specifications. All land resources within the project boundaries under this contract shall be preserved in their present condition or be restored to a condition after completion of construction at least equal to that which existed prior to work under this contract.
- B. All equipment used for construction, stored at the site, or on the site for any reason shall be free from leaks of oil or hazardous materials and shall not generate excessive exhaust or smoke to pollute the air.
- C. Noise generated by the construction operations at the site shall not be in excess of what is necessary to complete the work. Excess noise due to faulty equipment shall not be permitted.
- D. All volatile waste shall be stored in covered metal containers approved by the Fire Department and shall be removed from the premise daily.

3.03 PROTECTION OF WATER RESOURCES

- A. The Contractor shall not pollute streams, wetlands, or ponds with fuels, oils, bitumens, calcium chloride, acids or harmful materials. It is the Contractor's responsibility to comply with all applicable Federal, State, County and Municipal laws regarding pollution of rivers, wetlands and streams.
- B. Special measures should be taken to insure against spillage of any pollutants into public waters.
- C. Runoff from the construction site shall be controlled so as not to contaminate groundwater, surface water, soils, or other environmental features.

3.04 LOCATION OF STORAGE AREAS

- A. The location of the Contractor's storage areas for equipment and/or materials shall be upon portions of the job site and shall require written approval of the Owner. Plans showing storage facilities for equipment and materials shall be submitted for approval of the Owner.
- B. Adequate measures for erosion and sediment control, such as the placement of baled hay or straw around the downstream perimeter of stockpiles, shall be employed to protect any downstream areas from siltation.
- C. The Owner may designate a particular area or areas where the Contractor may store materials used in his operations.

3.05 DISCHARGE OF DEWATERING OPERATIONS

- A. Any water that is pumped and discharged from an excavation as part of the Contractor's water handling shall be filtered by an approved method prior to its discharge into a receiving water or drainage system.

- B. The pumped water shall be filtered through baled hay, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. The vegetated channel shall be constructed such that the discharge flow rate shall not exceed a velocity of more than 1 foot per second. The sediment shall be cleared from the channel periodically.

3.06 PROTECTION OF AIR RESOURCES

- A. During the progress of work, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping and sprinkling of water as necessary, so as to minimize the creation and dispersion of dust.
 - 1. If the Engineer decides that it is necessary to use calcium chloride for more effective dust control, then the Contractor shall furnish and apply the material as directed.
 - 2. Calcium chloride shall be commercial grade, furnished in 100-pound, 5-ply bags, stored under weatherproof cover and stacked alternately for ventilation.
 - 3. Application for dust control shall be at the rate of about 1/2 pound per square yard per application.
- B. Burning of rubbish and waste material on the site shall not be permitted.

3.07 SEPARATION AND REPLACEMENT OF TOPSOIL

- A. Topsoil shall be carefully removed and separately stored to be used again as directed. The topsoil shall be stored in an area acceptable to the Owner and adequate measures shall be employed to prevent erosion of said material.

3.08 BALED HAY OR STRAW

- A. To trap sediment and to prevent sediment from clogging drainage systems, baled hay or straw shall be used where directed by the Owner. Care shall be taken to keep them from breaking apart. The bales should be securely staked to prevent overturning, flotation, or displacement. All deposited sediment shall be removed periodically.
- B. Bales shall be maintained or replaced until they are no longer necessary for the program intended or are ordered removed by the Owner.

END OF SECTION

SECTION 01570

TRAFFIC REGULATION

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work under this Section shall consist of maintaining and protecting traffic in the project area to the satisfaction of the applicable Local Regulatory Agencies, and the Owner.
 - 1. Unless otherwise specified within the Contract Documents, the Contractor must maintain pedestrian and vehicular traffic and permit access to businesses, factories, residences, and intersecting streets.
 - 2. Traffic control, traffic patterns and/or traffic flow will be governed by the City.
 - 3. The Contractor shall be responsible for the installation of adequate safety precautions for the protection of the traveling public and all project personnel.

1.02 STANDARDS

- A. The design, application, and installation of all devices shall conform to MassDOT's "Standard Details and Drawings for the Development of Temporary Traffic Control Plans," the "Manual on Uniform Traffic Control Devices" latest edition, Part VI, MassDOT's "Standard Specifications for Highways and Bridges" latest edition, and/or as directed.

1.03 SUBMITTALS

- A. The Contractor shall submit a comprehensive traffic detour plan to the Owner and Engineer for review prior to the start of work.

PART 2 PRODUCTS

2.01 TRAFFIC SIGNS

- A. The Contractor shall furnish light(s) and maintain traffic signs as may be directed, or may be necessary for the safe regulation, or convenience of traffic.
 - 1. Said signs shall be as shown or noted in the Contract Documents or elsewhere herein, or if not specified, they shall be adequate for the regulation, safety, and convenience of traffic and in conformance with the applicable requirements of the State/Federal Manual on Uniform Traffic Control Devices (MUTCD).
- B. Safety signing for traffic management consists of furnishing, positioning, repositioning, covering and uncovering, maintaining and removing as needed and/or as directed, and regulator, warning, and guide signs together with their supports. If additional supports are needed due to site conditions, they will be considered incidental to the work.
- C. Rigid signs shall be fabricated from plywood, aluminum, or approved alternate substrate material. Plywood sign material shall be 5/8-inch Exterior MDO – General (one sided).

Aluminum sign material shall Type A, 0.080-inch thick. The entire sign face shall be retro-reflectorized. Reflective sheeting shall conform to M9.30.0. Rollup signs shall be fabricated from vinyl microprismatic retroreflective material. Background sheeting for all construction warning signs shall be of a fluorescent orange color. The minimum spectral radiance factor, in accordance with Section 5.1 of ASTM E991, for the fluorescence shall be as follows: New 110% minimum; weathered 60% minimum.

2.02 BARRICADES

- A. Suitably lighted barriers or barricades shall be furnished by the Contractor and put up and maintained at all times during the night or daytime, around all open ditches, trenches, excavation, or other work potentially dangerous to traffic.
 - 1. Such barricades shall be as shown on the Contract Drawings, or if not shown, shall be constructed of 2-inch by 8-inch rough lumber, securely supported, braced and at least 3 feet high above the ground.
 - 2. Barricades shall be placed on all sides and throughout the entire length and breadth of all open ditches, trenches, excavations, or other work which must be barred to the general public.
 - 3. Barricades shall be properly painted to the satisfaction of the Local Regulatory Agency in order to retain a high degree of visibility to vehicular and pedestrian traffic.

2.03 REFLECTORIZED DRUMS

- A. Reflectorized drums consist of furnishing, positioning, repositioning, maintaining, and removing reflectorized plastic drums and necessary ballast, as needed and/or as directed by the Engineer.
- B. Reflective drums shall conform to Subsection M9.30.9. Warning lights shall conform to the MUTCD Type A. All drums shall be maintained in a satisfactory manner including the removal of dirt and road film that causes a reduction in sheeting retroreflective efficiency.

2.04 FLASHERS

- A. The Contractor shall furnish and securely fasten flashing units to signs, barricades, and other objects in such numbers and for such lengths of time as are required for the maintenance and protection of traffic.
 - 1. The flashers shall be in operation during all hours between sunset and sunrise, and during periods of low visibility.
 - 2. Suitably lighted barricades shall be defined as barricades lit by flashers in accordance with this Section or other lighting methods approved by the Local Regulatory Agency in lieu thereof.
 - 3. Flashers shall be placed along the entire length of the barricades at an interval no greater than 8 feet, center to center. Flashers shall be power operated, lens directed, with the period of light emittance occurring not less than 25 percent of each on-off cycle, regardless of temperature.
 - 4. The emitted light shall be yellow in color and the area of light on at least one face of the unit shall be not less than 12 square inches. The discernible light shall be bright enough to be conspicuously visible during the hours of darkness at a

minimum distance of 800 feet from the unit under normal atmospheric conditions.

5. For units which beam light in one or more directions, the foregoing specifications shall apply 10 degrees or more to the side and 5 degrees or more above and below the photometric axis.
6. Amber flashers must be a minimum of 40 candelas and have a flashing frequency of 50 to 60 times per minute. Either rotating beacons or strobe lights meeting these requirements are acceptable.

2.05 TEMPORARY BRIDGING

- A. The Contractor shall include in his bid, bridging for trenches at all street and driveway crossings in such manner as the Local Regulatory Agency may direct for the accommodation and safety of the traveling public, to provide facilities for access to private driveways for vehicular use, and to prevent blocking of intersecting traffic.
 1. He shall erect suitable barriers around the excavation to prevent accidents to the public and shall place and maintain, during the night, sufficient lights on or near the work.
 2. A space of 20 feet must be left so that free access may be had at all times to fire hydrants and proper precautions shall be taken so that the entrances to fire hydrants and fire stations shall not be blocked or obstructed.

2.06 DETOURS

- A. Temporary detours shall be constructed on the site as proposed by the Contractor and approved by the Applicable State and/or Local Authorities required by the Contract Documents.
 1. Detours shall not have grades in excess of 10% anywhere along their lanes. Detours shall be smooth riding.
 2. Suitable barricades shall be installed continuously along both sides of a detour where:
 - a. The adjacent side slope is steeper than 1 on 6 inches.
 - b. The Contractor's operations or equipment may operate within 20 feet of the detour.
 - c. Other unsafe conditions requiring them for the protection of traffic along the line of detour.

2.07 TRAFFIC CONES FOR TRAFFIC MANAGEMENT

- A. Traffic cones for traffic management consist of furnishing, positioning, repositioning, maintaining and removing, as needed and/or as directed, traffic cones and necessary ballast for the purpose of closing a lane, shifting traffic, channelizing, or otherwise redirecting traffic.
 1. Traffic cones shall meet the requirements of M9.30.11.

2.08 MISCELLANEOUS

- A. The Contractor may be required to employ traffic persons and take other such reasonable means or precautions as the Local Regulatory Agency may direct, or as may be needed to prevent damage or injury to persons, vehicles, or other property, and to minimize the inconveniences and danger to the public by his construction operations.

- B. The Contractor shall guarantee, at all times, the safe passage of pedestrian and vehicular traffic around the perimeter of the construction/work area, within reasonable limits. Temporary pedestrian walkways may be required by the Engineer at no additional compensation to the Contractor.
- C. All construction vehicles not protected by any form of traffic control device on a project which is open to traffic shall have an amber flashing light mounted on the cab roof or on the highest practical point of the machinery. The light shall be in operation whenever the equipment is working on the travelled way.
- D. The Contractor shall guarantee, at all times, passage for emergency vehicles, school buses and residents.

PART 3 EXECUTION

3.01 CONTROL OF TRAFFIC

- A. It shall be the sole responsibility of the Contractor to keep the Local Regulatory Agencies (including but not limited to the Police and Fire Departments) pre-warned at least 72 hours in advance of changes in traffic patterns due to reduction of pavement widths or closing of streets.
- B. The Contractor shall supply, install, maintain, adjust, move, relocate, and store all signs, suitably lighted barricades, traffic cones, and traffic delineators, as necessary to carry out the traffic routing plan and maintain vehicular and pedestrian traffic.
 - 1. All of this work shall meet with the requirements of the Local Regulatory Agencies.
 - 2. The Contractor shall maintain, relocate and operate barricades and flashers throughout the life of this Contract.
- C. Should the Contractor or his employees neglect to set out and maintain barricades or lights, as required in these Specifications, the Owner immediately, and without notice, may furnish, install and maintain barricades or lights.
 - 1. The cost thereof shall be borne by the Contractor and may be deducted from any amount due or to become due to the Contractor under this Contract.
- D. Traffic cones shall be in good condition and sufficiently ballast as determined by the Engineer. Any cones damaged by traffic shall be immediately replaced. The Contractor shall keep an adequate supply of spare cones on hand to replace any damaged cones. The Contractor shall take steps to prevent cones from being blown over or displaced by wind or moving vehicular traffic. Cones shall not be left in position or on the highway when the construction operations have ceased. If it becomes necessary for the Department to remove any cones from the project due to negligence by the Contractor, all costs for this work will be charged to the Contractor.
- E. Signs which are damaged or are missing from their locations shall be replaced by the Contractor without additional compensation. All signs shall be maintained in a satisfactory manner including the removal of dirt or road film that causes a reduction in sign reflective efficiency. All signs shall be mounted in compliance with the requirements of the MUTCD. All signs not consistent with the use of the roadway shall

be removed, completely covered, or turned away from traffic each day. In no case shall signs or their portable supports be left in the traveled way when the traffic management setup has been removed. Rollup signs shall only be used for single work shift setups.

3.02 ACCESS TO PROPERTY AND UTILITIES

- A. The Contractor shall arrange his operations to provide access to properties along the street including temporary bridges to driveways, and provide access to fire hydrants, manholes, gate boxes, or other utilities.
1. Whenever any trench obstructs traffic in or to any public street, private driveway, or property entrance, the Contractor shall take such steps as required to maintain necessary traffic and access including temporary bridging if required.
 2. The Contractor shall confine his occupancy of public or traveled ways to the smallest space compatible with the efficient and safe performance of the work contemplated by the Contract.
 3. If the Contractor's operations or occupancy of any public street or highway, or the uneven surfaces over any trenches being maintained by the Contractor, interfere with the removal or sanding of snow or ice by the public authorities or adjoining land owners, in an ordinary manner with regular highway equipment, the Contractor shall be required to perform such services for the public authorities or adjoining owners without charge.
 4. If the Contractor fails to do so, he shall reimburse the said authorities or adjoining owners or the Owner for any additional cost to them for doing such work occasioned by conditions arising from the Contractor's operations, occupancy, or trench surfaces, together with any damage to the equipment of said parties by those conditions or claims of any parties for damage or injury or less by reason of failure to remove snow or ice or to sand icy spots under these conditions.
 5. The Contractor shall observe and obey all local and state laws, ordinances, regulations and permits in relation to the obstruction of streets and highways, keeping passageways open and protecting traffic where there may be danger from blasting or other construction activities.
- B. The Contractor shall be held responsible for any damages that the Engineer, Owner, Governmental units, or their heirs or assigns may have to pay as a consequence of the Contractor's failure to protect the public from injury, and the same may be deducted from any payments that are due or may become due to the Contractor under this Contract.

3.03 RESTORATION OF TRAFFIC CONTROL DEVICES

- A. Any traffic control devices (signs, line painting, loop detectors, lights, etc.) disturbed or removed during work associated with a Trench Permit shall be replaced by a qualified person at the expense of the Contractor. Coordination of this work must be done with the Everett Department of Public Works.

END OF SECTION

SECTION 01572

UNIFORMED POLICE OFFICERS

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Contractor shall make all arrangements with the City of Everett Chief of Police and/or the State Police for the services of Uniformed Police Officers.

PART 2 PRODUCTS

2.01 UNIFORMED POLICE OFFICERS

- A. The City of Everett Chief of Police will assign Uniformed Police Officers from his department in the quantity and at the location(s) as determined to be necessary by the Chief of Police and as Uniformed Police Officers are available.
- B. The local police/constables shall be uniformed including headgear, and equipped so as to be readily distinguishable as a traffic person/traffic director.

PART 3 EXECUTION

3.01 ARRANGEMENT

- A. The Contractor shall use police details for traffic control as directed by the Chief of Police or the Engineer. The Contractor shall schedule all details directly through the City of Everett Police Department. If, in the opinion of the Chief of Police, Uniformed Police Officers are required for the protection of persons and control of traffic, the Contractor shall be responsible for making all arrangements with the Chief of Police as may be required.
- B. A minimum of two hours notice is required for any detail cancellations. The City shall not reimburse the Contractor for any charges incurred as a result of the Contractor's failure to provide sufficient notice.

3.02 PAYMENT

- A. The Owner shall pay for all Uniformed Police Officers directly in the amount invoiced by the City of Everett Police Department.

END OF SECTION

SECTION 01610

PRODUCT HANDLING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: Protect products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.

1.02 QUALITY ASSURANCE

- A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

1.03 MANUFACTURER'S RECOMMENDATIONS

- A. Comply with manufacturers' recommendations on product handling, storage, and protection.

1.04 PACKAGING

- A. Deliver products to the job site in their manufacturer's original container(s), with labels intact and legible.
 - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
 - 2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.
- B. The Engineer may reject as non-complying such material and products that do not bear identification satisfactory to the Engineer as to manufacturer, grade, quality and other pertinent information.

1.05 PROTECTION

- A. Mechanical equipment subject to damage by the atmosphere if stored outdoors, shall be stored in a building with a controlled environment. The building may be a temporary structure on the site or a building off the site.
- B. PVC pipe shall be covered to protect it from UV degradation.

1.06 REPAIRS AND REPLACEMENTS

- A. In event of damage, promptly make replacements and repairs to the approval of the Engineer at no additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Engineer to justify an extension in the Contract Time of Completion.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work of this Section consists of procedures and requirements for contract closeout, such as cleaning, restoration of project site to original condition, inspections, and guarantees.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 CLEANING UP

- A. During its progress, the work and the adjacent areas affected thereby shall be kept cleaned up and all rubbish, surplus materials, and unneeded construction equipment shall be removed and all damage repaired so that the public and property owners will be inconvenienced as little as possible.
- B. Where material or debris has washed or flowed into or been placed in water-courses, ditches, gutters, drains, catch basins, or elsewhere as a result of the Contractor's operations, such material or debris shall be entirely removed and legally disposed of during progress of the work, and the ditches, channels, drains, etc., kept in a neat, clean and functioning condition.
- C. On or before the completion of the work, the Contractor shall, unless otherwise especially directed or permitted in writing, remove all rubbish from any grounds which he has occupied; and shall leave the roads and all parts of the premises and adjacent property affected by his operation in a neat and satisfactory condition.
- D. Unless otherwise specifically directed or permitted in writing, the Contractor shall perform the following tasks:
 - 1. Tear down and remove all temporary buildings and structures built by him.
 - 2. Remove all temporary works, tools, and machinery or other construction equipment furnished by him.
 - 3. Remove, acceptably disinfect, and cover all organic matter and material containing organic matter in, under, and around privies, houses, and other buildings used by him.
 - a. Subsequent to disinfection, remove or suitably neutralize disinfectant residuals from treated area(s).
 - 4. Remove all rubbish from any grounds which he has occupied.
 - 5. Leave roads and all parts of premises and adjacent property affected by his operations in a neat and satisfactory condition.

3.02 RESTORATION

- A. The Contractor shall restore or replace, when and as directed by the Engineer, any public or private property damaged by his work, equipment, or employees, to a condition at least equal to that existing immediately prior to the beginning of operations.
 - 1. To this end, the Contractor shall do as required all necessary highway or driveway, walk, and landscaping work.
 - 2. Suitable materials, equipment, and methods shall be used for such restoration, or as required in other divisions of this Specification.

- B. In restoring the disturbed areas, the Contractor shall:
 - 1. Replace to an equivalent depth any loam that has been removed during the excavation.
 - 2. Remove from the property and legally dispose of in an approved fashion all trees, brush, and other items that the Contractor has cut in order to prosecute his work.
 - 3. Remove from the property upon completion of the work thereon, all excess materials of construction such as stone, pipe, concrete block, gravel, etc., that the Contractor may have stockpiled for use during the course of the work.
 - 4. Leave the land in a smooth, even condition. All ruts, holes or other undesirable grading conditions which resulted from work under this Contract shall be filled and the area so graded to eliminate ponding.
 - 5. All drainage course(s) shall be restored to their pre-existing condition or better.
 - 6. Reset all public or private monuments, iron pipes or other types of property line and geodetic markers damaged or disturbed by operations under this Contract. This work shall be done by a licensed land surveyor at no additional cost.
 - 7. Repair, reset or replace as directed all pipes, walls, utilities, fences, railings, stone walls, etc., and ornamental or utilitarian domestic accessories, such as, but not limited to, arbors, fireplaces, sheds and incinerators, or other surfaces, structures, or property which may have been damaged, either directly or indirectly by his operations under this Contract.
 - 8. Restore to a condition at least equal to that in which they were found immediately prior to the beginning of construction all sidewalks, gutters, driveways and curbs which have been damaged by the Contractor's operations.

3.03 FINAL INSPECTION

- A. At completion of all work, the Owner and Engineer, along with the General Contractor and each of the subcontractors shall conduct a final inspection jointly for "punch list" purposes and to determine the exact status of the project before final acceptance.

3.04 GUARANTEES

- A. The Contractor shall take notice of special guarantees required in the technical Sections of these Specifications.
 - 1. If, in the opinion of the Owner, any item requires excessive maintenance during guarantee periods, the item shall be considered defective and the Contractor shall correct the defects.
 - 2. All defects so corrected shall be at the expense of the Contractor.

END OF SECTION

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SECTION 02015

TEST PITS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: Provide test pits where noted/shown on the Drawings or at locations requested by the Engineer.
 - 1. In general the work under this Section shall consist of the excavation of test pits or other miscellaneous excavations not specified for payment elsewhere, by the Contractor where it may be necessary to locate or examine soils, groundwater, drains, pipes, rock, public utilities, subsurface structures, or any other possible obstacle or condition.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02140 Site Drainage and Dewatering
 - 2. Section 02222 Earthwork for Water Distribution Systems

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 COORDINATION WITH UTILITY OWNERS

- A. The Contractor shall coordinate the excavation of all test pits with the respective utility owners having facilities in the vicinity of the location of test pits.
 - 1. All utilities shall be informed of the necessity of work under this Section and the Contractor shall give sufficient notice to the respective utility owners to afford reasonable time for coordination.
 - 2. If so desired by respective utility owners, all or part of the work under this Section may be accomplished by their crews and/or supervised by them.

3.02 EXCAVATION

- A. Unless otherwise specified, the Contractor shall dig test pits as required by the Contract Documents, and the Contractor shall notify the Engineer of the results immediately and prior to the start of any underground installations within said test pit areas.
 - 1. The Owner/Utility Companies shall be notified well in advance of excavation so that they also may make the necessary measurements to locate all objects within test pits.

2. Excavation of test pits shall be accomplished by such means as are required to ensure that any underground utilities or structures that may be encountered are not damaged
3. It shall be the Contractor's responsibility for any damages incurred during the excavation operations. Any such damages shall be repaired by him (if permitted) to the satisfaction of the Responsible Agency at the Contractor's own expense. Where the repair and/or replacement must be done by the Responsible Agency, any and all costs thereof shall be borne by the Contractor.
4. The Contractor shall notify the Engineer and/or utility companies of any conflicts uncovered which may require design revisions, relocations and/or adjustment.
5. No work shall be started within these areas of conflict until so authorized by the Engineer.
6. Test pit excavation and backfill shall comply with the applicable provisions of Section 02222.
7. Hand excavation shall be performed where necessary to prevent damage to the existing utilities.

3.03 MEASUREMENT

- A. The Contractor shall measure and record the size, configuration, horizontal and vertical location of all utilities, pipes or other obstacles uncovered in the various test pits dug under this Section.
 1. Size of test pits shall be as directed by the Engineer.

3.04 RESTORATION

- A. Where an existing pavement has been removed for the test pit excavation, the surface shall be restored to grade. The top 12 inches shall be compacted gravel.
 1. In all other areas, the surface of test pit areas shall be restored to a condition equal to or better than original.

END OF SECTION

SECTION 02140

SITE DRAINAGE AND DEWATERING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Provide drainage and dewatering as required by the Contract Documents.
 - 1. In general the Contractor shall furnish all materials, equipment, labor and incidentals necessary to provide dewatering and drainage control during construction.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.
 - 1. Section 01567 Environmental Protection
 - 2. Section 02222 Earthwork for Water Distribution Systems

1.03 SUBMITTALS

- A. None required.

PART 2 PRODUCTS

2.01 EROSION AND SEDIMENTATION CONTROL

- A. Devices for erosion and sedimentation control for effluent of dewatering operations shall be as specified in Section 01567 Environmental Protection.

PART 3 EXECUTION

3.01 INSTALLATION

- A. To insure proper conditions at all times during construction the Contractor shall provide and maintain ample means and devices with which to remove and dispose of all water entering trenches and other excavations.
 - 1. Means of water removal and disposal shall include but not be limited to wells, surface pumps, and/or well point systems, to the extent required to prevent "boils" or softening of the foundation soils.
 - 2. The Contractor shall pitch the ground around the excavation to prevent water from running into excavated areas and to prevent damage to other structures or work on adjacent property.
 - 3. The Contractor shall remove immediately any surface or seepage water or water from sewers, drains, creeks, or other sources, which may accumulate during the excavation and construction work.

- B. Excavations shall be kept dry until the structures, pipes and appurtenances, to be built or installed therein, have been completed and backfilled to such extent that they shall not float or otherwise be damaged by water in the excavation.
 - 1. In no event shall water rise to cause unbalanced pressure on the pipe or other structures. The Contractor shall prevent flotation of the pipe or structures.
 - 2. Pipe, masonry and concrete shall not be placed in water. Water shall not submerge new masonry or concrete within four (4) hours after placement.

- C. Sufficient stand-by pumping equipment shall be installed and mounted for immediate use in case of emergencies. The Contractor shall be responsible for the adequacy of their dewatering equipment and system in controlling the water and for protection to adjacent public and private property from damage. Any damage to permanent work or existing property resulting from the failure of the Contractor to provide an adequate dewatering system shall be repaired by the Contractor at their expense.
 - 1. Wells, well points and pump sumps shall be installed with adequate filters to prevent loss of fine grained soils.

3.02 DISPOSAL OF DRAINAGE WATER

- A. All water pumped or drained from the work shall be disposed of in such a manner as to not cause injury to public health, damage to public or private property, interference with other work or adverse impacts to adjacent wetlands.
 - 1. Effluent from dewatering operations shall not be discharged directly to wetlands or waterways and shall not be discharged to storm drain systems prior to being filtered through a siltation basin.
 - 2. Discharge shall be such that no erosion occurs. Erosion protection shall be as specified in Section 01567 Environmental Protection.

END OF SECTION

SECTION 02160

SUPPORT OF EXCAVATION

PART 1 GENERAL

1.01 DESCRIPTION

- A. Provide excavation support as required by the Contract Documents.
 - 1. In general this work shall consist of furnishing and placing timber and/or steel sheeting and shoring of the types and dimensions required for proper excavation support.

1.02 DEFINITIONS

- A. Shoring shall mean the use of a steel trench box, steel sheeting, or timber sheeting braced as required.
- B. Timber sheeting shall mean the use of tongue and groove wood sheeting or steel soldier beams with wood lagging braced as required.
- C. Steel sheeting shall mean the use of steel sheet pilings with interlocking joints, braced by steel members as required.

1.03 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.
 - 1. Section 02140 Site Drainage and Dewatering
 - 2. Section 02222 Earthwork for Water Distribution Systems
- B. As established in the General Conditions of the Contract, the Contractor is solely responsible for means and methods of construction and for the sequence and procedures to be used.

1.04 QUALITY ASSURANCE

- A. 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.
 - 1. The Contractor shall not perform excavations in unstable ground and shall employ a positive means of containing the unstable ground behind shoring, before excavation may proceed.
- B. Employ a qualified Engineer, properly permitted to provide such services at the location of the work, to design the shoring system and to inspect and report on the quality of its construction.
- C. Comply with all pertinent requirements of governmental agencies having jurisdiction.

1.05 STANDARDS

- A. The following Standards form a part of this Specification as referenced:
 - 1. ASTM A328, Specification for Steel Sheet Piling
 - 2. Massachusetts DPW Standard Specifications, Section 950 Sheeting.
 - 3. Code of Federal Regulations (CFR), 29 CFR 1926, OSHA Standards - Excavation.

1.06 SUBMITTALS

- A. Submit shoring design to Engineer for record purposes only.

PART 2 PRODUCTS

2.01 DESIGN

- A. Design a shoring system which will safely and adequately prevent collapse of adjacent materials and which will permit construction of the Work to the arrangement shown on the Drawings.
- B. All shoring systems shall be designed so as to support all vertical and lateral loads and other surcharge loads imposed on the system during construction, including earth pressures, utility loads and other surcharged loads in order to provide safe and expeditious construction of the permanent structures and prevent movement and/or damage to adjacent soil, buildings, structures and utilities.
- C. Secure all needed approvals, including those of governmental agencies having jurisdiction and of adjacent property owners if required, at no additional cost to the Owner.

2.02 MATERIALS

- A. Material shall include, but not necessarily be limited to sheet piling, soldier piles, lagging, bracing members such as wales, struts, shores and tieback anchors.
- B. Lumber for timber sheeting and shoring:
 - 1. Shall be sound Spruce, Douglas Fir, white or yellow Lodgepole, Ponderosa pine, or western hemlock plank, planed on one side and either tongue and grooved or splined.
- C. Steel sheeting:
 - 1. Shall be of approved section and quality, either new or secondhand, conforming to the requirements of ASTM A328.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

- A. Examine the areas and conditions under which the work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.02 INSTALLATION

- A. Construct and install the shoring system in strict accordance with the design engineer's requirements.
 - 1. When using soldier piles and lagging, where boulders or cobbles are encountered, soldier piles shall be installed in pre-augered holes over the full depth as required to prevent misalignment and damage.
 - 2. Vibration monitoring during installation and extraction of braced excavation shall be provided wherever the excavation is within 100 feet of existing structures.

3.03 SHEETING LEFT IN PLACE

- A. Sheeting left in place, for the purpose of preventing injury to structures, utilities or other property, shall be cut-off 3 feet below finished grade.
 - 1. The right of the Engineer to order sheeting left in place shall not be construed as creating any obligation on his part to issue such orders. His failure to exercise his right to do so shall not relieve the Contractor from liability for damages to persons or property occurring from or upon the work occasioned by negligence or otherwise growing out of a failure, on the part of the Contractor, to leave in place sufficient sheeting to prevent movement of the ground.

3.04 SHEETING REMOVED

- A. All sheeting not left in place shall be carefully removed in such manner as to not endanger the construction or other structures, utilities, or property.
 - 1. All voids left or caused by withdrawal shall be immediately refilled with approved material, and compacted with tools especially adapted to that purpose.
 - 2. Vibratory extraction methods shall be used only when it can be demonstrated that settling of pipe and structures will not occur. If such settling occurs, it shall be corrected at the Contractor's expense.

3.05 TRENCH BOX OR SHIELD

- A. Use of a trench box or shield shall not relieve the Contractor of any liability for damages to persons or property growing out of a failure of the Contractor to leave in place sufficient sheeting and bracing to prevent the caving or moving of the ground or disturbance of the completed work.
 - 1. Care shall be taken, when a trench box or shield is moved ahead, so as not to pull apart the joints of pipe already placed or leave voids around the pipe wall.
 - 2. At no time shall the portable box or shield be allowed to be positioned below the spring line of the pipe.
 - 3. The width of the trench box or shield shall be such that a minimum 6 inch horizontal clearance is maintained between the pipe and shield at all times

4. If the pipe has moved, it shall be reset to the proper line and grade.
5. Any voids between the trench box or shield and the undisturbed trenchwall within the pipe zone (bottom of trench to top of cover material) shall be filled with crushed stone, bank run gravel, or approved material, immediately after the box or shield is positioned.

END OF SECTION

SECTION 02222

EARTHWORK FOR WATER DISTRIBUTION SYSTEMS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Provide all earthwork as required by the Contract Documents.
- B. In general the work of this Section shall include but not necessarily be limited to, excavation, trenching, filling, backfilling, compaction and grading for water distribution systems.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to the following Specifications.
 - 1. Section 02660 Service Connections

1.03 SITE INVESTIGATION

- A. The grades and other site information have been compiled by field surveys.
 - 1. The Contractor acknowledges that he has satisfied himself as to the nature and location of the work.
 - 2. Failure by the Contractor to acquaint himself with all available information concerning the site will not relieve him from the responsibility, for estimating properly, the difficulty or cost of successfully performing the work.

1.04 QUALITY ASSURANCE

- A. 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.
 - 1. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.

1.05 PROTECTION OF PROPERTY AND UTILITIES

- A. Extreme care shall be exercised to prevent damage to existing trees, shrubs, utilities, walls, sidewalks, fences and private property.
 - 1. Any damage to these items as a result of work performed by the Contractor shall be repaired by the Contractor at his own expense.
 - 2. Existing property boundary markers, control points and datum elevation markers or bench marks shall be preserved.
 - a. All such items which are displaced or destroyed by the Contractor shall be replaced by a registered Engineer or Land Surveyor, as required, with all expenses paid by the Contractor.

- B. Utility agencies shall be contacted and advised of proposed work prior to the start of work by the Contractor.
 - 1. Notify Dig Safe.
 - 2. Obtain information from the proper sources and authorities concerning locations of all utilities within the scope of this work.
 - 3. If and when encountered, utilities shall be supported and protected, and the Engineer shall be notified.
 - a. Ample time shall be allowed for entrance and taking such measures as may be required for the continuance of such services by the utility owner.
 - 4. Rules and regulations governing the respective utilities shall be observed. The Contractor's responsibilities with respect to utility locations, protection, interferences and relocations shall be as further specified in Section 01013.

1.06 REFERENCE STANDARDS

- A. The Contractor shall comply with the provisions of the following agencies as they apply to this project and as referenced:
 - 1. Associated General Contractors of America, Inc. (AGCA) "Manual of Accident Prevention in Construction."
 - 2. Occupational Safety and Health Administration (OSHA), United States Department of Labor Requirements.
 - 3. American National Standards Institute (ANSI) "Safety Requirements for Construction and Demolition."
 - 4. American Water Works Association Standards.
- B. The following American Society for Testing and Materials (ASTM) standards form a part of this specification as referenced:
 - 1. ASTM C33 Standard Specification for Concrete Aggregates
 - 2. ASTM D1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
 - 3. ASTM D6913 Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
 - 4. ASTM D6938 Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- C. The following Massachusetts Department of Transportation (MassDOT) Standard Specifications form a part of the specification as referenced:
 - 1. Section M1 Soils and Borrow Materials
 - 2. Section M2 Aggregates and Related Materials

1.07 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Testing and Samples:
 - 1. Test reports on backfill materials, moisture density tests, in place density tests (ASTM D1557 and D6938).
 - 2. Representative backfill and bedding samples and gradation tests (ASTM D6913).
 - 3. Tests shall be in conformance with paragraph 3.13; compaction requirements and testing as specified herein.

1.08 TRAFFIC

- A. While excavating and backfilling is in progress, traffic shall be maintained in a manner as specified in Section 01570 Traffic Regulations.

PART 2 PRODUCTS

2.01 GENERAL

- A. Except as specified for pipe bedding, pipe cover, roadway subbase, and refill for rock and unsuitable materials, or as noted on the Contract Drawings backfill materials may be as follows:
 - 1. Suitable materials for trench backfill shall be the material excavated during the course of construction, but excluding debris, pieces of pavement, frozen materials, organic matter, silt, top soil, ledge excavation and rocks over six inches in largest dimension.
 - 2. Gradation of material shall be generally as specified for granular fill except that maximum size of stone shall be 6 inches.
 - 3. The suitability of existing material for use as backfill will be determined by the Engineer.
 - 4. All unsuitable materials shall be disposed of as per paragraph 3.15.

2.02 PIPE BEDDING AND COVER MATERIAL

- A. Ductile Iron Pipe:
 - 1. Gravel borrow shall be a granular material, well graded from fine to coarse, with gradation as specified in paragraph 2.04 of this specification section, obtained from approved natural deposits and unprocessed except for the removal of unacceptable material and stones larger than the maximum size permitted.
 - 2. It shall not contain vegetation, masses of roots, or individual roots.
 - 3. It shall be free from loam and other organic matter, clay, and other fine or harmful substances.
 - 4. Gravel borrow shall conform to requirements as specified in paragraph 2.04 herein.
- B. Plastic Pipe or Copper Tubing:
 - 1. Sand borrow shall consist of clean inert, hard, durable grains of quartz or other hard durable rock free from loam or clay, surface coatings and deleterious materials.
 - 2. The allowable amount of material passing a No. 200 sieve as determined by AASHTO shall not exceed 10 percent by weight.
 - 3. The maximum particle size shall be 3/8 inch.

2.03 CONCRETE SAND

- A. Concrete sand shall meet ASTM C33 for fine aggregate.

2.04 GRAVEL BORROW

- A. Gravel borrow shall be a granular material, well graded from fine to coarse, with a maximum size of 3 inches, obtained from approved natural deposits and unprocessed

except for the removal of unacceptable material and stones larger than the maximum size permitted.

1. It shall not contain vegetation, masses of roots, or individual roots.
2. It shall be substantially free from loam and other organic matter, clay, and other fine or harmful substances.
3. Gravel borrow shall have the following gradation:

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
3 inch	100
1/2 inch	50-85
No. 4	40-75
No. 50	8-28
No. 200	0-10

2.05 GRANULAR FILL

- A. Granular fill shall be used for general raise-in-grade fill in trench areas below the base course material under pavement. It shall consist of inorganic soil and shall be free from ice, snow, roots, surface coatings, sod, loam, clay, rubbish, and other deleterious matter. It is anticipated that typical material excavated will be able to be used as granular fill, subject to sieve analysis and final approval by the Engineer.

1. Granular fill shall meet the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
2-inch	100
No. 4	30-95
No. 40	15-75
No. 200	0-10

2.06 PROCESSED GRAVEL FOR ROADWAY BASE

- A. Shall meet the material and gradation requirements of the MassDOT Standard Specifications for Highways and Bridges, latest edition, M1.03.1.

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
3 inch	100
1 1/2 inch	70-100
1/4 inch	50-85
No. 4	30-60
No. 200	0-10

2.07 3/4-INCH CRUSHED STONE

- A. Shall consist of durable crushed stone or durable crushed gravel stone, washed, free from ice and snow, stone dust, sand, clay, loam, or other deleterious material. The crushed stone shall be uniformly blended and conform to the following:

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
1 inch	100
3/4 inch	90-100
1/2 inch	10-50

3/8 inch	0-20
No. 4	0-5

2.08 SAND BORROW

- A. Sand borrow shall consist of clean inert, hard, durable grains of quartz or other hard durable rock free from loam or clay, surface coatings and deleterious materials, primarily of particles with 100 percent passing the one inch sieve and shall be well graded within the following limits:

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
1/2-inch	90-100
1/4-inch	25-60
No. 40	5-25
No. 200	0-5

PART 3 EXECUTION

3.01 TRENCH EXCAVATION

- A. The Contractor shall make all excavation in earth and in rock, necessary or incidental to the proposed construction under the terms of this Contract and as herein specified or indicated on the Drawings.
1. All trench excavation shall be accomplished by open cut method.
 2. All excavation shall be made in such manner and to such widths as will give ample room for properly installing, constructing and inspecting pipe lines and structures they are to contain.
 3. The width of trenches shall be sufficient to allow thorough compacting of the refill adjacent to the lower quarters of the pipe. At pipe joints such additional width and depth shall be excavated as is necessary to give ample room for properly making and inspecting the pipe joint.
 4. Bracing and support of all trench excavation shall meet all requirements of Local and State ordinances and OSHA regulations.
 - a. Sheeting and bracing or a steel support box shall be used where required to maintain a safe working condition and provide protection from collapse of the trench walls.
 5. During excavations, material determined by the Engineer to be suitable for backfilling shall be placed a sufficient distance from the banks of the trench to avoid slides or cave-ins. Unsuitable material shall be disposed of as specified in paragraph 3.15 and replaced with surplus suitable material and gravel borrow to the extent necessary.
 6. Should conditions make it impractical or unsafe to place material along the trench, it shall be hauled and stored at a location provided by the Contractor. When required, it shall be re-handled and used in backfilling the trench. No additional compensation will be made for re-handling this material.
 7. Pipe trenches shall be backfilled as soon as practical after the pipes have been laid, jointed and inspected by the Engineer. The extent of excavation open at any one time shall be no more than 50 linear feet of trench during working hours and no more than 20 linear feet during non-working hours.

3.02 EXCAVATION CLASSIFICATION

- A. Earth excavation shall comprise all materials not classified as rock excavation and shall include clay, silt, sand, muck, gravel, hardpan, loose shale, pavement, pavement bases, loose stone in masses and boulders measuring less than one cubic yard in volume.
- B. Rock: See Section 02227 Rock Removal.

3.03 TRENCH EXCAVATION IN PAVED ROADWAYS

- A. In excavating trenches in roadways having an improved pavement, the Contractor shall cut the pavement twice; once prior to excavation and again prior to permanent resurfacing.
 - 1. The first cut may be made using a water cooled abrasive saw, pneumatic chisel or a wheel cutter attached to a front end loader.
 - 2. The second and final cut shall be made with a water cooled abrasive saw.
 - 3. In all cases a trial section shall be cut to indicate the performance of the equipment to be used.
 - 4. Pavement removed shall not be mixed with other excavated materials, but shall be disposed of away from the site of the work before the remainder of the excavation is made.
 - 5. Existing pavement and base course to remain shall be protected by the Contractor. All existing pavements and base courses which are to remain and have been damaged shall be restored or replaced by Contractor to match existing pavements, base courses and grades, at no additional expense to the Owner.

3.04 UNSUITABLE MATERIAL

- A. All pipes and structures are to be laid on a stable foundation. If material at grade is determined to be unsuitable by the Engineer, the Contractor shall excavate a further depth and/or width, and refill with an approved material. Refill material shall be gravel borrow or crushed stone as determined by the Engineer.
 - 1. Where fine sand and silt are encountered at the bottom of the trench, it shall be the option of the Engineer to require a 6-inch compacted depth of concrete sand meeting ASTM C33 for fine aggregate to be installed beneath the pipe bedding to the full width of trench.
 - 2. Payment width limits shall be the same as specified for trench excavation, unless an additional width of trench is ordered by the Engineer.
 - 3. Any excavation in excess of the amount ordered by the Engineer shall be backfilled and compacted with an approved granular material at the Contractor's expense.

3.05 BACKFILLING AND COMPACTING

- A. Backfill shall be placed in uniform layers. Each layer shall be thoroughly compacted by tamping or vibrating with mechanical compacting equipment.
 - 1. Care shall be taken to compact the backfill materials throughout the full width of the excavation and beneath all pipes and structures.
 - 2. The backfilling of trenches shall proceed as soon as the laying of the pipe(s) or installation of the structures will allow.
 - 3. Pipe bedding (gravel borrow) shall be required below and up to the centerline of all pipe as shown on the Drawings.

- a. Pipe bedding shall be placed to the full width of the trench and to a depth of 6 inches below the bottom of the pipe barrel as indicated on the Drawings.
 - 4. Pipe bedding shall be placed 12 inches beyond the widths of a utility structure foundation (base).
 - 5. After a pipe has been placed and bedded, the trench shall be filled to the centerline of the pipe with pipe bedding and compacted.
 - a. Material under and around the pipe shall be carefully and thoroughly compacted and tamped with approved compacting equipment.
 - 6. From the centerline of the pipe to a point 12 inches above the top of the pipe, the fill shall be suitable excavated backfill or granular fill.
- B. Placement of Backfill Above the Pipe Bedding
 - 1. Above the pipe bedding, backfill shall be suitable material from the excavation or, if ordered by the Engineer, granular fill.
 - a. This backfill shall be placed in thoroughly compacted layers 12 inches deep.
 - b. This backfill shall be placed up to the bottom of materials specified to be placed for surfacing requirements.
- C. Roadway Trench
 - 1. The following additions shall apply specifically to trenches within roadways:
 - a. Roadway trench work shall be in accordance with the details on the Contract Drawings.
 - b. The Contractor shall fine grade the surface, apply dust control treatment and maintain the surface in a condition which will allow safe vehicular traffic until resurfacing is placed.
 - c. The length of unsurfaced trench shall not exceed 500 linear feet, and shall be maintained to the Owner's satisfaction, in a condition to allow safe vehicular traffic. If the trench is not maintained in a satisfactory condition, the allowable length of unsurfaced trench shall be reduced accordingly.

3.06 TRENCH SIZE

- A. Trenches shall be excavated to the necessary width and depth for proper laying of pipe and placement of concrete and other materials and shall have vertical sides to 12 inches above the pipe.
 - 1. Widths of trenches shall be as shown on the drawings.
 - 2. The depth of trench shall be a minimum 6 inches below the pipe barrel, or as shown on the Drawings.

3.07 STRIPPING TOPSOIL

- A. Topsoil shall be carefully stripped and separately stored to be used again for topsoiling and seeding on off-pavement areas within which excavations are to be made.

3.08 EXCAVATION NEAR EXISTING STRUCTURES AND UTILITIES

- A. It is called to the attention of the Contractor that there are utilities and other underground pipes along the course of the work. Information shown on the Drawings as to the location of said utilities and pipes is from the best available sources, but no guarantee is implied,

nor is it to be assumed that such information is accurate or complete. Utility lines shall be crossed in the course of the work.

- B. The Contractor shall exercise special care during his operations to avoid injury to all such underground utilities and structures.
 - 1. When necessary, the Contractor shall cooperate with and consult with representatives of the Owner and the utility companies in order to avoid damage to the utilities.
 - 2. The Contractor shall arrange for or furnish and erect suitable supports and shoring or other means of protection where required to protect the utilities, all at no additional cost to the Owner.
 - 3. Hand methods of excavating shall be used around buried utilities and is included in the work to be done under this Contract, at no additional cost to the Owner.
 - 4. Interference between the proposed work and existing utilities, relocation of existing utilities, repair or damage to existing utilities, and protection and support of existing utilities during construction of the proposed work will be as specified in Section 01013.

3.09 PROTECTION OF PROPERTY

- A. The Contractor shall, at his own expense, preserve and protect from injury all property either public or private along and adjacent to the line of work, and be responsible for and repair any and all damage and injury thereto, arising out of or in consequence of any act or omission of the Contractor.
 - 1. All existing pipes, culverts, poles, wires, fences, mailboxes, stone walls, curbs, bounds, etc., shall be temporarily removed, supported in place or otherwise protected from injury, and shall be restored to at least as good condition as that in which they were found immediately prior to the start of work.
 - 2. Lawns, shrubs, bushes, planting beds and decorative trees disturbed or damaged shall be restored to a condition equal to that found prior to the start of construction, either by temporary transplant or replacement in kind, except as otherwise indicated on the Drawings.

3.10 SAFETY AND ACCOMMODATION

- A. The Contractor shall provide, at his own expense, suitable bridges over trenches where required for the accommodation and safety of the traveling public, and provide facilities for access to private driveways for vehicular use.
 - 1. He shall erect suitable barriers around the excavation to prevent accidents to the public and shall place and maintain during the night, sufficient lights on or near the work.
 - 2. A space of twenty (20) feet shall be left so that free access may be had at all times to fire hydrants and proper precautions shall be taken so that the entrances to fire hydrants and fire stations shall not be blocked or obstructed.

3.11 DETOURS

- A. It is the intent of this Contract to keep the roadways open to two way traffic at all times. In order to obtain permission for the closing of the roadway, the Contractor shall satisfy the Owner, Police Chief and Fire Chief that his operations will allow emergency access at all times.

3.12 UNIFORMED POLICE OFFICERS

- A. The Contractor shall make all arrangements with the local Police Chief and/or the State Police for the services of uniformed police officers.
 - 1. If, in the opinion of the State Police, Police Chief or the Owner, uniformed police officers are required for protection of persons and control of traffic, the Contractor shall be responsible for making all arrangements for said uniformed police officers as may be required.

3.13 COMPACTION REQUIREMENTS AND TESTING

- A. All backfill materials shall be thoroughly compacted by rolling, tamping or vibrating with approved mechanical or pneumatic compacting equipment so that pipe, structures, paving and other construction will not settle at the time of construction or in the future. The responsibility for thorough compaction is that of the Contractor irrespective of methods of backfill and depth of backfill layers placed.
- B. All percentages of compaction specified herein shall be of the maximum dry density at the optimum moisture content as established ASTM D1557 and verified by ASTM D6938. When the term “thoroughly compacted” is used in these specifications, it shall mean compaction to at least 95% of the maximum density of the soils at optimum moisture content.
- C. The following numbers and types of soil tests shall be made where directed by the Engineer. These tests shall be made by qualified personnel of an independent testing laboratory, acceptable to the Engineer and paid by the Contractor. One electronic copy of all test results shall be delivered to the Engineer.
 - 1. Particle-Size analysis of Soils and Backfill Materials in accordance with ASTM D6913. A minimum of one satisfactory test from each material in the field shall be submitted to the Owner and Engineer in addition to the initial shop drawings confirming material compliance with the specifications.
 - 2. Moisture-Density Relationship of soil in accordance with ASTM D1557, Method D. A minimum of one satisfactory test from each material in the field shall be submitted to the Owner and Engineer in addition to the initial shop drawings confirming material compliance with the specifications.
 - 3. In-Place Density Tests of materials in accordance with ASTM D6938. Compaction tests will be taken at random on compaction layers below and at finished surfaces. One in-place density test shall be performed every 100 linear feet, or as directed by the Engineer.
 - 4. Failed tests shall be repeated at the Contractor’s expense.
- D. The Owner reserves the right to have additional compaction tests performed by an independent laboratory with testing costs borne by the Owner, except that failed tests shall be repeated at the Contractor's expense.
- E. If any of the field density test results fail to meet the density as specified herein for the earthwork involved, then the Contractor shall remove all of the earthwork in that portion of the work involved as determined by the Engineer, and shall replace it in accordance with these Specifications to the required density. After the work is replaced, additional field density tests will be made by an independent testing laboratory retained by the Owner, and the Contractor shall reimburse the Owner for all costs for such additional testing.

1. Compaction shall be to the following densities:

<u>Fill and Backfill Location</u>	<u>Modified Proctor Density (Percent)</u>
Under structures and pipes	95
Beside structure foundation walls	95
Top two feet under pavements	95
Under pavements below top two feet	95
Trenches through unpaved areas	90
In embankment	90

- F. Puddling and jetting of the backfill shall not be permitted except in special cases approved by the Engineer.

3.14 TRENCH EXCAVATION IN FILL

- A. Where the existing ground surface does not permit at least 4.5 feet of cover over the finished pipe, and where indicated on the Drawings, the Contractor shall place and compact suitable fill material to the depth necessary to provide the 4.5 foot minimum cover, including loam to a minimum top width of 6 feet, or as otherwise shown on the Drawings
 1. Minimum side slopes shall be two horizontal to one vertical.
 2. Fill material shall be from surplus suitable material or granular fill, and be clean, dry, and capable of satisfactory compaction, all as approved by the Engineer, and shall be placed in layers not exceeding 8 inches thick and compacted.
 3. The trench shall be excavated in the compacted fill and the remainder of the work shall be in accordance with other portions of these Specifications.

3.15 DISPOSAL OF SURPLUS AND UNSUITABLE EXCAVATED MATERIAL

- A. All surplus excavated material and any material unsuitable for use shall be disposed of in disposal areas provided by the Contractor.
 1. It is the Contractor's responsibility to dispose of unsuitable excavated material in an approved manner.
 2. The Contractor shall not dispose of surplus materials on wetlands or other areas prohibited by the Corps of Engineers or the Commonwealth of Massachusetts Department of Environmental Protection, or any other local authority having jurisdiction.

3.16 DUST CONTROL

- A. The Contractor shall perform dust control operations as specified in Section 01567.

3.17 CLEAN-UP

- A. The Contractor shall remove all surplus materials (earth, pipe, fittings, storage and office trailers, barricades, etc.), from the construction site.
 1. All paved roadways affected by the construction shall have their full width swept clean (paved edge to paved edge) using methods which control the dust.
 2. Before the Contractor may proceed to another roadway, clean up of the previous roadway must be complete.

END OF SECTION

SECTION 02227

ROCK REMOVAL

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: Remove all rock encountered while excavating for structures, roadways, or utility trenches as required by the Contract Documents.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02140 Site Drainage and Dewatering
 - 2. Section 02222 Earthwork for Water Distribution Systems

1.03 DEFINITIONS

- A. Rock excavation: Rock which requires explosives, wedging or impact hammer for its removal. Concrete shall be classified as rock.
- B. Boulders, slabs or other single pieces of material encountered, which are less than one (1) cubic yard shall not be considered rock.

1.04 STANDARDS

- A. All handling of explosives and blasting shall be in compliance with the pertinent sections of Commonwealth of Massachusetts Regulations (CMR) 13.00.

1.05 QUALITY ASSURANCE

- A. 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.
- B. Comply with all pertinent requirements of governmental agencies having jurisdiction.

1.06 SUBMITTALS

- A. Submit plans for proposed pre-blast survey (Record purposes only).

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 NOTIFICATION

- A. When rock is encountered, it shall be uncovered and the Engineer notified.
 - 1. The Contractor shall provide the Engineer with cross sections of the rock surface or a profile of the rock where trenches are concerned.
 - 2. The Engineer shall be present when the cross sections or profiles are taken.
 - 3. The average end area method shall be used in computing the volumes wherever practicable.

3.02 LIMITS OF EXCAVATION IN ROCK

- A. Excavation in rock shall be performed, so that no projection shall come within vertical planes twelve (12) inches outside of the structure being built or twelve (12) inches below the bottom of the structure base slab and footings.
- B. In trenches, the rock shall be removed to the limits shown on the typical trench section.
 - 1. Where excavation is carried beyond the above determined limits, the additional space shall be refilled at the Contractor's expense with concrete or other specified materials.

3.03 BLASTING

- A. Pre-Blast Survey: Prior to any blasting, the Contractor shall submit a pre-blast survey.
 - 1. The survey shall satisfy the insurance requirements of the Contractor and be acceptable to the Contractor's insurance carrier, as well as provide data to assess damages to personal property and real estate due to blasting operations.
 - 2. The survey shall be complete as warranted by the nature of the work.
- B. Take all precautions necessary to warn and/or protect any individuals exposed to his operations. Such precautions shall include but not be restricted to the following:
 - 1. Present written certificate of insurance showing evidence that his insurance includes coverage for blasting operations, before doing any blasting work.
 - 2. Make necessary arrangements as may be required by the applicable Federal, State, County or Municipal codes, rules, regulations and laws, and shall be responsible for compliance.
 - 3. Obtain a permit from the local authorities to perform blasting operations.
 - a. The Engineer shall be notified in writing that such permit has been obtained.
 - 4. Schedules for blasting shall be thoroughly coordinated with the proper authorities – Federal, State and Local.
 - a. No blasting shall be done unless the Contractor has notified all concerned parties that he may blast.
 - b. The Contractor shall also notify any commercial installation in the immediate area whose operations or instrumentation may be affected by blasting, at least twenty four (24) hours prior to blasting operations.
 - 5. Seismographic recordings shall be made of all blasting operations on the project by a qualified testing agency hired and coordinated by the Contractor.
 - a. A copy of these recordings shall be made available to the Engineer.

6. Blasting shall be performed by persons who are licensed to use explosives.
7. The Contractor shall keep an accurate record of each blast and submit a copy to the Engineer. The record shall show the date, time, exact stationing of the blast, the depth and number of drill holes, and kind and quantity of explosive used, and any other data required for a complete record.
8. The Contractor shall be fully responsible for damages caused by his blasting operations.
9. If rock below the limits of excavation is shattered by blasting, caused by holes drilled to deep, too heavy a charge of explosives or any other circumstance due to blasting, the shattered rock shall be removed and the void refilled with gravel borrow at the expense of the Contractor.
 - a. Gravel borrow shall be as specified in Section 02222 Earthwork for Water Distribution Systems.

3.04 DISPOSAL AND REPLACING OF ROCK

- A. Remove and dispose of all pieces of rock which are not suitable for use in other parts of the Work.
 1. Rock disposed of by hauling away to spoil areas shall be replaced by surplus excavation obtained elsewhere on the site, insofar as it is available.
- B. Fragments of rock approximately twenty five (25) pounds or less may be used in the fill areas of the site (roadway areas excluded).
 1. The Contractor shall place these pieces of rock in thin layers alternating them with layers of earth to be sure that all voids between the rock are completely filled with earth.
 2. If in the opinion of the Engineer the quantity is excessive, he may order the removal and disposal of the rock.
- C. Be responsible for obtaining spoil locations and the removal of all excess rock from the site.

END OF SECTION

SECTION 02435

REMOVING AND RELAYING EXISTING DRAINS

PART 1 GENERAL

1.01 DESCRIPTION

- A. The work of this section consists of furnishing all labor, materials, and equipment required for removal of cast iron, concrete, reinforced concrete, corrugated metal, asbestos cement, or vitrified clay drains ranging in diameter from 4 inches to 36 inches, where required in the work, and relaying them after construction to conform with lines and grades existing prior to construction.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
1. Section 02140 Site Drainage and Dewatering
 2. Section 02160 Support of Excavation
 3. Section 02222 Earthwork for Water Distribution Systems
 4. Section 02227 Rock Removal

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 DRAIN PIPE REMOVAL

- A. A trench of sufficient width and depth shall be excavated so that the drain pipes may be removed without damage.
1. The Contractor shall stockpile all removed sections of pipe at or near the job site.
 2. They shall be properly stacked or dispersed and protected to prevent damage.
 3. The Contractor shall replace any pipe sections that are to be relaid which may become lost, damaged or destroyed as a result of his operations, or because of his failure to properly store and protect them in a manner that would eliminate such damage or loss.
 4. Sections already damaged through no fault of the Contractor shall be replaced at the Owner's expense.

3.02 RELAYING DRAIN PIPES

- A. The trenches shall be prepared to the proper widths and depths to facilitate the installation of the pipe.
1. The subgrade shall be compacted to support the pipe or other structures until it is firm and unyielding for the entire width of the trench
 2. Gravel or crushed stone shall be used to bed the pipe.

3. Pipes shall be relaid to proper line and grade by utilizing batter boards or a transit or level.
4. Pipe sections are to be thoroughly cleaned of all silt or debris prior to installation.
5. Sections which have been damaged to such an extent that they may present future maintenance problems or may fail under loading shall not be reused.
6. The Contractor shall be required to replace any sections damaged by negligence at his own expense.

END OF SECTION

SECTION 02513

ASPHALTIC PAVEMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. Provide asphaltic pavement and appurtenant items as required by the Contract Documents.
 - 1. In general, the Contractor shall provide all labor, equipment, and materials, and perform all operations in connection with the installation of asphaltic pavement, berms, pavement markings, calcium chloride, final grade adjustments of valve boxes, manhole and catch basin castings, and preparation of the trench.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02222 Earthwork for Water Distribution Systems

1.03 STANDARDS

- A. All road repairs and patch work will be done in accordance with City of Everett Department of Public Works specifications.
- B. All paving shall comply with the Commonwealth of Massachusetts Department of Public Works Standard Specifications for Highways and Bridges hereinafter called Standard Specifications, as referenced.

1.04 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
 - 3. The Contractor is required to provide a Street Opening Bond in the amount of \$5,000 as required by the Department of Public Works Engineering Division.

PART 2 PRODUCTS

2.01 GRAVEL SUBBASE

- A. Shall be as specified in Section 02222, Earthwork for Water Distribution Systems.

2.02 ASPHALTIC PAVEMENT

A. Binder and Top Course:

1. Shall be Class I asphaltic pavement conforming to Sections 420, 460 and M3 of the Standard Specifications.

2.03 ASPHALT TACK COAT

- ### A.
- Shall consist of either emulsified asphalt, grade RS-1 conforming to Section M3.03.1, or cutback asphalt, grade RC-70 or RC-250 conforming to Section M3.02.0 of the Standard Specifications.

2.04 PAVEMENT MARKING PAINT

- ### A.
- Shall be High Heat Rapid Drying Traffic Marking Material conforming to Section M7.01.08 (White High Heat Rapid Drying Traffic Marking Material) and Section M7.01.09 (Yellow High Heat Rapid Drying Traffic Marking Material) of the Standard Specifications, as applicable.
- ### B.
- Shall be Thermoplastic Reflectorized Pavement Markings conforming to Section M7.01.03 (White Thermoplastic Reflectorized Pavement Markings) and Section M7.01.04 (Yellow Thermoplastic Reflectorized Pavement Markings) of the Standard Specifications, as applicable.

2.05 CALCIUM CHLORIDE

- ### A.
- Calcium chloride shall be pure and free from deleterious materials and contamination.
- ### B.
- Calcium chloride may be in liquid or flake form.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

- ### A.
- Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 FINAL PREPARATION OF SUBGRADES

A. Gravel Subbase:

1. Minimum compacted depth of 14.5 inches as measured from the bottom of the pavement.
2. Spread and compacted in layers not exceeding 6 inches in depth, compacted measurement.
3. All layers shall be compacted to not less than 95 percent of maximum dry density at the optimum moisture content as established ASTM D1557 (Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort) and verified by ASTM D6938 (Standard Test Methods for In-Place Density

and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)).

- B. Prior to the placement of permanent pavement, the Contractor shall sawcut, by means of a hydraulic saw or equivalent, back one foot from the original trench limits. The trench shall be made square or rectangular and the sawcut sidelines of the trench shall be straight and true for a minimum distance of fifty feet on trenches longer than fifty feet, and for the entire length of the trench on trenches less than fifty feet, leaving the sound vertical face for the entire depth of existing pavement.

3.03 GENERAL

- A. All asphaltic pavement thickness referred to in this Section shall be compacted thickness.
- B. No asphaltic pavement shall be placed when the air temperature is below forty (40) degrees Fahrenheit, or when the material on which the mix is to be placed contains frost.
- C. Maintain asphaltic pavement under this Contract during the guarantee period of one (1) year.
 - 1. Promptly refill and re-pave all areas which have settled or are otherwise unsatisfactory for traffic.

3.04 PLACEMENT OF ASPHALTIC CONCRETE PAVEMENT

- A. Grading, Rolling, and Finishing (Roadways):
 - 1. Pavement shall be placed and raked to a uniform surface, rolled to the required thickness and to a grade that will match the existing bituminous road surface. The Contractor shall maintain the surfacing and shall promptly fill with similar material any depressions and holes that may occur so as to keep the surfacing in a safe and satisfactory condition for traffic.
- B. Temporary Pavement
 - 1. Temporary pavement shall be placed on the surface of the fill and thoroughly compacted. All temporary pavement shall be Class I Bituminous Concrete Type I-1, binder course, two (2) inches thick.
 - 2. Cold patch may be allowed if approved by the Executive Director of Public Works and Engineering due to adverse weather conditions.
 - 3. If plates are used, they shall be ramped to match the existing pavement. Temporary paving or steel plating shall immediately follow the backfilling operation.
- C. Permanent Paving
 - 1. The bituminous concrete surface shall not be placed any earlier than 65 days from the date of completion of the temporary surface without approval from the Executive Director of Public Works and Engineering. The temporary surface and subbase shall be excavated to the grade required by the permit prior to placement of the final bituminous concrete surface. Permanent pavement shall be installed no later than November 30.
- D. Permanent Trench Binder Course (Roadways):
 - 1. Shall be utilized as the base course of the permanent resurfacing.

2. Remove temporary pavement, square up all the edges and prepare base course as specified in this Section.
 3. Edges of the trench shall be cut back in a neat true line, twelve (12) inches outside all limits of the excavation with a water-cooled abrasive saw.
 4. Edges of the existing pavement shall be brushed clean and the specified tack coat applied.
 5. Pavement compacted thickness shall not be less than the existing roadway binder course and shall be a minimum of two and one half (2.5) inches, placed in a single lift as shown on the Details.
 6. Placed with a self-propelled spreader.
 7. Compaction shall be accomplished with a self-propelled roller, with a weight of approximately 285 pounds per inch of roller width.
 8. Binder course pavement shall be maintained by the Contractor until permanent top course pavement is placed.
- E. Permanent Trench Top Course (Roadways):
1. Binder course pavement shall remain in place.
 2. The binder course shall be swept clean of all foreign matter and loose material.
 3. Depressions in the binder course resurfacing shall have a leveling course applied before the top course paving begins.
 4. The surface receiving the top course shall be completely dry prior to the application of the tack coat.
 5. Tack coat shall be applied at the rate of 0.25 gallons per square yard. The contact surface of the curbing, castings and other structures shall be painted with the tack coat.
 6. All castings (frames and covers, valve boxes) shall be raised to finish grade before the top course is applied.
 7. The equipment used for spreading and finishing shall be a mechanical self powered paver capable of spreading and finishing the mixture true to line, grade, width and crown by means of fully automated controls for both longitudinal and transverse slope.
 8. Top course pavement compacted thickness shall be a minimum of two (2) inches, placed in a single lift.
 9. Compaction shall be accomplished with a self-propelled roller with a weight of approximately 285 pounds per inch of roller width.

3.05 PAVEMENT FOR DRIVEWAYS

- A. The gravel base course shall be as hereinbefore specified.
- B. Permanent pavement for driveways shall consist of a gravel base course, and Type I-1 bituminous concrete binder courses.
- C. The replacement of the bituminous concrete courses for driveways shall be at least equal to existing pavement thicknesses. Driveway pavement shall not be less than 2.5-inches compacted in thickness, placed in two 1.25-inch courses of binder.
- D. Sidewalks, curb cuts, accessible ramps, and driveway crossings damaged during construction and requiring reconstruction shall be constructed in compliance with Architectural Access Board regulations, 521 CMR 21-22.

3.06 CASTING ADJUSTMENTS

- A. Where asphaltic pavement is to be applied, manhole and catch basin frames and valve boxes are to be adjusted to the grade of the new pavement.
 - 1. A neat line shall be cut in the pavement around the existing frames and valve boxes.
 - 2. The material; gravel, pavement and concrete collar (if applicable) shall be removed down to six (6) inches below the frame.
 - 3. The frame shall be freed from its existing grout bed and shimmed with steel shims of the appropriate thickness, at a minimum of four (4) alternate locations, so as to ensure that the frame will not rock. The frame shall then be set into a full bed of grout, and a concrete collar placed around the frame, up to within two (2) inches of finish grade.
 - 4. The frame shall be protected from damage from traffic until the concrete has taken a firm set.

3.07 DUST CONTROL TREATMENT

- A. The Contractor shall perform dust control operations as specified in Section 01567.

3.08 PAVEMENT MARKINGS

- A. Pavement markings shall be applied at locations directed by the Engineer or as required by the City of Everett Department of Public Works.
 - 1. Pavements shall have been in place 48 hours prior to the application.
 - 2. The surface shall be prepared to accept the application in compliance with the paint manufacturer's requirements.
 - 3. The temperature of the pavement shall be between forty (40) degrees and one hundred twenty (120) degrees Fahrenheit.
 - 4. No thinners are to be used for the pavement markings.
 - 5. The equipment used for the application of pavement markings, shall be of standard commercial manufacturer. All other equipment and devices necessary for the application of pavement markings and protection thereof and for the protection of the traveling public, shall be as usually required for work of this type, and shall be furnished by the Contractor.
 - 6. Pavement markings shall be either a single continuous line or a broken line, four (4) inches wide.
 - 7. If for any reason material is spilled or tracked on the pavement or any markings applied by the Contractor the Contractor shall remove such material.
 - a. The material shall be removed by a method that is not injurious to the roadway surface and is acceptable to the Engineer.
 - b. Clean the roadway surface and prepare the surface for a re-application of the pavement markings.
 - 8. All painted road markings shall be replaced. All thermoplastic road markings shall be replaced.

END OF SECTION

SECTION 02514

SIDEWALKS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: The work of this Section shall consist of furnishing all labor, materials and equipment required for installing sidewalks to conform to lines and grades shown on the Drawings.
- B. Additional Work: The work in this Section shall consist of furnishing and installing all labor, materials and equipment required for install of either driveway or sidewalk transitions adjacent to or abutting concrete or bituminous sidewalks. In general, the Contractor shall match the material types and adjust cement or bituminous pavement for any changes in grade.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02222 Earthwork for Water Distribution Systems
 - 2. Section 02513 Asphaltic Pavement
 - 3. Section 02516 Remove and Reset Existing Curbing
 - 4. Section 03300 Cast-In-Place Concrete

PART 2 PRODUCTS

2.01 CEMENT CONCRETE SIDEWALKS

- A. Cement concrete for sidewalks shall conform to concrete (4000 psi) as specified in Section 03300.
- B. Curb ramps and driveway transitions shall conform to concrete (4000 psi) as specified in Section 03300.

2.02 GRAVEL SUBBASE

- A. Gravel subbase shall consist of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings and deleterious materials.
- B. Gradation requirements for gravel subbase shall be as specified in Section 02222.

2.03 BITUMINOUS CONCRETE SIDEWALKS

- A. Bituminous concrete for bituminous sidewalks shall be as specified in Section 02513.

PART 3 EXECUTION

3.01 CEMENT CONCRETE SIDEWALKS

- A. The subgrade for the sidewalks shall be shaped parallel to the proposed surface of the walks and shall be thoroughly compacted.
- B. After the subgrade has been prepared, a foundation of gravel shall be placed upon it. After being compacted thoroughly, the foundation shall be at least 8 inches in thickness and parallel to the proposed surface of the walk. The gravel shall be compacted to not less than 95% of maximum density as defined in Section 02222.
- C. Side forms and transverse forms for sidewalks shall be smooth, free from warp, of sufficient strength to resist springing out of shape, of a depth to conform to the thickness of the proposed walk.
- D. The edge shall conform to the grade of the finished walk and shall have sufficient pitch to provide for surface drainage and shall not exceed 1/4 of an inch per foot.
- E. The cement concrete sidewalks shall be placed in alternate slabs 24 feet in length except as otherwise ordered. The slabs for sidewalks shall be separated by transverse preformed expansion joint fillers 3/8 inch in thickness. Sidewalk and driveway expansion joints shall be 3/8" x 4" preformed ethylene vinyl acetate or closed cell polyethylene foam material.
- F. Preformed expansion joint filler shall be placed adjacent to or around existing structures as directed.
- G. The cement concrete shall be placed in such quantity that after being thoroughly consolidated in place it shall be 4 inches in depth. At driveways, the sidewalks shall be 6 inches in depth. After edging and jointing operations, the surface shall be floated with an aluminum or magnesium float. Immediately following floating, the surface shall be steel-troweled. If necessary, tooled joints and edges shall be rerun before and after troweling to maintain uniformity. After troweling, the surface shall be brushed by drawing a soft bristled push broom with a long handle over the surface of the cement concrete to produce a non-slip surface.
- H. The surface of all cement concrete sidewalks shall be uniformly scored into block units of areas not more than 24 square feet. The depth of the scoring shall be at least one quarter of the thickness of the sidewalk.
- I. The application of neat cement to surfaces in order to hasten hardening is prohibited.
- J. The finishing of concrete surface shall be done by experienced and competent cement finishers. When completed the walks shall be kept moist and protected from traffic and weather for at least 3 days.
- K. At driveways or street intersections the cement concrete shall be blended or tapered to cap the end of either concrete or granite curbing to form a smooth transition.

3.02 CURB RAMPS AND DRIVEWAYS

- A. The subgrade for the sidewalks shall be shaped parallel to the proposed surface of the walks and shall be thoroughly compacted.
- B. After the subgrade has been prepared, a foundation of gravel shall be placed upon it. After being compacted thoroughly, the foundation shall be at least 8 inches in thickness and parallel to the proposed surface of the walk.
- C. Side forms and transverse forms for sidewalks shall be smooth, free from warp, of sufficient strength to resist springing out of shape, of a depth to conform to the thickness of the proposed walk.
- D. The edge shall conform to the grade of the finished walk and shall have sufficient pitch to provide for surface drainage and shall not exceed 1/4 of an inch per foot.
- E. The concrete ramps and driveway transitions shall be placed in alternate slabs 24 feet in length except as otherwise ordered. The slabs for sidewalks shall be separated by transverse preformed expansion joint fillers 3/8 inch in thickness. Ramps and driveway expansion joints shall be 3/8" x 4" preformed ethylene vinyl acetate or closed cell polyethylene foam material.
- F. Handicap ramps and curb ramps at intersections shall be constructed in accordance with the Americans with Disabilities Act (ADA) Accessibility Guidelines (Jan 1998 edition) and in accordance with dimensions and minimum slopes presented in the design drawing(s) details.
- G. Preformed expansion joint filler shall be placed adjacent to or around existing structures as directed.
- H. The cement concrete in driveways shall be placed in such quantity that after being thoroughly consolidated in place it shall be 6 inches in depth. The cement concrete in sidewalk or curb ramps shall be 4 inches in depth except in conjunction with driveway areas. After edging and jointing operations, the surface shall be floated with an aluminum or magnesium float. Immediately following floating, the surface shall be steel-troweled. If necessary, tooled joints and edges shall be rerun before and after troweling to maintain uniformity. After troweling, the surface shall be brushed by drawing a soft bristled push broom with a long handle over the surface of the cement concrete to produce a non-slip surface.
- I. At driveways, street intersections or sidewalk ramps the concrete shall be blended or tapered to cap the end of either concrete or granite curbing to form a smooth transition.

3.03 REMOVAL AND RELAYING OF EXISTING SIDEWALKS

- A. The Contractor shall maintain access to all abutting business for the full duration of the Contract.
- B. The Contractor shall remove and reset all existing castings in the sidewalk layout. If the existing castings are damaged as part of the Contractors sidewalk removal operations, the casting shall be replaced at the Contractor's expense. The work shall include any

coordination required with public or privately owned utilities with equipment set in the sidewalk layout.

- C. The Contractor shall make every effort to minimize damage to existing tree and root systems. In the case of excessive damage, which if determined by the OWNER will result in the death of the tree, the Contractor will be held fully responsible for replacement of the trees at no additional expense to the OWNER.
- D. All existing curbs, bituminous sidewalks, brick sidewalks, concrete sidewalks, private or public walks, fences, stone walls and other similar items removed for the construction of the services, connections, water and/or storm drain lines shall be replaced in a manner equal or better than their original condition.

3.04 TRANSITIONS TO WALKWAYS AND DRIVEWAYS

- A. The Contractor shall furnish and install a transition to the existing sidewalks and driveways to match the existing grades. The transition can vary from 6 inches to 3.0 feet wide depending on the location. The transition shall meet the Americans with Disabilities Act (ADA) requirements as specified herein under Item 3.02(F). The Contractor shall match the existing walk or driveway material type (i.e. cement concrete or asphaltic pavement). Any damage to the existing sidewalks or driveways, as a direct result of the Contractor's operations, shall be restored by the Contractor to the original conditions at no additional expense to the OWNER.
- B. All costs related to replacement, furnishing, and installing the transitions shall not be measured for separate payment.

END OF SECTION

SECTION 02515

GRANITE CURBS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: The work of this Section shall consist of furnishing all labor, materials and equipment required for installing and setting curb(s), curb corners and edging on a gravel foundation, to conform with lines and grades shown on the Drawings.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02222 Earthwork for Water Distribution Systems
 - 2. Section 02514 Sidewalks

PART 2 PRODUCTS

2.01 GRANITE CURBING

- A. Granite curbing shall type VA-4 conforming to the requirements specified in Subsection M9.04.1 of the Massachusetts Highway Department Standard Specifications for Highways and Bridges.
- B. All granite curb and edging shall be light gray in color, free from seams and other structural imperfections or flaws which would impair its structural integrity, and of a smooth splitting appearance.
- C. Whenever curbing is sawed, all surfaces that are to be exposed shall be thoroughly cleaned and any iron rust or iron particles removed by sand blasting or other approved method and any saw mark in excess of 1/8-inch shall be removed.

2.02 CURB CORNERS (Bullnose Corners)

- A. The granite for curb corners shall conform to M9.04.0 and shall have horizontal beds. The curbs shall match the adjacent curbing in size, color and quality. The front arris lines shall extend through 1/4 of a circle having a radius of 2 feet, Type A curb corners. The back arris line shall be straight. The plane of back shall be normal to top.

2.03 GRANITE CURB INLETS (Throat Stone)

- A. The granite curb inlets shall conform to Subsection M9.04.0 of the Mass Highway Department Standards. The curb inlets shall be horizontal bed with tops free from wind.
- B. The curbing shall be sawn or peen hammered on top and the front face shall be straight split, free from drill holes.

- C. The inlet curb shall be six (6) feet in length and 16-19 inches in depth. The curb shall be six (6) inches wide at the top and at least six inches wide at the bottom.
- D. The mouth of the curb inlet shall be at least three (3) inches in depth and at least two (2) feet in length. The inlet curb shall be cut in the front face of the stone and the inlets shall match the adjacent curbing in color.

2.04 GRAVEL

- A. Gravel shall conform to the requirements of Subsection M1.03.0 Type C of the Massachusetts Highway Department Standard Specifications for Highways and Bridges.

PART 3 EXECUTION

3.01 EXCAVATING TRENCH AND PREPARING FOUNDATION

- A. The trench for the curb shall be excavated to a width of 18 inches. The subgrade of the trench shall be a depth below the proposed finished grade of the curb equal to 6 inches plus the depth of the curbstone. The trench for the curb corner shall extend 6 inches beyond the front and back of curb corner to the full depth of foundation.
- B. The foundation for the curb shall consist of gravel spread upon the subgrade and after being thoroughly compacted by tamping shall be 6 inches in depth.

3.02 SETTING CURB AND EDGING

- A. All spaces under the curb, curb corners or edging shall be filled with gravel thoroughly compacted so that the curb, curb corners or edging will be completely supported throughout their length.

3.03 FILLING ABOUT TRENCH

- A. After the curb, curb corners, curb inlets and edging is set, the space between it and the wall of the trench shall be filled with gravel thoroughly tamped to the depth directed, care being taken not to affect the line or grade of the curb, curb corners, curb inlets and edging.

3.04 POINTING

- A. The joints between curbstones or edging shall be carefully filled with cement mortar and neatly pointed on the top and front exposed portions. After pointing, the curbstones or edging shall be satisfactorily cleaned of all excess mortar that may have been forced out of the joints.

3.05 TRANSITION CURB FOR WHEELCHAIR RAMPS

- A. Transitions from normal curb settings to wheelchair ramps shall be accomplished with transition curb as shown in the Details. Transitions shall be of the same type of curb and similar to that abutting and, if on a curve, of the same radius.

END OF SECTION

SECTION 02516

REMOVE AND RESET EXISTING CURB

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: The work of this Section shall consist of removing the existing curb(s), edging, curb corners and curb inlets of every type and cross section and resetting them in accordance with these specifications and in conformity with the lines and grades shown on the Drawings.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02222 Earthwork for Water Distribution Systems
 - 2. Section 02513 Asphaltic Pavement
 - 3. Section 02514 Sidewalks
 - 4. Section 03300 Cast-In-Place Concrete

PART 2 MATERIALS

2.01 CURBING

- A. Curb, edging, curb inlets and curb corners shall consist of the same as is designated to be reset.

2.02 GRAVEL

- A. Gravel shall conform to the requirements of Subsection M1.03.0 Type C of the Massachusetts Highway Department Standard Specifications for Highways and Bridges.

PART 3 EXECUTION

3.01 REMOVAL OF EXISTING CURB

- A. A trench of sufficient width or depth shall be excavated so that the existing curb, edging, curb corners and curb inlets can be removed without damage.
- B. The Contractor shall protect all curb or edging and keep it in satisfactory condition until the acceptance of the entire contract. The Contractor shall replace any existing curb, edging, curb corners and curb inlets that is to be reset, which is lost or damaged as a result of his operations, or because of his failure to store and protect it in a manner that would eliminate its loss or damage.

- C. The length of any section of curb or edging, shall be altered by cutting in order to fit closures as necessary. The ends of all stones shall be square with the planes of the top and face so that when the stones are placed end-to-end as closely as possible no space shall show in the joint at the top and face of more that $\frac{3}{4}$ inch for the full width of the top and for 8 inches down on the face.
- D. The Contractor shall accept and hold entire responsibility for the removal, handling, stacking at a convenient location for the Owner and the Contractor, and protection of all curbing and corners until final removal from the site or the resetting of the curb. Any curbing damaged through lack of protection or carelessness by the Contractor shall be replaced at the Contractors expense.
- E. Any curb or curb corners not damaged through lack of protection or carelessness by the Contractor but deemed by the Engineer as unsatisfactory for relaying or stacking will be discarded. The Contractor is responsible for proper disposal of the granite without additional compensation. The OWNER reserves the right to claim the portions of the damage granite deemed useful.

3.02 EXCAVATING TRENCH AND PREPARING FOUNDATION

- A. The trench for the curb shall be excavated to a width of 18 inches. The subgrade of the trench shall be a depth below the proposed finished grade of the curb equal to 6 inches plus the depth of the curbstone. The trench for the curb corner shall extend 6 inches beyond the front and back of curb corner to the full depth of foundation.
- B. The foundation for the curb shall consist of gravel spread upon the subgrade and after being thoroughly compacted by tamping shall be 6 inches in depth.

3.03 SETTING CURB AND EDGING

- A. All spaces under the curb, curb corners or edging shall be filled with gravel thoroughly compacted so that the curb, curb corners or edging will be completely supported throughout their length.

3.04 FILLING ABOUT TRENCH

- A. After the curb, curb corners, curb inlets and edging is set, the space between it and the wall of the trench shall be filled with gravel thoroughly tamped to the depth directed, care being taken not to affect the line or grade of the curb, curb corners, curb inlets and edging.

3.05 POINTING

- A. The joints between curbstones or edging shall be carefully filled with cement mortar and neatly pointed on the top and front exposed portions. After pointing, the curbstones or edging shall be satisfactorily cleaned of all excess mortar that may have been forced out of the joints.

3.06 TRANSITION CURB FOR WHEELCHAIR RAMPS

- A. Transitions from normal curb settings to wheelchair ramps or driveways shall be accomplished with transition curb. Transitions shall be of the same type of curb and similar to that abutting and, if on a curve, of the same radius.

END OF SECTION

SECTION 02660

SERVICE CONNECTIONS

PART 1 GENERAL

1.01 SUMMARY

- A. The work to be performed under this section consists of furnishing the material, equipment, and labor to replace and/or install water services at the locations specified herein and where directed by the Engineer.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02222 Earthwork for Water Distribution Systems

1.03 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed, to ensure compliance with the specified requirements.

1.04 STANDARDS

- A. The following Standards form a part of these Specifications as referenced:
 - 1. AWWA C800 Underground Service Line Valves and Fittings.
 - 2. ASTM B88 Type K Copper Tubing
 - 3. City of Everett, Department of Public Works, Water Use Regulations

1.05 QUALITY ASSURANCE

- A. Codes and Standards
 - 1. Plumbing Code Compliance: Comply with applicable portions of National Standard Plumbing Code pertaining to selection and installation of potable water system materials and products.
 - 2. Water Purveyor Compliance: Comply with requirements of Purveyor supplying water to project, obtain required permits and inspections.
- B. Compliance
 - 1. The Owner may require an affidavit from the manufacturer or vendor that the products furnished comply with all applicable provisions of AWWA C800 and ASTM B88.

1.06 COMPLIANCE WITH REDUCTION OF LEAD IN DRINKING WATER ACT AND SECTION 1417 OF THE SAFE DRINKING WATER ACT (SDWA)

- A. All pipes, pipe fittings, plumbing fittings and fixtures must meet the requirements of the 2011 Reduction of Lead in Drinking Water Act and amendments to SDWA Section 1417 for potable water use.
- B. Certification of compliance shall be provided for all applicable materials herein.

PART 2 PRODUCTS

2.01 GENERAL

- A. All materials shall be of domestic manufacture.
- B. The Owner has standardized on the following products listed in this Section for service connections.

2.02 SERVICE TUBING

- A. Service piping shall be copper type K water tubing.
 - 1. Conform to the provisions of ASTM B88.
 - 2. Size: 3/4-inch, 1-inch and 2-inch.
 - 3. Type K annealed (soft).
 - 4. Seamless.

2.03 CORPORATION STOPS

- A. Corporation Stop: Shall be as manufactured in the United States by Ford Meter Box Co., Mueller Co., or Red Head Manufacturing Co., or approved equal.
 - 1. Test Pressure: 175 psi.
 - 2. Full keyway and rigid liners.
 - 3. Compression ends.
 - 4. Size: As required by the service tubing.
 - 5. Comply with AWWA C800, Underground Service Line Valves and Fittings.
 - 6. Shall be "no lead" brass compression type with AWWA Taper Thread.
 - 7. Open left with stop.
 - 8. Service brass shall conform to AWWA Standard C800 (latest revision) and pack joint end connections shall consist of Buna-N beveled gasket for watertight seal. An independent, split-clamp locking device or stainless steel beveled gripper shall be incorporated in the design for additional restraint.
 - 9. Manufactured in the United States.
- B. If necessary, direct taps shall be used on ductile iron water mains 10-inches in diameter or greater. Saddles shall be utilized cast iron, asbestos cement, and PVC water mains. A 3-foot separation between taps is required for new corporations.

2.04 CURB STOPS

- A. Curb stops shall be as noted in the City of Everett Water Regulations and shall be manufactured in the United States by Ford Meter Box Co., Mueller Co., or Red Head Manufacturing Co., or approved equal.
 - 1. Stops shall open left.
 - 2. CTS thread.
 - 3. Full key with rigid liners.
 - 4. Compression ends.
 - 5. “No lead” brass.
 - 6. Service brass shall conform to AWWA Standard C800 (latest revision) and pack joint end connections shall consist of Buna-N beveled gasket for watertight seal. An independent, split-clamp locking device or stainless steel beveled gripper shall be incorporated in the design for additional restraint.

2.05 CURB BOXES

- A. Curb boxes shall be Buffalo Style, 2.5-inches in diameter and constructed of cast iron.
 - 1. Two (2) piece slide type with one (1) piece lid.
 - 2. Five (5) foot bury with arch pattern base.
 - 3. Manufactured in the United States.
 - 4. “WATER” shall be cast into the cover in raised letters.

2.06 SERVICE SADDLE

- A. Service saddle shall be double strap, no weld type, wrap around design with NDR, Buna-N gasket, stainless steel straps with dichromate seal and an epoxy coated body as manufactured by Romac, A.Y. McDonald, Mueller, Ford Meter Box, or approved equal.
 - 1. Rated for 200 psi working pressure.
 - 2. Stainless steel straps
 - 3. Dichromate, CC thread outlet.
 - 4. Epoxy coated ductile iron body.
 - 5. AWWA threads with Buna-N rubber gasket.
 - 6. Meet all applicable parts of ANSI/AWWA C800.
- B. A service saddle shall be required for new corporation stops on all cast iron piping, PVC piping, and all asbestos cement piping, or at the Owner’s request.

2.07 ADAPTER COUPLING

- A. Adapter couplings for connecting new copper tubing to existing service connections at the property lines and/or at existing corporation stops shall be straight coupling fittings.
 - 1. As manufactured by Ford Meter Box, AY McDonald, Cambridge Brass, RedHed Manufacturing, Mueller, or an approved equal.
 - 2. Made of brass as specified in AWWA C800.
 - 3. NSF/ANSI 61 Annex F and Annex G and NSF/ANSI 372 certified by an ANSI accredited organization.
 - 4. Product manufactured with no lead.
 - 5. Compression connections on the inlet and the outlet.

PART 3 EXECUTION

3.01 INSPECTION

- A. Service tubing which does not conform to the requirements of this specification shall be immediately removed from the site by the Contractor.

3.02 HANDLING PIPE

- A. The Contractor shall take care not to damage pipe by impact, bending, compression, or abrasion during handling, and installation. Joint ends of pipe especially, shall be kept clean.

3.03 SERVICE LOCATIONS AND SHUT-DOWNS

- A. All new service locations shown in the Contract Documents shall be subject to field location approval by the Engineer and/or Owner.
- B. The Contractor shall notify the City of Everett 48 hours prior to installation of new service connections.
- C. Where a water service must be shut-down, it shall be the Contractor's responsibility to contact the party owning the service to arrange a shut-down schedule prior to doing any work. This work shall be coordinated with the City of Everett.
 - 1. All such schedules must be approved prior to shut-down.
 - 2. Shut-down time shall be kept to a minimum so as to keep service off for the shortest possible time.

3.04 INSTALLATION OF TUBING

- A. Service Tubing.
 - 1. Where directed by the Engineer, the Contractor shall install new services including 3/4-inch, 1-inch, and 2-inch tubing.
 - 2. Backfill around and to one (1) foot over the tubing shall not contain stones greater than one (1) inch in diameter.
 - 3. For services to be installed beneath surfaces, a pneumatic drive device such as "Hole Hog" or equal, trenchless method, shall be utilized to drive the new service beneath the surfaces, where possible.
 - 4. Service tubing between the corporation stop and the curb stop shall be one (1) piece.
 - 5. Tubing shall be connected to the curb stop and compression joints tightened.
- B. Care shall be exercised in the placing and laying of tubing to ensure that the pipe does not have kinks or is not placed on sharp stones or ledge which would cause damage to the pipe. A 12-inch sand envelope shall be placed around the pipe, above and below the service tubing. No stone shall be dropped on the tubing until the depth of backfill above the tubing is in excess of one foot. Blue metallic warning tape shall be placed 2 feet above the top of the pipe.
- C. Prior to connecting the new water service to the existing service, the new service line shall be flushed with clean water to make sure all debris is removed from the line.

3.05 HOUSE CONNECTIONS

- A. For service connections to homes, service tubing shall be laid as follows:
 - 1. Owner shall coordinate receipt of a Notice of Agreement/Right of Entry form with the individual homeowner prior to completion of work on private property.
 - 2. Contractor shall coordinate work on private property with the individual homeowners.
 - 3. Contractor shall inspect the property and interior service entrance locations prior to installation to become fully aware of potential obstructions.
 - 4. Foundations or floor slabs shall be carefully cored for installation of service tubing.
 - 5. Upon completion of the service tubing installation, wall/slab shall be completely sealed with water plug hydraulic cement from the exterior and the interior.
 - 6. Interior service tubing stub shall be reconnected and shall be of adequate length for connection to the meter assembly.

3.06 APPURTENANCES

- A. Corporation Stops
 - 1. Provide the necessary tap, sized for the fitting.
 - 2. All connections to existing corporation stops shall be reamed at the water main.
 - 3. Service taps shall be made by means of direct wet tap. Installation shall conform to the manufacturer's recommended instructions or as directed by the Resident Project Representative for the Everett Department of Public Works Water Division.
- B. Curb Stops and Boxes
 - 1. Install curb stops as directed by the Owner or Engineer.
 - 2. Place valve box over stop, taking care that it is installed plumb.
 - 3. Curb stops shall be key checked after adjustment of curb box to final grade.
 - a. If curb stop is not centered in the box, the box shall be removed and reset over the curb stop at no additional cost to the Owner.

END OF SECTION

SECTION 02732

SEWER REPAIR

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Provide all pipe, fittings, materials, tools, and labor as required by the Contract Documents. It is the intent of this section to provide a basis upon which a contractor can successfully and completely accomplish a sewer repair.
- B. In general the work of this Section shall include, but not be necessarily limited to, repairing of any defects found or caused in the field during construction practices made at a specified location on a sanitary or storm sewer line or service or as required by the Engineer.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 02140 Site Drainage and Dewatering
 - 2. Section 02160 Support of Excavation
 - 3. Section 02227 Rock Removal

1.03 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Product data: Within 14 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications, installation procedures, and other data needed to prove compliance with the specified requirements;
 - 3. All pipe delivered to the jobsite shall be accompanied by test reports and notarized affidavits certifying that the pipe and fittings conform to the requirements of the Specifications.

1.04 ACCEPTABLE MANUFACTURERS

- A. The sewer pipe and fittings shall be furnished by a single manufacturer who is fully experienced, reputable, and qualified in the manufacture of the pipe to be furnished. The pipe shall be designed, constructed, and delivered in accordance with the best practices and methods.

PART 2 PRODUCTS

2.01 POLYVINYL CHLORIDE (PVC) GRAVITY SEWER PIPE, 8 INCH DIAMETER TO 15 INCH DIAMETER

- A. The polyvinyl chloride (PVC) gravity sewer pipe and fittings shall conform to ASTM Specification D3034, SDR 35.
 - 1. Minimum pipe stiffness (F/delta Y) at 5 percent deflection shall be 46 psi for all sizes when tested in accordance with ASTM Method of Test D2412, "External Loading Properties of Plastic Pipe by Parallel-Plate Loading".
 - 2. Pipe (6" long section) shall be subjected to impact from a free falling tup (20-lb. Tup A.) in accordance with ASTM Method of Test D2444.
 - 3. The bell end of the pipe shall consist of an integral wall section with a solid cross-section rubber ring, factory assembled, securely locked in place to prevent displacement during assembly.
 - 4. Each length of pipe shall be marked with the nominal pipe size, manufacturer's name or trademark, and the PVC cell classification.
 - a. All fittings shall be marked also.
 - 5. Gravity sewer pipe shall be furnished in the longest laying length manufactured, approximately 20 feet.
 - 6. Pipe exterior barrel section shall be smooth wall.
 - a. Ribbed profile is not acceptable.

2.02 GRAVITY SEWER SERVICES

- A. Provide SDR 35 polyvinyl chloride (PVC) pipe and fittings which meet the following requirements:
 - 1. Conforming to ASTM D3034.
 - 2. Gaskets shall meet the requirements of ASTM F477.
 - 3. Joints shall meet the requirements of ASTM D3212.
 - 4. Shall have integral bell.
 - 5. Pipe shall be available in standard laying lengths of 13 feet.
 - 6. Minimum size shall be six (6) inch. Size shall match existing unless otherwise approved by the Engineer.
 - 7. Couplings shall be Fernco or approved equal.

2.03 LOW PRESSURE SEWERS AND SERVICES

- A. Service Lateral Kits
 - 1. Each pump unit shall be furnished with a service lateral kit consisting of one (1) pre-fabricated combination curb stop/check valve assembly with curb box and fittings. The pre-fabricated service lateral assemblies are to be 100% hydrostatically tested to 150 psi in the factory.
 - 2. All plastic valve and fitting components are to be tested for compliance with ASTM D1599 (Categories 7.1.1, 7.2.2, and 7.2.3). Components shall be tested against the requirements of ASTM D2513 (Categories 6.10.1 and 6.10.2).

3. Curb boxes shall be constructed of iron filled polypropylene to provide durability and magnetic detectability. All components shall be inherently corrosion resistant to assure durability in the ground. Curb boxes shall provide height adjustment downward (shorter) from their nominal height.

B. Small Diameter Lateral

1. Lateral piping for low pressure sewer systems shall match existing pipe size and shall be 1 ½" - 2 ½" SDR 11 HDPE pipe.
2. Provide couplings of the same quality as the pipe that will maintain tight joints when subjected to the same hydrostatic tests designated for the pipe.

PART 3 EXECUTION

3.01 REPAIR METHOD

- A. The method used shall include all supervision, labor, equipment and materials necessary to complete a sewer repair including, but not limited to, the items listed below.
1. Excavate and uncover the sewer line carefully to allow examination of the pipe and to reveal the extent of damage. Handwork will be necessary near pipes and structures.
 2. Remove and replace any fences, base materials, storm sewers, etc., which might interfere with the repair, or in the case of utilities such as water lines or telephone cable, to carefully work around these while maintaining close contact with representatives of these utilities.
 3. Replace and reshape pipe bedding so that pipe grades match existing sewer lines.
 4. Repair or replace sewer pipe at the direction of the Engineer exercising due caution with undamaged existing sewer lines. Pipe broken by the Contractor shall be replaced at the Contractor's expense. Pipe joints shall be made by one of the following methods:
 - a. Standard AC push-on adaptors.
 - b. Adjustable full circle stainless steel collar with rubber gaskets, such as dresser coupling.
 - c. Rubber coupling with stainless steel bands.
 5. Repair or replace any service connection encountered to the satisfaction of the Engineer.
 6. Seal any open joints revealed by the excavation, removing any visible roots prior to sealing.
 7. Make all connections watertight to prevent any inflow/ infiltration.
 8. Dewater the excavation to permit repairs to be made. If necessary, a coarse granular bedding such as crushed stone may be required by the Engineer.
 9. Use adequate sheeting, bracing and/or shoring to protect employees and existing structures and to remove same prior to backfilling.
 10. Plug and seal all lines to be abandoned as directed by the Engineer. Unless otherwise directed, all service connections to be abandoned shall be blocked off at the sewer main.
 11. Backfill according to procedures specified in Division 2 of these specifications.
 12. Clean up work area so that no trash or salvage pipe is left.

END OF SECTION

SECTION 02930

LOAM AND SEED

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: Provide loam and seed as required by the Contract Documents.
 - 1. Generally the Work consists of topsoiling, seeding and fertilizing all disturbed areas of the water main easements.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 01610 Product Handling
 - 2. Section 02015 Test Pits
 - 3. Section 02222 Earthwork for Water Distribution Systems

1.03 QUALITY ASSURANCE

- A. 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.
 - 1. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.
- B. If the results of the hydraulic seeding operation (if utilized) are unsatisfactory, the method shall be abandoned and seeding shall be required by the sowing method.

1.04 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
- C. If hydroseeding application is to be used, a written description containing seed analysis, fertilizer and lime addition data is to be submitted for review of the Owner.

1.05 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01610.

- B. Immediately remove from the site, materials which are not true to name, and do not comply with the specified requirements, and promptly replace with materials meeting the specified requirements.

PART 2 PRODUCTS

2.01 TOPSOIL

- A. Topsoil stripped from the site and stored, shall be approved before reuse.
 1. Topsoil from the site shall be treated to conform to the requirements for topsoil furnished from offsite sources.
 2. If the required quantity of suitable topsoil is not available from stripping of the site, or if it is not approved, topsoil from outside sources shall be furnished.
 3. Stockpiled topsoil used for this work shall be screened before being spread.
 4. Surplus topsoil not required to fulfill the requirements of the Contract shall be properly disposed of unless otherwise directed by the Owner.

2.02 TOPSOIL FURNISHED FROM OFFSITE SOURCES

- A. Topsoil shall be fertile, friable, natural topsoil typical of the locality, and obtained from a well-drained site.
 1. It shall be without admixture of subsoil or slag.
 2. Shall be screened.
 3. Topsoil as delivered to the site shall have an acidity range of pH 5.0 to 6.5 and shall contain not less than 5% organic matter as determined by loss on ignition of moisture-free samples dried at 100 degrees Centigrade.
 4. If required, limestone shall be added to the topsoil to adjust the pH, so that it complies with the required limits.
- B. Mechanical Analysis: Topsoil shall meet the following mechanical analysis

Size	% Passing	% Retained
1-1/4" screen	100	0
1/2" screen	97-100	0-3
No. 100 mesh sleeve	40-60	40-60

2.03 TREATING TOPSOIL WITH LIMESTONE OR ALUMINUM SULFATE

- A. When the hydrogen-ion value is below the specified level, add ground limestone at the rate of 2-1/2 lbs. per cubic yard of topsoil to raise pH one full point.

- B. The following table shows the amount of limestone needed for various soil reactions on the basis of 1,000 sq. ft. and on the basis of one (1) acre:

pH	pH Desired	Lbs. per 1000 sq. ft.	Tons per Acre
6.0	6.5	0-46	0-1
5.5	6.5	46-92	1-2
5.0	6.5	92-138	2-3

1. Limestone shall be raw, ground agricultural limestone containing not less than 90% calcium carbonate and shall be ground to such fineness that 50% will pass through a 100-mesh sieve and 90% will pass through a 20-mesh sieve.
2. When hydrogen-ion value is above specified level, add aluminum sulfate at the rate of 2-1/2 lbs. per cubic yard of topsoil to lower the pH one full point. Aluminum sulfate shall be unadulterated and delivered in containers with the name of the material, name of the manufacturer, and net weight of contents.

2.04 LIME

- A. Lime shall be ground limestone containing not less than 85 percent calcium and magnesium carbonates.
1. Ground to such fineness that at least 50 percent will pass through a 100-mesh sieve and at least 90 percent shall pass through a 20-mesh sieve.

2.05 GRASS SEED (UPLANDS)

- A. General: Provide grass seed which is:
1. Free from noxious weed seeds, and re-cleaned.
 2. Grade A recent crop seed.
 3. Treated with appropriate fungicide at time of mixing.
 4. Delivered to the site in sealed containers with dealers guaranteed analysis.
- B. Proportions by Weight (Level Areas):
- | | |
|--------------------|-------------|
| 1. Chewing Fescue | 60 percent. |
| 2. Red Top | 10 percent. |
| 3. Annual Ryegrass | 10 percent |
| 4. Kentucky Blue | 20 percent. |
- C. Proportions by Weight (Slopes):
- | | |
|------------------------|-------------|
| 1. Creeping Red Fescue | 50 percent. |
| 2. Perennial Rye Grass | 20 percent |
| 3. Red Clover | 10 percent. |
| 4. Winter Rye | 15 percent |
| 5. Ladino Clover | 5 percent |
- D. Requirements:
1. Seed shall be furnished and delivered premixed in the proportions specified above.
 2. All seed shall comply with State and Federal seed laws.
 3. A certificate of compliance with the specifications shall be submitted by the manufacturer with the shipment of the seed. The certificate shall include the

guaranteed percentage of purity, weed content and germination of the seed, net weight and date of shipment.

4. No seed shall be sown until the Contractor has submitted the above mentioned certificate to the Engineer.

2.06 GRASS SEED (WETLANDS)

A. Proportions by Weight

- | | | |
|----|---------------------|------|
| 1. | Lurid Sedge | >10% |
| 2. | Fowl Manna Grass | >10% |
| 3. | Fringed Sedge | >10% |
| 4. | Woolgrass | >10% |
| 5. | Other Wetland Seeds | <60% |

B. Germination Minimum

- | | | |
|----|---------------------|-----|
| 1. | Lurid Sedge | 80% |
| 2. | Fowl Manna Grass | 80% |
| 3. | Fringed Sedge | 80% |
| 4. | Wool Grass | 80% |
| 5. | Other Wetland Seeds | 80% |

C. Requirements:

1. Grass seed mixture for the compensatory storage areas shall be a fresh, clean, new crop seed. Seed may be mixed by an approved method on the site or may be mixed by the dealer. All seed shall comply with State and Federal seed laws. If the seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis. If the seed is mixed by the dealer, the dealer's guaranteed statement of the composition of the mixture and the percentage of purity, weed content, net weight, and germination of each variety shall be provided. No seed shall be sown until contractor has submitted the guaranteed statement of the composition to the Engineer.
2. Seed shall be the commercial product of an approved reputable manufacturer and shall be certified to be not more than one (1) year old and shall be composed of the following varieties, The seed mix shall be New England wetmix as manufactured by New England Wetland Plants Inc. Amherst, MA. or approved equal.
3. The application rate shall be one pound per 5,000 square feet. The seed shall be mechanical spread or broadcasted by hand works creating an even distribution. The seed mix shall be sown early spring or late fall for increased germination.

2.07 FERTILIZER

- A. Fertilizer shall be furnished in containers plainly marked with the chemical analysis of the product and showing one of the following compositions by weight.

Constituent	10-6-4	8-6-4	7-7-7
Nitrogen	10% min.	8% min.	7% min.
Available Phosphoric Acid	6% min.	6% min.	7% min.
Water Soluble Potash	4% min.	4% min.	7% min.

1. Fertilizer shall be stored so that when used it will be dry and free flowing.

2.08 HYDRAULIC SPRAY MACHINE

- A. Shall be designed specifically for seed dissemination.
- B. Shall allow materials to be mixed with water in the machine and kept in an agitated state to keep materials uniformly suspended in the water.
- C. Shall be designed to provide equal quantities of required materials over a particular spraying area.

PART 3 EXECUTION

3.01 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 APPLICATION

- A. Application of Topsoil
 1. Topsoil shall be spread to a compacted depth of:
 - a. Four (4) inches for cross country areas.
 - b. Areas to have topsoil applied to them shall be scarified or otherwise roughened, just prior to the application.
- B. Seedbed Preparation
 1. Grade areas to be seeded to a smooth uniform grade.
 2. Roll, scarify, rake and level as necessary to obtain true, even surfaces
 3. Meet existing grades.
 4. All seeded areas shall slope to drain.
 5. All finish grades shall meet approval before grass seed is sown.
- C. Application Rates of Limestone, Aluminum Sulfate, Fertilizer and Seed
 1. Limestone or Aluminum Sulfate shall be applied and thoroughly incorporated in the layer of loam or topsoil to adjust the acidity of the material.
 2. The rate of application of the limestone will be determined by the pH value.
 3. Fertilizer shall be applied at the rate of 20 pounds per 1000 square feet.
 4. The seed mixture shall be sown at the rate of 5 pounds per 1000 square feet.
- D. Fertilizing and Liming
 1. Fertilizing and liming shall be done when the soil is in a moist condition and at least 24 hours before the sowing of the seed.
 2. The fertilizer and lime shall be applied to the soil by means of a mechanical spreader or other approved method capable of maintaining a uniform rate of application.
 3. Thoroughly harrowed, raked or otherwise mixed with the soil to a depth of not less than 2 inches.
 4. The fertilizer and lime shall not be applied together.

- E. Time of Seeding
 - 1. The recommended seeding periods are from April 1 to June 1, and from August 15 to October 1.
 - 2. The Contractor may choose to seed at other times but regardless of the time of seeding he shall be responsible for a full growth of grass.
 - 3. When directed he shall re-fertilize and reseed areas on the project which do not develop a satisfactory growth of grass.
 - 4. Re-fertilizing and reseeding shall be incidental to the original seeding item requirements.

3.03 SEEDING METHODS

- A. Fertilizer, limestone, and mulch material, if required, and seed of the type specified may be placed by one of the following methods, provided an even distribution is obtained.
- B. Dry Method
 - 1. Power Equipment: Mechanical seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders, or other approved mechanical seeding equipment or attachments may be used when seed, limestone, and fertilizer are to be applied in dry form.
 - 2. Manual Equipment - On areas which are inaccessible to power equipment, permission may be given to use hand-operated mechanical equipment when the materials applied are in dry form. The use of hand shovels to spread the materials shall not be allowed.
 - 3. When the dry method is used, limestone and fertilizer shall not be mixed together prior to their application, but shall be worked into the soil together to a depth of at least 2 inches.
 - 4. At least 24 hours shall elapse between the time fertilizer is incorporated into the topsoil and seed is spread.
 - 5. Areas covered with park seed shall be raked, and, rolled with a roller weighing not more than 100 pounds per foot of roller width to firm the soil but not to pack it. The rolling shall be done the same day as the seeding unless otherwise permitted.
 - 6. Areas seeded in the spring after April 15 shall be covered with a 1 inch loose layer of clean wheat or oat straw. The straw shall be kept wet until a catch of grass is established. Loose straw shall be removed from the site.
 - 7. Grass on slopes or banks may be established by another method subject to approval. Special care shall be exercised to prevent erosion or washouts.
- C. Hydraulic Method
 - 1. The application of grass seed, fertilizer, limestone, and a suitable mulch, if approved, may be accomplished through the use of an approved spraying machine.
 - 2. The materials shall be mixed with water in the machine and kept in an agitated state in order for the materials to be uniformly suspended in the water.
 - 3. The spraying equipment shall be so designed that when the solution is sprayed over an area, the resulting deposits of limestone, fertilizer, and grass seed shall be equal to the required rates.
 - 4. Prior to the start of work, the Engineer shall be furnished with a certified statement for approval as to the number of pounds of materials to be used per 100 gallons of water. This statement shall also specify the number of square feet of seeding that can be covered with the quantity of solution in the hydroseeder.

5. The hydraulic seeding and fertilizing machine shall be completely flushed and cleaned each day before seeding is started.
6. If the results of the spray operations are unsatisfactory, the Contractor shall be required to abandon this method and apply the materials in accordance with the dry method.
7. When the hydraulic method is used, compaction or rolling shall be required.

D. Side Slopes Application

1. Roadway side slopes shall be seeded utilizing a hydraulic (hydro-seed) application process, to place seed and fertilizer simultaneously.
2. A color agent shall also be within the hydraulic mix.
3. Care shall be taken during the application to prevent coverage of poles, trees, signs, and etc.

3.04 MAINTENANCE

- A. The Contractor shall be responsible for the proper care of the seeded areas during the period when the grass is becoming established.
1. This period shall extend for two months after a successful uniform stand of grass is produced.
 2. The Contractor shall reseed all areas as necessary to obtain a uniform stand of grass, free from bare spots.
 3. Any seeded areas which fail to show a uniform stand of grass shall be reseeded until all areas are covered
 4. Any and all additional seeding shall be at the Contractor's expense.
 5. If necessary, barricades of brush or other materials and suitable signs shall be placed to protect the seeded areas.
 6. Any washout which occurs shall be regraded and reseeded at the Contractor's expense until a good sod is established.

3.05 GUARANTEE PERIOD

- A. All seeded areas shall be guaranteed by the Contractor for not less than one (1) full year from the date of substantial completion.

END OF SECTION

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DIVISION 3 CONCRETE

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SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SCOPE

- A. The work of this section includes all labor, materials, tools, and equipment required for the furnishing of all materials required for the concrete work and, where appropriate, applying or installing such materials for the various items of concrete work as shown on the Drawings, as specified herein, and evidently required.
- B. Codes and Standards:
 - 1. The concrete work included in this contract has been designed in accordance with the American Concrete Institute's "Building Code Requirements for Reinforced Concrete" (ACI 318).
 - 2. The ACI Standards "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete" (ACI 211.1) and "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete" (ACI 304) are also hereby made a part of this specification insofar as they apply and do not conflict with the provisions of this specification any local codes or ordinances having jurisdiction over the work. In addition, the various ASTM, ACI, Department of Commerce, and Federal Specifications cited throughout this section are hereby included by reference. Concrete work shall be performed in accordance with the applicable provisions of the building code of the state wherein the work is done.
- C. Strength:
 - 1. All concrete shall be designed to have a minimum 28 day compressive strength of 4,000 psi except as otherwise noted on the Drawings or specified herein.

1.02 SUBMITTALS

- A. Shop drawings, brochures and samples shall be submitted for all items to be furnished in accordance with the provisions of Section 01300.
- B. Submittals required under this section include, but are not limited to the following:
 - 1. Certified mill reports of cement.
 - 2. Fine and coarse aggregate data resulting from tests performed as specified in this section for all aggregates proposed for use.
 - 3. Samples shall be submitted for at least the following items:
 - a. Cement, each type, one vial.
 - 4. Brochures and technical data for at least the following items:
 - a. Admixtures, each type.
 - 5. Reports:
 - a. Testing laboratory reports on all tests and design mixes for each different contemplated application to the Engineer for approval within 45 days after Notice to Proceed, or at least 14 days before initial placement of concrete, whichever date is earlier.
 - b. Report shall include source of cement and aggregates.

1.03 PRODUCT HANDLING

- A. It is intended that the major portion of the concrete be supplied from a commercial ready mix plant capable of meeting the following requirements for storage and handling of materials. Where no such plant exists within a reasonable distance from the site, and for small amounts of concrete which may be site mixed, the following requirements shall apply.
1. Cement shall be carefully stored immediately upon receipt. Cement in sacks shall be stored in a suitable weatherproof structure which shall be as airtight as practical to prevent the absorption of moisture. Sacks shall be stacked as close together to reduce circulation of air but shall not be stacked against outside walls. The manner of storage shall permit easy access for inspection and identification of each shipment. Bulk cement shall be transferred to elevated airtight and weatherproof bins. At the time of use, all cement that has been in storage so long that there is doubt of its quality will be tested by standard mortar to determine its suitability for use, and such cement shall not be used without approval.
 2. Aggregates shall be stored in a manner that will preclude the inclusion of foreign material. Aggregates of different sizes shall be stored in separate piles. Stockpiles of coarse aggregate shall be built in horizontal layers not exceeding four feet in depth to avoid segregation.

1.04 TESTING AND INSPECTION

- A. General:
1. Concrete materials and operations shall be tested and inspected as the work progresses. Failure to detect any defective work or material shall not in any way preclude later rejection when such defect is discovered nor shall it obligate the Engineer for final acceptance.
 2. The use of testing services shall in no way relieve the Contractor of the responsibility to furnish materials and construction in full compliance with the contract documents.
- B. Responsibilities and duties of General Contractor:
1. Ingredient Tests: Prior to making design mixes, the Testing Laboratory conforming to ASTM E329 and subject to the approval of the Engineer shall conduct the following tests in accordance with the procedures referred to in the applicable Reference Standards, cited herein, to assure conformance with the applicable Specifications.
 - a. Cement: Specific gravity and brand name of cement.
 - b. Aggregates: Sieve analysis, specific gravity, soundness, percentage of voids, absorption, potential reactivity, moisture content of fine and coarse aggregate, dry-rodded weight of coarse aggregate, and fineness modulus of fine aggregate.
 2. Design Of Concrete Mixes:
 - a. The testing laboratory shall recommend as determined by trial mixes and strength curves, the design mixes to be used for each application of concrete that will produce concrete of specified strengths and finishes with slumps and workability to meet all placing conditions.
 - b. Design mixes shall indicate water-cement ratio, cement factor, water content, admixture content, cement content, aggregate content, aggregate gradations, slump, air content and strength. Design mixes and related tests

shall be in accordance with the procedures referred to in the applicable reference specifications cited herein.

- c. Reference Standards: Concrete mixes shall be designed in accordance with Article 3.9 of Chapter 3 of ACI 301 “Specifications for Structural Concrete Buildings” and references referred to therein.
- d. Limit of Changes for Pumping: If the Contractor elects to convey concrete by pumping, the established job mix may not be altered by more than the following:

Cement	plus 20 pounds per cubic yard
Fine Aggregate	plus 50 pounds per cubic yard
Coarse Aggregate	minus 50 pounds per cubic yard

- e. Any conveying method requiring a greater increase in FA/CA ratio will not be approved.

3. Sampling of Concrete:

- a. Samples of concrete for air, slump, unit weight, and strength tests shall be taken in accordance with ASTM C172.
- b. During the progress of the work, the Contractor shall have an independent, accredited and certified testing laboratory prepare and test concrete cylinders. The Owner shall approve the testing laboratory selected. One set of 4 cylinders each shall be taken for each 100 cubic yards, or fraction thereof, of each mixture design of concrete placed in any one day. When the total quantity of concrete with a given mixture design is less than 50 cubic yards, the strength tests may be waived by the Engineer if, in his judgement, adequate evidence of satisfactory strength is provided, such as strength test results for the same kind of concrete supplied on the same day and under comparable conditions to other work. Cylinders shall be delivered to the testing labs within 24 hours. One cylinder shall be tested at 7 days and two at 28 days. The fourth cylinder shall be saved for a 56 day break should the average of the 28 day results not achieve the specified strength. Two copies each of test results shall be submitted to the Engineer directly by the laboratory for review. All concrete testing shall be at the Contractor’s expense. In any case where the strength of the cylinders fail to meet the criteria of ACI 318, Chapter 4, Section 4.7.2.3, the Engineer shall have the right to order the defective concrete removed and proper concrete put in its place or to take such other action as they deem necessary to remedy the situation.
- c. The concrete used shall have a maximum slump as herein specified unless otherwise directed by the Engineer. Slump shall be determined as per ASTM C143. Slump tests shall be taken by the testing lab, paid for by the Contractor, for each set of cylinders taken.
- d. Air Content: Test for air content shall be performed in accordance with ASTM C173 or ASTM C231. A minimum of one test per day shall be conducted.

- 4. Furnish necessary labor to assist the testing laboratory and the field observers in obtaining and handling samples at the project or other sources of materials.
- 5. Advise the testing laboratory and the field observers at least 24 hours in advance of placing concrete to allow for completion of quality tests and for the assignment of personnel.

6. Provide and maintain adequate facilities for safe storage and proper curing of concrete test specimens on the project site for the first 24 hours as required by ASTM C31, Article 7.2.
7. The Contractor at no expense to the Owner, shall have the testing laboratory conduct additional tests on concrete ingredients and make new design mixes whenever the character or source of ingredients is changed or if the placed concrete fails to meet the specified strengths.

1.05 APPROVALS

- A. Commencement of Work: Concrete work shall not begin until test results and design mixes have been approved by the Engineer.
- B. Mix Variations: The Engineer reserves the right to vary in the field any previously approved design mix so as to compensate for field variables including but not limited to weather conditions, placing conditions, variations in size, gradation or characteristics of aggregate and end use of the concrete.

PART 2 PRODUCTS

2.01 CONCRETE MATERIALS

- A. General:
 1. All concrete used in the work shall be composed of Portland Cement, fine and coarse aggregate, and the admixtures as specified herein. Concrete for every part of the work shall be of a homogeneous structure which, when cured and hardened, will have the required strength and resistance to weathering.
 2. The proportions of aggregate to cement for any concrete shall be such as to produce a mixture of the required strength which will work readily into the corners and angles of the forms and around reinforcement and that will produce finishes acceptable to the Engineer but without permitting the materials to segregate.
- B. Cement: Cement shall meet the requirements of ASTM C150, Type II. Brands of cement shall be subject to the approval of the Engineer.
 1. Fly ash may not be substituted for cement.
- C. Aggregate:
 1. All aggregates shall conform to the standard specifications for Concrete Aggregates, ASTM C33 as amended by the specification. Aggregates failing to meet these specifications but proved by special test or actual service to produce concrete of the required quality may be used under ACI 318, Section 3.3, where authorized by the Engineer.
 2. Fine Aggregates:
 - a. Fine aggregates shall consist of sand or screenings of gravel or crushed stone, well graded from fine to coarse; clean and free from soft particles, clay, loam or organic matter, with the volume removed by sedimentation not more than three percent. When tested in accordance with ASTM C40 for organic impurities, the color of the supernatant liquid above the test sample shall show not darker than organic plate No. 1.
 - b. Fine aggregate shall conform to the following grading:

U.S. Standard Sieve Size	Percent Passing
3/8-inch	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	10 - 30
No. 100	2 - 10

- c. Fine aggregate shall not have more than 45 percent retained between any two consecutive sieves of those listed above, and its fineness modulus shall not be less than 2.3 nor more than 3.1. If the fineness modulus varies by more than 0.20 from the value assumed in selecting proportions for concrete, the fine aggregate shall be rejected unless suitable adjustments are made in concrete proportions to compensate for the difference in grading.
3. Coarse Aggregates:
 - a. Coarse aggregates shall consist of crushed stone or washed gravel having clean, hard, durable, uncoated particles, free from dust, dirt, or other deleterious substances; and free from thin, flat or elongated particles. The test for organic impurities specified for fine aggregate shall also apply to coarse aggregate. Maximum size shall be 3/4 inch for all concrete 8 inches and less in thickness. For heavier walls, footings and mass concrete the maximum size may be increased to 1-1/2 inch, provided the space between the reinforcing bars therein is 1-1/3 greater than the maximum aggregate size.
 - b. Coarse aggregate shall conform to the grading given in Table 2 of ASTM C33 for sizes No. 467, 57, 67, 7, and 8.
- D. Water: Water shall be clean, fresh and free from oil, acid, salt, alkali, sewage, organic matter, and other deleterious substances.
- E. Admixtures: Admixtures shall be used as follows: The use of products other than those named herein will be allowed only with the written approval of the Engineer.
 1. Air Entraining Agent: The air entraining admixture shall be a chloride free, purified and modified salt of a sulfonated hydrocarbon resin in liquid form conforming to ASTM C260.
 2. Water Reducing Agents: Except when otherwise ordered by the Engineer or noted elsewhere herein, all normal structural concrete shall have a water reducing agent added. The admixture shall be a salt of lignosulfonic acid in liquid form conforming to ASTM C494, Type A. The air entraining action of the water reducing agent shall be taken into account and the air entraining agent limited accordingly.
 3. Water Reducing-Retarding Agents: When the ambient temperature rises above 70 degrees F., the water reducing agent shall be replaced in whole or in part with a water reducing-retarding agent conforming to ASTM C494, Type D. The admixture shall be used in such amounts as will produce concrete with a set time equal to that which it would have at 70 degrees F. without the retarder.

4. Set Accelerator: Where a set accelerator is allowed, it shall be non-chloride conforming to ASTM C494, Type C and Type E.
 5. Superplasticizer: Superplasticizing admixtures used to produce flowing concrete may be approved for use in concrete in any part of the structure. The dosage rate depends on the slump of the base concrete which should be kept constant and low (2-1/2 to 3 inches). Superplasticized concrete can lose slump in 60 to 90 minutes, or sooner if temperature is above 70 degrees F, therefore the admixture should be added to the mix at the project site if there is a probable combination of long concrete haul and warm temperature during placing operation. Otherwise the admixture should be added in accordance with the manufacturer's instruction.
- F. Epoxy Grout: Epoxy grout shall conform to ASTM C881, Type III, Grade 2, Class C. Color shall be selected by the Engineer.

PART 3 EXECUTION

3.01 CONCRETE MIX

- A. Proportions:
1. The work has been designed for concrete having a minimum compressive strength of 4,000 PSI at 28 days as specified in this section.
 2. The cement factor and water cement ratio shall be determined by consideration of the specified strength, the water reducing admixtures, the slump required for proper placement, air-entraining requirements, the available and maximum allowable aggregate size and its specific gravity and the amount of water carried on the aggregates.
 3. The slumps and maximum sizes of aggregate for various types of construction, as well as the computation of trial mixes shall be as described in ACI 211.1 "Recommended Practice for Selected Proportions for Normal and Heavyweight Concrete."
- B. Water Cement Ratio: The water cement ratio shall be as determined from the approved design mixes as specified in this section.
- C. Water Content:
1. In calculating the total water content in any mix the amount of water carried on the aggregate and the effect of admixtures shall be included. The water on the aggregate shall be determined periodically by test and the amount of free water on the aggregate subtracted from the water added to the mix.
 2. In all cases the amount of water to be used shall be the minimum amount required to produce a plastic mixture of the strength specified and of the required density, uniformity and workability. The consistency of any mix shall be at that required for the specific placing conditions and methods of placement.
- D. Concrete Slumps:
1. The Contractor must satisfy himself that he is capable of producing, with the following slumps, concrete of satisfactory quality and strength, that will produce the specified finishes, free of voids, honey-combing, or excessive air bubbles.

2. Execution of this contract signifies that the Contractor accepts full responsibility for the production of concrete of satisfactory quality, strength and finishes within the slump limitations specified. Slump shall be determined as per ASTM C 143.

<u>Types of Construction</u>	<u>Maximum (inches)</u>	<u>Minimum (inches)</u>
Reinforced Footings and Mats	3	1
Substructure Walls	4	1
Slabs, Beams and Reinforced Walls	4	1

E. Air Entrainment:

1. All concrete, except interior concrete slabs subject to abrasion, shall be air entrained. Percent of air versus aggregate size shall be added as a part of the computed mixing water requirements, and be used strictly in accordance with the manufacturer's directions and these specifications to produce a total entrained air content, by volume, to be determined in accordance with the procedure given in ASTM C173, as follows:

<u>Nominal Maximum Size Coarse Aggregate (inches)</u>	<u>Air Content By Volume (percent)</u>
3/8	6 to 10
1/2	5 to 9
3/4	4 to 8
1	3.5 to 6.5
1-1/2	3 to 6

- F. Ready Mixed Concrete: It is intended that the major portion of the concrete required for the work be ready mixed in an off site plant. Small amounts for miscellaneous purposes may be site mixed. All concrete produced in an off site plant shall be mixed and delivered in accordance with the requirements of the "Standard Specifications for Ready Mixed Concrete", ASTM C 94 and these specifications.
- G. Mixing: Concrete shall be mixed and transported in accordance with the applicable provisions of the "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete" (ACI 304) of the American Concrete Institute and these Specifications.

END OF SECTION

SECTION 03600

GROUT

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required to install grout complete as shown on the Drawings and as specified herein.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 1. Section 03300 Cast-in-Place Concrete

1.03 SUBMITTALS

- A. Shop drawings and product data in accordance with Section 01300 showing materials of construction and details of mixing and installation for:
 - 1. Commercially manufactured nonshrink cementitious grout and underlayment grout. The submittal shall include catalog cuts, technical data, storage requirements, product life, working time after mixing, temperature considerations and conformity to the specified standards.
 - 2. Cement grout: The submittal shall include the type and brand of the cement, the gradation of the fine aggregate, product data on any proposed admixtures and the proposed mix of the grout.
- B. Samples:
 - 1. Submit samples of commercially manufactured grout products when requested by the Engineer.
 - 2. Submit aggregates proposed for use in mixes when requested by the Engineer.
- C. Laboratory Test Reports:
 - 1. Submit laboratory test data as required under Section 03300 for concrete to be used as concrete grout.
- D. Qualifications:
 - 1. Grout manufacturers shall submit documentation that they have at least ten years experience in the production and use of the grouts which they propose to supply.

1.04 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C33 – Standard Specifications for Concrete Aggregates,
 - 2. ASTM C150 – Standard Specifications for Portland Cement,
 - 3. ASTM C827 – Standard Test Methods for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures,

4. ASTM C1107 – Standard Specifications for Packaged Dry, Hydraulic – Cement Grout (Nonshrink).
- B. U.S. Army Corps of Engineers Standard (CRD):
 1. CRD-C 621 – Corps of Engineers Specification for Nonshrink Grout.
- C. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 QUALITY ASSURANCE

- A. Qualifications:
 1. Grout manufacturers shall have a minimum of ten years experience in the production and use of grout proposed for the work.
- B. Pre-installation Conference:
 1. Well in advance of grouting, hold a pre-installation meeting to review the requirements for surface preparation, mixing, placing, and curing procedures for each product proposed for use. Parties concerned with grouting, including the Engineer, shall be notified of the meeting at least ten days prior to its scheduled date.
- C. Services of Manufacturer's Representative:
 1. A qualified field technician of the nonshrink grout manufacturer, specifically trained in the installation of the products, shall attend the pre-installation conference and shall be present for the initial installation of each type of nonshrink grout and underlayment grout. Additional services shall also be provided, as required, to correct installation problems.
- D. Field Testing:
 1. All field testing and inspection services required shall be provided by the Owner. The Contractor shall assist in the sampling of materials and shall provide any ladders, platforms, etc. for access to the work. The methods of testing shall comply in detail with the applicable ASTM Standards.
 2. The field testing of concrete grout shall be as specified for concrete in Section 03300.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the jobsite in original, unopened packages, clearly labeled with the manufacturer's name, product identification, batch numbers and printed instructions.
- B. Store materials in full compliance with the manufacturer's recommendations. Total storage time from date of manufacture to date of installation shall be limited to six months or the manufacturer's recommended storage time, whichever is less.
- C. Material which becomes damp or otherwise unacceptable shall be immediately removed from the site and replaced with acceptable material at no additional expense to the Owner.

1.07 DEFINITIONS

- A. Nonshrink Grout: A commercially manufactured product that does not shrink in either the plastic or hardened state, is dimensionally stable in the hardened state and bonds to a clean base plate.

PART 2 PRODUCTS

2.01 GENERAL

- A. The use of a manufacturer's name and product or catalog number is for the purpose of establishing the standard of quality desired.
- B. Like materials shall be the products of one manufacturer or supplier in order to provide standardization of appearance.

2.02 MATERIALS

- A. Nonshrink Cementitious Grout:
 - 1. Nonshrink cementitious grouts shall meet or exceed the requirements of ASTM C1107 Grades B or C and CRD-C 621. Grouts shall be portland cement based, contain a pre-proportioned blend of selected aggregates and shrinkage compensating agents and shall require only the addition of water. Nonshrink cementitious grouts shall not contain expansive cement or metallic particles. The grouts shall exhibit no shrinkage when tested in conformity with ASTM C827.
 - a. General purpose nonshrink cementitious grout shall conform to the standards stated above and shall be SikaGrout 212 by Sika Corp.; Set Grout by Master Builders, Inc.; Euco NS by The Euclid Chemical Co.; NBEC Grout by Five Star Products, Inc. or equal.
 - b. Flowable (Precision) nonshrink cementitious grout shall conform to the standards stated above and shall be Masterflow 928 by Master Builders, Inc.; Hi-Flow Grout by the Euclid Chemical Co.; SikaGrout 212 by Sika Corp.; Five Star Grout by Five Star Products, Inc. or equal.
- B. Cement Grout:
 - 1. Cement grout shall be a mixture of one part portland cement conforming to ASTM C150 types I, II, or III and one to two parts sand conforming to ASTM C33 with sufficient water to place the grout. The water content shall be sufficient to impart workability to the grout but not to the degree that it will allow the grout to flow.
- C. Water:
 - 1. Potable water, free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious substances.

PART 3 EXECUTION

3.01 PREPARATION

- A. Grout shall be placed over cured concrete which has attained its full design strength unless otherwise approved by the Engineer.
- B. Concrete surfaces to receive grout shall be clean and sound; free of ice, frost, dirt, grease, oil, curing compounds, laitance and paints and free of all loose material or foreign matter which may effect the bond or performance of the grout.
- C. Roughen concrete surfaces by chipping, sandblasting, or other mechanical means to ensure bond of the grout to the concrete. Remove loose or broken concrete. Irregular voids or projecting coarse aggregate need not be removed if they are sound, free of laitance and firmly embedded into the parent concrete.
 - 1. Air compressors used to clean surfaces in contact with grout shall be the oil-less type or equipped with an oil trap in the air line to prevent oil from being blown onto the surface.
- D. Remove all loose rust, oil or other deleterious substances which may affect the bond or performance of the grout from metal embedments or bottom of baseplates prior to the installation of the grout.
- E. Concrete surfaces shall be washed clean and then kept moist for at least 24 hours prior to the placement of cementitious or cement grout. Saturation may be achieved by covering the concrete with saturated burlap bags, use of a soaker hose, flooding the surface, or other method acceptable to the Engineer. Upon completion of the 24 hour period, visible water shall be removed from the surface prior to grouting.
- F. Construct grout forms or other leakproof containment as required. Forms shall be lined or coated with release agents recommended by the grout manufacturer. Forms shall be of adequate strength, securely anchored in place and shored to resist the forces imposed by the grout and its placement.
- G. Level and align the structural or equipment bearing plates in accordance with the structural requirements and the recommendations of the equipment manufacturer.
- H. Equipment shall be supported during alignment and installation of grout by shims, wedges, blocks, or other approved means. The shims, wedges, and blocking devices shall be prevented from bonding to the grout by appropriate bond breaking coatings and removed after grouting unless otherwise approved by the Engineer. Grout voids created by the removal of shims, wedges and block.

3.02 INSTALLATION – GENERAL

- A. Mix, apply and cure products in strict compliance with the manufacturer's recommendations and these specifications.
- B. Have sufficient manpower and equipment available for rapid and continuous mixing and placing. Keep all necessary tools and materials ready and close at hand.

- C. Maintain temperatures of the foundation plate, supporting concrete, and grout between 40 degrees F and 90 degrees F during grouting and for at least 24 hours thereafter or as recommended by the grout manufacturer, whichever is longer. Take precautions to minimize differential heating or cooling of baseplates and grout during the curing period.
- D. Take special precautions for hot weather or cold weather grouting as recommended by the manufacturer when ambient temperatures and/or the temperature of the materials in contact with the grout are outside of the 60 degrees F and 90 degrees F range.
- E. Install grout in a manner which will preserve the isolation between the elements on either side of the joint where grout is placed in the vicinity of an expansion or control joint.
- F. Inspect all existing underlying expansion, control and construction joints through the grout.

3.03 INSTALLATION – CEMENT GROUTS AND NONSHRINK CEMENTITIOUS GROUTS

- A. Mix in accordance with manufacturer's recommendations. Do not add cement, sand, pea gravel or admixtures without prior approval by the Engineer.
- B. Do not mix by hand. Mix in a mortar mixer (with moving blades). Pre-wet the mixer and empty excess water. Add premeasured amount of water for mixing, followed by the grout. Begin with the minimum amount of water recommended by the manufacturer and then add the minimum additional water required to obtain workability. Do not exceed the manufacturer's maximum recommended water content.
- C. Placements greater than 3-in in depth shall include the addition of clean, washed pea gravel to the grout mix when approved by the manufacturer. Comply with the manufacturer's recommendations for the size and amount of aggregate to be added.
- D. Provide forms where and as required. Place grout into the designated areas in a manner which will avoid segregation or entrapment of air. Do not vibrate grout to release air or to consolidate the material. Placement shall proceed in a manner which will ensure the filling of all spaces and provide full contact between the grout and adjoining surfaces. Provide grout holes as necessary.
- E. Place grout rapidly and continuously to avoid cold joints. Do not place cement grouts in layers. Do not add additional water to the mix (re-temper) after initial stiffening.
- F. Just before the grout reaches its final set, cut back the grout to the substrate at a 45 degree angle from the lower edge of bearing plate unless otherwise ordered and approved by the Engineer. Finish this surface with a wood float or brush finish.
- G. Begin curing immediately after form removal, cutback, and finishing. Keep grout moist and within its recommended placement temperature range for at least 24 hours after placement or longer if recommended by the manufacturer. Saturate the grout surface by use of wet burlap, soaker hoses, ponding or other approved means. Provide sunshades as necessary. If drying winds inhibit the ability of a given curing method to keep grout moist, erect wind breaks until wind is no longer a problem or curing is finished.

3.04 SCHEDULE

- A. The following list indicates where the particular types of grout are to be used:
1. General purpose nonshrink cementitious grout: Use at all locations where nonshrink grout is called for on the Drawings except for base plates greater in area than 3-ft wide by 3-ft long.
 2. Flowable nonshrink cementitious grout: Use under all base plates greater in area than 3-ft by 3-ft. Use at all locations indicated to receive flowable nonshrink grout on the Drawings. The Contractor, at his/her option and convenience, may also substitute the flowable, nonshrink, cementitious grout for general purpose nonshrink cementitious grout.
 3. Cement Grout: Use where indicated on the Drawings.

END OF SECTION

APPENDIX A
MASSACHUSETTS PREVAILING WAGE RATES



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

MAURA HEALEY
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

Awarding Authority:	Everett	City/Town: EVERETT
Contract Number:	25-28	
Description of Work:	Replace lead service water lines throughout the city	
Job Location:	various	

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	\$48.60	\$10.65	\$9.75	\$9.65	\$0.00	\$78.65
LABORERS	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$51.65	\$10.65	\$9.75	\$9.65	\$0.00	\$81.70
	6/1/2027	\$53.25	\$10.65	\$9.75	\$9.65	\$0.00	\$83.30
	12/1/2027	\$54.85	\$10.65	\$9.75	\$9.65	\$0.00	\$84.90
	6/1/2028	\$56.53	\$10.65	\$9.75	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.20	\$10.65	\$9.75	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
AIR TRACK OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$48.70	\$10.65	\$9.75	\$9.65	\$0.00	\$78.75
LABORERS	6/1/2026	\$50.25	\$10.65	\$9.75	\$9.65	\$0.00	\$80.30
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.75	\$10.65	\$9.75	\$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	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
ASPHALT RAKER (HEAVY & HIGHWAY)	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.25	\$10.65	\$9.75	\$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	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.38	\$17.05	\$13.35	\$3.25	\$0.00	\$93.03
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.83	\$17.05	\$13.35	\$3.25	\$0.00	\$94.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BACKHOE/FRONT-END LOADER	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.38	\$17.05	\$13.35	\$3.25	\$0.00	\$93.03
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.83	\$17.05	\$13.35	\$3.25	\$0.00	\$94.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
BARCO-TYPE JUMPING TAMPER	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER	12/1/2025	\$48.60	\$10.65	\$9.75	\$9.65	\$0.00	\$78.65
LABORERS	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$51.65	\$10.65	\$9.75	\$9.65	\$0.00	\$81.70
	6/1/2027	\$53.25	\$10.65	\$9.75	\$9.65	\$0.00	\$83.30
	12/1/2027	\$54.85	\$10.65	\$9.75	\$9.65	\$0.00	\$84.90
	6/1/2028	\$56.53	\$10.65	\$9.75	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.20	\$10.65	\$9.75	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY)	12/1/2025	\$48.70	\$10.65	\$9.75	\$9.65	\$0.00	\$78.75
LABORERS	6/1/2026	\$50.25	\$10.65	\$9.75	\$9.65	\$0.00	\$80.30
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.75	\$10.65	\$9.75	\$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
Apprentice: BOILER MAKER							
Effective Date: 1/1/2024							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
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
Apprentice to Journeyworker Ratio: 1:4							
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	2/1/2026	\$67.95	\$12.84	\$15.57	\$8.02	\$0.00	\$104.38
BRICKLAYERS LOCAL 3	8/1/2026	\$70.15	\$12.84	\$15.57	\$8.02	\$0.00	\$106.58
BRICKLAYERS LOCAL 3 (BOSTON)	2/1/2027	\$71.55	\$12.84	\$15.57	\$8.02	\$0.00	\$107.98
Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.98	\$12.84	\$15.57	\$8.02	\$0.00	\$70.41
2	60.00	\$40.77	\$12.84	\$15.57	\$8.02	\$0.00	\$77.20
3	70.00	\$47.57	\$12.84	\$15.57	\$8.02	\$0.00	\$84.00
4	80.00	\$54.36	\$12.84	\$15.57	\$8.02	\$0.00	\$90.79
5	90.00	\$61.16	\$12.84	\$15.57	\$8.02	\$0.00	\$97.59
Apprentice: BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)							
Effective Date: 8/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$35.08	\$12.84	\$15.57	\$8.02	\$0.00	\$71.51
2	60.00	\$42.09	\$12.84	\$15.57	\$8.02	\$0.00	\$78.52
3	70.00	\$49.11	\$12.84	\$15.57	\$8.02	\$0.00	\$85.54
4	80.00	\$56.12	\$12.84	\$15.57	\$8.02	\$0.00	\$92.55
5	90.00	\$63.14	\$12.84	\$15.57	\$8.02	\$0.00	\$99.57
Apprentice to Journeyworker Ratio: 1:5							
BULLDOZER/GRADER/SCRAPER OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
CAISSON & UNDERPINNING BOTTOM MAN LABORERS	12/1/2025	\$49.10	\$10.65	\$9.75	\$9.80	\$0.00	\$79.30
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$50.65	\$10.65	\$9.75	\$9.80	\$0.00	\$80.85
LABORERS	12/1/2026	\$52.15	\$10.65	\$9.75	\$9.80	\$0.00	\$82.35
For apprentice rates see "Apprentice- LABORER"							
CAISSON & UNDERPINNING LABORER LABORERS	12/1/2025	\$47.95	\$10.65	\$9.75	\$9.80	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.50	\$10.65	\$9.75	\$9.80	\$0.00	\$79.70

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$51.00	\$10.65	\$9.75	\$9.80	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"							

CAISSON & UNDERPINNING TOP MAN LABORERS	12/1/2025	\$48.28	\$10.65	\$9.75	\$9.80	\$0.00	\$78.48
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$49.83	\$10.65	\$9.75	\$9.80	\$0.00	\$80.03
LABORERS - FOUNDATION AND MARINE	12/1/2026	\$51.33	\$10.65	\$9.75	\$9.80	\$0.00	\$81.53
For apprentice rates see "Apprentice- LABORER"							

CARBIDE CORE DRILL OPERATOR LABORERS	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
LABORERS - ZONE 1	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
LABORERS - ZONE 1	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
LABORERS - ZONE 1	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
LABORERS - ZONE 1	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							

CARPENTER	3/1/2026	\$62.19	\$10.58	\$11.47	\$8.50	\$0.00	\$92.74
CARPENTERS	9/1/2026	\$63.69	\$10.58	\$11.47	\$8.50	\$0.00	\$94.24
CARPENTERS -ZONE 1 (Metro Boston)	3/1/2027	\$65.19	\$10.58	\$11.47	\$8.50	\$0.00	\$95.74

Apprentice: CARPENTER							
Effective Date: 3/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$27.99	\$11.08	\$0.00	\$1.73	\$0.00	\$40.80
2	45.00	\$27.99	\$11.08	\$0.00	\$1.73	\$0.00	\$40.80
3	55.00	\$34.20	\$11.08	\$0.00	\$3.40	\$0.00	\$48.68
4	55.00	\$34.20	\$11.08	\$0.00	\$3.40	\$0.00	\$48.68
5	70.00	\$43.53	\$11.08	\$11.41	\$5.10	\$0.00	\$71.12
6	70.00	\$43.53	\$11.08	\$11.41	\$5.10	\$0.00	\$71.12
7	80.00	\$49.75	\$11.08	\$11.44	\$6.80	\$0.00	\$79.07
8	80.00	\$49.75	\$11.08	\$11.44	\$6.80	\$0.00	\$79.07

Apprentice: CARPENTER							
Effective Date: 9/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$28.66	\$11.08	\$0.00	\$1.73	\$0.00	\$41.47
2	45.00	\$28.66	\$11.08	\$0.00	\$1.73	\$0.00	\$41.47
3	55.00	\$35.03	\$11.08	\$0.00	\$3.40	\$0.00	\$49.51
4	55.00	\$35.03	\$11.08	\$0.00	\$3.40	\$0.00	\$49.51
5	70.00	\$44.58	\$11.08	\$11.41	\$5.10	\$0.00	\$72.17
6	70.00	\$44.58	\$11.08	\$11.41	\$5.10	\$0.00	\$72.17
7	80.00	\$50.95	\$11.08	\$11.44	\$6.80	\$0.00	\$80.27
8	80.00	\$50.95	\$11.08	\$11.44	\$6.80	\$0.00	\$80.27

Apprentice to Journeyworker Ratio: 1:5

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME	10/1/2025	\$32.59	\$7.42	\$4.47	\$2.20	\$0.00	\$46.68
CARPENTERS	10/1/2026	\$33.89	\$7.42	\$4.47	\$2.20	\$0.00	\$47.98
CARPENTERS -ZONE 2 (Wood Frame)							
All Aspects of New Wood Frame Work							

Apprentice: CARPENTER WOOD FRAME							
Effective Date: 10/1/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$16.30	\$7.42	\$0.00	\$0.00	\$0.00	\$23.72
2	50.00	\$16.30	\$7.42	\$0.00	\$0.00	\$0.00	\$23.72
3	55.00	\$17.92	\$7.42	\$0.00	\$2.00	\$0.00	\$27.34
4	55.00	\$17.92	\$7.42	\$0.00	\$2.20	\$0.00	\$27.54
5	70.00	\$22.81	\$7.42	\$4.47	\$2.20	\$0.00	\$36.90
6	70.00	\$22.81	\$7.42	\$4.47	\$2.20	\$0.00	\$36.90
7	80.00	\$26.07	\$7.42	\$4.47	\$2.20	\$0.00	\$40.16
8	80.00	\$26.07	\$7.42	\$4.47	\$2.20	\$0.00	\$40.16

Apprentice: CARPENTER WOOD FRAME							
Effective Date: 10/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$16.95	\$7.42	\$0.00	\$0.00	\$0.00	\$24.37
2	50.00	\$16.95	\$7.42	\$0.00	\$0.00	\$0.00	\$24.37
3	55.00	\$18.64	\$7.42	\$0.00	\$2.20	\$0.00	\$28.26
4	55.00	\$18.64	\$7.42	\$0.00	\$2.20	\$0.00	\$28.26
5	70.00	\$23.72	\$7.42	\$4.47	\$2.20	\$0.00	\$37.81
6	70.00	\$23.72	\$7.42	\$4.47	\$2.20	\$0.00	\$37.81
7	80.00	\$27.11	\$7.42	\$4.47	\$2.20	\$0.00	\$41.20
8	80.00	\$27.11	\$7.42	\$4.47	\$2.20	\$0.00	\$41.20

Apprentice to Journeyworker Ratio: 1:5

CEMENT MASONRY/PLASTERING	1/1/2026	\$53.24	\$13.35	\$16.43	\$7.78	\$1.80	\$92.60
PLASTERERS AND CEMENT MASONS LOCAL 534	7/1/2026	\$54.49	\$13.35	\$16.43	\$7.78	\$1.80	\$93.85
Plasterers and Cement Masons - Zone 1	1/1/2027	\$55.94	\$13.35	\$16.43	\$7.78	\$1.80	\$95.30
	7/1/2027	\$57.29	\$13.35	\$16.43	\$7.78	\$1.80	\$96.65
	1/1/2028	\$58.64	\$13.35	\$16.43	\$7.78	\$1.80	\$98.00

Apprentice: CEMENT MASONRY/PLASTERING							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.62	\$13.35	\$16.43	\$0.00	\$0.00	\$56.40
2	60.00	\$31.94	\$13.35	\$16.43	\$7.78	\$1.80	\$71.30
3	65.00	\$34.61	\$13.35	\$16.43	\$7.78	\$1.80	\$73.97
4	70.00	\$37.27	\$13.35	\$16.43	\$7.78	\$1.80	\$76.63

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: DELEADER (BRIDGE)							
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

DEMO: ADZEMAN LABORERS	12/1/2025	\$48.00	\$10.65	\$9.75	\$9.65	\$0.00	\$78.05
LABORERS - ZONE 1	6/1/2026	\$49.55	\$10.65	\$9.75	\$9.65	\$0.00	\$79.60
	12/7/2026	\$51.05	\$10.65	\$9.75	\$9.65	\$0.00	\$81.10
	6/7/2027	\$52.65	\$10.65	\$9.75	\$9.65	\$0.00	\$82.70
	12/6/2027	\$54.25	\$10.65	\$9.75	\$9.65	\$0.00	\$84.30
	6/5/2028	\$55.93	\$10.65	\$9.75	\$9.65	\$0.00	\$85.98
	12/4/2028	\$57.60	\$10.65	\$9.75	\$9.65	\$0.00	\$87.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS	12/1/2025	\$49.00	\$10.65	\$9.75	\$9.65	\$0.00	\$79.05
LABORERS - ZONE 1	6/1/2026	\$50.55	\$10.65	\$9.75	\$9.65	\$0.00	\$80.60
	12/7/2026	\$52.05	\$10.65	\$9.75	\$9.65	\$0.00	\$82.10
	6/7/2027	\$53.65	\$10.65	\$9.75	\$9.65	\$0.00	\$83.70
	12/6/2027	\$55.25	\$10.65	\$9.75	\$9.65	\$0.00	\$85.30
	6/5/2028	\$56.93	\$10.65	\$9.75	\$9.65	\$0.00	\$86.98
	12/4/2028	\$58.60	\$10.65	\$9.75	\$9.65	\$0.00	\$88.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS LABORERS	12/1/2025	\$48.75	\$10.65	\$9.75	\$9.65	\$0.00	\$78.80
LABORERS - ZONE 1	6/1/2026	\$50.30	\$10.65	\$9.75	\$9.65	\$0.00	\$80.35
	12/7/2026	\$51.80	\$10.65	\$9.75	\$9.65	\$0.00	\$81.85
	6/7/2027	\$53.40	\$10.65	\$9.75	\$9.65	\$0.00	\$83.45
	12/6/2027	\$55.00	\$10.65	\$9.75	\$9.65	\$0.00	\$85.05
	6/5/2028	\$56.68	\$10.65	\$9.75	\$9.65	\$0.00	\$86.73
	12/4/2028	\$58.35	\$10.65	\$9.75	\$9.65	\$0.00	\$88.40

For apprentice rates see "Apprentice- LABORER"

DEMO: CONCRETE CUTTER/SAWYER LABORERS	12/1/2025	\$49.00	\$10.65	\$9.75	\$9.65	\$0.00	\$79.05
LABORERS - ZONE 1	6/1/2026	\$50.55	\$10.65	\$9.75	\$9.65	\$0.00	\$80.60
	12/7/2026	\$52.05	\$10.65	\$9.75	\$9.65	\$0.00	\$82.10
	6/7/2027	\$53.65	\$10.65	\$9.75	\$9.65	\$0.00	\$83.70
	12/6/2027	\$55.25	\$10.65	\$9.75	\$9.65	\$0.00	\$85.30
	6/5/2028	\$56.93	\$10.65	\$9.75	\$9.65	\$0.00	\$86.98
	12/4/2028	\$58.60	\$10.65	\$9.75	\$9.65	\$0.00	\$88.65

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"							
DEMO: JACKHAMMER OPERATOR	12/1/2025	\$48.75	\$10.65	\$9.75	\$9.65	\$0.00	\$78.80
LABORERS	6/1/2026	\$50.30	\$10.65	\$9.75	\$9.65	\$0.00	\$80.35
LABORERS - ZONE 1	12/7/2026	\$51.80	\$10.65	\$9.75	\$9.65	\$0.00	\$81.85
	6/7/2027	\$53.40	\$10.65	\$9.75	\$9.65	\$0.00	\$83.45
	12/6/2027	\$55.00	\$10.65	\$9.75	\$9.65	\$0.00	\$85.05
	6/5/2028	\$56.68	\$10.65	\$9.75	\$9.65	\$0.00	\$86.73
	12/4/2028	\$58.35	\$10.65	\$9.75	\$9.65	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"							
DEMO: WRECKING LABORER	12/1/2025	\$48.00	\$10.65	\$9.75	\$9.65	\$0.00	\$78.05
LABORERS	6/1/2026	\$49.55	\$10.65	\$9.75	\$9.65	\$0.00	\$79.60
LABORERS - ZONE 1	12/7/2026	\$51.05	\$10.65	\$9.75	\$9.65	\$0.00	\$81.10
	6/7/2027	\$52.65	\$10.65	\$9.75	\$9.65	\$0.00	\$82.70
	12/6/2027	\$54.25	\$10.65	\$9.75	\$9.65	\$0.00	\$84.30
	6/5/2028	\$55.93	\$10.65	\$9.75	\$9.65	\$0.00	\$85.98
	12/4/2028	\$57.60	\$10.65	\$9.75	\$9.65	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"							
DIRECTIONAL DRILL MACHINE OPERATOR	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
DIVER	8/1/2024	\$78.11	\$10.08	\$11.62	\$10.04	\$0.00	\$109.85
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
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	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)							
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)	8/1/2024	\$83.69	\$10.08	\$11.62	\$12.67	\$0.00	\$118.06
PILE DRIVER LOCAL 56							
PILE DRIVER LOCAL 56 (ZONE 1)							
For apprentice rates see "Apprentice- PILE DRIVER"							
DIVER/SLURRY (EFFLUENT)	8/1/2024	\$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"							
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	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
ELECTRICIANS LOCAL 103	3/1/2027	\$69.97	\$13.00	\$14.73	\$9.00	\$0.00	\$106.70

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	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: 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: ELECTRICIAN							
Effective Date: 9/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$27.51	\$13.00	\$0.83	\$0.00	\$0.00	\$41.34
2	40.00	\$27.51	\$13.00	\$0.83	\$0.00	\$0.00	\$41.34
3	45.00	\$30.95	\$13.00	\$13.56	\$4.05	\$0.00	\$61.56
4	45.00	\$30.95	\$13.00	\$13.56	\$4.05	\$0.00	\$61.56
5	50.00	\$34.39	\$13.00	\$13.66	\$4.50	\$0.00	\$65.55
6	55.00	\$37.83	\$13.00	\$13.76	\$4.95	\$0.00	\$69.54
7	60.00	\$41.27	\$13.00	\$13.87	\$5.40	\$0.00	\$73.54
8	65.00	\$44.71	\$13.00	\$13.97	\$5.85	\$0.00	\$77.53
9	70.00	\$48.15	\$13.00	\$14.07	\$6.30	\$0.00	\$81.52
10	75.00	\$51.59	\$13.00	\$14.18	\$6.75	\$0.00	\$85.52

Apprentice Notes
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Apprentice to Journeyworker Ratio: 2:3

ELEVATOR CONSTRUCTOR	1/1/2026	\$77.26	\$16.38	\$11.06	\$10.70	\$0.00	\$115.40
ELEVATOR CONSTRUCTORS LOCAL 4	1/1/2027	\$80.55	\$16.48	\$11.16	\$11.00	\$0.00	\$119.19
ELEVATOR CONSTRUCTORS LOCAL 4							

Apprentice: ELEVATOR CONSTRUCTOR							
Effective Date: 1/1/2026							
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
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: ELEVATOR CONSTRUCTOR							
Effective Date: 1/1/2027							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$40.28	\$0.00	\$0.00	\$0.00	\$0.00	\$40.28
2	55.00	\$44.30	\$16.48	\$11.16	\$11.00	\$0.00	\$82.94
3	65.00	\$52.36	\$16.48	\$11.16	\$11.00	\$0.00	\$91.00
4	70.00	\$56.39	\$16.48	\$11.16	\$11.00	\$0.00	\$95.03
5	80.00	\$64.44	\$16.48	\$11.16	\$11.00	\$0.00	\$103.08
Apprentice to Journeyworker Ratio: 1:1							
ELEVATOR CONSTRUCTOR HELPER	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	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	5/1/2026	\$54.40	\$16.55	\$13.35	\$3.25	\$0.00	\$87.55
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$55.69	\$16.55	\$13.35	\$3.25	\$0.00	\$88.84
OPERATING ENGINEERS LOCAL 4	5/1/2027	\$57.12	\$16.55	\$13.35	\$3.25	\$0.00	\$90.27
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY	5/1/2026	\$56.02	\$16.55	\$13.35	\$3.25	\$0.00	\$89.17
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$57.32	\$16.55	\$13.35	\$3.25	\$0.00	\$90.47
OPERATING ENGINEERS LOCAL 4	5/1/2027	\$58.77	\$16.55	\$13.35	\$3.25	\$0.00	\$91.92
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY	5/1/2026	\$26.28	\$16.55	\$13.35	\$3.25	\$0.00	\$59.43
OPERATING ENGINEERS LOCAL 4	11/1/2026	\$27.04	\$16.55	\$13.35	\$3.25	\$0.00	\$60.19
OPERATING ENGINEERS LOCAL 4	5/1/2027	\$27.89	\$16.55	\$13.35	\$3.25	\$0.00	\$61.04
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
FIRE ALARM INSTALLER	3/1/2026	\$66.86	\$13.00	\$14.64	\$9.00	\$0.00	\$103.50

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ELECTRICIANS LOCAL 103	9/1/2026	\$68.78	\$13.00	\$14.69	\$9.00	\$0.00	\$105.47
ELECTRICIANS LOCAL 103	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 / 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	\$47.09	\$16.55	\$13.35	\$3.25	\$0.00	\$80.24
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$47.55	\$17.05	\$13.35	\$3.25	\$0.00	\$81.20
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$48.73	\$17.05	\$13.35	\$3.25	\$0.00	\$82.38

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FLAGGER & SIGNALER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$28.09	\$10.65	\$9.75	\$9.65	\$0.00	\$58.14
LABORERS	6/1/2026	\$29.21	\$10.65	\$9.75	\$9.65	\$0.00	\$59.26
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$29.21	\$10.65	\$9.75	\$9.65	\$0.00	\$59.26

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

FLOORCOVERER	3/1/2026	\$59.24	\$10.33	\$11.47	\$8.80	\$0.00	\$89.84
FLOORCOVERERS LOCAL 2168	9/1/2026	\$60.74	\$10.33	\$11.47	\$8.80	\$0.00	\$91.34
FLOORCOVERERS LOCAL 2168 ZONE I	3/1/2027	\$62.24	\$10.33	\$11.47	\$8.80	\$0.00	\$92.84

Apprentice: FLOORCOVERER							
Effective Date: 3/1/2026							
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: FLOORCOVERER							
Effective Date: 9/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	45.00	\$27.33	\$10.33	\$0.00	\$1.76	\$0.00	\$39.42
2	45.00	\$27.33	\$10.33	\$0.00	\$1.76	\$0.00	\$39.42
3	55.00	\$33.41	\$10.33	\$0.00	\$3.52	\$0.00	\$47.26

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: HOISTING ENGINEER/CRANES/GRADALLS							
Effective Date: 12/1/2025							
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

Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: HOISTING ENGINEER/CRANES/GRADALLS							
Effective Date: 6/1/2026							
1	55.00	\$32.66	\$0.00	\$0.00	\$0.00	\$0.00	\$32.66
2	60.00	\$35.63	\$17.05	\$13.35	\$3.25	\$0.00	\$69.28
3	65.00	\$38.60	\$17.05	\$13.35	\$3.25	\$0.00	\$72.25
4	70.00	\$41.57	\$17.05	\$13.35	\$3.25	\$0.00	\$75.22
5	75.00	\$44.54	\$17.05	\$13.35	\$3.25	\$0.00	\$78.19
6	80.00	\$47.50	\$17.05	\$13.35	\$3.25	\$0.00	\$81.15
7	85.00	\$50.47	\$17.05	\$13.35	\$3.25	\$0.00	\$84.12
8	90.00	\$53.44	\$17.05	\$13.35	\$3.25	\$0.00	\$87.09

Apprentice to Journeyworker Ratio: 1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 SHEETMETAL WORKERS LOCAL 17 - A	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
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For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) 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) SHEETMETAL WORKERS LOCAL 17 SHEETMETAL WORKERS LOCAL 17 - A	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
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For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (TESTING AND BALANCING -WATER) PIPEFITTERS LOCAL 537 PIPEFITTERS LOCAL 537	3/1/2026	\$70.58	\$13.95	\$14.00	\$9.55	\$0.00	\$108.08
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Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HVAC MECHANIC PIPEFITTERS LOCAL 537 PIPEFITTERS LOCAL 537	3/1/2026	\$70.58	\$13.95	\$14.00	\$9.55	\$0.00	\$108.08
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							
HYDRAULIC DRILLS LABORERS LABORERS - ZONE 1	12/1/2025	\$48.60	\$10.65	\$9.75	\$9.65	\$0.00	\$78.65
	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
	12/1/2026	\$51.65	\$10.65	\$9.75	\$9.65	\$0.00	\$81.70
	6/1/2027	\$53.25	\$10.65	\$9.75	\$9.65	\$0.00	\$83.30
	12/1/2027	\$54.85	\$10.65	\$9.75	\$9.65	\$0.00	\$84.90
	6/1/2028	\$56.53	\$10.65	\$9.75	\$9.65	\$0.00	\$86.58
	12/1/2028	\$58.20	\$10.65	\$9.75	\$9.65	\$0.00	\$88.25
For apprentice rates see "Apprentice- LABORER"							
HYDRAULIC DRILLS (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2025	\$48.70	\$10.65	\$9.75	\$9.65	\$0.00	\$78.75
	6/1/2026	\$50.25	\$10.65	\$9.75	\$9.65	\$0.00	\$80.30
	12/1/2026	\$51.75	\$10.65	\$9.75	\$9.65	\$0.00	\$81.80
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
INSULATOR (PIPES & TANKS) HEAT & FROST INSULATORS LOCAL 6 HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	9/1/2025	\$60.34	\$14.75	\$9.52	\$10.09	\$0.00	\$94.70
	9/1/2026	\$63.76	\$14.75	\$9.52	\$10.09	\$0.00	\$98.12

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
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

Apprentice: INSULATOR (PIPES & TANKS)							
Effective Date: 9/1/2026							
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

Apprentice to Journeyworker Ratio: 1:4

IRONWORKER/WELDER IRONWORKERS LOCAL 7 IRONWORKERS LOCAL 7 (BOSTON AREA)	9/16/2025	\$57.87	\$9.05	\$12.75	\$14.50	\$0.00	\$94.17
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Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: LABORER							
Effective Date: 6/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
4	90.00	\$44.46	\$10.65	\$9.75	\$9.65	\$0.00	\$74.51
Apprentice to Journeyworker Ratio: 1:5							
LABORER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$47.95	\$10.65	\$9.75	\$9.65	\$0.00	\$78.00
LABORERS	6/1/2026	\$49.50	\$10.65	\$9.75	\$9.65	\$0.00	\$79.55
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.00	\$10.65	\$9.75	\$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	\$29.70	\$10.65	\$9.75	\$9.65	\$0.00	\$59.75
2	70.00	\$34.65	\$10.65	\$9.75	\$9.65	\$0.00	\$64.70
3	80.00	\$39.60	\$10.65	\$9.75	\$9.65	\$0.00	\$69.65
4	90.00	\$44.55	\$10.65	\$9.75	\$9.65	\$0.00	\$74.60

Apprentice to Journeyworker Ratio: 1:5

LABORER: CARPENTER TENDER LABORERS	12/1/2025	\$47.85	\$10.65	\$9.75	\$9.65	\$0.00	\$77.90
LABORERS	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$50.90	\$10.65	\$9.75	\$9.65	\$0.00	\$80.95
	6/1/2027	\$52.50	\$10.65	\$9.75	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.10	\$10.65	\$9.75	\$9.65	\$0.00	\$84.15
	6/1/2028	\$55.78	\$10.65	\$9.75	\$9.65	\$0.00	\$85.83
	12/1/2028	\$57.45	\$10.65	\$9.75	\$9.65	\$0.00	\$87.50

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS	12/1/2025	\$47.85	\$10.65	\$9.75	\$9.65	\$0.00	\$77.90
LABORERS	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
LABORERS - ZONE 1	12/1/2026	\$50.90	\$10.65	\$9.75	\$9.65	\$0.00	\$80.95
	6/1/2027	\$52.50	\$10.65	\$9.75	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.10	\$10.65	\$9.75	\$9.65	\$0.00	\$84.15
	6/1/2028	\$55.78	\$10.65	\$9.75	\$9.65	\$0.00	\$85.83

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2028	\$57.45	\$10.65	\$9.75	\$9.65	\$0.00	\$87.50
For apprentice rates see "Apprentice- LABORER"							
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS	12/1/2025	\$48.00	\$10.65	\$9.75	\$9.65	\$0.00	\$78.05
LABORERS - ZONE 1	6/1/2026	\$49.55	\$10.65	\$9.75	\$9.65	\$0.00	\$79.60
	12/7/2026	\$51.05	\$10.65	\$9.75	\$9.65	\$0.00	\$81.10
	6/7/2027	\$52.65	\$10.65	\$9.75	\$9.65	\$0.00	\$82.70
	12/6/2027	\$54.25	\$10.65	\$9.75	\$9.65	\$0.00	\$84.30
	6/5/2028	\$55.93	\$10.65	\$9.75	\$9.65	\$0.00	\$85.98
	12/4/2028	\$57.60	\$10.65	\$9.75	\$9.65	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER LABORERS	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
LABORER: MASON TENDER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
LABORER: MULTI-TRADE TENDER LABORERS	12/1/2025	\$47.85	\$10.65	\$9.75	\$9.65	\$0.00	\$77.90
LABORERS - ZONE 1	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
	12/1/2026	\$50.90	\$10.65	\$9.75	\$9.65	\$0.00	\$80.95
	6/1/2027	\$52.50	\$10.65	\$9.75	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.10	\$10.65	\$9.75	\$9.65	\$0.00	\$84.15
	6/1/2028	\$55.78	\$10.65	\$9.75	\$9.65	\$0.00	\$85.83
	12/1/2028	\$57.45	\$10.65	\$9.75	\$9.65	\$0.00	\$87.50
For apprentice rates see "Apprentice- LABORER"							
LABORER: TREE REMOVER LABORERS	12/1/2025	\$47.85	\$10.65	\$9.75	\$9.65	\$0.00	\$77.90
LABORERS - ZONE 1	6/1/2026	\$49.40	\$10.65	\$9.75	\$9.65	\$0.00	\$79.45
	12/1/2026	\$50.90	\$10.65	\$9.75	\$9.65	\$0.00	\$80.95
	6/1/2027	\$52.50	\$10.65	\$9.75	\$9.65	\$0.00	\$82.55
	12/1/2027	\$54.10	\$10.65	\$9.75	\$9.65	\$0.00	\$84.15
	6/1/2028	\$55.78	\$10.65	\$9.75	\$9.65	\$0.00	\$85.83
	12/1/2028	\$57.45	\$10.65	\$9.75	\$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"							
LABORER: LASER BEAM OPERATOR LABORERS	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

LASER BEAM OPERATOR (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30

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

MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3	2/1/2026	\$52.08	\$12.84	\$15.57	\$5.78	\$0.00	\$86.27
BRICKLAYERS LOCAL 3 - MARBLE & TILE	8/1/2026	\$53.84	\$12.84	\$15.57	\$5.78	\$0.00	\$88.03
	2/1/2027	\$54.96	\$12.84	\$15.57	\$5.78	\$0.00	\$89.15

Apprentice: MARBLE & TILE FINISHERS							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.04	\$12.84	\$15.57	\$5.78	\$0.00	\$60.23
2	60.00	\$31.25	\$12.84	\$15.57	\$5.78	\$0.00	\$65.44
3	70.00	\$36.46	\$12.84	\$15.57	\$5.78	\$0.00	\$70.65
4	80.00	\$41.66	\$12.84	\$15.57	\$5.78	\$0.00	\$75.85
5	90.00	\$46.87	\$12.84	\$15.57	\$5.78	\$0.00	\$81.06

Apprentice: MARBLE & TILE FINISHERS							
Effective Date: 8/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.92	\$12.84	\$15.57	\$5.78	\$0.00	\$61.11
2	60.00	\$32.30	\$12.84	\$15.57	\$5.78	\$0.00	\$66.49
3	70.00	\$37.69	\$12.84	\$15.57	\$5.78	\$0.00	\$71.88
4	80.00	\$43.07	\$12.84	\$15.57	\$5.78	\$0.00	\$77.26
5	90.00	\$48.46	\$12.84	\$15.57	\$5.78	\$0.00	\$82.65

Apprentice to Journeyworker Ratio: 1:5

MARBLE MASONS, TILELAYERS & TERRAZZO MECH BRICKLAYERS LOCAL 3	2/1/2026	\$67.97	\$12.84	\$15.57	\$7.99	\$0.00	\$104.37
BRICKLAYERS LOCAL 3 - MARBLE & TILE	8/1/2026	\$70.17	\$12.84	\$15.57	\$7.99	\$0.00	\$106.57
	2/1/2027	\$71.57	\$12.84	\$15.57	\$7.99	\$0.00	\$107.97

Apprentice: MARBLE MASONS, TILELAYERS & TERRAZZO MECH							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$33.99	\$12.84	\$15.57	\$7.99	\$0.00	\$70.39
2	60.00	\$40.78	\$12.84	\$15.57	\$7.99	\$0.00	\$77.18
3	70.00	\$47.58	\$12.84	\$15.57	\$7.99	\$0.00	\$83.98
4	80.00	\$54.38	\$12.84	\$15.57	\$7.99	\$0.00	\$90.78

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS)	12/1/2025	\$25.08	\$16.55	\$13.35	\$3.25	\$0.00	\$58.23
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$25.07	\$17.05	\$13.35	\$3.25	\$0.00	\$58.72
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$25.74	\$17.05	\$13.35	\$3.25	\$0.00	\$59.39

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	12/1/2025	\$31.05	\$16.55	\$13.35	\$3.25	\$0.00	\$64.20
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$31.17	\$17.05	\$13.35	\$3.25	\$0.00	\$64.82
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$31.97	\$17.05	\$13.35	\$3.25	\$0.00	\$65.62

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS)	1/1/2026	\$59.56	\$10.35	\$12.00	\$12.60	\$0.00	\$94.51
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 1							

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) *	1/1/2026	\$56.25	\$10.35	\$12.00	\$12.60	\$0.00	\$91.20
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.							
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 1							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: PAINTER / TAPER (BRUSH, NEW) *							
Effective Date: 1/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
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
Apprentice to Journeyworker Ratio: 1:1							
PAINTER / TAPER (BRUSH, REPAINT)	1/1/2026	\$52.91	\$10.35	\$12.00	\$12.60	\$0.00	\$87.86
PAINTERS LOCAL 35							
PAINTERS LOCAL 35 - ZONE 1							
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	\$47.95	\$10.65	\$9.75	\$9.65	\$0.00	\$78.00
LABORERS	6/1/2026	\$49.50	\$10.65	\$9.75	\$9.65	\$0.00	\$79.55
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.00	\$10.65	\$9.75	\$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"							
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)							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
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 PIPEFITTERS LOCAL 537 PIPEFITTERS LOCAL 537	3/1/2026	\$70.58	\$13.95	\$14.00	\$9.55	\$0.00	\$108.08
Apprentice: PIPEFITTER & STEAMFITTER							
Effective Date: 3/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	40.00	\$28.23	\$13.95	\$0.30	\$9.55	\$0.00	\$52.03
2	45.00	\$31.76	\$13.95	\$14.00	\$9.55	\$0.00	\$69.26
3	60.00	\$42.35	\$13.95	\$14.00	\$9.55	\$0.00	\$79.85
4	70.00	\$49.41	\$13.95	\$14.00	\$9.55	\$0.00	\$86.91
5	80.00	\$56.46	\$13.95	\$14.00	\$9.55	\$0.00	\$93.96
Apprentice to Journeyworker Ratio: 1:3							
PIPELAYER LABORERS LABORERS - ZONE 1	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
PIPELAYER (HEAVY & HIGHWAY) LABORERS LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
PLUMBERS & GASFITTERS PLUMBERS & GASFITTERS LOCAL 12 PLUMBERS & GASFITTERS LOCAL 12	3/2/2026	\$72.64	\$15.32	\$12.61	\$8.00	\$0.00	\$108.57
	8/31/2026	\$74.79	\$15.32	\$12.61	\$8.00	\$0.00	\$110.72
	3/1/2027	\$76.94	\$15.32	\$12.61	\$8.00	\$0.00	\$112.87
	8/30/2027	\$79.09	\$15.32	\$12.61	\$8.00	\$0.00	\$115.02
	2/28/2028	\$81.29	\$15.32	\$12.61	\$8.00	\$0.00	\$117.22
	9/4/2028	\$83.49	\$15.32	\$12.61	\$8.00	\$0.00	\$119.42
	3/5/2029	\$85.69	\$15.32	\$12.61	\$8.00	\$0.00	\$121.62

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	9/3/2029	\$87.89	\$15.32	\$12.61	\$8.00	\$0.00	\$123.82
	3/4/2030	\$89.84	\$15.32	\$12.61	\$8.00	\$0.00	\$125.77

Apprentice: PLUMBERS & GASFITTERS							
Effective Date: 3/2/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$25.42	\$15.32	\$4.61	\$2.80	\$0.00	\$48.15
2	40.00	\$29.06	\$15.32	\$5.22	\$3.20	\$0.00	\$52.80
3	55.00	\$39.95	\$15.32	\$7.07	\$4.40	\$0.00	\$66.74
4	65.00	\$47.22	\$15.32	\$8.30	\$5.20	\$0.00	\$76.04
5	75.00	\$54.48	\$15.32	\$9.53	\$6.00	\$0.00	\$85.33

Apprentice: PLUMBERS & GASFITTERS							
Effective Date: 8/31/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	35.00	\$26.18	\$15.32	\$4.61	\$2.80	\$0.00	\$48.91
2	40.00	\$29.92	\$15.32	\$5.22	\$3.20	\$0.00	\$53.66
3	55.00	\$41.13	\$15.32	\$7.07	\$5.20	\$0.00	\$68.72
4	65.00	\$48.61	\$15.32	\$8.30	\$5.20	\$0.00	\$77.43
5	75.00	\$56.09	\$15.32	\$9.53	\$6.00	\$0.00	\$86.94

Apprentice to Journeyworker Ratio: 1:2

PNEUMATIC CONTROLS (TEMP.)	3/1/2026	\$70.58	\$13.95	\$14.00	\$9.55	\$0.00	\$108.08
PIPEFITTERS LOCAL 537							
PIPEFITTERS LOCAL 537							
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"							

PNEUMATIC DRILL/TOOL OPERATOR	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							

POWDERMAN & BLASTER	12/1/2025	\$48.85	\$10.65	\$9.75	\$9.65	\$0.00	\$78.90
LABORERS	6/1/2026	\$50.40	\$10.65	\$9.75	\$9.65	\$0.00	\$80.45
LABORERS - ZONE 1	12/1/2026	\$51.90	\$10.65	\$9.75	\$9.65	\$0.00	\$81.95
	6/1/2027	\$53.50	\$10.65	\$9.75	\$9.65	\$0.00	\$83.55
	12/1/2027	\$55.10	\$10.65	\$9.75	\$9.65	\$0.00	\$85.15

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
	6/1/2028	\$56.78	\$10.65	\$9.75	\$9.65	\$0.00	\$86.83
	12/1/2028	\$58.45	\$10.65	\$9.75	\$9.65	\$0.00	\$88.50
For apprentice rates see "Apprentice- LABORER"							
POWDERMAN & BLASTER (HEAVY & HIGHWAY) LABORERS	12/1/2025	\$48.95	\$10.65	\$9.75	\$9.65	\$0.00	\$79.00
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	6/1/2026	\$50.50	\$10.65	\$9.75	\$9.65	\$0.00	\$80.55
	12/1/2026	\$52.00	\$10.65	\$9.75	\$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	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.38	\$17.05	\$13.35	\$3.25	\$0.00	\$93.03
	12/1/2026	\$60.83	\$17.05	\$13.35	\$3.25	\$0.00	\$94.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (CONCRETE) OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
PUMP OPERATOR (DEWATERING, OTHER) OPERATING ENGINEERS LOCAL 4	12/1/2025	\$37.37	\$16.55	\$13.35	\$3.25	\$0.00	\$70.52
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$37.63	\$17.05	\$13.35	\$3.25	\$0.00	\$71.28
	12/1/2026	\$38.58	\$17.05	\$13.35	\$3.25	\$0.00	\$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
READY MIX CONCRETE DRIVERS after 4/30/12 (Drivers Hired After 4/30/2012)	8/1/2022	\$30.40	\$11.91	\$15.25	\$0.00	\$0.00	\$57.56
TEAMSTERS 25 (Metro) - Aggregate							
TEAMSTERS 25 (Metro) - Aggregate							
READY-MIX CONCRETE DRIVER TEAMSTERS 25 (Metro) - Aggregate	8/1/2022	\$34.41	\$11.91	\$15.25	\$0.00	\$0.00	\$61.57
TEAMSTERS 25 (Metro) - Aggregate							
RECLAIMERS OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
RIDE-ON MOTORIZED BUGGY OPERATOR LABORERS	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS - ZONE 1	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
ROLLER/SPREADER/MULCHING MACHINE OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg) ROOFERS LOCAL 33 ROOFERS LOCAL 33	2/1/2026	\$53.53	\$14.53	\$12.67	\$9.03	\$0.00	\$89.76

Apprentice: ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg)							
Effective Date: 2/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$26.77	\$14.53	\$6.52	\$9.03	\$0.00	\$56.85
2	60.00	\$32.12	\$14.53	\$12.67	\$9.03	\$0.00	\$68.35
3	65.00	\$34.79	\$14.53	\$12.67	\$9.03	\$0.00	\$71.02
4	75.00	\$40.15	\$14.53	\$12.67	\$9.03	\$0.00	\$76.38
5	85.00	\$45.50	\$14.53	\$12.67	\$9.03	\$0.00	\$81.73

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 ROOFERS LOCAL 33 ROOFERS LOCAL 33	2/1/2026	\$53.78	\$14.53	\$12.67	\$9.03	\$0.00	\$90.01
For apprentice rates see "Apprentice- ROOFER"							

SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 SHEETMETAL WORKERS LOCAL 17 - A	2/1/2026	\$62.93	\$14.91	\$18.74	\$9.53	\$2.98	\$109.09
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Apprentice: SHEETMETAL WORKER							
Effective Date: 2/1/2026							
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

Apprentice to Journeyworker Ratio: 1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/1/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$0.00	\$79.53
	6/1/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$0.00	\$80.53
	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

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
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	1/1/2026	\$72.05	\$13.45	\$7.45	\$18.25	\$0.00	\$111.20
SPRINKLER FITTERS LOCAL 550							
SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1							

Apprentice: SPRINKLER FITTER							
Effective Date: 1/1/2026							
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

Apprentice Notes
 Apprentice entered prior 9/30/10:

Apprentice to Journeyworker Ratio: 1:3

STEAM BOILER OPERATOR	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TELECOMMUNICATION TECHNICIAN	3/1/2026	\$53.49	\$13.00	\$14.23	\$7.20	\$0.00	\$87.92
TELECOMMUNICATION TECHNICIAN	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
ELECTRICIANS LOCAL 103	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"

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
Apprentice: TERRAZZO FINISHERS							
Effective Date: 8/1/2026							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
1	50.00	\$34.55	\$12.84	\$15.57	\$8.02	\$0.00	\$70.98
2	60.00	\$41.45	\$12.84	\$15.57	\$8.02	\$0.00	\$77.88
3	70.00	\$48.36	\$12.84	\$15.57	\$8.02	\$0.00	\$84.79
4	80.00	\$55.27	\$12.84	\$15.57	\$8.02	\$0.00	\$91.70
5	90.00	\$62.18	\$12.84	\$15.57	\$8.02	\$0.00	\$98.61
Apprentice to Journeyworker Ratio: 1:5							
TEST BORING DRILLER LABORERS	12/1/2025	\$51.95	\$10.65	\$9.75	\$9.80	\$0.00	\$82.15
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$53.50	\$10.65	\$9.75	\$9.80	\$0.00	\$83.70
	12/1/2026	\$55.00	\$10.65	\$9.75	\$9.80	\$0.00	\$85.20
For apprentice rates see "Apprentice- LABORER"							
TEST BORING DRILLER HELPER LABORERS	12/1/2025	\$48.07	\$10.65	\$9.75	\$9.80	\$0.00	\$78.27
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$49.62	\$10.65	\$9.75	\$9.80	\$0.00	\$79.82
	12/1/2026	\$51.12	\$10.65	\$9.75	\$9.80	\$0.00	\$81.32
For apprentice rates see "Apprentice- LABORER"							
TEST BORING LABORER LABORERS	12/1/2025	\$47.95	\$10.65	\$9.75	\$9.80	\$0.00	\$78.15
LABORERS - FOUNDATION AND MARINE	6/1/2026	\$49.50	\$10.65	\$9.75	\$9.80	\$0.00	\$79.70
	12/1/2026	\$51.00	\$10.65	\$9.75	\$9.80	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"							
TRACTORS/PORTABLE STEAM GENERATORS OPERATING ENGINEERS LOCAL 4	12/1/2025	\$58.02	\$16.55	\$13.35	\$3.25	\$0.00	\$91.17
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$58.70	\$17.05	\$13.35	\$3.25	\$0.00	\$92.35
	12/1/2026	\$60.14	\$17.05	\$13.35	\$3.25	\$0.00	\$93.79
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
TRAILERS FOR EARTH MOVING EQUIPMENT TEAMSTERS JOINT COUNCIL NO. 10	12/1/2025	\$42.92	\$15.41	\$21.78	\$0.00	\$0.00	\$80.11
TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	6/1/2026	\$43.92	\$15.41	\$21.78	\$0.00	\$0.00	\$81.11
	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 LABORERS	12/1/2025	\$60.18	\$10.65	\$9.75	\$10.25	\$0.00	\$90.83
LABORERS (COMPRESSED AIR)	6/1/2026	\$61.73	\$10.65	\$9.75	\$10.25	\$0.00	\$92.38
	12/1/2026	\$63.23	\$10.65	\$9.75	\$10.25	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) LABORERS	12/1/2025	\$62.18	\$10.65	\$9.75	\$10.25	\$0.00	\$92.83
LABORERS (COMPRESSED AIR)	6/1/2026	\$63.73	\$10.65	\$9.75	\$10.25	\$0.00	\$94.38
	12/1/2026	\$65.23	\$10.65	\$9.75	\$10.25	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"							
TUNNEL WORK - FREE AIR	12/1/2025	\$52.25	\$10.65	\$9.75	\$10.25	\$0.00	\$82.90

Construction

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
LABORERS	6/1/2026	\$53.80	\$10.65	\$9.75	\$10.25	\$0.00	\$84.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	\$55.30	\$10.65	\$9.75	\$10.25	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"							
<hr/>							
TUNNEL WORK - FREE AIR (HAZ. WASTE)	12/1/2025	\$54.25	\$10.65	\$9.75	\$10.25	\$0.00	\$84.90
LABORERS	6/1/2026	\$55.80	\$10.65	\$9.75	\$10.25	\$0.00	\$86.45
LABORERS (FREE AIR TUNNEL)	12/1/2026	\$57.30	\$10.65	\$9.75	\$10.25	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"							
<hr/>							
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
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WAGON DRILL OPERATOR	12/1/2025	\$48.10	\$10.65	\$9.75	\$9.65	\$0.00	\$78.15
LABORERS	6/1/2026	\$49.65	\$10.65	\$9.75	\$9.65	\$0.00	\$79.70
LABORERS - ZONE 1	12/1/2026	\$51.15	\$10.65	\$9.75	\$9.65	\$0.00	\$81.20
	6/1/2027	\$52.75	\$10.65	\$9.75	\$9.65	\$0.00	\$82.80
	12/1/2027	\$54.35	\$10.65	\$9.75	\$9.65	\$0.00	\$84.40
	6/1/2028	\$56.03	\$10.65	\$9.75	\$9.65	\$0.00	\$86.08
	12/1/2028	\$57.70	\$10.65	\$9.75	\$9.65	\$0.00	\$87.75
For apprentice rates see "Apprentice- LABORER"							
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WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	12/1/2025	\$48.20	\$10.65	\$9.75	\$9.65	\$0.00	\$78.25
LABORERS	6/1/2026	\$49.75	\$10.65	\$9.75	\$9.65	\$0.00	\$79.80
LABORERS - ZONE 1 (HEAVY & HIGHWAY)	12/1/2026	\$51.25	\$10.65	\$9.75	\$9.65	\$0.00	\$81.30
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"							
<hr/>							
WASTE WATER PUMP OPERATOR	12/1/2025	\$58.68	\$16.55	\$13.35	\$3.25	\$0.00	\$91.83
OPERATING ENGINEERS LOCAL 4	6/1/2026	\$59.38	\$17.05	\$13.35	\$3.25	\$0.00	\$93.03
OPERATING ENGINEERS LOCAL 4	12/1/2026	\$60.83	\$17.05	\$13.35	\$3.25	\$0.00	\$94.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"							
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WATER METER INSTALLER	3/2/2026	\$72.64	\$15.32	\$12.61	\$8.00	\$0.00	\$108.57
PLUMBERS & GASFITTERS LOCAL 12	8/31/2026	\$74.79	\$15.32	\$12.61	\$8.00	\$0.00	\$110.72
PLUMBERS & GASFITTERS LOCAL 12	3/1/2027	\$76.94	\$15.32	\$12.61	\$8.00	\$0.00	\$112.87
	8/30/2027	\$79.09	\$15.32	\$12.61	\$8.00	\$0.00	\$115.02
	2/2/2028	\$81.29	\$15.32	\$12.61	\$8.00	\$0.00	\$117.22
	9/4/2028	\$83.49	\$15.32	\$12.61	\$8.00	\$0.00	\$119.42
	3/5/2029	\$85.69	\$15.32	\$12.61	\$8.00	\$0.00	\$121.62
	9/3/2029	\$87.89	\$15.32	\$12.61	\$8.00	\$0.00	\$123.82
	3/4/2030	\$89.84	\$15.32	\$12.61	\$8.00	\$0.00	\$125.77
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"							

Outside Electrical

Classification	Effective Date	Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate
CABLE TECHNICIAN (Power Zone)	8/31/2025	\$36.55	\$10.75	\$1.10	\$1.00	\$0.00	\$49.40
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$38.13	\$11.00	\$1.14	\$1.00	\$0.00	\$51.27
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$39.65	\$11.25	\$1.19	\$1.00	\$0.00	\$53.09
For apprentice rates see "Apprentice- LINEMAN"							
CABLEMAN (Underground Ducts & Cables)	8/31/2025	\$51.78	\$10.75	\$1.55	\$10.71	\$0.00	\$74.79
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$54.02	\$11.00	\$1.62	\$11.14	\$0.00	\$77.78
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$56.17	\$11.25	\$1.69	\$11.57	\$0.00	\$80.68
For apprentice rates see "Apprentice- LINEMAN"							
DRIVER / GROUNDMAN CDL	8/31/2025	\$42.64	\$10.75	\$1.28	\$10.45	\$0.00	\$65.12
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$44.49	\$11.00	\$1.33	\$10.80	\$0.00	\$67.62
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$46.26	\$11.25	\$1.39	\$11.15	\$0.00	\$70.05
For apprentice rates see "Apprentice- LINEMAN"							
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs)	8/31/2025	\$33.51	\$10.75	\$1.01	\$1.00	\$0.00	\$46.27
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$34.95	\$11.00	\$1.05	\$1.00	\$0.00	\$48.00
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$36.64	\$11.25	\$1.09	\$1.00	\$0.00	\$49.98
For apprentice rates see "Apprentice- LINEMAN"							
EQUIPMENT OPERATOR (Class A CDL)	8/31/2025	\$51.78	\$10.75	\$1.55	\$14.79	\$0.00	\$78.87
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$54.02	\$11.00	\$1.62	\$15.22	\$0.00	\$81.86
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$56.17	\$11.25	\$1.69	\$15.65	\$0.00	\$84.76
For apprentice rates see "Apprentice- LINEMAN"							
EQUIPMENT OPERATOR (Class B CDL)	8/31/2025	\$45.69	\$10.75	\$1.37	\$11.27	\$0.00	\$69.08
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$47.66	\$11.00	\$1.43	\$11.65	\$0.00	\$71.74
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$49.56	\$11.25	\$1.49	\$12.03	\$0.00	\$74.33
For apprentice rates see "Apprentice- LINEMAN"							
GROUNDMAN	8/31/2025	\$33.51	\$10.75	\$1.01	\$1.00	\$0.00	\$46.27
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$34.95	\$11.00	\$1.05	\$1.00	\$0.00	\$48.00
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$36.34	\$11.25	\$1.09	\$1.00	\$0.00	\$49.68
For apprentice rates see "Apprentice- LINEMAN"							
GROUNDMAN -Inexperienced (<2000 Hrs.)	8/31/2025	\$27.41	\$10.75	\$0.82	\$1.00	\$0.00	\$39.98
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$28.60	\$11.00	\$0.86	\$1.00	\$0.00	\$41.46
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$29.74	\$11.25	\$0.89	\$1.00	\$0.00	\$42.88
For apprentice rates see "Apprentice- LINEMAN"							
JOURNEYMAN LINEMAN	8/31/2025	\$60.92	\$10.75	\$1.83	\$18.00	\$0.00	\$91.50
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/30/2026	\$63.55	\$11.00	\$1.91	\$18.50	\$0.00	\$94.96
OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104	8/29/2027	\$66.08	\$11.25	\$1.98	\$19.00	\$0.00	\$98.31

Apprentice: JOURNEYMAN LINEMAN							
Effective Date: 8/31/2025							
Step	Percent	Apprentice Base Wage	Health	Pension	Annuity	Supplemental Unemployment	Total Rate

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.

APPENDIX B
PRICE ADJUSTMENTS



MassDOT current contract price adjustments

Adjusted prices for liquid asphalt, Portland cement, diesel fuel, gasoline, structural steel, and reinforcing steel.

Due to the uncertainty of liquid asphalt, Portland cement, diesel fuel, gasoline, structural steel, and reinforcing steel prices, and in accordance with the requirements of M.G.L. c. 30, sec. 38A, MassDOT Highway Division uses special provisions on selected projects to make contract adjustments to account for the prices in effect at the time the work is performed.

Metric measurements are no longer required but will be listed separately until all projects using metric measurement are complete.

Municipalities are required to include price adjustment clauses for diesel fuel, gasoline, liquid asphalt, Portland cement concrete, structural steel and reinforcing steel in the bid documents of all construction contracts funded by the Chapter 90 Program. For more information please refer to the Price Adjustment Requirements for Cities and Towns.

RELATED

[Special Provisions](#) (/info-details/massdot-special-provisions)

[Price adjustment requirements for cities and towns](#) (/info-details/chapter-90-price-adjustment-requirements)

[Period price archives](#) (/lists/massdot-period-price-archives)

Most recent period prices

Please Note That This Page Has Been Updated on May 06, 2026

Adjustment Period	Liquid Asphalt* (Ton)	Diesel (Gallon)	Gasoline (Gallon)	Portland Cement (Ton)	Steel PPI
May 2026	TBD	TBD	TBD	\$452.13	TBD
April 2026	\$670.00	\$4.568	\$3.373	\$452.13	TBD
March 2026	\$640.00	\$4.452	\$2.955	\$425.13	TBD
February 2026	\$615.00	\$3.141	\$2.270	\$425.13	TBD
January 2026	\$625.00	\$2.805	\$2.145	\$425.13	TBD
December 2025	\$625.00	\$2.724	\$2.152	\$425.13	TBD
November 2025	\$625.00	\$2.996	\$2.411	\$425.13	354.8
October 2025	\$625.00	\$2.752	\$2.280	\$425.13	362.6
September 2025	\$625.00	\$2.793	\$2.471	\$425.13	368.9
August 2025	\$635.00	\$2.733	\$2.451	\$425.13	373.6
July 2025	\$635.00	\$2.924	\$2.449	\$425.13	377.1
June 2025	\$635.00	\$2.766	\$2.453	\$425.53	380.8

*Data obtained from Asphalt Weekly Monitor®

Steel Producer Price Index from the Bureau of Labor Statistics website

PPI Commodity data for Metals and metal products - Semifinished steel mill products, not seasonally adjusted

NOTE: PPI is the final published data

[State Organizations \(/massachusetts-state-organizations\)](/massachusetts-state-organizations)

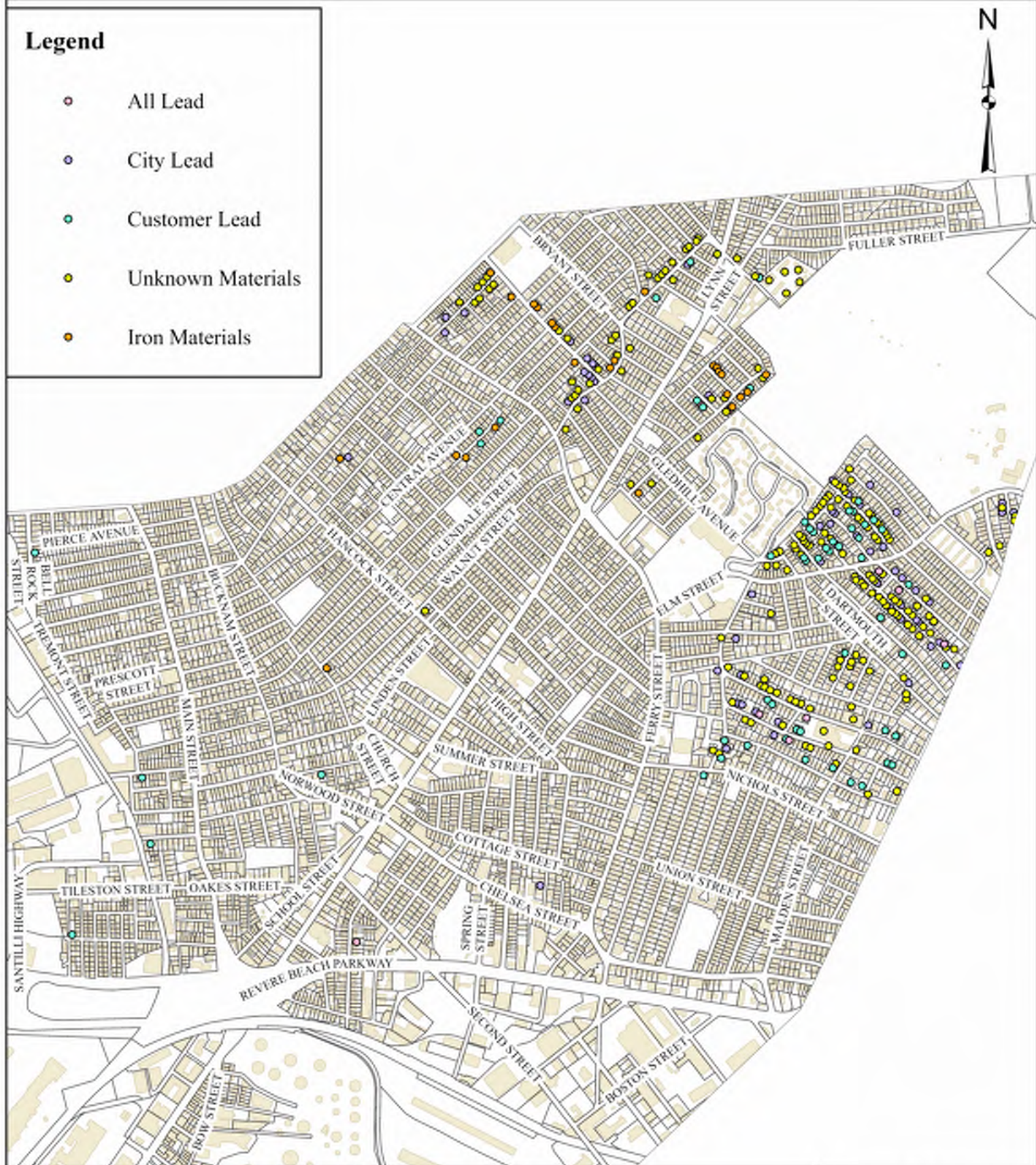
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APPENDIX C
PROJECT MAP

Legend

- All Lead
- City Lead
- Customer Lead
- Unknown Materials
- Iron Materials



TATA & HOWARD

Date: May 2026
Approximate Scale: 1" = 1,700'

Lead Service Replacement Project

Phase 3 and 4

Everett, Massachusetts

Figure No.

1

APPENDIX D

LIST OF ADDRESSES

Address	City	State	Zipcode	Property-Side	City-Side
4 Edith St	Everett	MA	02149	Copper	Lead
7 Edith St	Everett	MA	02149	Copper	Unknown
8 Edith St	Everett	MA	02149	Copper	Lead
9 Edith St	Everett	MA	02149	Lead	Copper
11 Edith St	Everett	MA	02149	Copper	Lead
12 Edith St	Everett	MA	02149	Copper	Lead
13 Edith St	Everett	MA	02149	Copper	Lead
16 Edith St	Everett	MA	02149	Copper	Lead
21 Edith St	Everett	MA	02149	Copper	Lead
26 Edith St	Everett	MA	02149	Iron	Copper
39 Edith St	Everett	MA	02149	Copper	Lead
43 Edith St	Everett	MA	02149	Unknown	Unknown
51 Edith St	Everett	MA	02149	Copper	Unknown
55 Edith St	Everett	MA	02149	Iron	Iron
59 Edith St	Everett	MA	02149	Iron	Copper
75 Edith St	Everett	MA	02149	Copper	Iron
79 Edith St	Everett	MA	02149	Iron	Iron
98 Edith St	Everett	MA	02149	Copper	Iron
11 Ashton St	Everett	MA	02149	Brass	Lead
22 Ashton St	Everett	MA	02149	Copper	Lead
33 Ashton St	Everett	MA	02149	Copper	Lead
38 Ashton St	Everett	MA	02149	Copper	Unknown
43 Ashton St	Everett	MA	02149	Copper	Unknown
49 Ashton St	Everett	MA	02149	Copper	Unknown
49R Ashton St	Everett	MA	02149	Copper	Unknown
56 Ashton St	Everett	MA	02149	Copper	Unknown
59 Ashton St	Everett	MA	02149	Copper	Unknown
60 Ashton St	Everett	MA	02149	Copper	Unknown
63 Ashton St	Everett	MA	02149	Copper	Unknown
66 Ashton St	Everett	MA	02149	Copper	Unknown
66A Ashton St	Everett	MA	02149	Copper	Unknown
70 Ashton St	Everett	MA	02149	Iron	Copper
7 Shute St	Everett	MA	02149	Copper	Unknown
26 Shute St	Everett	MA	02149	Copper	Lead
27 Shute St	Everett	MA	02149	Copper	Unknown
28 Shute St	Everett	MA	02149	Copper	Unknown
32 Shute St	Everett	MA	02149	Copper	Unknown
33 Shute St	Everett	MA	02149	Copper	Lead
38 Shute St	Everett	MA	02149	Copper	Unknown
40 Shute St	Everett	MA	02149	Copper	Unknown
46 Shute St	Everett	MA	02149	Copper	Unknown
68 Shute St	Everett	MA	02149	Iron	Copper
71 Shute St	Everett	MA	02149	Copper	Unknown
74 Shute St	Everett	MA	02149	Iron	Copper
80 Shute St	Everett	MA	02149	Iron	Unknown
89 Shute St	Everett	MA	02149	Copper	Unknown

Address	City	State	Zipcode	Property-Side	City-Side
94 Shute St	Everett	MA	02149	Copper	Unknown
98 Shute St	Everett	MA	02149	Unknown	Unknown
120 Shute St	Everett	MA	02149	Copper	Unknown
124 Shute St	Everett	MA	02149	Copper	Unknown
136 Shute St	Everett	MA	02149	Copper	Iron
137 Shute St	Everett	MA	02149	Lead	Copper
148 Shute St	Everett	MA	02149	Copper	Unknown
150 Shute St	Everett	MA	02149	Copper	Unknown
154 Shute St	Everett	MA	02149	Copper	Unknown
157 Shute St	Everett	MA	02149	Copper	Unknown
158 Shute St	Everett	MA	02149	Copper	Unknown
166 Shute St	Everett	MA	02149	Copper	Unknown
173 Shute St	Everett	MA	02149	Copper	Lead
177 Shute St	Everett	MA	02149	Lead	Copper
180 Shute St	Everett	MA	02149	Copper	Unknown
184 Shute St	Everett	MA	02149	Copper	Unknown
190 Shute St	Everett	MA	02149	Copper	Unknown
194 Shute St	Everett	MA	02149	Iron	Unknown
209 Shute St	Everett	MA	02149	Copper	Unknown
226 Shute St	Everett	MA	02149	Copper	Unknown
246 Shute St	Everett	MA	02149	Copper	Unknown
248 Shute St	Everett	MA	02149	Lead	Copper
256 Shute St	Everett	MA	02149	Unknown	Iron
268 Shute St	Everett	MA	02149	Unknown	Unknown
270 Shute St	Everett	MA	02149	Unknown	Unknown
272 Shute St	Everett	MA	02149	Unknown	Iron
274 Shute St	Everett	MA	02149	Unknown	Unknown
1A Wilbur St	Everett	MA	02149	Steel	Steel
7 Wilbur St	Everett	MA	02149	Copper	Lead
38 Wilbur St	Everett	MA	02149	Unknown	Copper
37 Wilbur St	Everett	MA	02149	Unknown	Unknown
65 Wilbur St	Everett	MA	02149	Unknown	Copper
67 Wilbur St	Everett	MA	02149	Lead	Lead
71 Wilbur St	Everett	MA	02149	Iron	Iron
72 Wilbur St	Everett	MA	02149	Unknown	Copper
78 Wilbur St	Everett	MA	02149	Iron	Copper
81 Wilbur St	Everett	MA	02149	Iron	Iron
89 Wilbur St	Everett	MA	02149	Iron	Iron
93 Wilbur St	Everett	MA	02149	Lead	Copper
103 Wilbur St	Everett	MA	02149	Unknown	Copper
108 Wilbur St	Everett	MA	02149	Copper	Unknown
109 Wilbur St	Everett	MA	02149	Copper	Iron
22 Glendale Ave	Everett	MA	02149	Iron	Iron
24 Glendale Ave	Everett	MA	02149	Iron	Copper
28 Glendale Ave	Everett	MA	02149	Iron	Iron
32/34 Glendale Ave	Everett	MA	02149	Copper	Iron

Address	City	State	Zipcode	Property-Side	City-Side
27 Clifton Ave	Everett	MA	02149	Lead	Copper
31 Clifton Ave	Everett	MA	02149	Lead	Lead
32 Clifton Ave	Everett	MA	02149	Copper	Lead
33 Clifton Ave	Everett	MA	02149	Lead	Copper
36 Clifton Ave	Everett	MA	02149	Copper	Unknown
16 Bettinson Ave	Everett	MA	02149	Lead	Copper
22 Bettinson Ave	Everett	MA	02149	Iron	Copper
33 Bettinson Ave	Everett	MA	02149	Lead	Copper
38 Bettinson Ave	Everett	MA	02149	Lead	Copper
54 Bettinson Ave	Everett	MA	02149	Iron	Copper
58 Bettinson Ave	Everett	MA	02149	Iron	Copper
2 Moreland Pl	Everett	MA	02149	Iron	Copper
3 Amos Ter	Everett	MA	02149	Copper	Lead
35 Adams Ave	Everett	MA	02149	Unknown	Unknown
140 Bell Rock St	Everett	MA	02149	Lead	Unknown
59 Hancock St	Everett	MA	02149	Copper	Unknown
34-36 Lewis St	Everett	MA	02149	Lead	Lead
27 Liberty St	Everett	MA	02149	Lead	Copper
6 Mead St	Everett	MA	02149	Copper	Lead
47 Nichols St	Everett	MA	02149	Lead	Copper
36 Parlin St	Everett	MA	02149	Lead	Copper
1 Dean St	Everett	MA	02149	Iron	Copper
38 Waters Ave	Everett	MA	02149	Lead	Copper
71 Wellington Ave	Everett	MA	02149	Lead	Unknown
44 Summer St	Everett	MA	02149	Copper	Copper

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 4
Everett, Massachusetts

Address	City	State	Zipcode	Property-Side	City-Side
45 Adams Ave	Everett	MA	02149	Copper	Lead
17 Woodlawn St	Everett	MA	02149	Iron	Lead
78 Woodlawn St	Everett	MA	02149	Copper	Lead
14 Fremont Ave	Everett	MA	02149	Copper	Lead
10 Fremont Ave	Everett	MA	02149	Copper	Lead
26 Fremont Ave	Everett	MA	02149	Copper	Lead
30 Fremont Ave	Everett	MA	02149	Lead	Lead
42 Fremont Ave	Everett	MA	02149	Iron	Lead
49 Fremont Ave	Everett	MA	02149	Copper	Lead
55 Fremont Ave	Everett	MA	02149	Lead	Lead
14 Garland St	Everett	MA	02149	Iron	Lead
73 Garland St	Everett	MA	02149	Lead	Lead
122 Garland St	Everett	MA	02149	Copper	Lead
141 Woodlawn St	Everett	MA	02149	Copper	Lead
80 Clarence St	Everett	MA	02149	Iron	Lead
106 Dartmouth St	Everett	MA	02149	Copper	Lead
143 Jefferson Ave	Everett	MA	02149	Copper	Lead
147 Springvale Ave	Everett	MA	02149	Copper	Lead
173 Springvale Ave	Everett	MA	02149	Lead	Lead
174 Springvale Ave	Everett	MA	02149	Iron	Lead
175 Springvale Ave	Everett	MA	02149	Copper	Lead
193 Springvale Ave	Everett	MA	02149	Copper	Lead
195 Springvale Ave	Everett	MA	02149	Copper	Lead
206 Springvale Ave	Everett	MA	02149	Copper	Lead
213 Springvale Ave	Everett	MA	02149	Copper	Lead
218 Springvale Ave	Everett	MA	02149	Copper	Lead
237 Springvale Ave	Everett	MA	02149	Copper	Lead
248 Springvale Ave	Everett	MA	02149	Copper	Lead
7 Haskell Ave	Everett	MA	02149	Copper	Lead
15 Haskell Ave	Everett	MA	02149	Copper	Lead
18 Haskell Ave	Everett	MA	02149	Copper	Lead
57 Madison Ave	Everett	MA	02149	Copper	Lead
71 Madison Ave	Everett	MA	02149	Copper	Lead
82 Madison Ave	Everett	MA	02149	Lead	Lead
85 Madison Ave	Everett	MA	02149	Copper	Lead
91-93 Madison Ave	Everett	MA	02149	Copper	Lead
100 Madison Ave	Everett	MA	02149	Lead	Lead
12 Adams Ave	Everett	MA	02149	Copper	Lead
59 Adams Ave	Everett	MA	02149	Copper	Lead
75 Adams Ave	Everett	MA	02149	Copper	Lead
17 Calhoun Ave	Everett	MA	02149	Copper	Lead
35 Calhoun Ave	Everett	MA	02149	Copper	Lead
7 Jackson Ave	Everett	MA	02149	Copper	Lead
23 Jackson Ave	Everett	MA	02149	Copper	Lead
44 Jackson Ave	Everett	MA	02149	Copper	Lead
45 Jackson Ave	Everett	MA	02149	Copper	Lead
49 Jackson Ave	Everett	MA	02149	Copper	Lead
27 Freeman Ave	Everett	MA	02149	Copper	Lead
55 Freeman Ave	Everett	MA	02149	Copper	Lead
7 Woodlawn St	Everett	MA	02149	Lead	Copper
53 Fremont Ave	Everett	MA	02149	Lead	Unknown
58 Fremont Ave	Everett	MA	02149	Lead	Unknown

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 4
Everett, Massachusetts

Address	City	State	Zipcode	Property-Side	City-Side
62 Fremont Ave	Everett	MA	02149	Lead	Unknown
134 Fremont Ave	Everett	MA	02149	Lead	Copper
138 Fremont Ave	Everett	MA	02149	Lead	Copper
41 Garland St	Everett	MA	02149	Lead	Iron
45 Garland St	Everett	MA	02149	Lead	Copper
134 Garland St	Everett	MA	02149	Lead	Copper
142 Garland St	Everett	MA	02149	Lead	Copper
19 Harvard St	Everett	MA	02149	Lead	Copper
66 Harvard St	Everett	MA	02149	Lead	Copper
104 Harvard St	Everett	MA	02149	Lead	Copper
114 Harvard St	Everett	MA	02149	Lead	Copper
36 Lawrence St	Everett	MA	02149	Lead	Iron
5 Maplewood Ave	Everett	MA	02149	Lead	Unknown
46 Jefferson Ave	Everett	MA	02149	Lead	Copper
77 Jefferson Ave	Everett	MA	02149	Lead	Copper
147 Jefferson Ave	Everett	MA	02149	Lead	Copper
152 Jefferson Ave	Everett	MA	02149	Lead	Unknown
156 Jefferson Ave	Everett	MA	02149	Lead	Unknown
156 Springvale Ave	Everett	MA	02149	Lead	Steel
77 Madison Ave	Everett	MA	02149	Lead	Unknown
29 Harding Ave	Everett	MA	02149	Lead	Unknown
23 Adams Ave	Everett	MA	02149	Lead	Unknown
33 Adams Ave	Everett	MA	02149	Lead	Unknown
34 Adams Ave	Everett	MA	02149	Lead	Unknown
48 Adams Ave	Everett	MA	02149	Lead	Copper
49 Adams Ave	Everett	MA	02149	Lead	Copper
52 Adams Ave	Everett	MA	02149	Lead	Copper
15 Calhoun Ave	Everett	MA	02149	Lead	Unknown
20 Calhoun Ave	Everett	MA	02149	Lead	Copper
21 Calhoun Ave	Everett	MA	02149	Lead	Unknown
22 Calhoun Ave	Everett	MA	02149	Lead	Unknown
38 Calhoun Ave	Everett	MA	02149	Lead	Copper
40 Calhoun Ave	Everett	MA	02149	Lead	Copper
46 Calhoun Ave	Everett	MA	02149	Lead	Unknown
21 Jackson Ave	Everett	MA	02149	Lead	Copper
31 Jackson Ave	Everett	MA	02149	Lead	Copper
23 Woodlawn St	Everett	MA	02149	Lead	Unknown
202 Elm St	Everett	MA	02149	Lead	Copper
16 Woodlawn St	Everett	MA	02149	Copper	Unknown
3 Garland Way	Everett	MA	02149	Copper	Unknown
81 Mt. Washington St	Everett	MA	02149	Copper	Unknown
6 Fremont Ave	Everett	MA	02149	Iron	Unknown
19 Fremont Ave	Everett	MA	02149	Copper	Unknown
48 Fremont Ave	Everett	MA	02149	Copper	Unknown
69 Fremont Ave	Everett	MA	02149	Iron	Unknown
75 Fremont Ave	Everett	MA	02149	Copper	Unknown
18 Garland St	Everett	MA	02149	Iron	Unknown
32 Garland St	Everett	MA	02149	Copper	Unknown
34 Garland St	Everett	MA	02149	Copper	Unknown
40 Garland St	Everett	MA	02149	Copper	Unknown
46 Garland St	Everett	MA	02149	Iron	Unknown
58 Garland St	Everett	MA	02149	Iron	Unknown

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 4
Everett, Massachusetts

Address	City	State	Zipcode	Property-Side	City-Side
60 Garland St	Everett	MA	02149	Copper	Unknown
66 Garland St	Everett	MA	02149	Copper	Unknown
100 Garland St	Everett	MA	02149	Copper	Unknown
140 Harvard St	Everett	MA	02149	Copper	Unknown
40 Lawrence St	Everett	MA	02149	Copper	Unknown
57 Lawrence St	Everett	MA	02149	Copper	Unknown
3 Lincoln St	Everett	MA	02149	Copper	Unknown
9 Richdale Ave	Everett	MA	02149	Copper	Unknown
12 Richdale Ave	Everett	MA	02149	Iron	Unknown
29 Richdale Ave	Everett	MA	02149	Copper	Unknown
10 Maplewood Ave	Everett	MA	02149	Copper	Unknown
22 Maplewood Ave	Everett	MA	02149	Copper	Unknown
18 Maplewood Ave	Everett	MA	02149	Iron	Unknown
19 Maplewood Ave	Everett	MA	02149	Iron	Unknown
25 Maplewood Ave	Everett	MA	02149	Iron	Unknown
35 Maplewood Ave	Everett	MA	02149	Copper	Unknown
79 Woodlawn St	Everett	MA	02149	Iron	Unknown
102 Woodlawn St	Everett	MA	02149	Copper	Unknown
23 Griswold St	Everett	MA	02149	Copper	Unknown
102 Dartmouth St	Everett	MA	02149	Copper	Unknown
158 Jefferson Ave	Everett	MA	02149	Copper	Unknown
159 Jefferson Ave	Everett	MA	02149	Copper	Unknown
163 Jefferson Ave	Everett	MA	02149	Copper	Unknown
165 Jefferson Ave	Everett	MA	02149	Copper	Unknown
167 Jefferson Ave	Everett	MA	02149	Copper	Unknown
166 Jefferson Ave	Everett	MA	02149	Copper	Unknown
168 Jefferson Ave	Everett	MA	02149	Copper	Unknown
171 Jefferson Ave	Everett	MA	02149	Copper	Unknown
157 Springvale Ave	Everett	MA	02149	Copper	Unknown
171 Springvale Ave	Everett	MA	02149	Copper	Unknown
179 Springvale Ave	Everett	MA	02149	Iron	Unknown
186 Springvale Ave	Everett	MA	02149	Copper	Unknown
189 Springvale Ave	Everett	MA	02149	Copper	Unknown
194 Springvale Ave	Everett	MA	02149	Copper	Unknown
198 Springvale Ave	Everett	MA	02149	Copper	Unknown
201 Springvale Ave	Everett	MA	02149	Ductile Iron	Unknown
205 Springvale Ave	Everett	MA	02149	Copper	Unknown
208 Springvale Ave	Everett	MA	02149	Copper	Unknown
214 Springvale Ave	Everett	MA	02149	Copper	Unknown
215 Springvale Ave	Everett	MA	02149	Copper	Unknown
216 Springvale Ave	Everett	MA	02149	Copper	Unknown
217 Springvale Ave	Everett	MA	02149	Copper	Unknown
220 Springvale Ave	Everett	MA	02149	Copper	Unknown
221 Springvale Ave	Everett	MA	02149	Copper	Unknown
224 Springvale Ave	Everett	MA	02149	Copper	Unknown
228 Springvale Ave	Everett	MA	02149	Copper	Unknown
236 Springvale Ave	Everett	MA	02149	Copper	Unknown
239 Springvale Ave	Everett	MA	02149	Copper	Unknown
243 Springvale Ave	Everett	MA	02149	Copper	Unknown
245 Springvale Ave	Everett	MA	02149	Copper	Unknown
244 Springvale Ave	Everett	MA	02149	Copper	Unknown
246 Springvale Ave	Everett	MA	02149	Copper	Unknown

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 4
Everett, Massachusetts

Address	City	State	Zipcode	Property-Side	City-Side
252 Springvale Ave	Everett	MA	02149	Copper	Unknown
250 Springvale Ave	Everett	MA	02149	Copper	Unknown
8 Woodside Ave	Everett	MA	02149	Copper	Unknown
11 Haskell Ave	Everett	MA	02149	Copper	Unknown
20 Haskell Ave	Everett	MA	02149	Copper	Unknown
24 Haskell Ave	Everett	MA	02149	Copper	Unknown
44-46 Madison Ave	Everett	MA	02149	Copper	Unknown
52 Madison Ave	Everett	MA	02149	Copper	Unknown
61 Madison Ave	Everett	MA	02149	Copper	Unknown
62-64 Madison Ave	Everett	MA	02149	Copper	Unknown
98 Madison Ave	Everett	MA	02149	Copper	Unknown
38 Woodlawn Ave	Everett	MA	02149	Copper	Unknown
39 Woodlawn Ave	Everett	MA	02149	Copper	Unknown
14 Harding Ave	Everett	MA	02149	Iron	Unknown
23 Harding Ave	Everett	MA	02149	Ductile Iron	Unknown
26 Harding Ave	Everett	MA	02149	Iron	Unknown
27 Harding Ave	Everett	MA	02149	Iron	Unknown
34 Harding Ave	Everett	MA	02149	Iron	Unknown
11 Adams Ave	Everett	MA	02149	Copper	Unknown
15 Adams Ave	Everett	MA	02149	Copper	Unknown
19 Adams Ave	Everett	MA	02149	Copper	Unknown
20 Adams Ave	Everett	MA	02149	Copper	Unknown
22 Adams Ave	Everett	MA	02149	Copper	Unknown
25 Adams Ave	Everett	MA	02149	Copper	Unknown
29 Adams Ave	Everett	MA	02149	Copper	Unknown
30 Adams Ave	Everett	MA	02149	Copper	Unknown
38 Adams Ave	Everett	MA	02149	Copper	Unknown
39 Adams Ave	Everett	MA	02149	Copper	Unknown
42 Adams Ave	Everett	MA	02149	Copper	Unknown
51 Adams Ave	Everett	MA	02149	Copper	Unknown
54 Adams Ave	Everett	MA	02149	Copper	Unknown
62 Adams Ave	Everett	MA	02149	Copper	Unknown
63 Adams Ave	Everett	MA	02149	Copper	Unknown
65 Adams Ave	Everett	MA	02149	Copper	Unknown
69 Adams Ave	Everett	MA	02149	Copper	Unknown
73 Adams Ave	Everett	MA	02149	Copper	Unknown
9 Calhoun Ave	Everett	MA	02149	Copper	Unknown
25 Calhoun Ave	Everett	MA	02149	Copper	Unknown
28 Calhoun Ave	Everett	MA	02149	Copper	Unknown
31 Calhoun Ave	Everett	MA	02149	Copper	Unknown
4 Clay Ave	Everett	MA	02149	Copper	Unknown
10 Clay Ave	Everett	MA	02149	Copper	Unknown
16 Clay Ave	Everett	MA	02149	Iron	Unknown
24 Clay Ave	Everett	MA	02149	Copper	Unknown
22 Clay Ave	Everett	MA	02149	Copper	Unknown
18 Clay Ave	Everett	MA	02149	Copper	Unknown
51 Jackson Ave	Everett	MA	02149	Copper	Unknown
70 Freeman Ave	Everett	MA	02149	Copper	Unknown
79 Freeman Ave	Everett	MA	02149	Copper	Unknown
13D Woodlawn St	Everett	MA	02149	Copper	Unknown
25 Fremont Ave	Everett	MA	02149	Unknown	Unknown
74 Garland St	Everett	MA	02149	Unknown	Unknown

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 4
Everett, Massachusetts

Address	City	State	Zipcode	Property-Side	City-Side
103A Garland St - Curb in sidewalk	Everett	MA	02149	Unknown	Unknown
103A Garland St - Curb in street	Everett	MA	02149	Unknown	Unknown
88 Freemont St	Everett	MA	02149	Unknown	Unknown
16 Woodside Ave	Everett	MA	02149	Unknown	Unknown

APPENDIX E
PHOTOGRAPHS

Ashton Street



22 Ashton St



33 Ashton St



38 Ashton St



43 Ashton St



49/49R Ashton St



56 Ashton St



59 Ashton St



60 Ashton St



63 Ashton St



66 Ashton St



70 Ashton St

Moreland Place



2 Moreland Pl

Clifton Avenue





32 Clifton Ave



33 Clifton Ave



36 Clifton Ave

Glendale Avenue





28 glendale ave

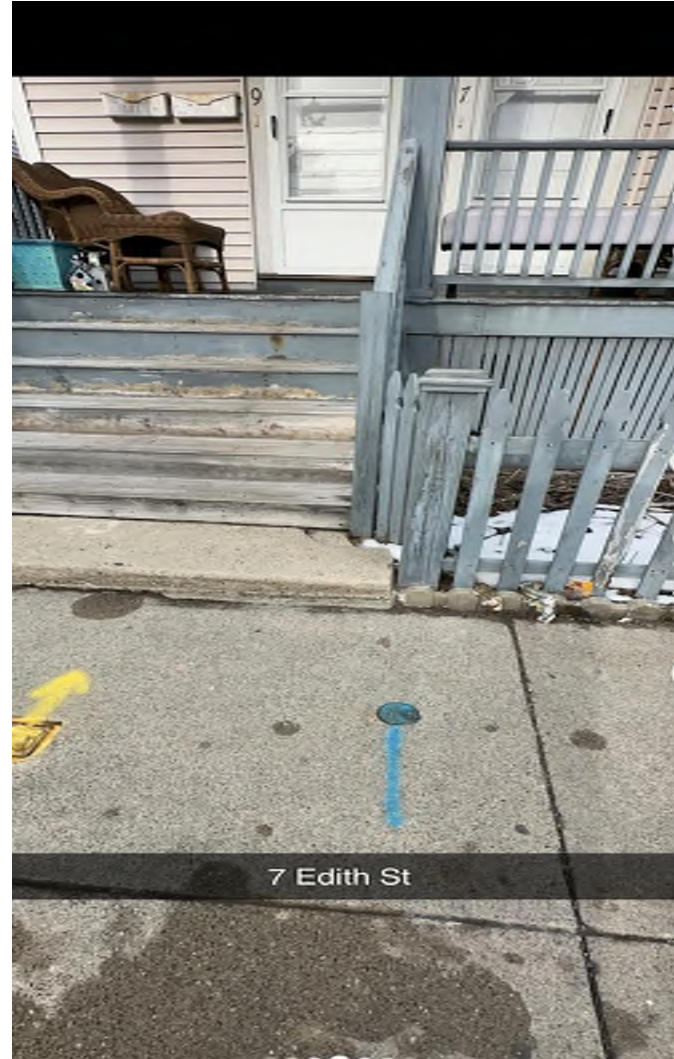


32/34 Glendale Ave

Edith Street



4 Edith St



7 Edith St



8 Edith St



9 Edith St



11 Edith St



12 Edith St



13 Edith St



16 Edith St



21 Edith St



26 Edith St



39 Edith St



43 Edith St



51 Edith St



55 Edith St



59 Edith St



Image capture: Sep 2019 © 2026 Google

75 Edith St



79 Edith St



98 Edith St

Shute Street



7 Shute St



26 Shute St



27 Shute St



28 Shute St



32 Shute St



33 Shute St



38 Shute St



40 Shute St



46 Shute St





71 Shute St



74 Shute St



80 Shute St



89 Shute St



94 Shute St



98 shute st



120 Shute St



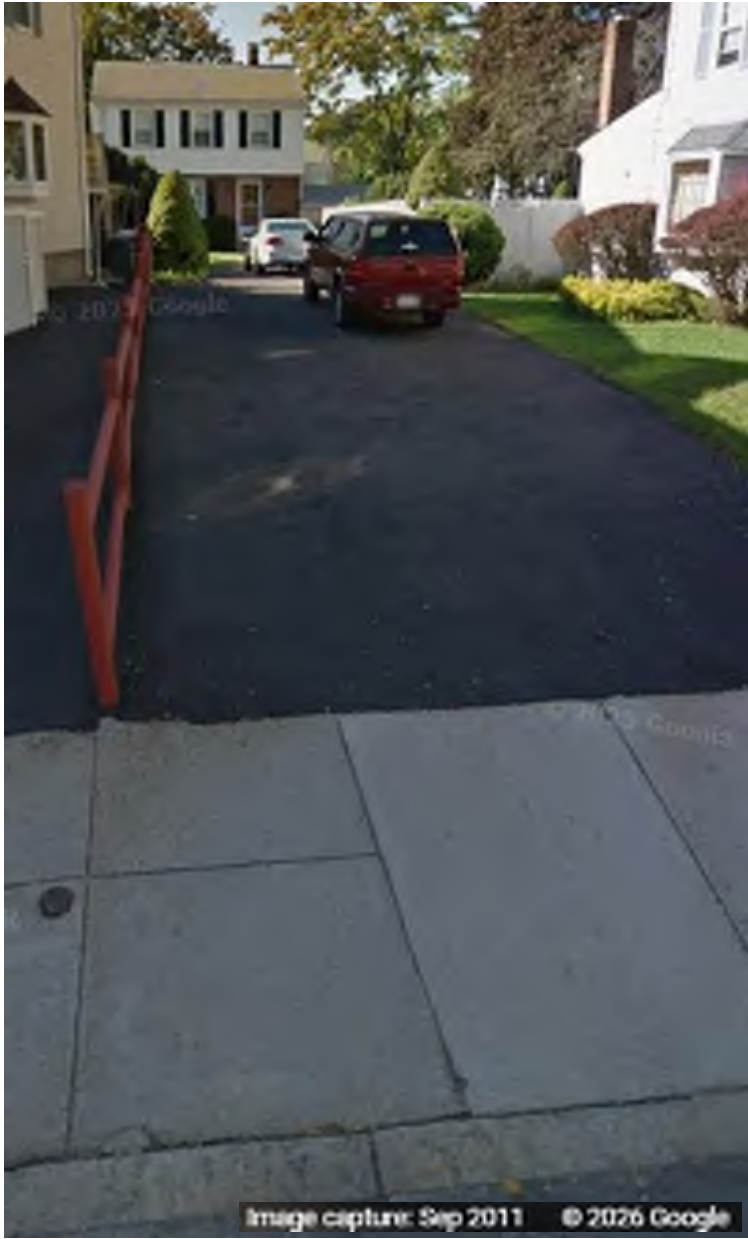
124 Shute St



136 Shute St



137 Shute St



148 Shute St



150 Shute St



154 Shute St



157 Shute St



158 Shute St



166 Shute St



173 Shute St





180 shute st



184 Shute St



190 Shute St



194 Shute St



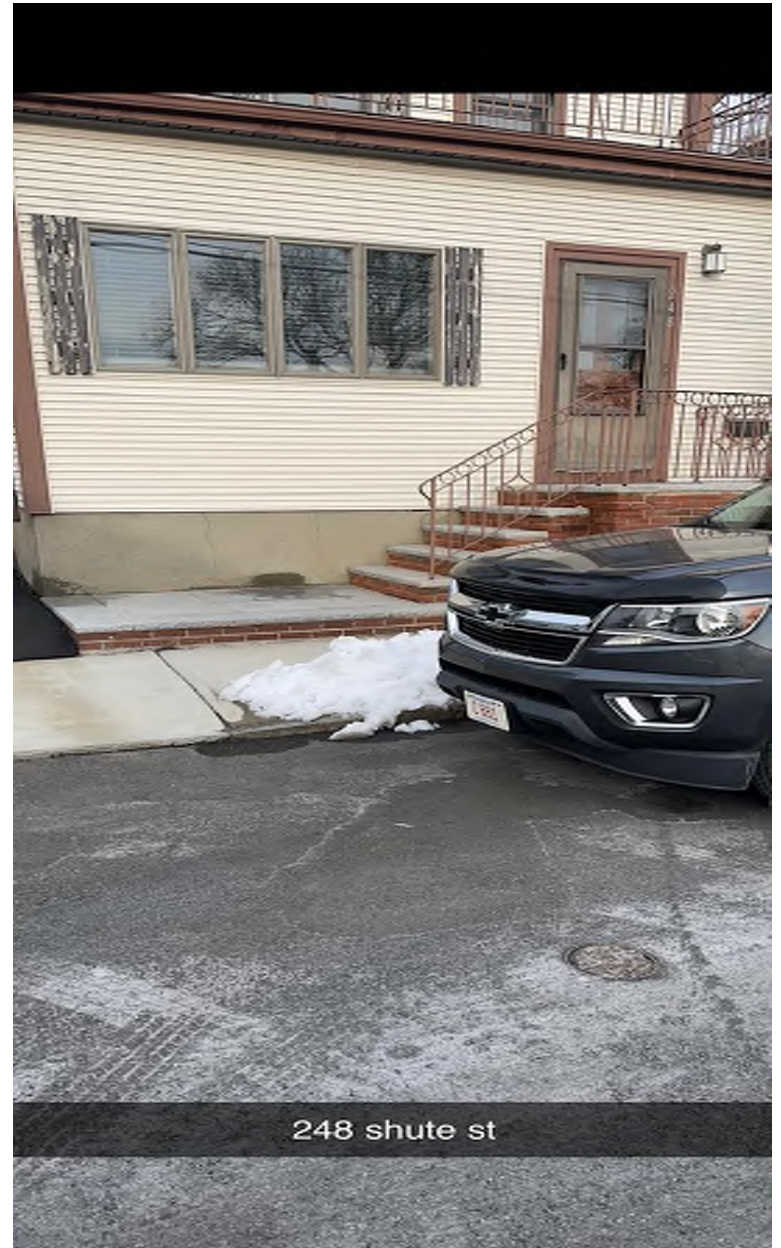
209 Shute St



226 Shute St



246 Shute St









274 Shute St

Wilbur Street



1A wilbur ave



Image capture: Jan 2022 © 2026 Google

7 Wilbur St



37 Wilbur St



38 Wilbur Street



65 wilbur ave



67 wilbur ave









108 Wilbur St



109 Wilbur St

Bettinson Avenue







58 Bettinson Ave

Amos Terrace



3 Amos Ter

Lewis Street



34-36 Lewis St

Liberty Street



27 Liberty Street

Parlin Street



36 Parlin Street

Hancock Street



59 Hancock St

Wellington Avenue



Google

Image capture: Sep 2022 © 2024 Google

71 Wellington Ave

Bell Rock Street



140 Bell Rock Street

Waters Avenue



38 Waters Avenue

Adams Avenue



35 Adams Avenue

Dean Street



1 Dean St

Mead Street



6 Mead St

Nichols Street



47 Nichols St

Summer Street



44 Summer St



10 Fremont Ave



100 Madison Ave



104 Havard



106 Dartmouth St



114 Harvard st



12 Adams Ave



122 Garland St



134 Fremont Ave



134 Garland St



138 Fremont Ave



14 Fremont Ave



14 Garland Street



141 Woodlawn Street



142 Garland Street



143 Jefferson Ave



147 Jefferson Ave



147 Springvale Ave



15 Calhoun Ave



15 Haskell Ave



152 Jefferson Ave



156 Jefferson Ave



156 Springvale Ave



17 Calhoun Ave



17 Woodlawn Street



173 Springvale Ave



174 Springvale Ave



175 Springvale Ave



18 Haskell Ave



19 Harvard Street



193 Springvale Ave



195 Springvale Ave



20 Calhoun Ave



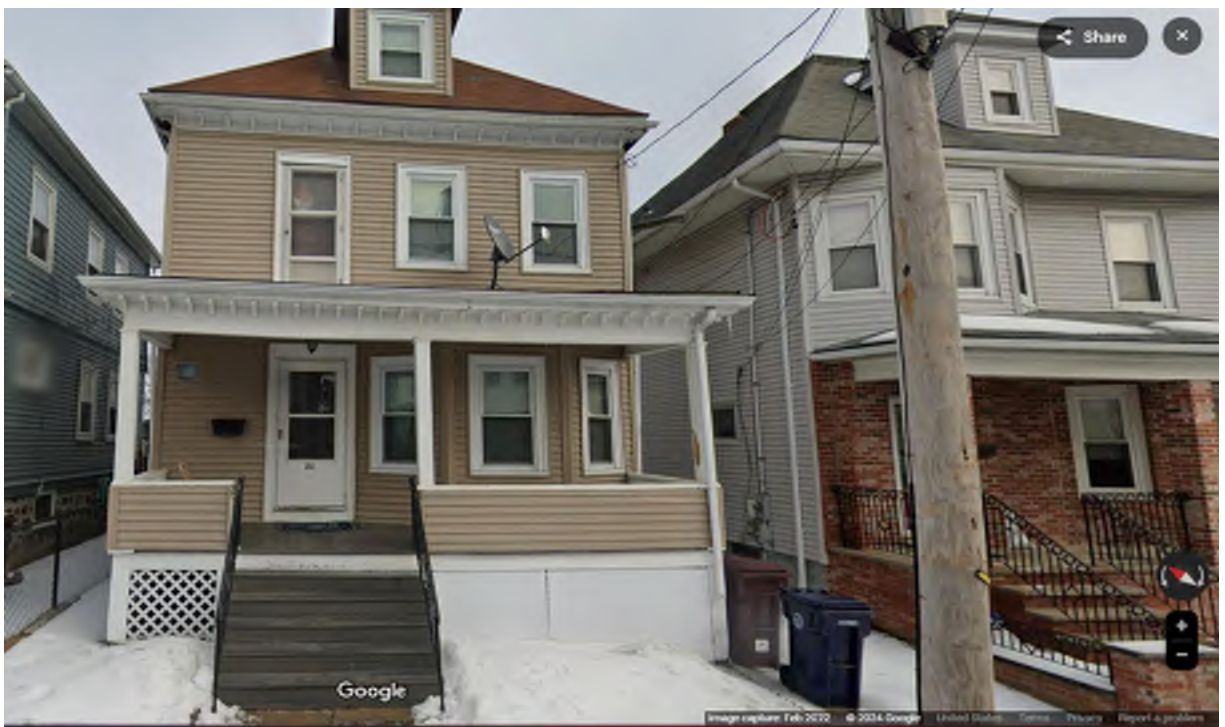
202 Elm Street



206 Springvale Ave



21 Calhoun Ave



21 Jackson Ave



213 Springvale Ave



218 Springvale Ave



22 Calhoun Ave



23 Adams Ave



23 Jackson Ave



23 Woodlawn Street



237 Springvale Ave



248 Springvale Ave



26 Fremont Ave



27 Freeman Ave



29 Harding Street



30 Fremont Ave



31 Jackson Ave



33 Adams Ave



34 Adams Ave



35 Calhoun Ave



36 Lawrence Street



38 Calhoun Ave



40 Calhoun Ave



41 Garland Street



42 Fremont Ave



44 Jackson Ave



45 Adams Ave



45 Garland Street



45 Jackson Ave



46 Calhoun Ave



46 Jefferson Ave



48 Adams Ave



49 Adams Ave



49 Fremont Ave



49 Jackson Ave



5 Maplewood Ave



52 Adams Ave



53 Fremont Ave



55 Freeman Ave



55 Fremont Ave



57 Madison Ave



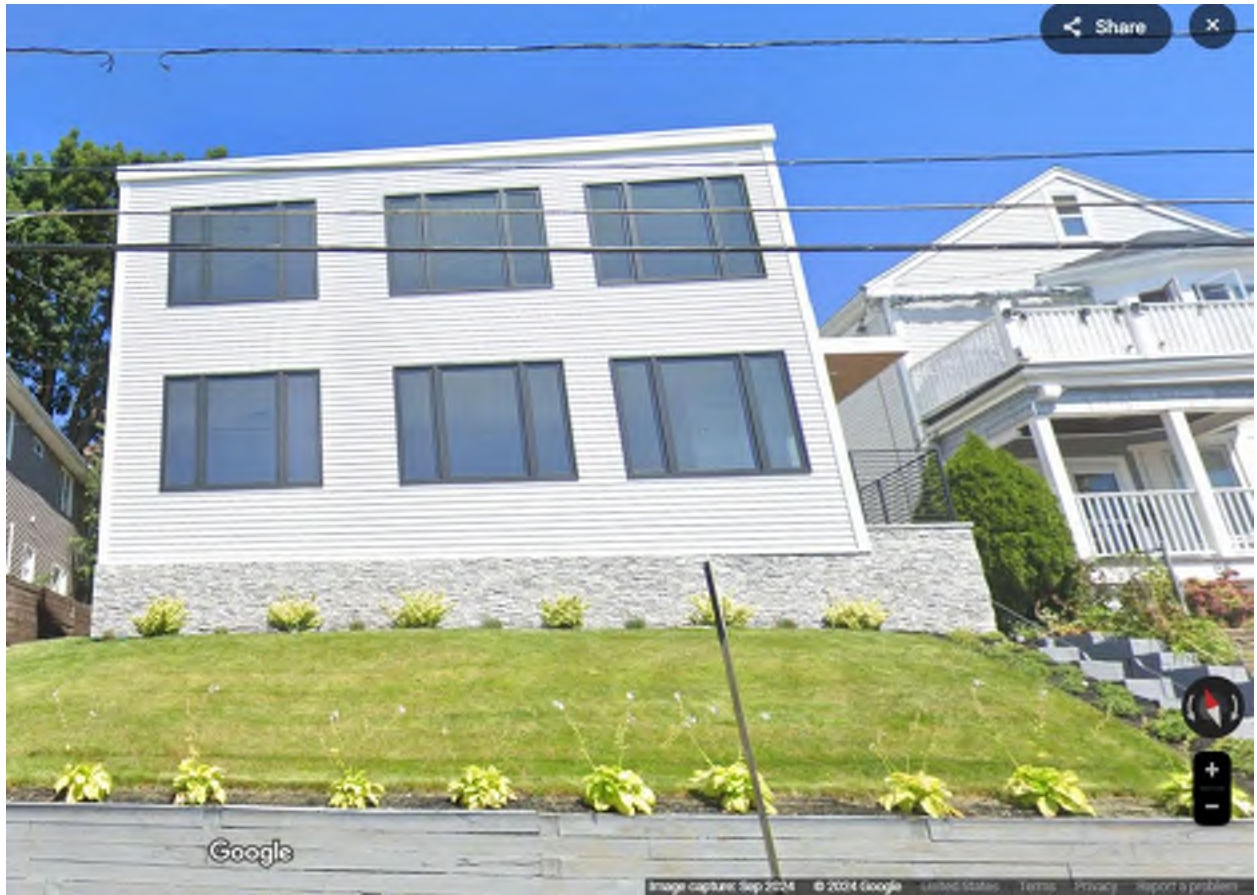
58 Fremont Ave



59 Adams Ave



62 Fremont Ave



66 Harvard Street



7 Haskell Ave



7 Jackson Ave



7 Woodlawn Street



71 Madison Ave



73 Garland Street



75 Adams Ave



77 Jefferson Ave



77 Madison Ave



78 Woodlawn Ave



80 Clarence Street



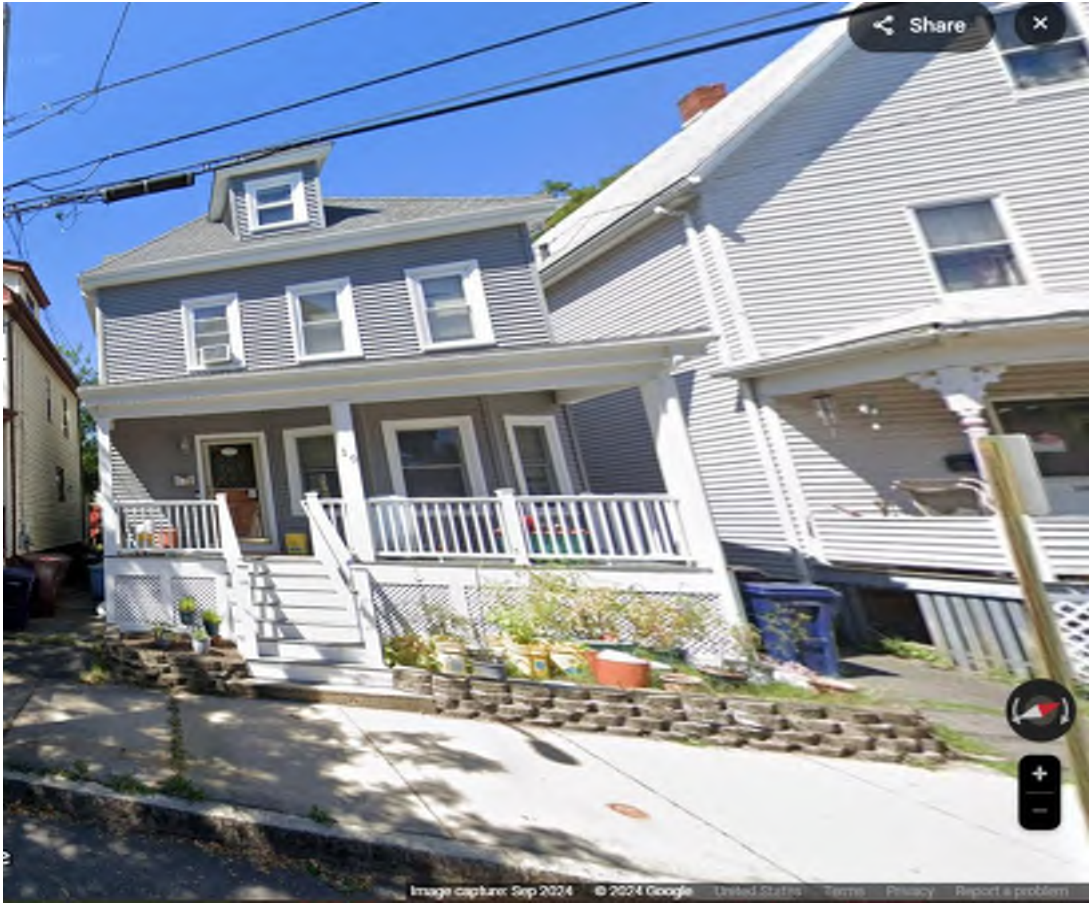
82 Madison Ave



85 Madison Ave



91-93 Madison Ave



10 Clay Ave



10 Maplewood Ave



100 Garland St



102 Dartmouth St



102 Woodlawn Ave



103A Garland St



11 Adams Ave



11 Haskell Ave



12 Richdale Ave



14 Harding Ave



140 Harvard St



15 Adams Ave



157 Springvale Ave



158 Jefferson Ave



159 Jefferson Ave



16 Clay Ave



16 Woodlawn St



16 Woodside Ave



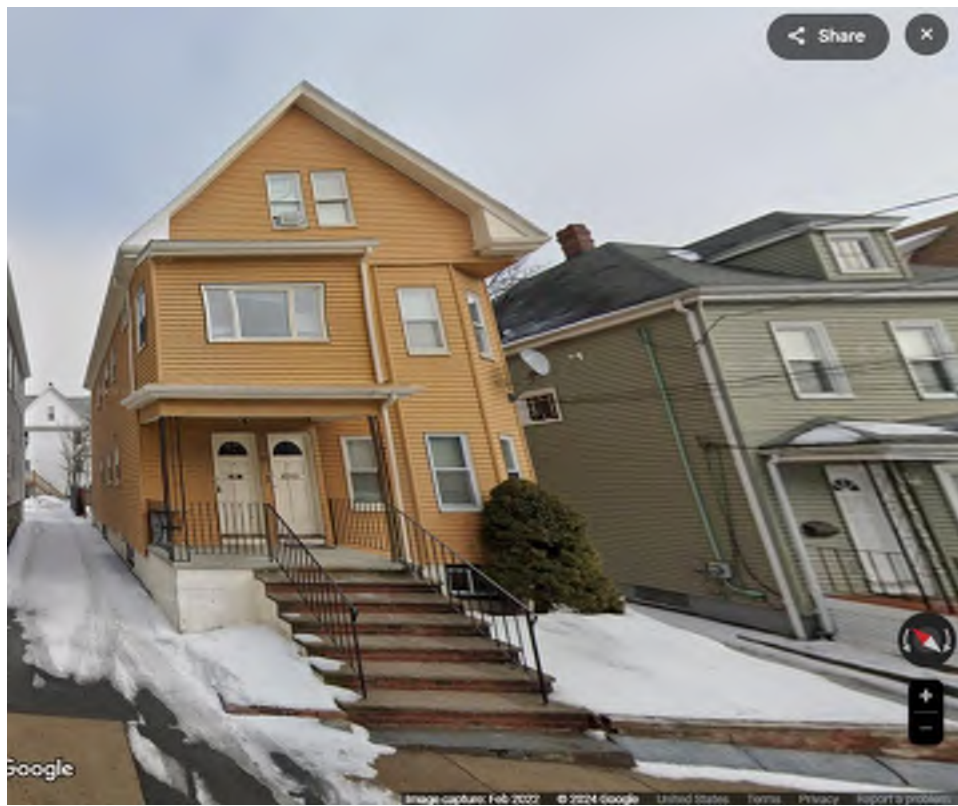
163 Jefferson Ave



165 Jefferson Ave



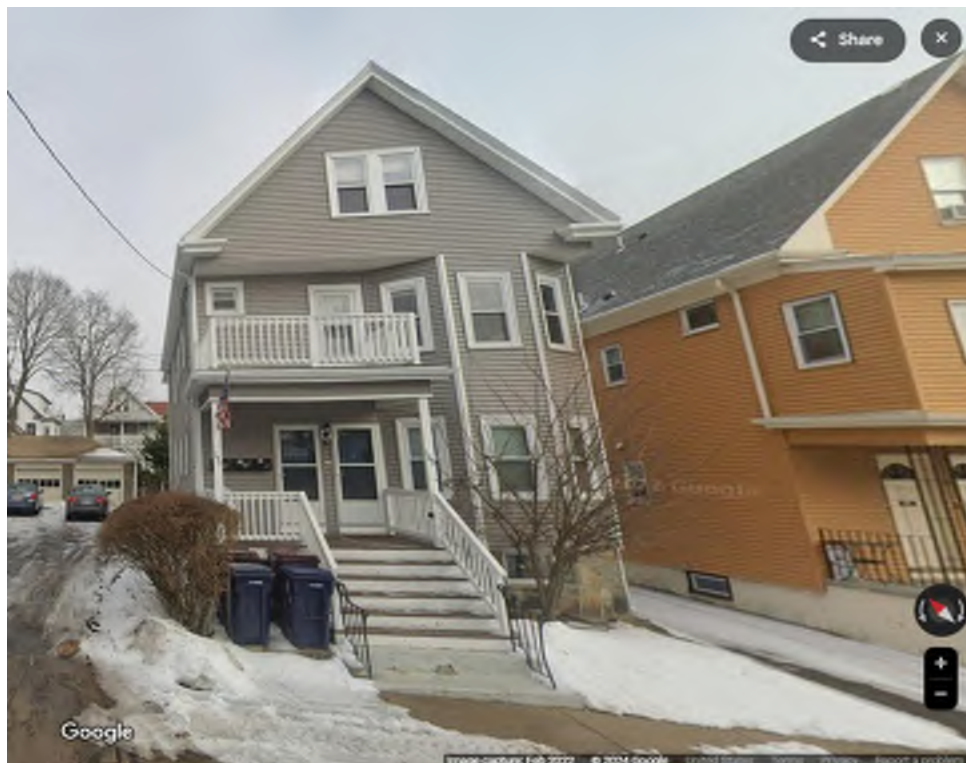
166 Jefferson Ave



167 Jefferson Ave



168 Jefferson Ave



171 Jefferson Ave



171 Springvale Ave



179 Springvale Ave



18 Clay Ave



18 Garland St



18 Maplewood Ave



18 Mt. Washington St



186 Springvale Ave



189 Springvale Ave



19 Adams Ave



19 Fremont Ave



19 Maplewood Ave



194 Springvale Ave



198 Springvale Ave



20 Adams Ave



20 Haskell Ave



201 Springvale Ave



205 Springvale Ave



208 Springvale Ave



214 Springvale Ave



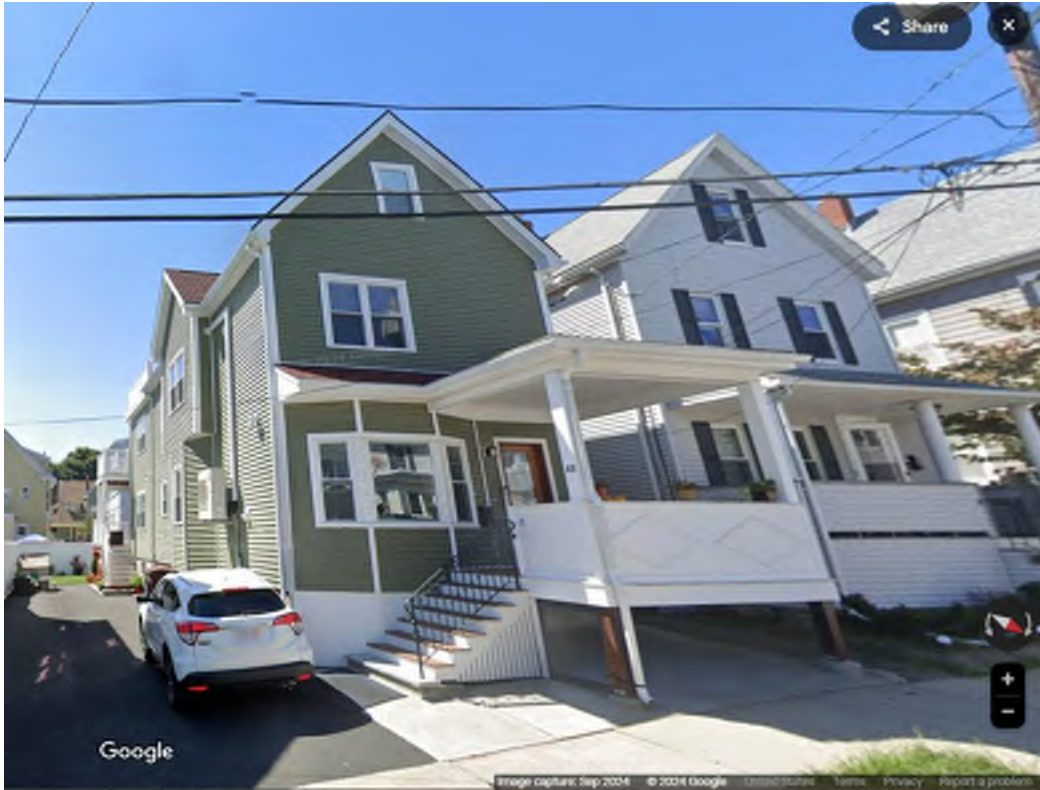
215 Springvale Ave



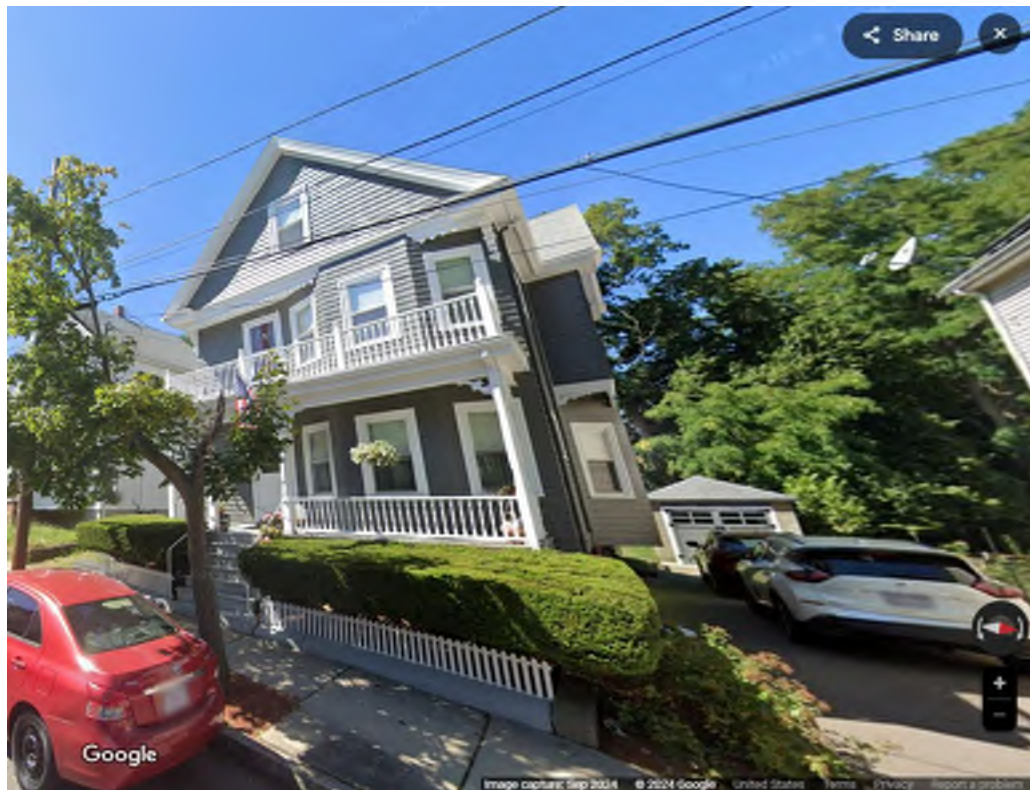
216 Springvale Ave



217 Springvale Ave



22 Adams Ave



22 Clay Ave



22 Maplewood Ave



220 Springvale Ave



221 Springvale Ave



224 Springvale Ave



228 Springvale Ave



23 Griswold St



23 Harding Ave



236 Springvale Ave



239 Springvale Ave



24 Clay Ave



24 Haskell Ave



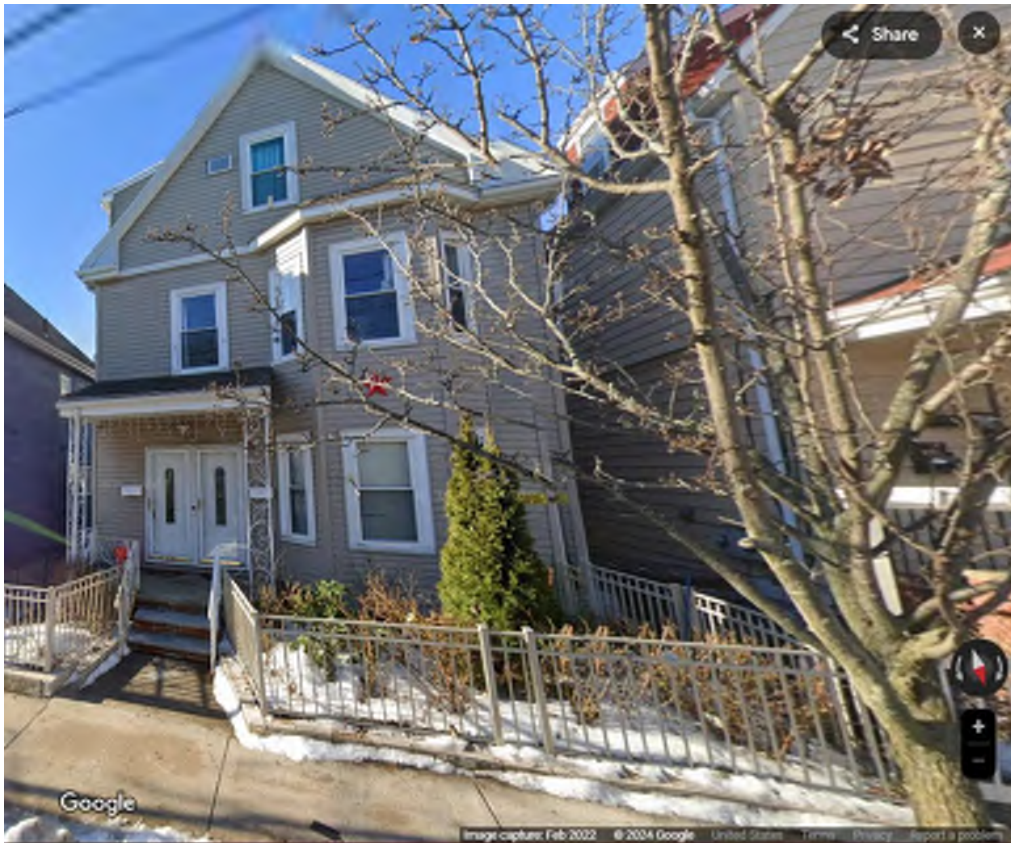
243 Springvale Ave



244 Springvale Ave



245 Springvale Ave



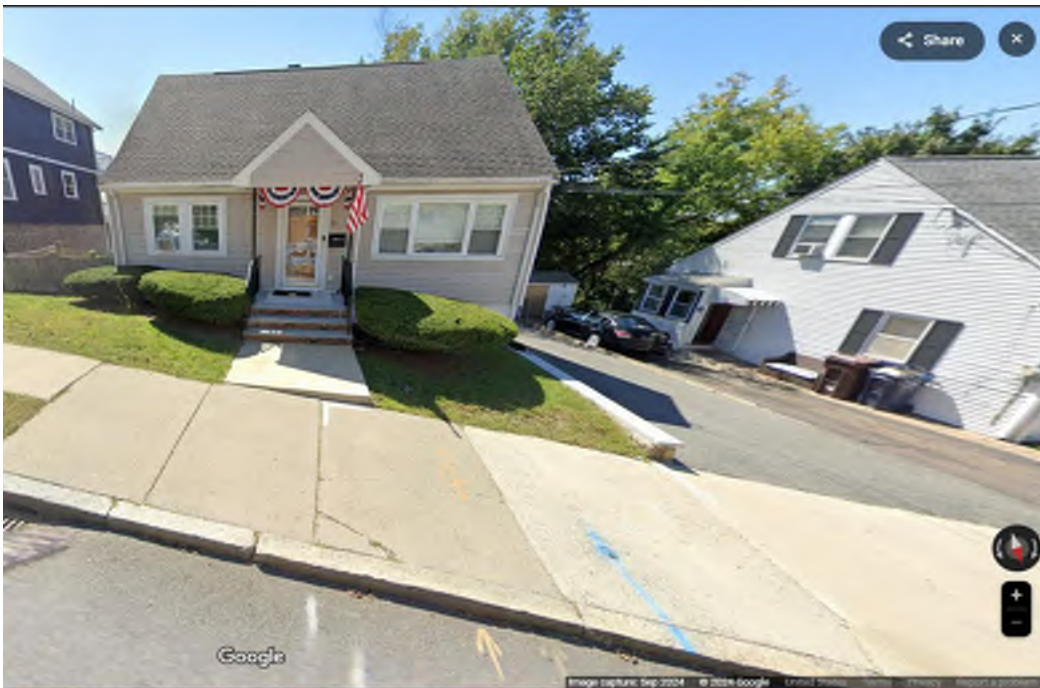
246 Springvale Ave



25 Adams Ave



25 Calhoun Ave



25 Fremont Ave



25 Maplewood Ave



250 Springvale Ave



252 Springvale Ave



26 Harding Ave



27 Harding Ave



28 Calhoun Ave



29 Adams Ave



29 Richdale Ave



3 Garland Way - home



3 Garland Way - Street



3 Lincoln St



30 Adams Ave



31 Calhoun Ave



32 Garland St



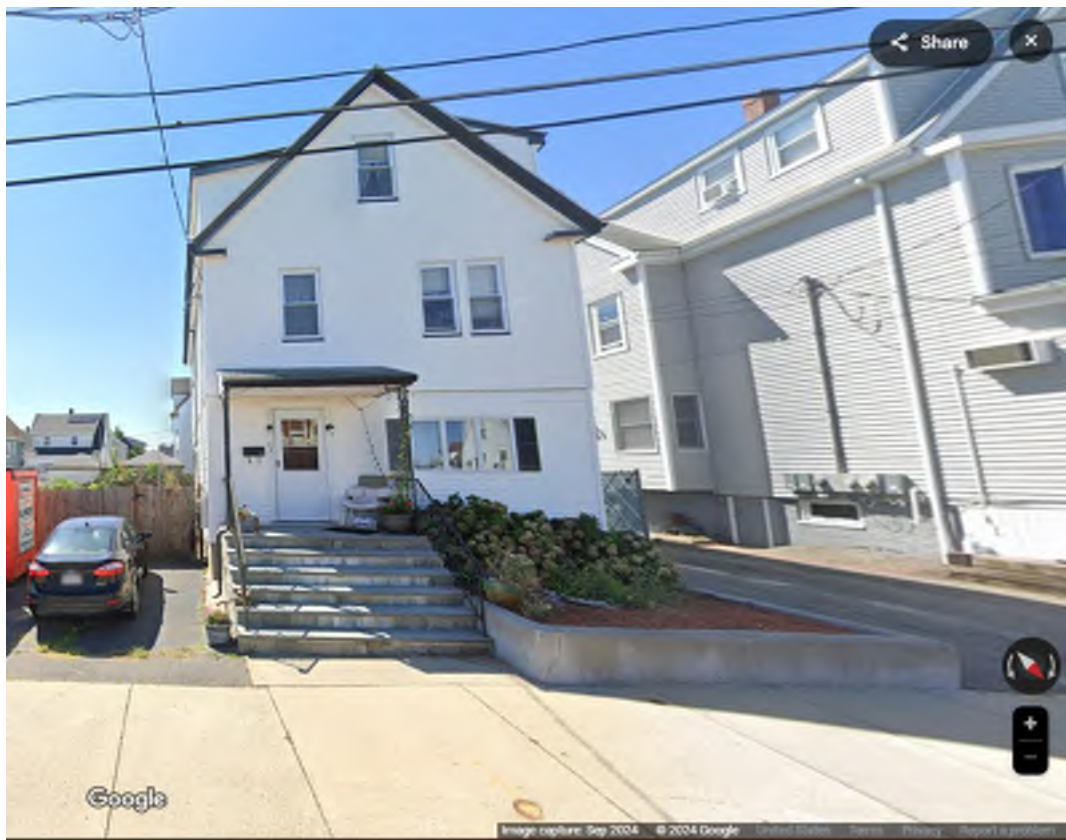
34 Garland St



34 Harding Ave



35 Maplewood Ave



38 Adams Ave



38 Woodlawn Ave



39 Adams Ave



4 Clay Ave



40 Garland St



40 Lawrence St



42 Adams Ave



44-46 Madison Ave



46 Garland St



48 Fremont Ave



51 Adams Ave



51 Jackson Ave



52 Madison Ave



54 Adams Ave



57 Lawrence St



58 Garland St



6 Fremont Ave



60 Garland St



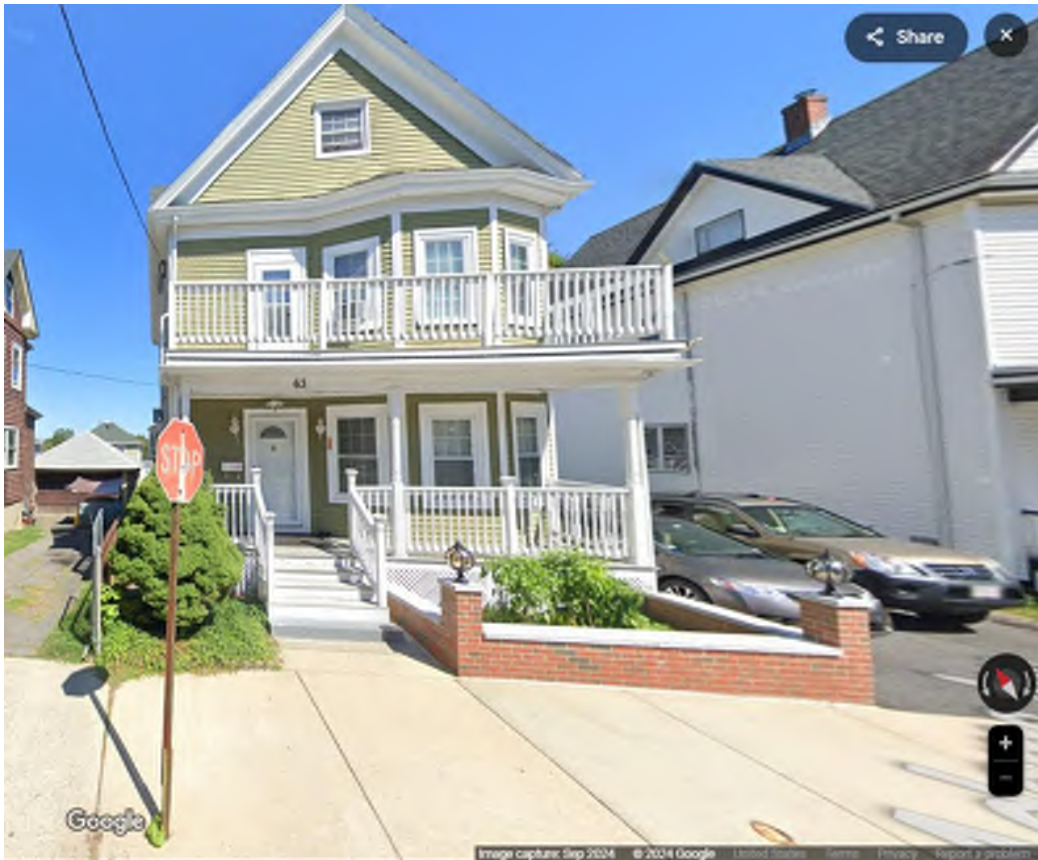
61 Madison Ave



62 Adams Ave



62-64 Madison Ave



63 Adams Ave



65 Adams Ave



66 Garland St



69 Adams Ave



69 Fremont Ave



70 Freeman Ave



73 Adams Ave



74 Garland St



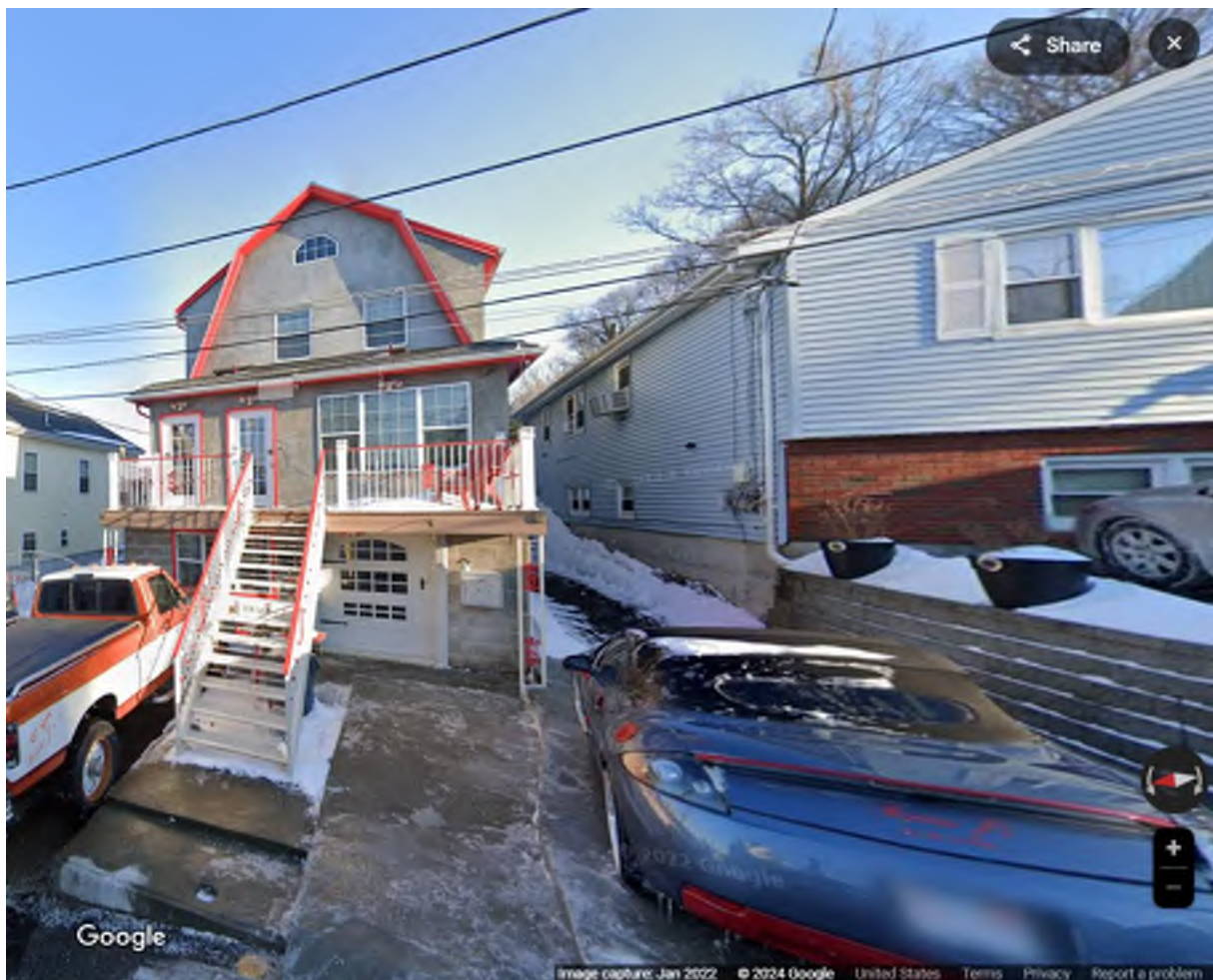
75 Fremont Ave



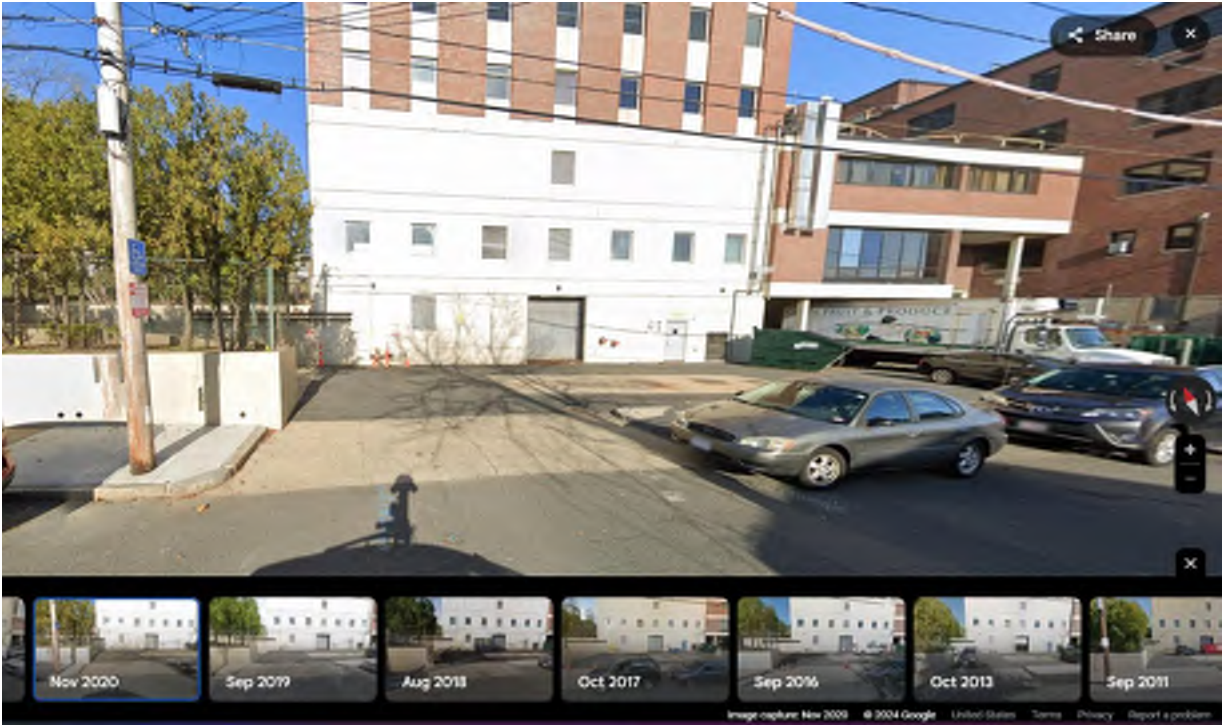
79 Freeman Ave



79 Woodlawn St



8 Woodside Ave



88 Fremont St



9 Calhoun Ave



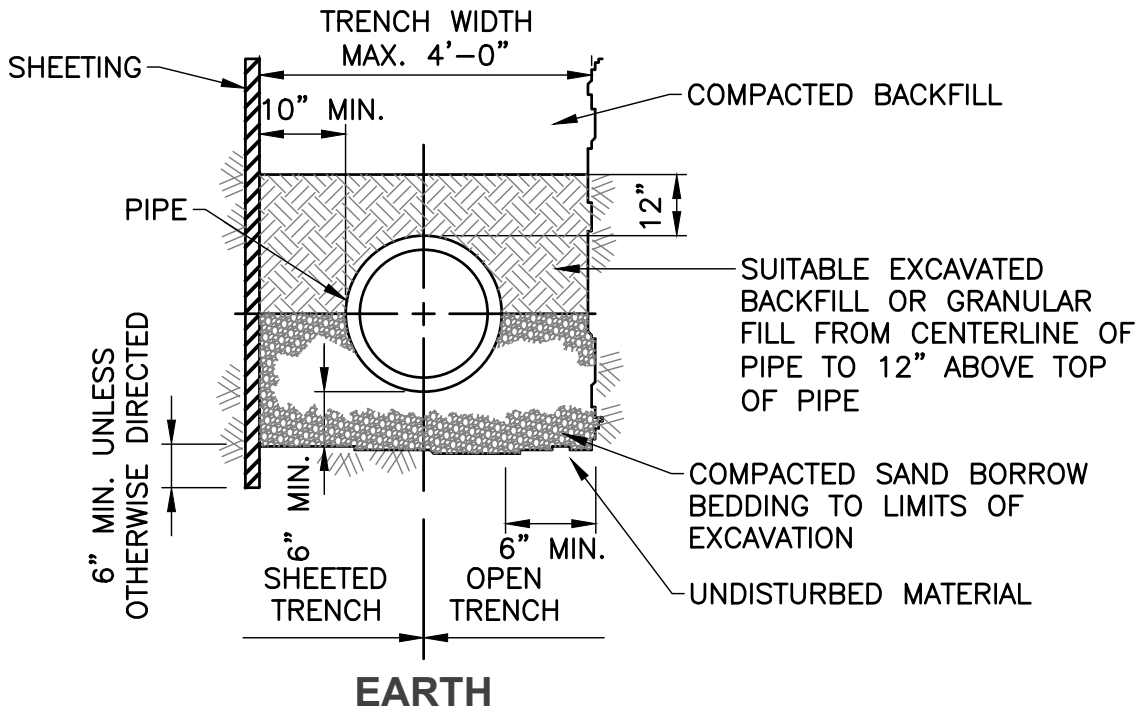
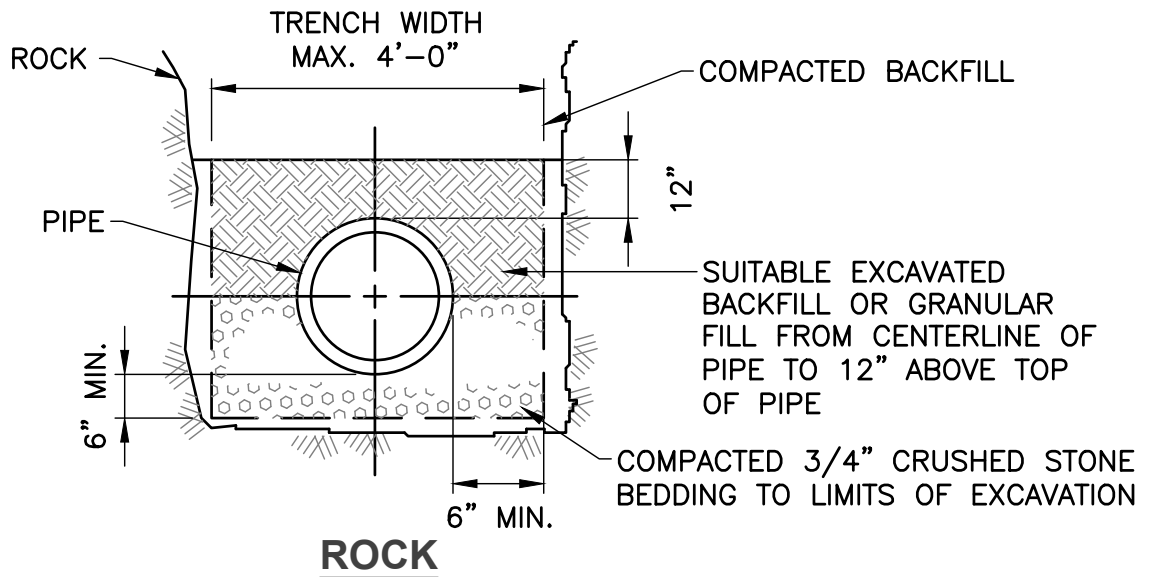
9 Richdale Ave



98 Madison Ave

APPENDIX F
CONSTRUCTION DETAILS

P:\Everett\7417 LSL Inventory Update\Phase 4 LSL Replacement\Plan\Specifications\Appendices\Appendix F (Construction Details)\CADD\7417_Construction_Details.dwg RPAXTON 2/27/2025 1:24 PM



NOTES:

1. CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF 5'-0" FROM THE TOP OF PIPE.

TYPICAL TRENCH SECTIONS

SCALE: NONE

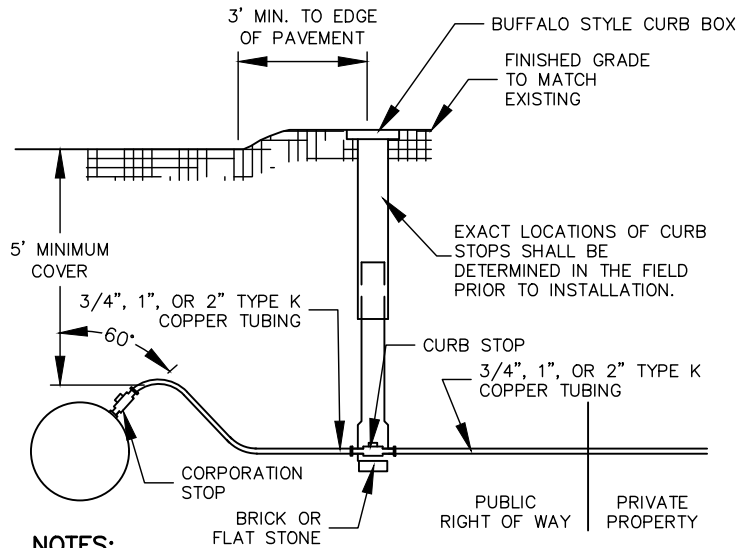


TYPICAL TRENCH DETAIL

LEAD SERVICES REPLACEMENT
PROJECT - PHASE 4
EVERETT, MASSACHUSETTS

Figure No.

1

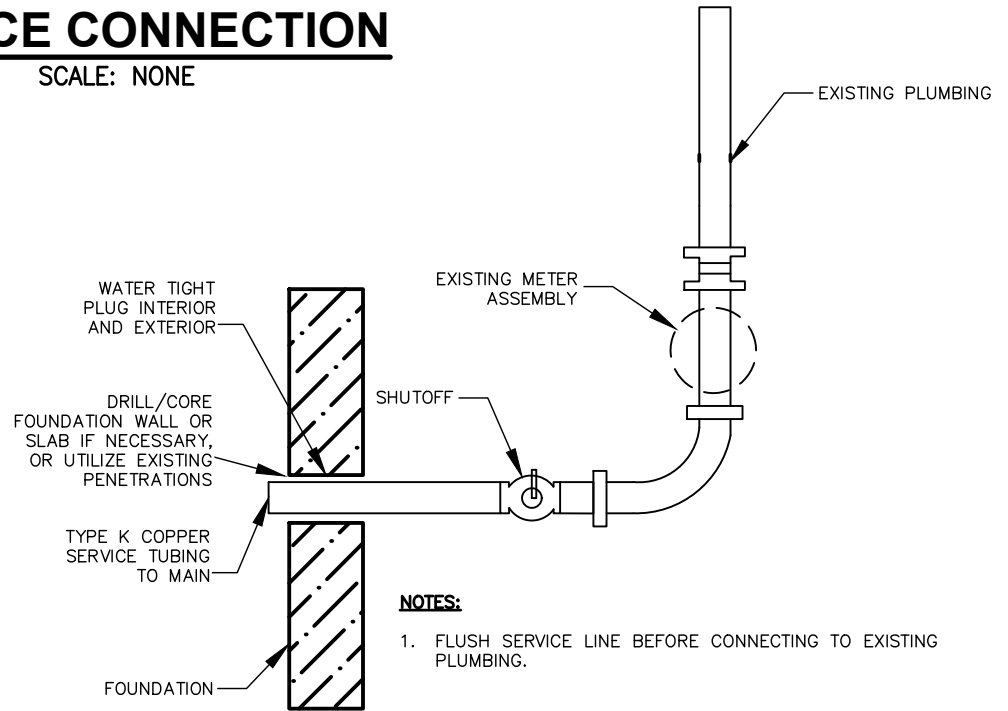


NOTES:

1. TRENCHLESS METHODS ARE PREFERRED, IF POSSIBLE.
2. SERVICES SHALL CONNECT TO EXISTING CORPORATION STOP, WHICH SHALL BE REAMED.
3. IF EXISTING CORPORATION STOP IS DAMAGED OR DETERMINED TO BE REPLACED, A REPAIR SADDLE MAY BE REQUIRED, SEE SPECIFICATION SECTION 02660.
4. A SERVICE SADDLE SHALL BE REQUIRED FOR NEW CORPORATION STOPS ON ALL PVC PIPING, ALL ASBESTOS CEMENT PIPING, AND CAST IRON PIPING LESS THAN 10-INCHES IN DIAMETER, OR AT THE DISCRETION OF THE CITY AND ENGINEER.

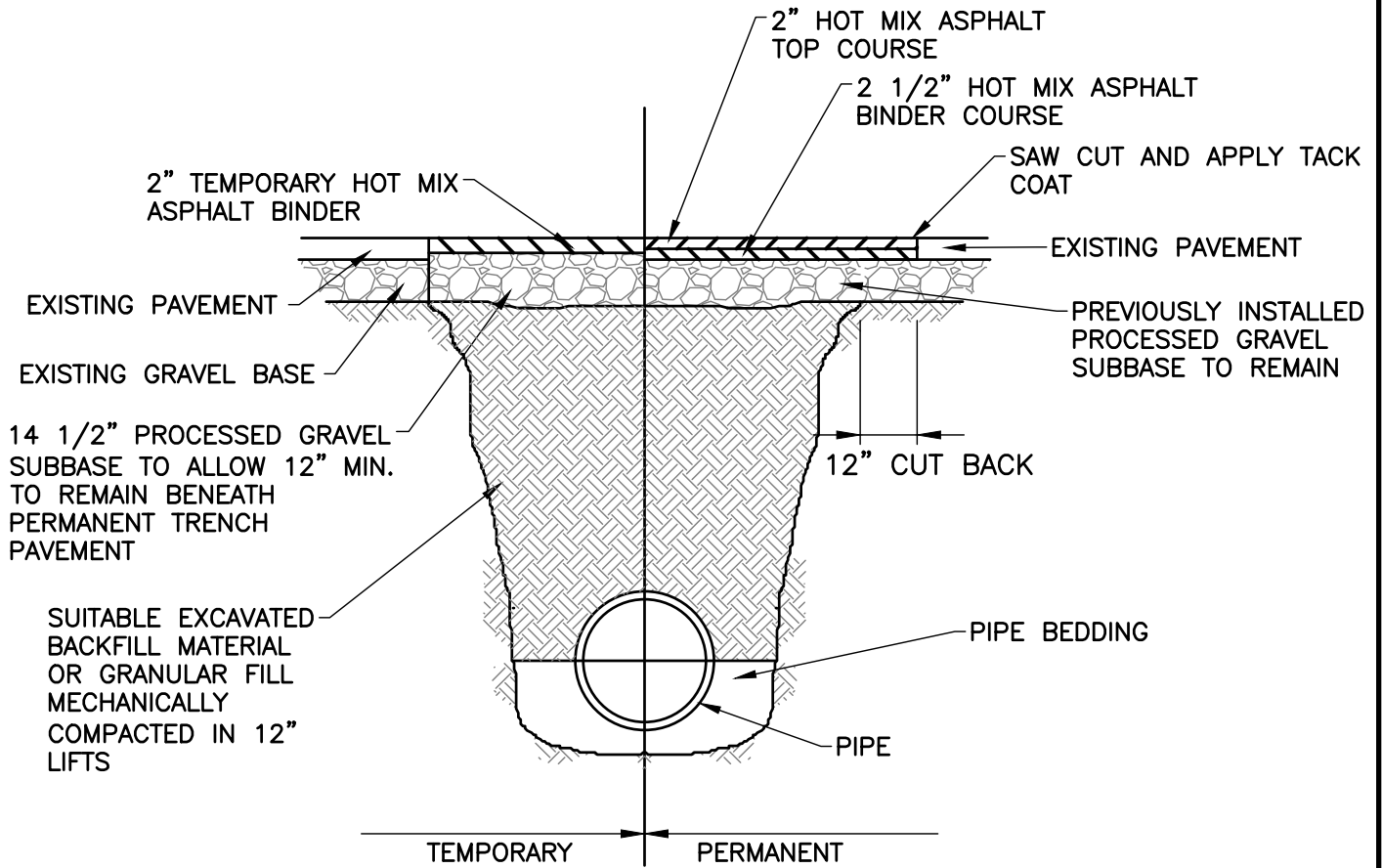
SERVICE CONNECTION

SCALE: NONE



WALL PENETRATION

SCALE: NONE



TRENCH PAVEMENT

SCALE: NONE



TATA & HOWARD

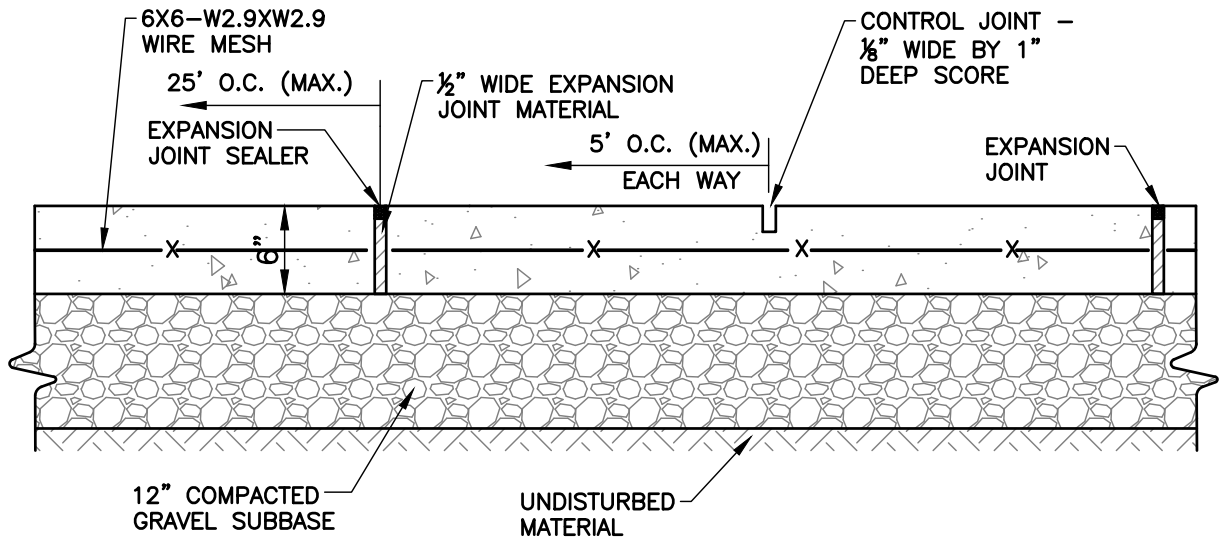
TYPICAL TRENCH PAVEMENT DETAIL

LEAD SERVICES REPLACEMENT
PROJECT - PHASE 4
EVERETT, MASSACHUSETTS

Figure No.

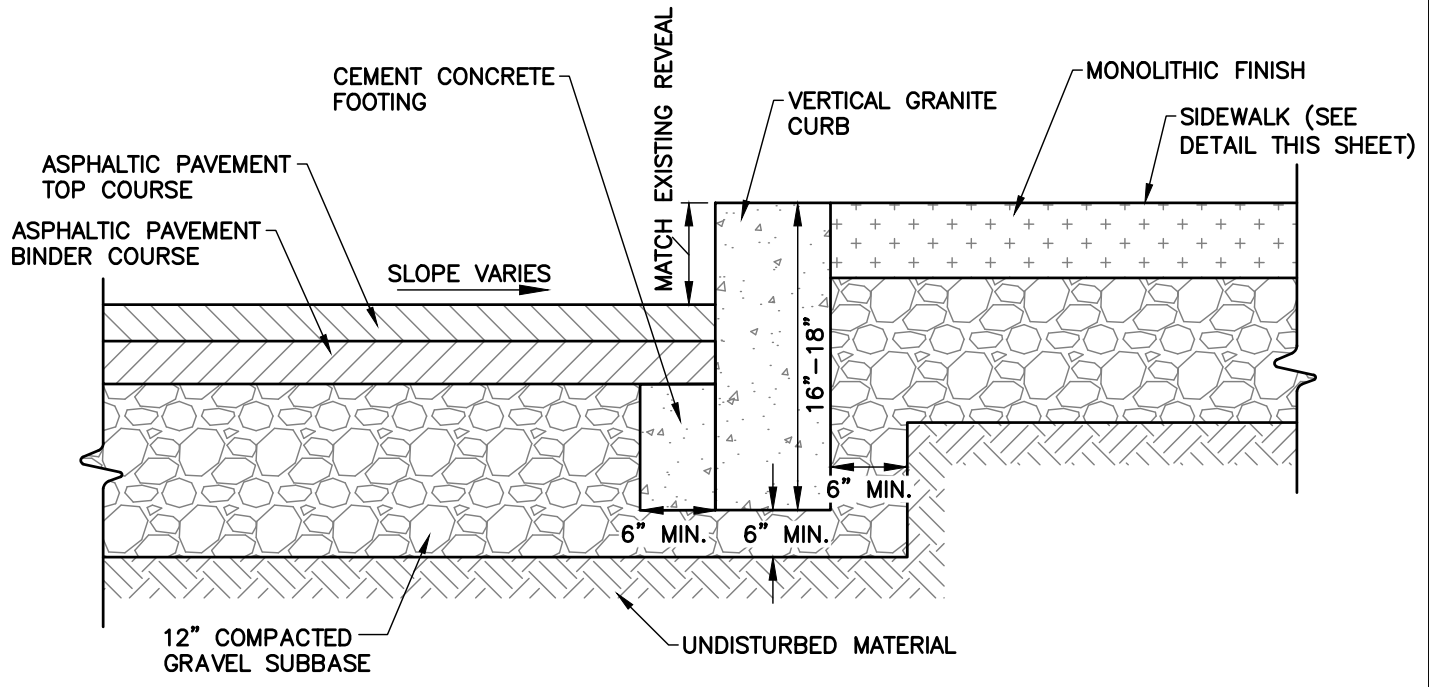
3

P:\Everett\7417 LSL Inventory Update\Phase 4 LSL Replacement\Plan\Specifications\Appendices\Appendix F (Construction Details)\CADD\7417_Construction_Details.dwg RPAXTON 2/27/2025 1:24 PM



CONCRETE WALKWAY

SCALE: NONE



VERTICAL CURB

SCALE: NONE



CONCRETE WALKWAY AND VERTICAL CURB DETAIL

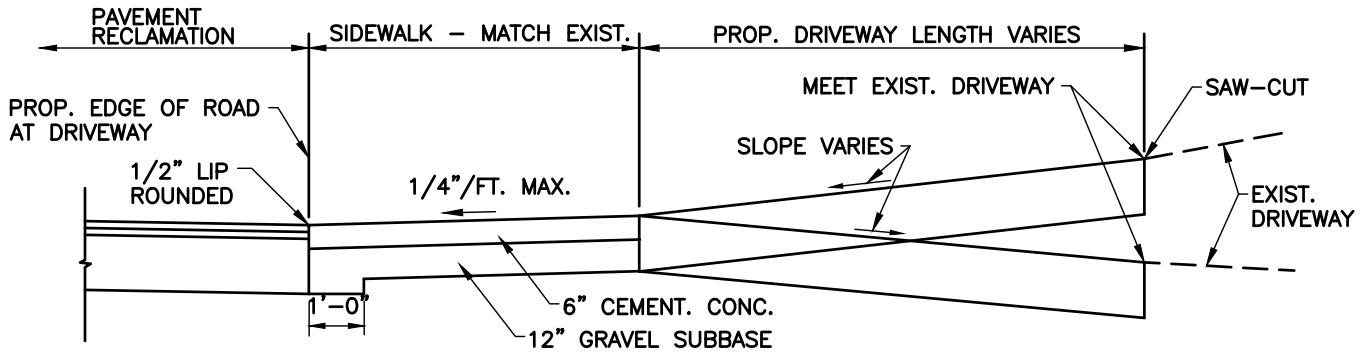
LEAD SERVICES REPLACEMENT PROJECT - PHASE 4

EVERETT, MASSACHUSETTS

Figure No.

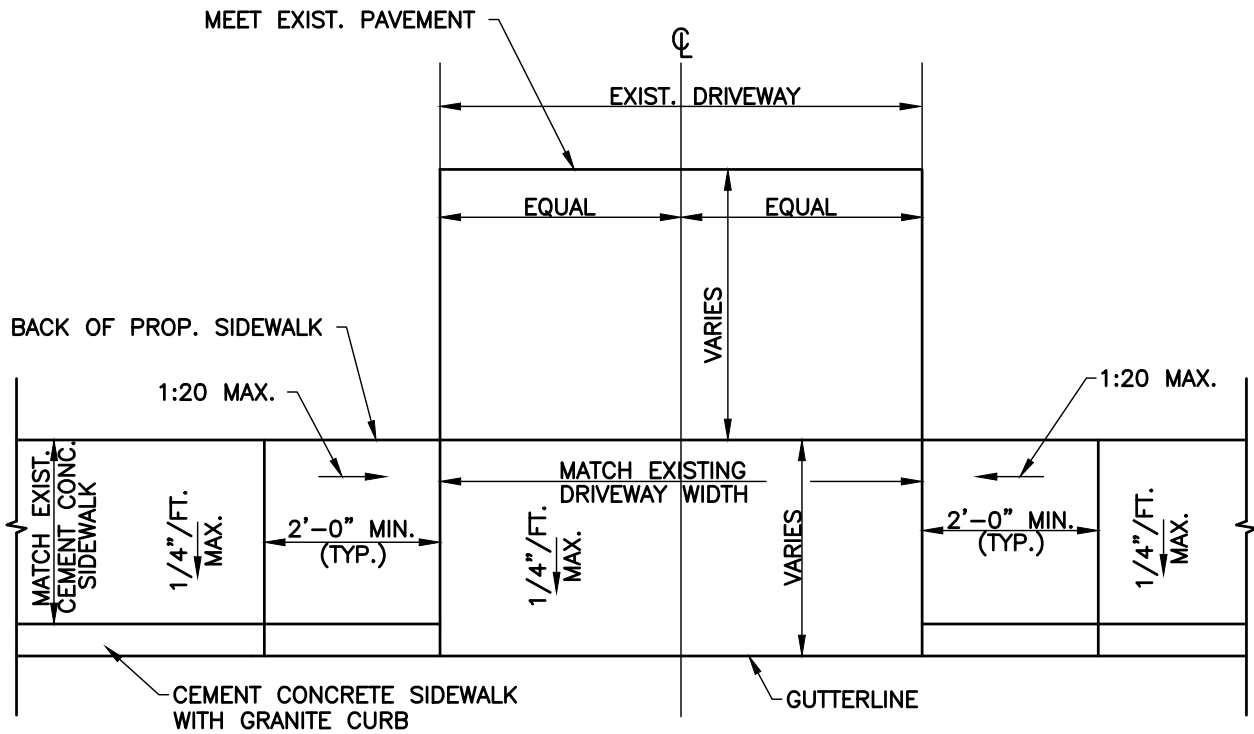
4

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DRIVEWAY WITH SIDEWALK

SCALE: NONE



DRIVEWAY WITH SIDEWALK: PLAN VIEW

SCALE: NONE



DRIVEWAY WITH SIDEWALK DETAILS

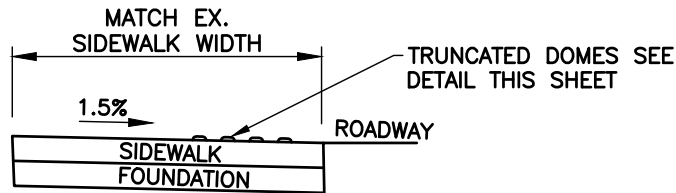
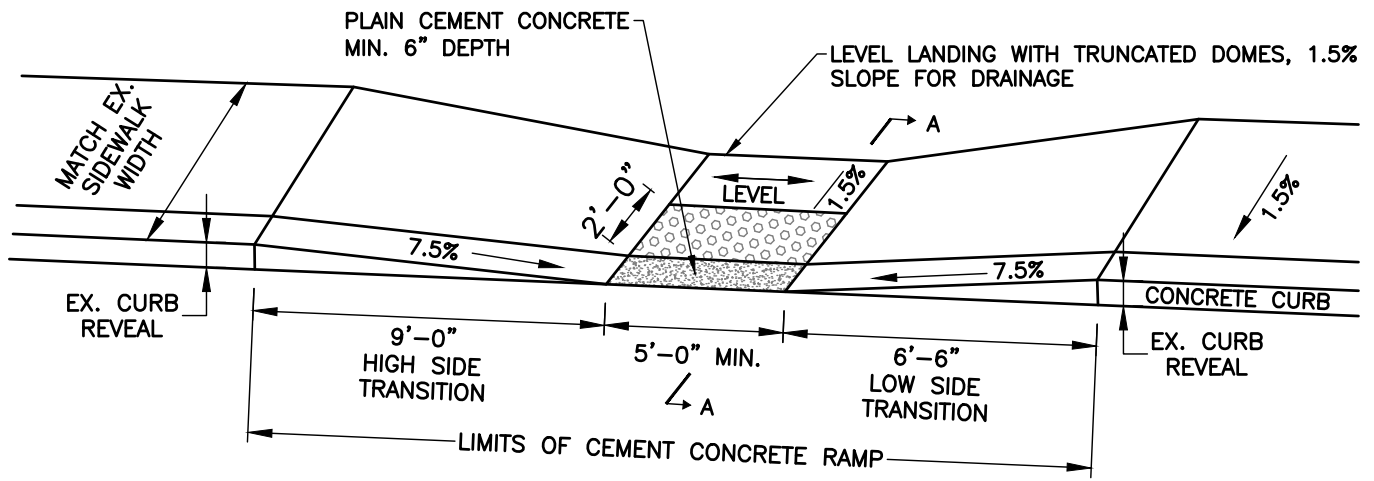
LEAD SERVICES REPLACEMENT
PROJECT - PHASE 4

EVERETT, MASSACHUSETTS

Figure No.

5

P:\Everett\7417 LSL Inventory Update\Phase 4 LSL Replacement\Plan\Specifications\Appendices\Appendix F (Construction Details)\CADD\7417_Construction_Details.dwg RPAXTON 2/27/2025 1:24 PM



SECTION A-A

NOTES:

1. SLOPE TOLERANCE FOR CONSTRUCTION: $\pm 0.5\%$
2. ADJUST THE HIGH AND LOW SIDE TRANSITION LENGTHS AS REQUIRED IN THE FIELD SO THE CURB REVEAL AT THE LIMIT OF THE HANDICAP RAMP MATCHES THE EXISTING CURB REVEAL. SLOPE OF TRANSITION AREAS SHALL NOT EXCEED $7.5\% \pm 0.5\%$.
3. WHEELCHAIR RAMP SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD AND THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.

CEMENT CONCRETE HANDICAP RAMP

SCALE: NONE



HANDICAP RAMP DETAIL
 LEAD SERVICES REPLACEMENT
 PROJECT - PHASE 4
 EVERETT, MASSACHUSETTS

Figure No.

6

APPENDIX G
RODENT CONTROL



CITY COUNCILNo. C0368-16

IN THE YEAR TWO THOUSAND AND SIXTEEN

An Ordinance Regulating Rodent Control

/s/ Councilor John Leo McMcKinnon

Whereas: Controlling the rodent population is important to the public health and safety of the community, and

Whereas: Certain situations attract and encourage rodent infestation;

Therefore:

Be it Ordained: BY THE CITY COUNCIL OF THE CITY OF EVERETT, MASSACHUSETTS, as follows:

Chapter 10 of the Revised Ordinances of the City of Everett are hereby amended by adding a new Section 35.

SECTION 35 Rodent Control

- (a) **PURPOSE** - It is the intent of these regulations to control and reduce the rodent population of the City of Everett by modifying the environment to create conditions adverse to the continued reproduction, colonization, and existence of rats.
- (b) **DEFINITIONS**
- (1) "Building" means any structure, whether public or private, which is devoted to or designed for occupancy of any kind, for the transaction of business of any nature, for the rendering of professional services, for amusement, for the display, sale, or storage of goods, wares, or merchandise, or for the performance of work or labor.
 - (2) "Burrow" means a below ground nest or harborage for rats.
 - (3) "Debris" means the worthless remains that result from the destruction or breaking down of anything.
 - (4) "Director" means the Health Director for City of Everett. The term also means the authorized representative of the Director.
 - (5) "Evidence of Rats" means the natural presence of rat runs, burrows, fecal droppings, rubmarks, gnaw marks, tail drag marks, tracks or other signs which may be associated with the presence or rats, as well as the visual sighting, hearing, smelling, or otherwise sensing of the presence of rats.
 - (6) "Garbage" means the refuse of animal or vegetable matter from households, other activity.
 - (7) "Harborage" means any place which provides shelter or protection for rats, thus favoring their reproduction, presence, or continued existence on the premises.
 - (8) "Occupant" means the person who has the use of or occupies any building or any part thereof or who has the use or possession, actual or constructive, of the premises, whether the actual owner or tenant. In the case of vacant buildings or vacant portions of a business building, or in case of occupancy in whole or in part by the owner, the owner of the building shall be deemed to be, and shall have the responsibility of an occupant of such building.

- (9) "Opening" means any opening in the foundation, sides of walls, ground or first floor, basement, chimneys, eaves, grills, windows, ventilators, walk grates, elevators of a building, and any pipes, wires, or other installations through which a rat may enter.
- (10)"Owner" means the person owning the building or premises.
- (11)"Person" means individuals, firms, partnerships, associations, public or private institutions, municipalities, political subdivisions of the State of North Carolina, governmental agencies, and public or private corporations.
- (12)"Premises" means a parcel of real property, including all buildings located thereon.
- (13)"Rat" means a long tailed rodent belonging to the genus Rattus, including the Norway Rat and Roof Rat.
- (14)"Rat Eradication" means the elimination or extermination of rats from premises and from rat harborages of any kind by measures such as baiting, fumigation, or trapping and, where necessary, rat-proofing such that the premises and rat harborages are completely freed of rats, and there is no evidence of rat infestation remaining.
- (15)"Rat-Proof Container" shall mean a garbage can or other container reasonably impervious to rats.
- (16)"Rat-Proofing" means to prevent the ingress of rats into buildings from the exterior or from one building to another. It consists of the closing, with material impervious to rat gnawing, of all openings in the exterior walls, ground or first floors, basements, roofs, and foundations that may be reached by rats from the ground by climbing or by burrowing.
- (17)"Rat-Tight Condition of Sewers" means the condition achieved by the construction and maintenance of sewer lines, manholes, and all other parts of the sewer system in such a manner as to prevent rats from exiting through openings or breaks.
- (18)"Refuse" means material rejected or thrown aside as worthless.
- (19)"Rubmark" means a dark, sometimes greasy mark formed from contact by the rat's body.
- (20)"Run" means a narrow pathway of beaten earth and vegetation swept clear of debris by the frequent travel of a rat.
- (21)"Trash" means any accumulation of waste materials no longer of any use, including, but not limited to paper, sweepings, dust, rags, bottles, cans, or cardboard.

(c) **GENERAL PROVISIONS**

- (1) All premises within City of Everett shall be free of rats and maintained in a rat-free condition.
- (2) Rat harborages shall be eliminated, buildings shall be maintained in a rat-proof condition, foods and foodstuffs shall be stored and handled so as to be inaccessible to rats, and,
- (3) Where rat infestation is evident, effective measures of rat eradication shall be instigated by the person occupying the premises or in the absence of an occupant, by the owner.

(d) **STORAGE AND HANDLING OF FOOD AND FOODSTUFFS**

- (1) All food for human consumption and feed for animals and fowl shall be stored in rat-free and rat-proof containers, compartments, or rooms unless stored in a rat-free and rat-proof building.
- (2) Feed for animals and fowl shall not be left on the ground, on the floor or left in feed pans, trough, and other feeder containers any longer than necessary to feed the animals and fowl unless such feeder equipment is made inaccessible to rats.
- (3) Foods for human consumption shall not be left on floors, counters, or otherwise exposed so as to provide food for rats.

(4) When feeding birds, the feed should be kept at all times on raised platforms which are made inaccessible to rats. Bird food shall not be placed on the ground when there is evidence of rats on the premises or on nearby premises.

(e) STORAGE AND DISPOSAL OF GARBAGE, REFUSE, AND DEBRIS

(1) No person shall place, leave, dump, or permit to accumulate any garbage, refuse, debris, or trash on any premises, alley, or roadway, so as to afford food or harborage for rats.

(2) All garbage shall be placed and stored in rat-proof containers until collected.

(f) RAT HARBORAGE

(1) Conditions which provide rat harborage shall not exist on premises. No person shall accumulate or permit the accumulation of boxes, bottles, cans, containers, junk appliances, or other similar objects which afford rat harborage.

(2) When there is evidence of rats upon premises, the following persons shall be jointly and severally responsible to remove from such premises objects of the type described in the immediately foregoing paragraph, upon request of the Director:

a. The person who placed such objects upon the premises; and

b. The occupant of the premises, if the objects are in or on a part of the premises which the occupant occupies or controls; and

c. The owner of the premises if the owner leased the part of the premises containing such objects with such objects upon the premises, or the objects are in or on a part of the premises which is vacant or occupied by the owner, or the objects are upon a part of the premises which the owner maintains or controls even though the premises are occupied by another.

(3) When there is evidence of rats in and around useful materials, such as firewood, lumber, or building material, indicating the presence of a rat harborage, and the Director requests, the owner of such useful material shall store them at least fifteen (15) inches above ground. If the owner of such useful materials cannot be found after inquiry, the Director may treat them as abandoned property and either sell the useful materials at public auction and pay the net proceeds of the sale into the general fund of the City, or send the useful materials to a designated landfill for disposal, or give the useful materials to any governmentally owned agency located in the City for use by that agency.

(g) RAT- PROOFING

(1) The owner of any building shall be responsible to rat-proof that building when evidence of rats exist in, under, or around said building, and the Director cites to the owner or to the owner's rental agent for the building, such evidence and also requests that the owner rat-proof the building. Nothing contained in the foregoing sentence shall bar any right of action the owner of the building may have against the lessee for breach of the lease, but the owner may not plead the terms of any such lease in bar of the owner's responsibility set forth in the foregoing sentence. Methods and materials used for rat-proofing shall be sufficient to stop the ingress of rats into buildings from the exterior and from one building to another.

(2) All buildings shall be maintained free of rats and in a rat-free condition. It shall be the responsibility of each and every occupant of a building to maintain that portion of the building which he or she occupies or controls, free of rats and in a rat-free condition. It shall be the responsibility of the owner of a building to maintain free of rats and in rat-free condition the unoccupied parts of his or her building and the parts of such building over which a non-owner occupant does not exert control.

(h) **FAILURE TO RESTORE RAT-PROOFING MATERIALS: NEW OPENINGS TO BE SEALED**

No person shall remove rat-proofing from any building for any purpose and fail immediately thereafter to restore the same in a rat-proof condition or to make any new openings that are not immediately thereafter closed or sealed against the entrance of rats.

(i) **STREET OPENING, DEMOLITION, OR MOVING BUILDINGS**

- (1) No permit shall be issued for any street opening work, and no building permit shall issue for any new construction, demolition, moving of a structure, for any work in which the displacement of earth requires a building permit, or for any renovation of a building that has been vacant for three or more months until the applicant provides evidence that the construction site area, including buildings or premises thereon, have been treated for, or are free from, insect and rodents in accordance with State Sanitary Code, 105 CMR, Section 410.550; except at the discretion of the health agent.
- (2) The department of public works shall be responsible for enforcing baiting procedures relative to street opening permits.
- (3) The applicant shall be held responsible for corrective measure should his/her digging, construction, renovations, or conversions ten days after the completion of, or at the discretion of the health agent any construction in accordance with this section.

(j) **SEWERS**

- (1) The owner or person responsible for the maintenance of a sewer system or any portion thereof shall maintain to the greatest extent possible said system in a rat-tight, rat-free condition at all times. Whenever the owner or responsible person is notified by the Director that there is evidence of rat infestation in the sewer, that person shall institute rat eradication measures immediately and shall maintain the eradication measures in a satisfactory manner until the sewers are rat free.
- (2) New sewer lines must be constructed and all existing ones maintained in such a manner as to prevent the exit of rats from sewers.
- (3) Whenever the owner or responsible person is notified by the Director that there is evidence of rats burrowing or otherwise exiting from the sewer system, that person shall institute with reasonable dispatch the necessary repairs to the said sewer line to prevent the exit of rats.

(k) **RIGHT OF ENTRY-INSPECTION**

- (1) The Director shall have the right of entry upon any premises where entry is necessary to carry out the provisions of this Ordinance.
- (2) If consent for entry is not obtained, an administrative search and inspection warrant shall be obtained pursuant to the MGL. However, if an imminent hazard exists, no warrant is required for entry upon the premises.

(l) **PENALTIES AND REMEDIES**

- (1) Any person who violates any provision of this Ordinance shall be fined in accordance with the provisions Chapter 1-8 of the revised ordinances.
- (2) The Director may bring a civil proceeding through the appropriate court to enforce the provisions of this Ordinance.

(m) **SEVERABILITY**

If any provision or clause of this ordinance shall be declared invalid, such declaration shall not invalidate any other provision or clause of this ordinance.

(n) **EFFECTIVE DATE**

These regulations shall be in full force and effective upon approval by the City Council and subsequent approval by His Honor the Mayor.

July 25, 2016

Enrolled in the City Council
10 yeas; 0 nays

August 22, 2016

Ordained in the City Council
8 yeas; 0 nays

August 24, 2016

Signed: Mayor Carlo DeMaria, Jr.



A true copy attest

A handwritten signature in cursive script that reads "Michael Matarazzo".

Michael Matarazzo, City Clerk



CITY COUNCILNo. C0369-16

IN THE YEAR TWO THOUSAND AND SIXTEEN

An Ordinance Adding Rodent Control to Dumpster Permitting

/s/ Councilor John Leo McMcKinnon

Be it Ordained: BY THE CITY COUNCIL OF THE CITY OF EVERETT, MASSACHUSETTS, as follows:

That Section 71 of Chapter 16 of the Revised Ordinances of the City of Everett is hereby amended by striking out Section 78 and inserting therein a new section 78 as follows:

Section 16-78 Maintenance, Notification of Violation

- (a) It shall be the responsibility of the owner as defined in section 16-71 to:
 - (1) Maintain the dumpster area free of odors, scattered debris, overflowing and all other nuisances;
 - (2) Clean and disinfect said containers as needed with a minimum of three times a year on April 30th, July 30th, and October 30th;
 - (3) Deodorize dumpster when emptied or as directed by order of the Board of Health. (Ord. of 7-19-82, § 13)
 - (4) Maintain covers and gates in proper working order;
 - (5) Bait around perimeter of dumpster if required by the Board of Health;
 - (6) Submit a maintenance plan for said dumpsters to the health department with said permit;
 - (7) Make maintenance records readily available for review by inspectors.

(b) An owner notified of a violation of any of the foregoing offenses, shall within twelve (12) hours of notification cause the offense to be remedied or shall be in violation of this chapter. (Ord. of 7-19-82, § 7)

Be It Further Ordained:

That Section 84 of Chapter 16 is hereby deleted in its entirety.

This Ordinance shall take effect upon passage by the City Council and subsequent approval by His Honor the Mayor.

July 25, 2016

Enrolled in the City Council
10 yeas; 0 nays

August 22, 2016

Ordained in the City Council
8 yeas; 0 nays

August 24, 2016

Signed: Mayor Carlo DeMaria, Jr.

A true copy attest

Michael Matarazzo, City Clerk



APPENDIX H
MWRA 8(m) PERMIT

MASSACHUSETTS WATER RESOURCES AUTHORITY

PERMIT

8(m) Permit #3181

25-Aug-23

City of Everett
19 Norman Street
Everett, MA 02149

Pursuant to Section 8 (m) of Chapter 372 of the Acts of 1984 you are hereby granted permission to use a certain portion of land presently under the jurisdiction and control of the Massachusetts Water Resources Authority for the purpose set forth below.

The land is described as follows:

Section 57, Low Service Pipe Line - Section 84, Low Service Pipe Line - Shute Street (Sammet St - Lynn St) & Appleton Street (Elm St - Main Street) - Everett, Massachusetts

You may use the land for the purpose of:

Installation of Domestic Water Service lines in Accordance with plans titled: City of Everett, MA Lead Service Replacement Phase 3 - Shute Street (Sta. 122 to 134) - Appleton Street (Sta. 44 to 50) - Prepared by; Tata & Howard Eng. - Drawing C1 - Date: Sept. 2023

Approved as to Form:
Massachusetts Water Resources Authority

Christopher John
Law Division

Approved
Massachusetts Water Resources Authority

Rebecca Deitz
Deputy Chief OO, PP&P

This Permit is subject to the 8(m) Permit Terms and Conditions, and the 8(m) Permit Special Terms and Conditions, if any, attached hereto and made a part hereof. Permittee agrees that it shall be bound by, and shall comply with, said Terms and Conditions.

Permittee: Ernest Lariviere / Ernest Lariviere
Signature Print Name

This Permit shall have no effect until such time as the Authority issues the fully executed original of this Permit.

Massachusetts Water Resources Authority
2 Griffin Way
Chelsea, MA 02150
Attn: Water Operations - Permitting Department

8(m) 24-3181

August 25, 2023

8(m) PERMIT TERMS AND CONDITIONS

1. Permittee shall be responsible to stay apprised of and comply with all applicable federal, state and local laws, rules, and orders including, but not limited to, guidelines and requirements for construction sites, and all supplements, amendments and/or changes thereto and notices thereof. Prior to commencing work pursuant to this Permit, Permittee shall have obtained all other required permits, written approval(s) and necessary authorizations to perform the work. Failure to comply with the terms stated herein shall render this Permit null and void by the Authority, and Permittee shall bear all responsibility, liability, damages and costs arising from the Permittee's noncompliance.
2. Permittee's use of the permitted land shall at no time interfere with the Authority's activities or operations on the permitted land. The Authority has the right to review and approve all of the Permittee's work including such plans and specifications, as the Authority deems necessary. Any proposed future work beyond the scope of this Permit shall have the prior written approval of the Authority.
3. To the fullest extent permitted by law, the Permittee shall indemnify, defend with counsel acceptable to the Authority, keep and save harmless the Authority and its board members, officers, representatives, contractors, agents, employees, successors, and assigns, in both their individual and official capacities, against all suits, claims, liabilities, damages, losses (including but not limited to loss of use resulting therefrom) and expenses, including but not limited to attorney's fees, caused by, arising out of or resulting from any work or activity under this Permit and/or act, omission, breach or default of the Permittee or of any contractor, subcontractor or vendor of the Permittee or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.
4. The granting of this Permit shall in no way interfere with the rights of the Authority to exercise its existing rights in or over the permitted land. Permittee acknowledges that the Authority, within its sole discretion, may enter upon the permitted land at any time in order to carry out inspections, maintenance, repairs, replacements, or other activities.
5. The Authority may revoke this Permit at any time. The sale or disposition of the permitted land by its owner will cause this Permit to terminate without further notice. Permittee shall give the Authority at least 72 hours notice before commencing the operations as pursuant herein. This Permit shall not be assigned or transferred.
6. No blasting, drilling or other activity that could in any way affect the integrity or operability of the Authority's property or use of the permitted land shall be permitted without express prior written approval of the Authority.
7. The Permittee shall remove, at its own expense, within six months of the date of written notice from the Authority, any or all conduits and appurtenances installed by the Permittee under this Permit if, in the Authority's sole discretion, such removal is necessary for the operation, maintenance or replacement of the Authority's infrastructure.
8. To the fullest extent permitted by law, and in consideration of the issuance of this Permit, Permittee hereby releases the Authority and its board members, officers, representatives, contractors, agents, employees, successors, and assigns, in both their individual and official capacities, from all suits, claims, liabilities, damages, losses (including but not limited to loss of use resulting therefrom) and expenses, including but not limited to attorney's fees, caused by, arising out of or resulting from any work or activity under this Permit and/or act, omission, breach or default of the Permittee or of any

CONDITIONS (Cont'd)

contractor, subcontractor or vendor of the Permittee or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. This release includes, but is not limited to, all suits, claims, liabilities, damages (including, but not limited to, direct, indirect, and consequential damages, economic loss, and loss of profits) and losses which are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom, together with all attorneys' fees, costs and expenses.

9. The Permittee shall conduct design, construction, and excavation in accordance with all federal, state and local safety regulations, including but not limited to, federal OSHA regulations (29 CFR 1926) and Massachusetts Department of Public Safety regulations (520 CMR 14.00). During construction, Permittee shall take appropriate sheeting and shoring measures to protect the integrity of the Authority's water and/or sewer mains. Permittee shall submit design plans stamped by a professional engineer licensed in Massachusetts to the Authority for approval prior to the start of construction.
10. The Permittee shall adjust any or all Authority frames and covers to grade within the limits of work in accordance with the plans referenced in this Permit. The Authority will provide the Permittee with new replacement Authority frames and covers that have been deemed unusable by the Authority.
11. If the Permittee is proposing to take borings and/or place test pits within the permitted land, the Permittee shall mark the proposed boring and test pit locations on the ground using paint and/or stakes and submit engineering documents to the Authority showing the proposed boring and test pit locations. Authority staff will review all boring and test pit locations at the site. Upon written clearance of the proposed boring and test pit locations by Authority staff and subject to Permittee providing the Authority with seventy-two (72) hours prior notice, Permittee may commence work at the site.

The Permittee shall be responsible for the locations of proposed borings and test pits regardless of any act or omission of the Authority. The Permittee shall be responsible for repairing and/or replacing, at the Authority's election, the Authority's property or infrastructure, which is damaged as a result of the Permittee's, its contractors, agents, representatives, employees, and/or invitees activities pursuant to this Permit. The Permittee's obligations under this paragraph shall include payment to the Authority for all costs to repair all such damage caused to the Authority's property.

EXHIBIT A

MWRA WATER OPERATIONS SPECIAL TERMS AND CONDITIONS

1. Prior to entry, Permittee or its designee shall provide at least **seventy two (72) - hours prior** notice to the **MWRA's Inspection Department, by calling (617) 305-5833**, located at 2 Griffin Way, Chelsea, MA 02150.
2. A minimum vertical clearance of eighteen (18) inches shall be maintained between the MWRA's water mains and other utility crossings unless otherwise noted. However, water/gas and other utility service crossings with a pipe size diameter of two (2) inches or less may be permitted to cross above the MWRA's pipeline at a reduced clearance subject to MWRA's review. **(Except for special provisions, i.e. capped or plugged pipes, thrust blocks and or bends which would require a greater clearance and separation).**
3. A minimum of three (3) feet to five (5) feet horizontal clearance is required between adjacent utilities and the side (spring line) of any MWRA water main. (Except for special provisions, i.e. capped or plugged pipes, **thrust blocks**, and/or pipe bends which would require a greater clearance separation).
4. Crossings of MWRA water mains shall be located a minimum horizontal distance of at least four (4) feet from any joints of the MWRA's water mains.
5. Proposed pipe/utility crossings of the MWRA's water mains shall cross at a ninety (90) degree angle to minimize interference.
6. **For distances over four (4) feet from the MWRA's water mains, which are to be undermined, the method and type of pipe support plan shall be submitted and stamped by a Professional Engineer (P.E.) licensed in Massachusetts for prior approval by the MWRA.**
7. For distances under four (4) feet from the MWRA's water mains, which are to be undermined, the on-site MWRA inspector shall review and approve the proposed support of the water main. Under no circumstances shall the MWRA's water main be left in an unsupported, undermined position overnight.
8. During construction, appropriate sheeting measures must be taken to protect the integrity of the MWRA's water mains. The sheeting design must be reviewed by the MWRA prior to the start of the construction. The design shall be stamped by a Professional Engineer, licensed in Massachusetts. The use of a Trench Box is not permitted in this application.
9. Suitable compaction methods shall be employed in restoring the beds of the MWRA's water mains and backfilling around the MWRA's water mains shall be placed in maximum six (6) inch lifts and compacted by hand vibratory compactors.

SPECIAL TERMS AND CONDITIONS (Cont'd)

10. The MWRA's water mains shall be protected at all times during construction. The MWRA may require a professional engineer licensed in the State of Massachusetts to submit a construction plan and or pipeline analysis that is to be attached to this Permit.
11. Screened gravel shall be uniformly graded with maximum size of a particle between 3/8 inch and 3/4 inch. Screened gravel shall consist of clean, hard and durable particles free from an excess of soft, elongated and disintegrated pieces or other objectionable material. Crushed rock of suitable size and grading maybe used in place of screened gravel at the option of the MWRA Inspector.
12. For test pit excavations or unearthing of the MWRA's water mains the Permittee shall excavate the last two (2) feet, before the top of pipe, by hand or use a vacuum boring method and backfill with approved material within an fee interest, easement or roadway area.
13. **The Permittee is responsible to adjust any or all MWRA frames and covers to grade within their limits of work in accordance with the plans referenced in this Permit. The MWRA will provide the Permittee with new replacement MWRA frames and covers (at no expense to the Permittee) for any existing frames and covers that have been deemed unusable by MWRA personnel.**
14. All MWRA manhole openings that were covered during the binder course installation shall be made accessible within forty eight (48) hours. MWRA manhole frame and covers shall not be removed for grinding and or pulverizing. Pulverizing is not allowed over MWRA manhole structures.
15. The Permittee shall provide a logistics construction schedule in writing, along with emergency contact information whenever MWRA valves (manhole covers) or facilities are covered or obstructed.
16. **MWRA Inspection personnel must be on site whenever excavation, construction, hoisting or rigging occurs around an MWRA water main.**
17. No construction equipment including cranes, backhoes, or material may be parked, stationed, set up, or stored on top of the MWRA's water mains or infrastructure.
18. Replacement (shutdown) of the MWRA's water mains shall be coordinated with the MWRA. Four (4) weeks-advanced notice in writing is required for shutdowns.
19. The Permittee or its designee shall contact the MWRA three (3) weeks in advance of when an MWRA water main valve must be operated. **Only MWRA personnel will operate MWRA valves.** The Permittee or its designee shall not operate any MWRA water main valves. **MWRA Valve Operations are limited during peak demand periods and may not be available between the dates of May 15th and September 15th of each calendar year.**

SPECIAL TERMS AND CONDITIONS (Cont'd)

20. The Permittee will be responsible to protect and correct any damage(s) to the MWRA's property, water main pipelines and/or any related infrastructure at no cost to the MWRA.
21. As-built drawings shall be furnished to the MWRA upon the completion of the work authorized by this Permit. A Professional Massachusetts Registered Land Surveyor or Engineer shall stamp as-built drawings.
22. MWRA Detail Records "field sketches" shall be updated (with accurate field ties) by the Permittee and shall be furnished to the MWRA upon the completion of the work authorized by this Permit.
23. The Permittee shall indemnify and hold harmless the MWRA and its successors and assigns from any and all damages and/or claims for damage to the Permittee's conduits, facilities and/or property as a result of the MWRA's operation, maintenance, repair, and/or replacement of MWRA property, or as a result of the failure of an MWRA water main.
24. This Permit addresses only MWRA-owned and operated infrastructure. The Permittee is required to obtain all needed separate approvals from Cities, Towns, State Agencies or other entities.
25. **The work authorized by this Permit and location of installed facilities and appurtenances shall not deviate from the construction plan that is referenced in this Permit. No field changes are allowed without prior review and written approval by the MWRA 8(m) Permit Project Manager. An MWRA on-site inspector shall review all field changes and coordinate with the Permittee regarding submitting a change of work plan to the MWRA for review and comment. If MWRA field inspection indicates changes undertaken without approval, the Permittee may be issued a cease and desist order and be required to correct/reconstruct any completed work.**
26. The MWRA may require a construction plan along with an analysis of the MWRA's water main pipeline (prepared by a professional engineer licensed in the State of Massachusetts). The pipeline analysis shall take into consideration the construction equipment, which would be used over the MWRA's water main pipeline in instances where the existing roadway surface will be completely excavated away removing the protection of the HS-20 surface loading barrier. This Plan and supporting calculations will need to be submitted to the MWRA for review. This includes open cross-country areas where no HS 20 Roadway Loading exists.
27. The MWRA requires the submittal of "Cut Sheets and or Shop Drawings" for review of all newly proposed materials that will come under the ownership of the MWRA.

SPECIAL TERMS AND CONDITIONS (Cont'd)

28. Where pipe jacking is required for work that is in close proximity to the MWRA's water mains, submittals prepared by a professional engineer and reviewed by the MWRA are required.
29. Permittee shall not expose the spring line or undermine the MWRA's water main pipeline. The Permittee or its designee shall cease excavation operations and secure the open trench by backfilling the open trench to secure the MWRA's water main pipeline whenever the spring line is exposed.
30. In instances where the layout of the MWRA water mains are to be accurate and precise beyond the MWRA's regular mark out services the Permittee, at the direction of the MWRA, shall have a professional land surveyor licensed in Massachusetts mark out MWRA water mains using field survey instruments.
31. Disinfection of MWRA pipelines includes the entire isolated length of MWRA's pipeline(s). Disinfection is the responsibility of the applicant including independent lab testing procedures in accordance with MWRA standards.