

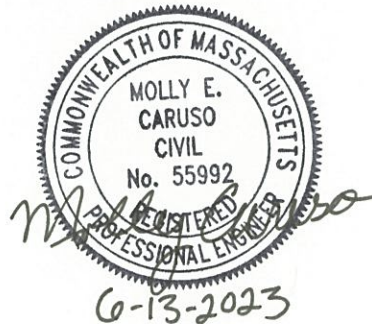
**CITY OF EVERETT
MASSACHUSETTS**

CONTRACT BID DOCUMENTS
FOR

**Lead Services Replacement Project – Phase 3
Contract No. 24-01**



Office of the Purchasing Department
Allison Jenkins
Chief Procurement Officer
Everett City Hall, Room 39
484 Broadway, Everett, MA 02149



Tata & Howard, Inc.
Consulting Engineers
67 Forest Street
Marlborough, Massachusetts

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INVITATION FOR BIDS

Sealed bids for furnishing the following ITEMS will be received at the Office of the Purchasing Department Room 39, City Hall, 484 Broadway, Everett, MA 02149, until the time specified below at which time the bids will be publicly opened and read:

ITEM

BID OPENING

Bid: Lead Services Replacement Project – Phase
 Contract No. 24-01

June 29, 2023, 1:00 P.M. Local Time

The Work of this Contract generally consists of the replacement of suspected lead water service connections in the City of Everett, Massachusetts, generally on Central Avenue, Vernal Street, Edith Street, Ashton Street, Woodward Street, Shute Street, Wilbur Street, Glendale Avenue, Clifton Avenue, Bettison Avenue, Moreland Place, Amos Terrace, Lewis Street, and Appleton Street. Approximately 41 services will require full replacement from the water main to the house, approximately 111 services will be replaced from the water main to the curb stop, and approximately 38 services will be replaced from the curb stop to the house. Approximately 83 of these services have a section of unknown materials in addition to lead. Up to three test pits will be required for each service with unknown material and the service will be replaced at the discretion of the City and the Engineer. The Work also includes approximately 25 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 condition including pavement, sidewalk and curbing restoration, and loam and seed.

MassDOT prequalification of contractors with the class of work as, Sewer & Water, for the project with an estimated value of \$1,315,000 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.

Contract documents may be obtained through Tata & Howard, Inc., by emailing a request to khummel@tataandhoward.com starting: **June 14, 2023 at 11:00 AM.**

Bids will be opened in the Office of the Purchasing Agent, City Hall, Room 39, 484 Broadway, Everett, MA 02149 on **Thursday, June 29, 2023, at 1:00 P.M.**, local time.

Each Bid must be accompanied by a bid security consisting of a BID BOND, CASH, or CERTIFIED CHECK issued by a responsible bank or trust company in the amount of 5% of the bid price. A Performance Bond and Labor and Materials Payment Bond each in the amount of 100 percent of the contract price will be required when the successful Bidder delivers the executed Agreement to Owner.

All bids for this project are subject to applicable public bidding laws of Massachusetts, including G.L. c.30, § 39M, as amended.

Attention is directed to the minimum wage rates to be paid as determined by the Commissioner of Labor and Workforce Development and the weekly payroll record submittal requirements under the provisions of Massachusetts General Laws, Chapter 149, Section 26 through 27D inclusive.

Selection of the contractor will be based upon bidder qualifications, including evidence of past performance in similar projects, and bid price. The contract will be awarded to the bidder deemed by the awarding authority to be the lowest responsible and eligible bidder.

The bidder agrees that its bid shall be good and may not be withdrawn for a period of 90 days, Saturdays, Sundays and legal holidays excluded, after the opening of the bids.

If the bidder views/obtains the plans and specifications from a source other than those noted in this Invitation for Bids, the accuracy and/or completeness of the bid documents cannot be guaranteed, and the bidder assumes the responsibility for obtaining any additional information regarding the project, including addenda, that may be required for bidding. Failure to acknowledge addenda issued during bidding shall designate a bid as non-responsive.

This Contract contains price adjustments for hot mix asphalt, diesel fuel, gasoline, and Portland cement concrete. For this project the base prices are as follows: liquid asphalt \$657.50 per ton, diesel fuel \$2.826 per gallon, and gasoline \$2.852 per gallon. MassDOT posts the Price Adjustments on their Highway Division's website at <https://www.mass.gov/massdot-contract-price-adjustments>.

The City reserves the right to waive any informalities, to accept or reject, in whole or in part any or all bids, or take whatever other action may be deemed to be in the best interest of the City.

City of Everett
Allison Jenkins
Chief Procurement Officer
Phone: 617-394-2288

GENERAL CONDITIONS

1. Attention of all bidders is directed to Chapter 30, 39m of the General Laws of the Commonwealth of Massachusetts and to all other applicable sections of the General Laws as most recently amended which govern the award of this contract.
2. Bid forms shall be submitted to the Office of the Purchasing Agent, Room 39, 484 Broadway, Everett, MA 02149, on or before the date and time stated in the “Legal Advertisement.” Each bid shall be in a sealed envelope, clearly marked on the outside of the envelope “Lead Services Replacement Project – Phase 3 Contract No. 24-01” and the name and address of the bidder.
3. The bidder shall sign the response correctly in ink or in the case of an organization, firm, partnership or corporation, a person having the legal authority from said organization to sign the response will sign the document.
4. Bid forms shall be completely filled in. Bids which are incomplete, conditional or obscure will be rejected.
5. No award will be made to any bidder who cannot satisfy the awarding authority that he/she has sufficient ability and sufficient capital to enable him/her to meet the requirements of these specifications. The awarding authority’s decision or judgment on these matters shall be final, conclusive and binding.
6. Bidders may correct, modify or withdraw the original responses on or before the date and time as stated in the “Legal Advertisement.” Corrections or modifications shall be in sealed envelopes, clearly marked to indicate the contents, with the name and address of the vendor. Any late correction or modification to the response will not be accepted. A bidder who wishes to withdraw a response must make a request in writing before the date and time of acceptance.
7. A bidder may withdraw a bid after the public opening of the bid only if a mistake is clearly evident on the face of the bid document, but the intended correct answer is not evident.
8. Any bid received after the date and time stated in the Legal Advertisement will be deemed non-responsive and shall not be opened. Unopened bids will be returned to the bidder.
9. Bids will be publicly opened and read at the date and time stated in the “Legal Advertisement.” All interested parties are invited to be present.
10. No award will be made to any bidder who cannot satisfy the City that he has sufficient ability and experience in this class of work and sufficient capital to enable him to execute and complete the work successfully within the time named. The City’s decision or judgment on these matters shall be final, conclusive and binding. Conditional bids will not be accepted.

11. At the time of the opening of bids, each bidder shall be presumed to have read and be thoroughly familiar with these documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or document shall in no relieve any bidder from any obligation in respect to his/her bid.
12. Each bidder shall acknowledge receipt of any and all addendum issued to the IFB by so indicating on the bid sheet. Failure to do so shall be cause to reject the bid as being non-responsive.
13. It is understood that the firm/individual's Response to the City to provide said services and products will remain valid for 90 days past the submission deadline.
14. The contract will be awarded, subject to the availability of funds, to the lowest responsive, responsible bidder complying with the conditions set forth in the bid document, provided that the bid, in the opinion of the awarding authority, is reasonable and that it is in the best interest of the City of Everett to accept it.
15. The City may cancel this IFB, in whole or in part, or may reject all bids submitted in response, or may procure only some goods and/or services outlined in this IFB whenever such action is determined to be fiscally advantageous to the City or if it is otherwise in the best interest of the City.
16. The Bidder's attention is directed to the fact that all applicable Federal laws, state laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over bid/purchase shall apply to the contract throughout, and they shall be deemed to be including in the contract the same as though herein written out in full.
17. The successful bidder must be licensed or incorporated to do business in the state of Massachusetts.
18. It is understood that the Bidder has submitted the bid in good faith and has not colluded with any other individuals, firms, or corporations in creating the response to subvert the market process. The Bidder must sign and submit a Certificate of Non-Collusion and Tax Compliance Form with the bid sheets. (Forms are attached to the Bid Sheets.)
19. If services are subsequently deemed to be unsatisfactory to the City and are in violation of the General and/or detailed Specifications, the City shall notify the said bidder. If mutually agreeable arrangement cannot be achieved between the City and the bidder, the terms of the contract will be immediately terminated.
20. Non-Appropriation of Funds Clause: Funding for the resulting contract from this IFB is subject to yearly appropriation. If the City does not appropriate funds for the stated purpose of this project, the contract will be terminated at no additional cost to the City.
21. The City of Everett reserves the right to investigate the financial responsibility of all bidders to determine what assurance the owner may have of subsequent service.

TERMS AND CONDITIONS

1. **TERM OF CONTRACT:** The performance period for any contract that shall commence upon issuance of the "Notice to Proceed."
2. **ASSIGNMENTS AND SUBCONTRACTING:** The selected vendor shall not assign, sell, subcontract or otherwise transfer any interest in this contract without the prior written consent of the City. The successful bidder shall be fully responsible to the City for the acts and omissions of his subcontractor, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.
3. **PAYMENT:** The City shall make every effort to furnish payment within thirty (30) days of receipt of a reasonably detailed invoice. Any invoice received must reference the contract number. Nothing contained in the contract shall create any contractual relation between any subcontractor and the City of Everett. The Successful Bidder shall cause appropriate provision to be inserted in all subcontracts relative to the work to require compliance by each subcontractor with the application provisions of the Contract for the improvements embraced in the site preparation.
4. **INSURANCE REQUIREMENTS:**

General - The Vendor shall before commencing performance of the Contract be responsible for providing and maintaining insurance coverage in force for the life of the Contract of the kind and in adequate amounts to secure all of the obligations under the Contract and with insurance companies licensed to write insurance in the Commonwealth of Massachusetts. All such insurance carried shall not be less than the kinds and amounts designated in the General Conditions, and the Vendor agrees that the stipulation herein of the kinds and limits of coverage shall in no way limit the liability of the Vendor to any such kinds and amounts of insurance coverage. All policies issued shall indemnify and save harmless the City of Everett, its agents and employees from any and all claims for damages to persons or property as may rise out of the performance of this Contract.

No cancellation(s) of such insurance, whether by the insurer or by the insured party shall be valid unless written notice thereof is given by the parties proposing cancellation to the other party and to the City of Everett at least fifteen (15) days prior to the intended effective date thereof, which date shall be expressed in said notice, which shall be sent by registered mail, return receipt requested. These provisions shall apply to the legal representative(s), trustee in bankruptcy, receiver, assignee, trustee, and successor(s) in interest of the Vendor. All insurance coverage shall be at the sole expense of the Vendor and shall be placed with such company as may be acceptable to the City of Everett and shall constitute a material part of the contract documents.

Failure to provide written proof to City and continue in force such insurance as aforesaid shall be deemed a material breach of the contract, and may constitute sufficient grounds for immediate termination of the same.

5. **CHANGE ORDERS AND ADJUSTMENTS:** Any request for a change order or adjustment must be submitted in writing and contain, an explanation of the need for the change order, a statement of work including a cost breakdown of each addition, and a statement that the change order is in the best interest of the awarding authority. The City is not obligated to pay for change orders that are not approved in writing, by the original contract signatories. Three (3) copies of the change order shall be required.
6. **INDEMNIFICATION:** Unless otherwise provided by law, the Vendor will indemnify and hold harmless the City against any and all liability, loss, damages, costs or expenses for personal injury or damage to real or tangible personal property which the City may sustain, incur or be required to pay, arising out of or in connection with the performance of the Contract by reason of any negligent action/inaction or willful misconduct by the Contractor, its agents, servants or employees.
7. **FEDERAL AND STATE LAW:** The selected contractor shall comply with all applicable Federal, State and Local laws and ordinances.
8. **STATEMENT OF WORK:** Except as otherwise specifically stated in the bid and contract documents the selected contractor shall secure, at its own expense, all necessary permits and licenses and comply with all city and state codes and regulations. The selected contractor shall provide and pay for all materials, equipment, labor, tools, temporary construction of every nature, charges, levies, fees, or other expenses incurred and all other services and facilities of every nature whatsoever for his performance of the Contract within the specified time, and required for this project. The selected contractor must provide all materials and equipment free of any lien, claim or encumbrance.
9. **OR EQUAL CLAUSE:** where, in the specifications, one certain kind, type, catalog number, brand or manufacturer of material is named, it shall be regarded as the required standard of quality. The City of Everett will have sole discretion on whether or not a product is considered an equivalent.
10. **BUY AMERICAN:** The Contractor agrees that preference will be given to domestic construction material by the Contractor, Subcontractor, material men, and suppliers in the performance of this Contract.

INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids

Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified will not be considered. The bidder agrees that its bid shall be good and may not be withdrawn for a period of 90 days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids.

2. Location and Work to be Done

SCOPE OF WORK AND LOCATION OF PROJECT

See attached scope of work, including drawing.

Additional drawings showing details in accordance with which the Work is to be done may be furnished by addendum from time to time during the bidding period by the City or its Project Manager, and shall then become a part of the Contract Documents.

The Contractor shall furnish all labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, and all other things necessary to do all work required for the completion of each item of the work and as specified herein.

The Work to be done and paid for under any item shall not be limited to the exact extent mentioned or described but shall include all incidental work necessary or customarily done for the completion of that item. The Contractor shall be fully acquainted with the methods of measurement and basis for payment for all items in the contract.

All quantities are approximate and do not expressly or by implication agree that the actual quantities will correspond therewith, but the City reserves the right to increase or decrease the quantity at any location. An increase or decrease in the quantity for any item shall not be regarded as cause for an increase or decrease in the unit prices.

3. Preparation of Bid

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures.

Failure to complete the bid document adequately including the "Non-Collusion Affidavit," the "Certificate of Compliance with State Tax Laws and with Unemployment Compensation Contribution Requirements," and the "Certificate of Vote" may result in the disqualification of the bidder.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his address, and endorsed with the name of the project as specified in Receipt and Opening of Bids, above. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in Receipt and Opening of Bids, above.

All bids shall be accompanied by a bid deposit in the form of a Bid Bond, duly executed and acknowledged by the bidder, as Principal, and by a surety company qualified to do business in the Commonwealth of Massachusetts, or cash, or a certified check, treasurer's or cashier's check issued by a responsible bank or trust company to the City of Everett. The amount of such bid deposit shall be 5% of the value of the bid total or for each particular bid item where applicable and shall be enclosed in the sealed envelope containing the bid. Each such Bid Bond, cash or check may be held by the City as security for the fulfillment of the bidder's agreements as herein above set forth and as set forth in the bid. Should the bidder fail to fulfill such agreements in his bid, the check or cash shall become the property of the City, or if a Bid Bond was furnished,

the Bid Bond shall become payable to the City as liquidated damages, otherwise, the bid security shall be returned to the Bidder.

Where applicable, all bid prices shall include the cost of mobilization of equipment. No extra payment will be made for mobilization to the project locus or movement of equipment from street to street.

Any qualifications or exceptions to the Specifications must be stated in the Proposal or in an accompanying letter with the Bid on the bidder's stationary.

4. Bid Opening Procedure

The following list of requirements shall apply to each filed bid. Bids not meeting all the requirements for timeliness and security will be rejected; bids not meeting signature and addenda requirements will be rejected prior to checking of bid amounts.

Bids shall be filed at the place and before the time specified in Receipt and Opening of Bids, above.

Properly executed bid security shall be placed in a sealed envelope and shall be attached to the outside of the envelope containing the bid.

Bid signatures will be checked.

All addenda will be sent via e-mail to all prospective bidders. All bidders shall include with their bids the written acknowledgment form provided in FORM OF GENERAL BID.

The total dollar amount of each bid will be read, and the three apparent lowest bids will be selected for further consideration. These three apparent low bids will be read aloud for the benefit of the other bidders and the bid opening procedure will be closed. All those present at the bid opening may examine all bids after the bid opening and after the reading of the three apparent low bids.

5. Modification

Any bidder may modify his bid by written communication at any time prior to the scheduled closing time for receipt of bids. Any telegraphic communication must be received by the City prior to the closing time, and, provided further, the City must be satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. If written confirmation is not received within two days from the closing time, no consideration will be given to a telegraphic communication.

The communication shall not reveal the bid price but shall provide the addition or subtraction or other modification so that the final prices or terms will not be known by the City until the sealed bid is opened.

6. Ability and Experience of Bidder

No award will be made to any bidder who cannot satisfy the City that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him to prosecute and complete the work successfully within the time named regardless of MassDOT prequalification, if applicable. The City's decision or judgment on these matters will be final, conclusive, and binding.

Any bidder who cannot meet all of the following requirements may be rejected at the discretion of the City. The bidder:

- a. Shall not have defaulted on any contract within three years prior to the bid date.
- b. Shall maintain a permanent place of business.
- c. Shall have adequate personnel and equipment to perform the work expeditiously.
- d. Shall have suitable financial status to meet obligations incident to the work.

- e. Shall have appropriate technical experience satisfactory to Owner in the class of work involved.
- f. Shall be registered with the Secretary of State of the Commonwealth of Massachusetts to do business in Massachusetts.
- g. Shall not have failed to perform satisfactorily on contracts of a similar nature.
- h. Shall not have failed to complete previous contracts on time.
- i. Shall not have any documented issues with the City of Everett on any prior projects.
- j. Shall not currently be in litigation with the Commonwealth of Massachusetts, the US Federal Government and/or any Massachusetts municipality regarding quality of work or work performance.
- k. Shall have completed at least two similar projects involving lead service line replacement from the main to the meter.

The City may make such investigations as it deems necessary, and the bidder shall furnish to the City, under oath if so required, all such information and data for this purpose as the City may request.

7. Conditions of Work

Each bidder must familiarize himself fully with the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his contract. Insofar as possible the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.

8. Addenda and Interpretations

Addenda may be required during the bidding period to modify, clarify, or interpret the Specifications and Contract Documents. It is intended, but not guaranteed, that such Addenda shall be mailed by the Awarding Authority to all persons or parties to whom Bid and Contract Documents have been issued (Bidders of Record). Failure to receive such Addenda shall in no way relieve any bidder from the execution of its provisions. All bidders are cautioned to verify the number of Addenda that have been issued and to secure any needed copies from the City before submitting a bid.

No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. All information given to bidders other than by means of the plans, specifications, or by addenda, as described below, is given informally and shall not be used as the basis of a claim against the City.

Every request for such interpretation should be in writing addressed to Kirsten Hummel at khummel@tataandhoward.com and to be given consideration must be received at least seven days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, when issued, will be emailed to all prospective bidders (at the respective email address furnished by them for such purposes). Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

9. Laws and Regulations

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances or bylaws, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the Contract the same as though written out in full.

10. Project Inspection:

The CONTRACTOR shall make the project site and all project records available to City Services Department (CSD) Manager of Operations or the CSD representative for review during the course of the project. The CSD will periodically monitor the progress of work to ensure that the project is proceeding substantially as defined in the Scope of Work and Project Schedule.

11. Project Audit Provisions:

The City of Everett, the Water Department Superintendent, or his representative, and the contractor shall maintain books, records, documents, and other evidence directly related to the performance on all work receiving funding under the executed Financial Assistance Agreement in accordance with generally accepted professional practice and appropriate accounting procedures and practices. The City of Everett, the Water Department Superintendent, or his representative, and the contractor shall also maintain the financial information and data used by the City or his representative, and the contractor in the preparation or support of project invoices and associated progress reports. The City of Everett has the right to request copies of all journals and diaries as well as any financial information, weigh slips, invoices from suppliers, and any other included cost related to this contract.

12. Chapter 306 of the Acts of 2004:

The Contractor shall comply with Chapter 306 of the Acts of 2004.

AN ACT RELATIVE TO THE HEALTH AND SAFETY ON PUBLIC CONSTRUCTION PROJECTS.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Section 39M of Chapter 30 of the General Laws, as appearing in the 2002 Official Edition, is hereby amended by striking out subsection (c) and inserting in place thereof the following subsection:

(c) The term "lowest responsible and eligible 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; (2) who shall certify, that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (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 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; (4) who, where the provisions of section 8B of chapter 29 apply, shall have been determined to be qualified there under; and (5) who obtains within 10 days of the notification of contract award the security by bond required under section 29 of chapter 149; provided that for the purposes of this section the term "security by bond" shall mean the bond of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority.

SECTION 2. Said chapter 30 is hereby amended by inserting after section 39R the following section:

Section 39S. (a) As used in this section the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. Any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, alteration, remodeling or repair of any public work by the commonwealth, or political subdivision thereof, or by any county, Town, City, district, or housing authority, and estimated by the awarding authority to cost more than \$10,000, and any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, installation, demolition, maintenance or repair of any building by a public agency, estimated to cost more than \$10,000, shall certify on the bid, or contract, under penalties of perjury, as follows:

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

(b) Any employee found on a worksite subject to this section 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 10 hours in duration shall be subject to immediate removal.

(c) The attorney general, or his designee, shall have the power to enforce this section including the power to institute and prosecute proceedings in the superior court to restrain the award of contracts and the performance of contracts in all cases where, after investigation of the facts, he has made a finding that the award or performance has resulted in violation, directly or indirectly, of subsection (b), and he shall not be required to pay to the clerk of the court an entry fee in connection with the institution of the proceeding.

SECTION 3. Paragraph E of subdivision (2) of section 44E of chapter 149 of the General Laws, as so appearing, is hereby amended by striking out the second paragraph and inserting in place thereof the following paragraph:

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; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.

SECTION 4. Paragraph I of subdivision (2) of section 44F of said chapter 149, as so appearing, is hereby amended by striking out the first paragraph and inserting in place thereof the following paragraph:

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; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F.

13. Failure to Enter into Contract

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within 10 days after presentation thereof by the City, shall forfeit to the City, as liquidated damages for such failure or refusal, the security deposited with his/her bid, but the amount forfeited shall not exceed the difference between his/her bid price and the bid price of the next lowest responsible and eligible bidder. In case of death, disability, bona fide clerical or mechanical error of a substantial nature, or other similar unforeseen circumstances affecting the bidder, his/her bid deposit will be returned.

14. Obligation of Bidder

At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Contract Documents (including all addenda). The failure or omission

of any bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect of his bid.

15. Information Not Guaranteed

All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the City. All such information is furnished only for the information and convenience of bidders and is not guaranteed.

It is agreed and understood that the City does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes, or other structures encountered during construction will be the same as those indicated in the Contract Documents.

It is further agreed and understood that no bidder or Contractor shall use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the City or the Architect/Engineer, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

16. Bid Security

Each bid and sub-bid must be accompanied by bid security in the form of a certified check, a bid bond, cash, or a treasurer's or cashier's check, payable to the City, in the amount of five (5) percent of the value of the bid. Such security of general bidders will be returned to all except the three lowest responsible and eligible bidders within five days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids, and the remaining securities will be returned promptly after the City and the accepted bidder have executed the Contract, or if no notice of intent to award has been presented to the selected contractor within 90 days, Saturdays, Sundays and holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter.

17. Right to Reject Bid

The City reserves the right to waive any informality in bids and to reject any and all bids, should the City deem it to be in the public interest to do so.

The City may also reject bids which in its sole judgment are incomplete, conditional, obscure or not responsive or which contain additions not called for, erasures not properly initialed, alterations, or similar irregularities.

18. Time for Completion

The successful general bidder must agree to commence work within ten (10) days of the date of the Notice to Proceed and to fully complete the project within the time limit stated in FORM OF GENERAL BID.

19. Comparison of Bids

Bids will be compared on the basis of prices set forth in the bid forms.

In the event that there is a discrepancy between the lump sum or unit prices written in words and figures, the unit prices written in words will govern.

20. Award of Contract

The Contract will be awarded to “the lowest responsible and eligible bidder” pursuant to General Laws Chapter 30, Section 39M as amended. Such a bidder shall possess the skill, ability and integrity necessary for the faithful performance of the work, shall be able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed, in the work, and shall otherwise comply with all applicable provisions of law. Contract award shall be subject to availability of an appropriation for funding

21. Statutes Regulating Competitive Bidding

Any bid which does not comply with the provisions of Massachusetts General Laws Chapter 30 Section 39M, as amended, need not be accepted and the City may reject every such bid.

22. Wage Rates

Prevailing Wage Rates as determined by the Commissioner of Department of Labor and Workforce Development under the provision of the Massachusetts General Laws, Chapter 149, Section 26 to 27G, as amended, apply to this project. It is the responsibility of the bidder, before bid opening, to request any additional information on Prevailing Wage Rates for those tradespeople who may be employed for the proposed work under this contract.

State schedules of Prevailing wage rates are included in “Appendix” A of the contract documents.

23. Contractor Records

The Contractor shall comply with the provisions of Massachusetts General Laws, Chapter 30, Section 39R concerning Contractor records. (Refer to paragraph 14 of this section).

24. Insurance

The Contractor shall carry and continuously maintain until completion of the Contract, insurance as specified in the General Conditions and in such form as shall protect him performing work covered by this Contract, and the City of Everett and its employees, agents, officials, and engineering consultant, from all claims and liability for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this Contract. **The City of Everett shall be named as an additional insured on all insurance policies required.** The Contractor covenants and agrees to hold the City and its employees, agents and officials harmless from loss or damage due to claims for bodily injury or death and/or property damage arising from, or in connection with, the contractor’s operations under this Contract.

25. Project Manager

The City may utilize the services of a project manager, whose duties shall be as set forth in the Agreement for Project Manager Services.

A contact person must be designated by the Contractor upon award of the Contract who will be accessible to the City on a twenty-four hour per day basis for the duration of the construction period.

26. Payroll

Payroll Records, Labor, Maximum Hours of Employment: Every employee in public work shall lodge, board and trade where and with whom he elects; and no persons or his agents or employees under Contract with the Commonwealth, a county, City or with a department, board, commission or officer acting therefore, for the doing of public work, shall directly or indirectly require as a condition of employment therein, that the employee shall lodge, board or trade at a particular place or with a particular person (Chapter 149, Section 25

of the General Law).

No laborer, workman, mechanic, foreman or inspector working within this Commonwealth, in the employee of the Contractor, Sub-contractor or other persons doing or contracting to do the whole or a part of the work contemplated by this Contract, shall be required or permitted to work no more than eight (8) hours in any one day or no more than 48 hours in any one week, or no more than six (6) days in any one week, except in cases of emergency, or in case any City subject to Section 149 of the General Laws is a party to such a Contract, more than eight (8) hours in any one day, except as aforesaid. The Owner or the Contractor or any Subcontractor may employ laborers, work-men, mechanics, foreman and inspectors for more than eight (8) hours in any one day in the work to be done or under Contract when in the opinion of the Commissioner of Labor and Industries, public necessity so require. (Chapter 149, Section 34 of the General Laws, as amended).

Attention of Bidders is called to Section 148 of Chapter 149 of the General Laws and amendments thereof requiring the weekly payment of employees.

Upon request of the Engineer of the Massachusetts Department of Labor and Industries, the Contractor shall furnish certified copies of any or all payrolls for the Contract, showing the name, address, and occupational classification of each employee on said works, and the hours worked by, and the wages paid each such employee. Such payroll shall also include the rates paid for rented trucks or rental equipment of any kind used on the work. This requirement shall also apply to the work of any Sub-contractor having a Subcontract for any of the work performed on the project. Such records shall be kept in such manner as the Commissioner of Labor and Industries shall prescribe, and shall be open to inspection by the Water Department Superintendent, City Engineer or any authorized representative of the Department of Labor and Industries at any reasonable time and as often as may be necessary.

27. Buy American

The Contractor agrees that preference will be given to domestic construction material by the Contractor, Subcontractor, material men, and suppliers in the performance of this Contract.

28. Compliance with Laws

The Contractor shall keep himself fully informed of all existing and future Federal, State and Local Laws, ordinances, rules and regulations affecting those engaged or employed on the Work, the materials and equipment used in the Work or the conduct of the Work, and of all orders, decrees and other requirements of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in the Drawings, Specifications or other Contract Documents in relation to any such law, ordinance, rule, regulation, order, decree or other requirement, the Contractor shall forthwith report to the Administrator in writing. The Contractor shall at all times observe and comply with, and cause all his agents, servants and employees to observe and comply with all such existing and future laws, ordinances, rules, regulations, orders, decrees and other requirements and he shall protect, indemnify and save harmless the City, its officers, agents, servants, employees and the CSD from and against any and all claims, demands, suits, liabilities, judgments, penalties, losses, damages, costs and expenses, including attorney's fee, arising from or based upon any violation or claimed violation of any such law, ordinance, rule regulation, order, decree or other requirements, whether committed by the Contractor or any of his agents, servants or employees.

Applicable provisions of Massachusetts General Laws and Regulations and/or the United States Code and Code of Federal Regulations govern this contract and any provision in violation of the foregoing shall be deemed null, void and of no effect. Where conflict between Code of Federal Regulations and State Laws and Regulations exist, the more stringent requirement shall apply.

This project 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.). Contractors shall be familiar with the requirements of these regulations.

29. Massachusetts Sales and Use Tax

Materials and supplies to be used in the work of this contract are exempt from the Sales and Use Tax of the Commonwealth of Massachusetts to the extent provided by Chapter 64H, Section 6(f) of the General Laws. The Contractor shall obtain proper certificates, maintain the necessary records and otherwise comply with the requirements of Chapter 14 of the Acts of 1966 and any amendments thereto. Each Bidder shall take this exemption into account in calculating his Bid for the Work.

30. Patented Devices, Materials and Processes

It is mutually understood and agreed that, without exception, contract prices are to include all royalties and costs arising from patents, trademarks and copyrights in any way involved in the work. It is the intent that whenever the Contractor is required or desires to use any design, device, material or process covered by letters patent or copyright, the rights for such use shall be provided for by suitable legal agreement with the patentee or owners.

31. Utility Company Coordination

Written notice shall be given by the Contractor to all public service corporations or officials owning or having charge of publicly or privately owned utilities of his intention to commence operations affecting such utilities at least one (1) month in advance of the commencement of such operations that may affect their utilities and the Contractor shall at the same time file a copy of such notice with the City Engineer.

32. Contractor Parking

The Contractor and his employees and subcontractors and their employees shall not park personal vehicles within the Project Area.

33. Dig Safe

The Contractor shall notify “Mass. Dig Safe” and procure a DIG SAFE number of each location in advance of starting any construction.

“DIG SAFE” Call Center: Telephone (811) or 1-888-344-7233.

BID FORM

PROPOSAL OF: _____

(herein after called "Bidder"), organized and existing under the laws of _____, doing business as:

- X a corporation
- X a partnership
- X an individual.

TO: The Procurement Officer, City Hall, 484 Broadway, Room 39, 3rd Floor, Everett, Massachusetts (hereinafter called the City).

In compliance with your Invitation for Bids, Bidder hereby proposes to fully complete all work for the **Lead Services Replacement Project – Phase 3, Contract No. 24-01** within time frame set by the City of Everett. Bidder hereby agrees to commence work under this Contract on or before a date to be specified in the Notice to Proceed and to Substantially Complete the Work within 210 consecutive calendar days thereafter and to complete the Work in full (Final Completion) within 240 consecutive calendar days thereafter. Work performed after this Contract Time Period will be subject to liquidated damages. The Bidder further agrees to pay as liquidated damages: **\$1,000.00** for each day thereafter of delay in Substantial Completion of the Work, and **\$1,000.00** for each day thereafter of delay in Final Completion of the Work, charged against the Contractor.

Bidder agrees not to withdraw his bid for ninety (90) calendar days after the actual bid opening date and that if the City shall accept this bid, the Bidder will duly execute and acknowledge the Agreement and furnish duly executed and acknowledged, the required Contract Bonds, Insurance Certificates and other documents, within ten (10) calendar days, after the notification that the Agreement and other documents are ready for signature.

Bidder acknowledges receipt of Addenda No. _____ through No. _____.

The attached price is to include and cover the furnishing of all materials (except as herein otherwise specified), all labor (requisite or proper), tools, equipment, apparatus and other means of construction, required in the performance of the works included herein, in the manner set forth and shown in the Specifications for the Work and in the form of Contract, and the **completion** thereof as specified herein. **Bidder agrees to perform all the work described in the Contract Documents for the Proposed Contract Price specified below.**

All prices, except at the extended totals, shall be stated in both words and figures. In the event of a discrepancy between the price in words and the price in figures, the written word shall govern. In the event of a discrepancy between mathematical totals and the totals stated, the mathematical totals shall govern. All prices shall be typewritten or written by hand (printed) in black ink.

BID FORM

To: City of Everett, MA

Project: **Lead Services Replacement Project – Phase 3**
Contract No. 24-01

Date: _____

Submitted by: _____

(full name)

(full address)

(full address)

It is the intent of the Owner to award the Contract for the **Lead Services Replacement Project – Phase 3, Contract No. 24-01** to the qualified bidder with the lowest total price. The Owner reserves the right to reject wholly any bid in case an item or items thereof are obviously unbalanced or appear to the Owner to be so unbalanced as to affect or to be liable to affect adversely any interests of the Owner. The Owner reserves the right to reject any or all bids if it deems it in the City of Everett best interest to do so.

OFFER

Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Engineering Department of City Services for the above-mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work, for the **TOTAL SUM PRICES** indicated on the following page:

The undersigned certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word “person” shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

| <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 | L.S. | Mobilization and Demobilization _____ | \$ _____ | \$ _____ |
| | | Per Lump Sum in Words | | |
| 2 | 930 C.Y. | Test Pits _____ | \$ _____ | \$ _____ |
| | | Per Cubic Yard in Words (Min. \$100 per Cubic Yard) | | |
| 3 | 150 C.Y. | Excavation Below Grade _____ | \$ _____ | \$ _____ |
| | | Per Cubic Yard in Words | | |
| 4 | 25 C.Y. | Rock Removal _____ | \$ _____ | \$ _____ |
| | | Per Cubic Yard in Words | | |
| 5 | 525 L.F. | Reset Existing Granite Curb _____ | \$ _____ | \$ _____ |
| | | Per Linear Foot in Words | | |
| 6 | 900 S.Y. | Cement Concrete Sidewalks _____ | \$ _____ | \$ _____ |
| | | Per Square Yards in Words | | |
| 7 | 1,725 L.F. | 3/4-Inch Copper Water Service Tubing _____ | \$ _____ | \$ _____ |
| | | Per Linear Foot in Words | | |
| 8 | 8 EA. | 3/4-Inch Corporation _____ | \$ _____ | \$ _____ |
| | | Per Each in Words | | |

| <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> |
|----------------|---------------------------|---|---|---|
| 9 | 80 EA. | 3/4-Inch Curb Stop and Box _____ Per Each in Words | \$ _____ | \$ _____ |
| 10 | 850 L.F. | 3/4-Inch Copper Water Service Tubing (Private Side Curb Stop to Inlet of Water Meter) _____ Per Linear Foot in Words | \$ _____ | \$ _____ |
| 11 | 575 L.F. | 1-Inch Copper Water Service Tubing _____ Per Linear Foot in Words | \$ _____ | \$ _____ |
| 12 | 3 EA. | 1-Inch Corporation _____ Per Each in Words | \$ _____ | \$ _____ |
| 13 | 25 EA. | 1-Inch Curb Stop and Box _____ Per Each in Words | \$ _____ | \$ _____ |
| 14 | 285 L.F. | 1-Inch Copper Water Service Tubing (Private Side Curb Stop to Inlet of Water Meter) _____ Per Linear Foot in Words | \$ _____ | \$ _____ |
| 15 | 20 L.F. | 2-Inch Copper Water Service Tubing _____ Per Linear Foot in Words | \$ _____ | \$ _____ |
| 16 | 1 EA. | 2-Inch Corporation _____ Per Each in Words | \$ _____ | \$ _____ |

| <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> |
|----------------|---------------------------|--|---|---|
| 17 | 1 EA. | 2-Inch Curb Stop and Box _____ Per Each in Words | \$ _____ | \$ _____ |
| 18 | 10 EA. | Curb Box Only _____ Per Each in Words | \$ _____ | \$ _____ |
| 19 | 85 TON. | Temporary Trench Pavement (Public) _____ Per Ton in Words (Min. \$250 Per Ton) | \$ _____ | \$ _____ |
| 20 | 425 TON. | Permanent Trench Pavement (Public) _____ Per Ton in Words (Min. \$400 Per Ton) | \$ _____ | \$ _____ |
| 21 | 10 TON. | Driveway Trench Pavement _____ Per Ton in Words (Min. \$350 Per Ton) | \$ _____ | \$ _____ |
| 22 | 50 EA. | Repair and Replace Sewer Service Conflicts in Trench Width _____ Per Each in Words | \$ _____ | \$ _____ |
| 23 | 30 EA. | Repair and Replace Drain Conflicts in Trench Width _____ Per Each in Words | \$ _____ | \$ _____ |
| 24 | 92 EA. | Connection to Meter _____ Per Each in Words | \$ _____ | \$ _____ |

| <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> |
|----------------|---------------------------|--|---|---|
| 25 | 59 EA. | Coring _____ | \$ _____ | \$ _____ |
| | | Per Each in Words | | |
| 26 | 6 EA. | Jackhammer Basement Floor _____ | \$ _____ | \$ _____ |
| | | Per Each in Words | | |
| 27 | 305 S.Y. | Loam and Seed _____ | \$ _____ | \$ _____ |
| | | Per Square Yard in Words | | |
| 28 | 100 HR. | Crew Hours _____ | \$ _____ | \$ _____ |
| | | Per Each in Words (Min. \$500 Per Hour) | | |
| 29 | 1,360 HR. | Uniformed Police Officers <u>Fifty Five Dollars</u> Per Hour in Words | \$ <u>55.00</u> | \$ <u>74,800.00</u> |
| 30 | 1 L.S. | Rodent Control _____ | \$ _____ | \$ _____ |
| | | Per Lump Sum in Words | | |
| 31 | 1 ALL | On-Call Plumber <u>Five Thousand Dollars</u> Per Allowance in Words | \$ <u>5,000.00</u> | \$ <u>5,000.00</u> |
| 32 | 1 ALL | On-Call Electrician <u>Ten Thousand Dollars</u> Per Allowance in Words | \$ <u>10,000.00</u> | \$ <u>10,000.00</u> |
| 33 | 1 ALL | Price Adjustment: Fuel <u>Five Thousand Dollars</u> Per Allowance in Words | \$ <u>5,000.00</u> | \$ <u>5,000.00</u> |

| <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> |
|----------------|---------------------------|---|---|---|
| 34 | 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> |

TOTAL AMOUNT OF BID ITEMS 1 THRU 34 FOR COMPARISON OF BIDS

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

Name of Firm: _____

By: _____
(Signed Name) (Title) (Date)

(Printed Name) (Title)

Business Address: _____

City, State, Zip Code: _____

Tel. No.: _____; Fed. ID No.: _____

Email address: _____

Your Bid must be signed as follows: 1) if the Bidder is an individual, by her/him personally; 2) if the Bidder is a partnership, by the name of the partnership, followed by the signature of each general partner; and 3) if the Bidder is a corporation, by the authorized officer, whose signature must be attested to by the Clerk/Secretary of the corporation and the corporate seal affixed and a *Certificate As To Corporate Bidder* form attached.

NOTE: THE SPECIFIED QUANTITIES ARE ESTIMATES OF REQUIREMENTS FOR USE IN COMPARING BIDS: THE CITY OF EVERETT DOES NOT GUARANTEE THAT THESE QUANTITIES WILL ULTIMATELY BE REQUIRED.

ATTACHMENT A

COMPLIANCE DOCUMENTS

Compliance

The compliance documents in this section must be completed, signed and returned **with your bid package.**

City of Everett
484 Broadway
Everett, MA 02149

Failure to submit the completed documents will cause the disqualification of the proposal.

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Section Index

Check when Complete

- 5% Bid Bond or Certified Check..... _____
- Non-Collusion Form and Tax Compliance Form..... _____
- Certificate of Vote of Authorization..... _____
- Corporation Identification Form..... _____
- 10-Hour OSHA Training OSHA Confirmation..... _____
- Three (3) References..... _____
- Prevailing Wage Certificate..... _____
- Right-to-Know Law..... _____
- Debarment Certification..... _____

Before the commencement of the Job, the contractor must provide to the above office:

- 100% Performance Bond and Labor and Materials Payment Bond naming the City of Everett
- Certificates of Insurance

Your Company's Name: _____

Service or Product Bid _____

NOTE:

- 1) **If N/A is found next to a document your company is not required to provide it.**
- 2) **Failure to submit any of the required documents, in this or in other sections, with your bid response package will be cause for the disqualification of your company.**

NON-COLLUSION FORM AND TAX COMPLIANCE FORM

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity or group of individuals.

(Signature of person signing bid or proposal)

(Name of business)

TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c. 62C, & 49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Signature of person submitting bid or proposal

Name of business

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package will be cause for the disqualification of your company.

CERTIFICATE OF VOTE OF AUTHORIZATION

Date:

I _____, Clerk of _____ hereby certify that at a meeting of the Board of Directors of said Corporation duly held on the _____ day of _____ at which time a quorum was present and voting throughout, the following vote was duly passed and is now in full force and effect:

VOTED: That _____ is hereby authorized, directed and empowered for the name and on behalf of this Corporation to sign, seal with the corporate seal, execute, acknowledge and deliver all contracts and other obligations of this Corporation; the execution of any such contract or obligation by such _____ to be valid and binding upon this Corporation for all purposes, and that this vote shall remain in full force and effect unless and until the same has been altered, amended or revoked by a subsequent vote of such directors and a certificate of such later vote attested by the Clerk of this Corporation.

I further certify that _____ is duly elected/appointed _____ of said corporation

SIGNED:

(Corporate Seal)

Clerk of the Corporation:

Print Name: _____

COMMONWEALTH OF MASSACHUSETTS

MIDDLESEX, 88

Date:

Then personally appeared the above named and acknowledged the foregoing instrument to be their free act and deed before me, _____

Notary Public:

My Commission expires:

CORPORATION IDENTIFICATION

The bidder for the information of the Awarding Authority furnishes the following information.

If a Corporation:

Incorporated in what state _____

President _____

Treasurer _____

Secretary _____

Federal ID Number _____

If a foreign (out of State) Corporation – Are you registered to do business in

Massachusetts? Yes _____, No _____

If you are selected for this work you are required under M.G.L.ch. 30S, 39L to obtain from the Secretary of State, Foreign Corp. Section, State House, Boston, a certificate stating that you Corporation is registered, and furnish said certificate to the Awarding Authority prior to the award.

If a Partnership: (Name all partners)

Name of partner _____

Residence _____

Name of partner _____

Residence _____

If an Individual:

Name _____

Residence _____

If an Individual doing business under a firm name:

Name of Firm _____

Name of Individual _____

Business Address _____

Residence _____

Date _____

Name of Bidder

By _____

Signature _____

Title

Business Address (POST OFFICE BOX NUMBER NOT ACCEPTABLE)

City State

Telephone Number

NOTE (1): This proposal must bear the written signature of the bidder. If the bidder is a partnership, a partner must sign the proposal. If the bidder is a corporation, a duly authorized officer or agent of such corporation must sign the proposal.

NOTE (2): Failure to submit any of the required documents, in this or in other sections, with your bid response package will be cause for the disqualification of your company.

10 HOURS OSHA TRAINING CONFIRMATION

Chapter 306 of the Acts of 2004 **CONSTRUCTION PROJECTS**

AN ACT RELATIVE TO THE HEALTH AND SAFETY ON PUBLIC

The undersigned hereby certifies that all employees to be employed at a worksite for construction, reconstruction, alteration, remodeling, repair, installation, demolition, maintenance or repair of any public work or any public building estimated to cost more than \$10,000.00 have successfully completed a course in construction safety and health approved by the **United States Occupational Safety and Health Administration** that is at least **10 hours** in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first payroll report for each employee and will comply with all laws and regulations applicable to awards of subcontracts subject to section 44F.

Company Name: _____

Address: _____

Signature: _____

Title: _____

Print Name _____

See following Chapter 306 of the Acts of 2004

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package will be cause for the disqualification of your company.

PROVIDE THREE (3) SERVICE APPROPRIATE REFERENCES

1. Company Name:

Address:

Contact Name:

Phone #

Type of service/product provided to this Company:

Dollar value of service provided to this Company:

2. Company Name:

Address:

Contact Name:

Phone #

Type of service/product provided to this Company:

Dollar value of service provided to this Company:

3. Company Name:

Address:

Contact Name:

Phone #

Type of service/product provided to this Company:

Dollar value of service provided to this Company:

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package will be cause for the disqualification of your company.

**WEEKLY PAYROLL RECORDS
REPORT & STATEMENT OF
COMPLIANCE**

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided, A Payroll Form has been printed on the reverse of this page and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

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

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

STATEMENT OF COMPLIANCE

_____, 20____

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

do hereby state that I pay or supervise the payment of the persons employed by

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

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

Signature _____

Title _____

DIVISION OF OCCUPATIONAL SAFETY, 399 WASHINGTON STREET, 5TH FLOOR, BOSTON,
MA.02108

WEEKLY PAYROLL REPORT FORM

Company Name: _____

Prime Contractor

Project Name: _____

Subcontractor

Awarding Auth.: _____

List Prime Contractor: _____

Work Week Ending: _____

Employer Signature: _____

Print Name & Title: _____

Final Report

| Employee Name & Address | Work Classification | Hours Worked | | | | | | | (A) Tot. Hrs. | (B) Hourly Base Wage | Employer Contributions | | | (F) [B+C+D+E] Hourly Total Wage (prev. wage) | (G) [A*F] Weekly Total Amount |
|-------------------------|---------------------|--------------|---|---|---|---|---|---|------------------|-------------------------|-------------------------|----------------|---------------------|--|-------------------------------------|
| | | S | M | T | W | T | F | S | | | (C) Health & Welfare | (D) Pension | (E) Supp. Unemp. | | |
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NOTE: Every contractor and subcontractor is required to submit a copy of their weekly payroll records to the awarding authority.

RIGHT TO KNOW LAW

Any vendor who receives an order or orders resulting from this invitation agrees to submit a Material Safety Data Sheet (MSDS) for each toxic or hazardous substance or mixture containing such substance, pursuant to M.G.L. c. 111F, §§8,9 and 10 and the regulations contained in 441 CMR 21.06 when deliveries are made. The vendor agrees to deliver all containers properly labeled pursuant to M.G.L. c. 111F §7 and regulations contained in 441 CMR 21.05. Failure to furnish MSDS and/or labels on each container may result in civil or criminal penalties, including bid debarment and action to prevent the vendor from selling said substances, or mixtures containing said substances within the Commonwealth. All vendors furnishing substances or mixtures subject to Chapter 111F or M.G.L. are cautioned to obtain and read the laws, rules and regulations referenced above. Copies may be obtained from the State House Bookstore, Secretary of State, State House, Room 117, Boston, MA (617) 727-2834.

NOTE

Failure to submit any of the required documents, in this or in other sections, with your bid response package will be cause for the disqualification of your company.

DEBARMENT CERTIFICATION

In connection with this bid and all procurement transactions, by signature thereon, the respondent certifies that neither the company nor its principals are suspended, debarred, proposed for debarment, declared ineligible, or voluntarily excluded from the award of contracts, procurement or non procurement programs from the Commonwealth of Massachusetts, the US Federal Government and /or the City of Everett. "Principals" means officers, directors, owners, partners and persons having primary interest, management or supervisory responsibilities with the business entity. Vendors shall provide immediate written notification to the Purchasing Agent of the City of Everett at any time during the period of the contract of prior to the contract award if the vendor learns of any changed condition with regards to the debarment of the company or its officers. This certification is a material representation of fact upon which reliance will be placed when making the business award. If at any time it is determined that the vendor knowingly misrepresented this certification, in addition to other legal remedies available to the city of Everett, the contract will be cancelled and the award revoked.

Company Name _____

Address _____

City _____, State _____, Zip Code _____

Phone Number (____) _____

E-Mail Address _____

Signed by Authorized Company Representative:

Print name _____,

Date _____

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 Central Avenue, Vernal Street, Edith Street, Ashton Street, Woodward Street, Shute Street, Wilbur Street, Glendale Avenue, Clifton Avenue, Bettison Avenue, Moreland Place, Amos Terrace, Lewis Street, and Appleton Street. Approximately 43 services will require full replacement from the water main to the house, approximately 111 services will be replaced from the water main to the curb stop, and approximately 38 services will be replaced from the curb stop to the house. Approximately 83 of these services have a section of unknown materials in addition to lead. Up to three test pits will be required for each service with unknown material and the service will be replaced at the discretion of the City and the Engineer. The Work also includes approximately 25 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 condition 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, W, 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, W, 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. 31 - On-Call Plumber: Five Thousand Dollars (\$5,000.00)

Bid Item No. 32 - On-Call Electrician: Ten Thousand Dollars (10,000.00)

Bid Item No. 33 - Price Adjustment: Fuel: Five Thousand Dollars (\$5,000.00)

Bid Item No. 34 - 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.
- B. There will be no separate payment for compliance with the Commonwealth of Massachusetts COVID-19 Guidelines and Procedures for All Construction Site and Workers at All Public Work document. The costs associated with compliance shall be included in the various unit price or lump sum bid prices in the contract.

1.02 RELATED WORK

- A. Documents affecting the work of this Section include General Conditions, Supplementary 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 generally bill the Contractor weekly, and the Contractor shall pay the Police Department bills within a ten (10) working day period for uniformed Police Officers provided on the job site. The billing shall include a weekly statement outlining the days worked, hours worked, location of the work and rate for all officers providing service during that billing period. The Police Chief must sign all bills.
- 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. Except for the payment of uniformed police officers as outlined in 1.14, 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 | 3/4-Inch Copper Water Service Tubing (Private Side Curb Stop to Inlet of Water Meter) |
| 11 | 1-Inch Copper Water Service Tubing |
| 12 | 1-Inch Corporation |
| 13 | 1-Inch Curb Stop and Box |
| 14 | 1-Inch Copper Water Service Tubing (Private Side Curb Stop to Inlet of Water Meter) |
| 15 | 2-Inch Copper Water Service Tubing |
| 16 | 2-Inch Corporation |
| 17 | 2-Inch Curb Stop and Box |
| 18 | Curb Box Only |
| 19 | Temporary Trench Pavement (Public) |
| 20 | Permanent Trench Pavement (Public) |
| 21 | Driveway Trench Pavement |
| 22 | Repair and Replace Sewer Service Conflicts in Trench Width |
| 23 | Repair and Replace Drain Conflicts in Trench Width |
| 24 | Connection to Meter |
| 25 | Coring |
| 26 | Jackhammer Basement Floor |
| 27 | Loam and Seed |
| 28 | Crew Hours |
| 29 | Uniformed Police Officers |
| 30 | Rodent Control |
| 31 | On-Call Plumber |
| 32 | On-Call Electrician |
| 33 | Price Adjustment: Fuel |
| 34 | Price Adjustment: Hot Mix Asphalt |

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 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 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, 11, 14, and 15: 3/4-Inch, 1-Inch, and 2-Inch Copper Water Service Tubing

Under Bid Item Nos. 7, 10, 11, 14, and 15, the Contractor will be paid the contract unit price 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 video recording, 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, 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 have a full-time public relations employee available to schedule work with homeowners. Public relations employee 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 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. 12 and Item No. 13: 1-Inch Corporation, Curb Stop and Box

Under Bid Item No. 12 and Bid Item No. 13, the Contractor will be paid the contract unit price for furnishing and installing each corporation, service saddles (where necessary), adaptors, and each curb stop and curb box complete in place.

Under Item No. 12 and Bid Item No. 13, 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 and Item No. 17: 2-Inch Corporation, Curb Stop and Box

Under Bid Item No. 16 and Bid Item No. 17, the Contractor will be paid the contract unit price for furnishing and installing each corporation, service saddles (where necessary), adaptors, and each curb stop and curb box complete in place.

Under Item No. 16 and Bid Item No. 17, 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. 18: Curb Box Only

Under Bid Item No. 18 the Contractor will be paid the contract unit price 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. 18 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. 19 Temporary Trench Pavement (Public)

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 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. 20 Permanent Trench Pavement (Public)

Payment shall be made at the price bid per ton under Bid Item No. 20 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. 21 Driveway Trench Pavement

Payment shall be made at the price bid per ton under Bid Item No. 21 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. 22: Repair and Replace Sewer Service Conflicts in Trench Width

Payment shall be made at the unit price bid per each under Bid Item No. 22 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. 23: Repair and Replace Drain Conflicts in Trench Width

Payment shall be made at the unit price bid per each under Bid Item No. 23 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. 24: Connection to Meter

Payment shall be made from unit price per each noted under Bid Item No. 24 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. 25: Coring

Payment shall be made from unit price per each noted under Bid Item No. 25 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. 26: Jackhammer Basement Floor

Payment shall be made from unit price per each noted under Bid Item No. 26 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. 27: Loam and Seed

Payment shall be made at the unit price per square yard measured under Bid Item No. 27 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 Contractor's 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. 27.

Item No. 28: Crew Hours

Payment for crew hours shall be made at the unit price per hour under Bid Item No. 28 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.

Item No. 29: Uniformed Police Officers

Payment shall be made at the unit bid price per hour under Bid Item No. 29 in the Form for General Bid. Payment shall be full compensation for all costs associated with providing uniformed police officers for public safety as required by the Contract Documents. Contractor shall be reimbursed the actual cost of police details based upon paid invoices submitted in advance, without mark-up.

Item No. 30: Rodent Control

Payment shall be made at the lump sum bid under Bid Item No. 30 in the Bid Form. Payment shall be full compensation for providing rodent control in the project area as specified in Appendix H 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. 31: On-Call Plumber

Payment shall be made from the cash allowance noted under Bid Item No. 31 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. 32: On-Call Electrician

Payment shall be made from the cash allowance noted under Bid Item No. 32 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. 33: Price Adjustment: Fuel

Payment shall be made from the cash allowance noted under Bid Item No. 33 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 sections 01000. Note that this is an allowance only and the actual payment will be based on active pricing as described in section 01000. If the price decreases, a credit shall be applied by change order to the Contract.

Item No. 34: Price-Adjustment: Hot Mix Asphalt

Payment shall be made from the cash allowance noted under Bid Item No. 34 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 sections 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 section 01000. If the price decreases, a credit shall be applied by change order to the Contract.

END OF SECTION

SECTION 01027

APPLICATION FOR PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included: Comply with procedures described in this Section when applying for progress payment and final payment under this Contract.

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. Progress payments are described in the General Conditions.
- C. Payments upon Substantial Completion and Final Completion are described in the General Conditions.

1.03 SUBMITTALS

- A. Informal Submittal: Unless otherwise directed by the Engineer:
 - 1. Make an informal submittal of Request for Payment by filling in, with erasable pencil, pertinent portions of AIA Document G702 "Application and Certificate for Payment" or EJCDC Document C-620 "Contractor's Application for Payment," plus continuation sheet or sheets.
 - 2. Make this preliminary submittal to the Engineer at the end of each month.
 - 3. Revise the informal submittal of Request for Payment as agreed, between both parties, initialing all copies.
- B. Formal Submittal: Unless otherwise directed by the Engineer:
 - 1. Make a formal submittal of Request for Payment by filling in the agreed data, by typewriter or neat lettering in ink, on AIA Document G702 "Application and Certificate for Payment" or EJCDC Document C-620 "Contractor's Application for Payment," plus continuation sheet or sheets.
 - 2. Sign and notarize the six (6) original Applications for Payment.
 - 3. Submit the originals of the Applications for Payment plus six (6) identical copies of the continuation sheet or sheets to the Engineer.
 - 4. The Engineer shall compare the formal submittal with the approved informal submittal and when approved, shall sign the Applications for Payment and forward them along with the continuation sheet or sheets to the Owner. Once executed by the appropriate officials, the Owner will distribute:
 - a. Two copies to Contractor
 - b. Two copies to Owner
 - c. Two copies to Engineer.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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. Commonwealth of Massachusetts COVID-19 Guidelines and Procedures for all construction sites and workers at all public work
 24. Price Escalation Clause
 25. 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. 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.
- B. 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/repared 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.

- 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. 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 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 have a full-time public relations employee available to 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. 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.
- 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.

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 COMMONWEALTH OF MASSACHUSETTS COVID-19 GUIDELINES AND PROCEDURES FOR ALL CONSTRUCTION SITES AND WORKERS AT ALL PUBLIC WORK

- A. The General Contractor, as the responsible party for all safety practices and safety compliance measures at the construction site, shall bear sole responsibility for compliance with all guidelines, procedures, and directives outlined in the Commonwealth of Massachusetts COVID-19 Guidelines and Procedures for All Construction Site and Workers at All Public Work document, dated March 25, 2020. All costs associated with compliance with these guidelines and procedures, either in their current form or any future modifications thereof, which are current as of the time of the bid, shall be paid for by the General Contractor. A web link to the guidelines and procedures is provided below.
<https://www.mass.gov/doc/march-25-2020-construction-guidance>

3.24 PRICE ESCALATION CLAUSE

- A. Current extraordinary trends in the construction market are creating the potential for material shortages, allocations, and cost increases being placed on various construction materials. Due to the unpredictable nature of such material shortages, price protection cannot be guaranteed for trades whose work includes these construction materials. The Contractor shall use its best efforts to minimize such price impact. However, in the event the Cost of Work increases due to such material cost increases beyond the Contractor's control, the Contract Sum shall be increased accordingly to cover the actual material cost

increase based upon documentation of original “as-bid” material costs versus documentation of price escalation at the time of material purchase. Contractor shall not charge fees on such cost increases, including but not limited to, subcontractor markup, bond markup, and General Conditions markup. In the event that material shortages impact the critical path schedule of activities for the construction project, an extension of contract time shall be granted for such substantiated delays at no additional cost to the Owner.

3.25 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 VIDEO RECORDING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work included: The Contractor shall provide all labor, materials, tools, and equipment necessary to furnish a video recording 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 VIDEO RECORDING

- A. Equipment
 - 1. The equipment employed in the video recording shall be sufficient to provide a clear, full color and detailed visual description of the site along with a detailed narrative description of physical conditions and location.
- B. Area Included
 - 1. The area included in the video recording 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 video recordings shall be conducted at a slow walking pace and shall record the physical conditions in the area described above.
 - 2. The narrative description shall be recorded simultaneously and shall supplement the visual description particularly with regard to location.
 - 3. Contractor shall furnish three (3) complete copies of the video recording to the Engineer prior to the start of the work.

D. Personnel

1. All personnel employed by the Contractor in video recording 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 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 in the amount invoiced by the Chief of Police through the Contractor without mark-up in accordance with the Bid Form.

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. Sheet piling 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 cast iron 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. Zinc plated 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 less than 10-inches in diameter, 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 02757

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 recleaned.
 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>U.S. Standard Sieve Size</u> | <u>Percent Passing</u> |
|---------------------------------|------------------------|
| 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



MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

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

Prevailing Wage Rates

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

LAUREN JONES
Secretary

MICHAEL FLANAGAN
Director

Awarding Authority: City of Everett
Contract Number: **City/Town:** EVERETT
Description of Work: This project consists of the replacement of approximately 200 suspected lead water service connections in the City of Everett.
Job Location: Everett, MA

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 annual update requirement is not applicable to 27F "rental of equipment" contracts. **The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.**
- 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.

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| Construction | | | | | | |
| (2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2021 | \$37.05 | \$13.41 | \$16.01 | \$0.00 | \$66.47 |
| (3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2021 | \$37.12 | \$13.41 | \$16.01 | \$0.00 | \$66.54 |
| (4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2021 | \$37.24 | \$13.41 | \$16.01 | \$0.00 | \$66.66 |
| ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2020 | \$103.05 | \$9.40 | \$23.12 | \$0.00 | \$135.57 |
| For apprentice rates see "Apprentice- PILE DRIVER" | | | | | | |
| AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.93 | \$9.10 | \$17.57 | \$0.00 | \$70.60 |
| | 06/01/2023 | \$44.33 | \$9.40 | \$17.82 | \$0.00 | \$71.55 |
| | 12/01/2023 | \$45.58 | \$9.40 | \$17.82 | \$0.00 | \$72.80 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$43.33 | \$9.35 | \$17.82 | \$0.00 | \$70.50 |
| | 06/01/2023 | \$44.33 | \$9.40 | \$17.82 | \$0.00 | \$71.55 |
| | 12/01/2023 | \$45.58 | \$9.40 | \$17.82 | \$0.00 | \$72.80 |
| | 06/01/2024 | \$47.06 | \$9.40 | \$17.82 | \$0.00 | \$74.28 |
| | 12/01/2024 | \$48.53 | \$9.40 | \$17.82 | \$0.00 | \$75.75 |
| | 06/01/2025 | \$50.03 | \$9.40 | \$17.82 | \$0.00 | \$77.25 |
| | 12/01/2025 | \$51.53 | \$9.40 | \$17.82 | \$0.00 | \$78.75 |
| | 06/01/2026 | \$53.08 | \$9.40 | \$17.82 | \$0.00 | \$80.30 |
| | 12/01/2026 | \$54.58 | \$9.40 | \$17.82 | \$0.00 | \$81.80 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway)" | | | | | | |
| ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i> | 12/01/2020 | \$38.10 | \$12.80 | \$9.45 | \$0.00 | \$60.35 |
| ASPHALT RAKER <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$42.83 | \$9.35 | \$17.82 | \$0.00 | \$70.00 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| | 06/01/2024 | \$46.56 | \$9.40 | \$17.82 | \$0.00 | \$73.78 |
| | 12/01/2024 | \$48.03 | \$9.40 | \$17.82 | \$0.00 | \$75.25 |
| | 06/01/2025 | \$49.53 | \$9.40 | \$17.82 | \$0.00 | \$76.75 |
| | 12/01/2025 | \$51.03 | \$9.40 | \$17.82 | \$0.00 | \$78.25 |
| | 06/01/2026 | \$52.58 | \$9.40 | \$17.82 | \$0.00 | \$79.80 |
| | 12/01/2026 | \$54.08 | \$9.40 | \$17.82 | \$0.00 | \$81.30 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway)" | | | | | | |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.63 | \$14.25 | \$16.05 | \$0.00 | \$83.93 |
| | 06/01/2023 | \$54.88 | \$14.25 | \$16.05 | \$0.00 | \$85.18 |
| | 12/01/2023 | \$56.13 | \$14.25 | \$16.05 | \$0.00 | \$86.43 |
| | 06/01/2024 | \$57.43 | \$14.25 | \$16.05 | \$0.00 | \$87.73 |
| | 12/01/2024 | \$58.88 | \$14.25 | \$16.05 | \$0.00 | \$89.18 |
| | 06/01/2025 | \$60.18 | \$14.25 | \$16.05 | \$0.00 | \$90.48 |
| | 12/01/2025 | \$61.63 | \$14.25 | \$16.05 | \$0.00 | \$91.93 |
| | 06/01/2026 | \$62.93 | \$14.25 | \$16.05 | \$0.00 | \$93.23 |
| | 12/01/2026 | \$64.38 | \$14.25 | \$16.05 | \$0.00 | \$94.68 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.63 | \$14.25 | \$16.05 | \$0.00 | \$83.93 |
| | 06/01/2023 | \$54.88 | \$14.25 | \$16.05 | \$0.00 | \$85.18 |
| | 12/01/2023 | \$56.13 | \$14.25 | \$16.05 | \$0.00 | \$86.43 |
| | 06/01/2024 | \$57.43 | \$14.25 | \$16.05 | \$0.00 | \$87.73 |
| | 12/01/2024 | \$58.88 | \$14.25 | \$16.05 | \$0.00 | \$89.18 |
| | 06/01/2025 | \$60.18 | \$14.25 | \$16.05 | \$0.00 | \$90.48 |
| | 12/01/2025 | \$61.63 | \$14.25 | \$16.05 | \$0.00 | \$91.93 |
| | 06/01/2026 | \$62.93 | \$14.25 | \$16.05 | \$0.00 | \$93.23 |
| | 12/01/2026 | \$64.38 | \$14.25 | \$16.05 | \$0.00 | \$94.68 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.93 | \$9.10 | \$17.57 | \$0.00 | \$70.60 |
| | 06/01/2023 | \$44.33 | \$9.40 | \$17.82 | \$0.00 | \$71.55 |
| | 12/01/2023 | \$45.58 | \$9.40 | \$17.82 | \$0.00 | \$72.80 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$43.33 | \$9.35 | \$17.82 | \$0.00 | \$70.50 |
| | 06/01/2023 | \$44.33 | \$9.40 | \$17.82 | \$0.00 | \$71.55 |
| | 12/01/2023 | \$45.58 | \$9.40 | \$17.82 | \$0.00 | \$72.80 |
| | 06/01/2024 | \$47.06 | \$9.40 | \$17.82 | \$0.00 | \$74.28 |
| | 12/01/2024 | \$48.53 | \$9.40 | \$17.82 | \$0.00 | \$75.75 |
| | 06/01/2025 | \$50.03 | \$9.40 | \$17.82 | \$0.00 | \$77.25 |
| | 12/01/2025 | \$51.53 | \$9.40 | \$17.82 | \$0.00 | \$78.75 |
| | 06/01/2026 | \$53.08 | \$9.40 | \$17.82 | \$0.00 | \$80.30 |
| | 12/01/2026 | \$54.58 | \$9.40 | \$17.82 | \$0.00 | \$81.80 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway)" | | | | | | |
| BOILER MAKER <i>BOILERMAKERS LOCAL 29</i> | 01/01/2023 | \$47.37 | \$7.07 | \$20.31 | \$0.00 | \$74.75 |
| | 01/01/2024 | \$48.12 | \$7.07 | \$20.60 | \$0.00 | \$75.79 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 65 | \$30.79 | \$7.07 | \$13.22 | \$0.00 | \$51.08 |
| 2 | 65 | \$30.79 | \$7.07 | \$13.22 | \$0.00 | \$51.08 |
| 3 | 70 | \$33.16 | \$7.07 | \$14.23 | \$0.00 | \$54.46 |
| 4 | 75 | \$35.53 | \$7.07 | \$15.24 | \$0.00 | \$57.84 |
| 5 | 80 | \$37.90 | \$7.07 | \$16.25 | \$0.00 | \$61.22 |
| 6 | 85 | \$40.26 | \$7.07 | \$17.28 | \$0.00 | \$64.61 |
| 7 | 90 | \$42.63 | \$7.07 | \$18.28 | \$0.00 | \$67.98 |
| 8 | 95 | \$45.00 | \$7.07 | \$19.32 | \$0.00 | \$71.39 |

Effective Date - 01/01/2024

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 65 | \$31.28 | \$7.07 | \$13.22 | \$0.00 | \$51.57 |
| 2 | 65 | \$31.28 | \$7.07 | \$13.22 | \$0.00 | \$51.57 |
| 3 | 70 | \$33.68 | \$7.07 | \$14.23 | \$0.00 | \$54.98 |
| 4 | 75 | \$36.09 | \$7.07 | \$15.24 | \$0.00 | \$58.40 |
| 5 | 80 | \$38.50 | \$7.07 | \$16.25 | \$0.00 | \$61.82 |
| 6 | 85 | \$40.90 | \$7.07 | \$17.28 | \$0.00 | \$65.25 |
| 7 | 90 | \$43.31 | \$7.07 | \$18.28 | \$0.00 | \$68.66 |
| 8 | 95 | \$45.71 | \$7.07 | \$19.32 | \$0.00 | \$72.10 |

Notes:

Apprentice to Journeyworker Ratio:1:4

| | | | | | | |
|--|------------|---------|---------|---------|--------|----------|
| BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) | 02/01/2023 | \$60.35 | \$11.49 | \$22.34 | \$0.00 | \$94.18 |
| BRICKLAYERS LOCAL 3 (BOSTON) | 08/01/2023 | \$62.40 | \$11.49 | \$22.34 | \$0.00 | \$96.23 |
| | 02/01/2024 | \$63.65 | \$11.49 | \$22.34 | \$0.00 | \$97.48 |
| | 08/01/2024 | \$65.75 | \$11.49 | \$22.34 | \$0.00 | \$99.58 |
| | 02/01/2025 | \$67.05 | \$11.49 | \$22.34 | \$0.00 | \$100.88 |
| | 08/01/2025 | \$69.20 | \$11.49 | \$22.34 | \$0.00 | \$103.03 |
| | 02/01/2026 | \$70.55 | \$11.49 | \$22.34 | \$0.00 | \$104.38 |
| | 08/01/2026 | \$72.75 | \$11.49 | \$22.34 | \$0.00 | \$106.58 |
| | 02/01/2027 | \$74.15 | \$11.49 | \$22.34 | \$0.00 | \$107.98 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$30.18 | \$11.49 | \$22.34 | \$0.00 | \$64.01 |
| 2 | 60 | \$36.21 | \$11.49 | \$22.34 | \$0.00 | \$70.04 |
| 3 | 70 | \$42.25 | \$11.49 | \$22.34 | \$0.00 | \$76.08 |
| 4 | 80 | \$48.28 | \$11.49 | \$22.34 | \$0.00 | \$82.11 |
| 5 | 90 | \$54.32 | \$11.49 | \$22.34 | \$0.00 | \$88.15 |

Effective Date - 08/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$31.20 | \$11.49 | \$22.34 | \$0.00 | \$65.03 |
| 2 | 60 | \$37.44 | \$11.49 | \$22.34 | \$0.00 | \$71.27 |
| 3 | 70 | \$43.68 | \$11.49 | \$22.34 | \$0.00 | \$77.51 |
| 4 | 80 | \$49.92 | \$11.49 | \$22.34 | \$0.00 | \$83.75 |
| 5 | 90 | \$56.16 | \$11.49 | \$22.34 | \$0.00 | \$89.99 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|------------------------------------|------------|---------|---------|---------|--------|---------|
| BULLDOZER/GRADER/SCRAPER | 12/01/2022 | \$53.05 | \$14.25 | \$16.05 | \$0.00 | \$83.35 |
| <i>OPERATING ENGINEERS LOCAL 4</i> | 06/01/2023 | \$54.29 | \$14.25 | \$16.05 | \$0.00 | \$84.59 |
| | 12/01/2023 | \$55.53 | \$14.25 | \$16.05 | \$0.00 | \$85.83 |
| | 06/01/2024 | \$56.81 | \$14.25 | \$16.05 | \$0.00 | \$87.11 |
| | 12/01/2024 | \$58.25 | \$14.25 | \$16.05 | \$0.00 | \$88.55 |
| | 06/01/2025 | \$59.53 | \$14.25 | \$16.05 | \$0.00 | \$89.83 |
| | 12/01/2025 | \$60.97 | \$14.25 | \$16.05 | \$0.00 | \$91.27 |
| | 06/01/2026 | \$62.25 | \$14.25 | \$16.05 | \$0.00 | \$92.55 |
| | 12/01/2026 | \$63.69 | \$14.25 | \$16.05 | \$0.00 | \$93.99 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| CAISSON & UNDERPINNING BOTTOM MAN | 12/01/2022 | \$43.73 | \$9.35 | \$17.97 | \$0.00 | \$71.05 |
| <i>LABORERS - FOUNDATION AND MARINE</i> | 06/01/2023 | \$44.73 | \$9.40 | \$17.97 | \$0.00 | \$72.10 |
| | 12/01/2023 | \$45.98 | \$9.40 | \$17.97 | \$0.00 | \$73.35 |
| | 06/01/2024 | \$47.46 | \$9.40 | \$17.97 | \$0.00 | \$74.83 |
| | 12/01/2024 | \$48.93 | \$9.40 | \$17.97 | \$0.00 | \$76.30 |
| | 06/01/2025 | \$50.43 | \$9.40 | \$17.97 | \$0.00 | \$77.80 |
| | 12/01/2025 | \$51.93 | \$9.40 | \$17.97 | \$0.00 | \$79.30 |
| | 06/01/2026 | \$53.48 | \$9.40 | \$17.97 | \$0.00 | \$80.85 |
| | 12/01/2026 | \$54.98 | \$9.40 | \$17.97 | \$0.00 | \$82.35 |

For apprentice rates see "Apprentice- LABORER"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|--------|---------|---------------------------|------------|
| CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i> | 12/01/2022 | \$42.58 | \$9.35 | \$17.97 | \$0.00 | \$69.90 |
| | 06/01/2023 | \$43.58 | \$9.40 | \$17.97 | \$0.00 | \$70.95 |
| | 12/01/2023 | \$44.83 | \$9.40 | \$17.97 | \$0.00 | \$72.20 |
| | 06/01/2024 | \$46.31 | \$9.40 | \$17.97 | \$0.00 | \$73.68 |
| | 12/01/2024 | \$47.78 | \$9.40 | \$17.97 | \$0.00 | \$75.15 |
| | 06/01/2025 | \$49.28 | \$9.40 | \$17.97 | \$0.00 | \$76.65 |
| | 12/01/2025 | \$50.78 | \$9.40 | \$17.97 | \$0.00 | \$78.15 |
| | 06/01/2026 | \$52.33 | \$9.40 | \$17.97 | \$0.00 | \$79.70 |
| | 12/01/2026 | \$53.83 | \$9.40 | \$17.97 | \$0.00 | \$81.20 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i> | 12/01/2022 | \$42.58 | \$9.35 | \$17.97 | \$0.00 | \$69.90 |
| | 06/01/2023 | \$43.58 | \$9.40 | \$17.97 | \$0.00 | \$70.95 |
| | 12/01/2023 | \$44.83 | \$9.40 | \$17.97 | \$0.00 | \$72.20 |
| | 06/01/2024 | \$46.31 | \$9.40 | \$17.97 | \$0.00 | \$73.68 |
| | 12/01/2024 | \$47.78 | \$9.40 | \$17.97 | \$0.00 | \$75.15 |
| | 06/01/2025 | \$49.28 | \$9.40 | \$17.97 | \$0.00 | \$76.65 |
| | 12/01/2025 | \$50.78 | \$9.40 | \$17.97 | \$0.00 | \$78.15 |
| | 06/01/2026 | \$52.33 | \$9.40 | \$17.97 | \$0.00 | \$79.70 |
| | 12/01/2026 | \$53.83 | \$9.40 | \$17.97 | \$0.00 | \$81.20 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| CARPENTER <i>CARPENTERS -ZONE 1 (Metro Boston)</i> | 03/01/2023 | \$54.96 | \$9.33 | \$19.97 | \$0.00 | \$84.26 |

Apprentice - CARPENTER - Zone 1 Metro Boston

Effective Date - 03/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$27.48 | \$9.33 | \$1.73 | \$0.00 | \$38.54 |
| 2 | 60 | \$32.98 | \$9.33 | \$1.73 | \$0.00 | \$44.04 |
| 3 | 70 | \$38.47 | \$9.33 | \$14.78 | \$0.00 | \$62.58 |
| 4 | 75 | \$41.22 | \$9.33 | \$14.78 | \$0.00 | \$65.33 |
| 5 | 80 | \$43.97 | \$9.33 | \$16.51 | \$0.00 | \$69.81 |
| 6 | 80 | \$43.97 | \$9.33 | \$16.51 | \$0.00 | \$69.81 |
| 7 | 90 | \$49.46 | \$9.33 | \$18.24 | \$0.00 | \$77.03 |
| 8 | 90 | \$49.46 | \$9.33 | \$18.24 | \$0.00 | \$77.03 |

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$35.03/ 3&4 \$42.20/ 5&6 \$63.53/ 7&8 \$70.74

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|--|------------|---------|--------|--------|--------|---------|
| CARPENTER WOOD FRAME <i>CARPENTERS -ZONE 2 (Wood Frame)</i> | 04/01/2023 | \$28.84 | \$6.69 | \$6.47 | \$0.00 | \$42.00 |
| All Aspects of New Wood Frame Work | | | | | | |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER (Wood Frame) - Zone 2

Effective Date - 04/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$14.42 | \$6.69 | \$0.00 | \$0.00 | \$21.11 |
| 2 | 50 | \$14.42 | \$6.69 | \$0.00 | \$0.00 | \$21.11 |
| 3 | 55 | \$15.86 | \$6.69 | \$2.00 | \$0.00 | \$24.55 |
| 4 | 55 | \$15.86 | \$6.69 | \$2.00 | \$0.00 | \$24.55 |
| 5 | 70 | \$20.19 | \$6.69 | \$6.47 | \$0.00 | \$33.35 |
| 6 | 70 | \$20.19 | \$6.69 | \$6.47 | \$0.00 | \$33.35 |
| 7 | 80 | \$23.07 | \$6.69 | \$6.47 | \$0.00 | \$36.23 |
| 8 | 80 | \$23.07 | \$6.69 | \$6.47 | \$0.00 | \$36.23 |

Notes:
 % Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$20.09/ 3&4 \$24.95/ 5&6 \$33.04/ 7&8 \$35.91

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| CEMENT MASONRY/PLASTERING BRICKLAYERS LOCAL 3 (BOSTON) | 01/01/2023 | \$49.45 | \$12.75 | \$22.74 | \$0.87 | \$85.81 |
| | 07/01/2023 | \$50.59 | \$12.75 | \$22.74 | \$0.87 | \$86.95 |
| | 01/01/2024 | \$51.73 | \$12.75 | \$22.74 | \$0.87 | \$88.09 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 01/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$24.73 | \$12.75 | \$15.49 | \$0.00 | \$52.97 |
| 2 | 60 | \$29.67 | \$12.75 | \$17.99 | \$0.87 | \$61.28 |
| 3 | 65 | \$32.14 | \$12.75 | \$18.99 | \$0.87 | \$64.75 |
| 4 | 70 | \$34.62 | \$12.75 | \$19.99 | \$0.87 | \$68.23 |
| 5 | 75 | \$37.09 | \$12.75 | \$20.99 | \$0.87 | \$71.70 |
| 6 | 80 | \$39.56 | \$12.75 | \$21.99 | \$0.87 | \$75.17 |
| 7 | 90 | \$44.51 | \$12.75 | \$22.99 | \$0.87 | \$81.12 |

Effective Date - 07/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$25.30 | \$12.75 | \$15.49 | \$0.00 | \$53.54 |
| 2 | 60 | \$30.35 | \$12.75 | \$17.99 | \$0.87 | \$61.96 |
| 3 | 65 | \$32.88 | \$12.75 | \$18.99 | \$0.87 | \$65.49 |
| 4 | 70 | \$35.41 | \$12.75 | \$19.99 | \$0.87 | \$69.02 |
| 5 | 75 | \$37.94 | \$12.75 | \$20.99 | \$0.87 | \$72.55 |
| 6 | 80 | \$40.47 | \$12.75 | \$21.99 | \$0.87 | \$76.08 |
| 7 | 90 | \$45.53 | \$12.75 | \$22.99 | \$0.87 | \$82.14 |

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

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| CHAIN SAW OPERATOR LABORERS - ZONE 1 | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4 | 12/01/2022 | \$54.68 | \$14.25 | \$16.05 | \$0.00 | \$84.98 |
| | 06/01/2023 | \$55.95 | \$14.25 | \$16.05 | \$0.00 | \$86.25 |
| | 12/01/2023 | \$57.23 | \$14.25 | \$16.05 | \$0.00 | \$87.53 |
| | 06/01/2024 | \$58.55 | \$14.25 | \$16.05 | \$0.00 | \$88.85 |
| | 12/01/2024 | \$60.03 | \$14.25 | \$16.05 | \$0.00 | \$90.33 |
| | 06/01/2025 | \$61.36 | \$14.25 | \$16.05 | \$0.00 | \$91.66 |
| | 12/01/2025 | \$62.83 | \$14.25 | \$16.05 | \$0.00 | \$93.13 |
| | 06/01/2026 | \$64.16 | \$14.25 | \$16.05 | \$0.00 | \$94.46 |
| | 12/01/2026 | \$65.64 | \$14.25 | \$16.05 | \$0.00 | \$95.94 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$35.08 | \$14.25 | \$16.05 | \$0.00 | \$65.38 |
| | 06/01/2023 | \$35.90 | \$14.25 | \$16.05 | \$0.00 | \$66.20 |
| | 12/01/2023 | \$36.72 | \$14.25 | \$16.05 | \$0.00 | \$67.02 |
| | 06/01/2024 | \$37.57 | \$14.25 | \$16.05 | \$0.00 | \$67.87 |
| | 12/01/2024 | \$38.52 | \$14.25 | \$16.05 | \$0.00 | \$68.82 |
| | 06/01/2025 | \$39.37 | \$14.25 | \$16.05 | \$0.00 | \$69.67 |
| | 12/01/2025 | \$40.32 | \$14.25 | \$16.05 | \$0.00 | \$70.62 |
| | 06/01/2026 | \$41.18 | \$14.25 | \$16.05 | \$0.00 | \$71.48 |
| | 12/01/2026 | \$42.13 | \$14.25 | \$16.05 | \$0.00 | \$72.43 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 1</i> | 01/01/2023 | \$56.06 | \$8.65 | \$23.05 | \$0.00 | \$87.76 |
| | 07/01/2023 | \$57.26 | \$8.65 | \$23.05 | \$0.00 | \$88.96 |
| | 01/01/2024 | \$58.46 | \$8.65 | \$23.05 | \$0.00 | \$90.16 |
| | 07/01/2024 | \$59.66 | \$8.65 | \$23.05 | \$0.00 | \$91.36 |
| | 01/01/2025 | \$60.86 | \$8.65 | \$23.05 | \$0.00 | \$92.56 |

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$28.03 | \$8.65 | \$0.00 | \$0.00 | \$36.68 |
| 2 | 55 | \$30.83 | \$8.65 | \$6.27 | \$0.00 | \$45.75 |
| 3 | 60 | \$33.64 | \$8.65 | \$6.84 | \$0.00 | \$49.13 |
| 4 | 65 | \$36.44 | \$8.65 | \$7.41 | \$0.00 | \$52.50 |
| 5 | 70 | \$39.24 | \$8.65 | \$19.63 | \$0.00 | \$67.52 |
| 6 | 75 | \$42.05 | \$8.65 | \$20.20 | \$0.00 | \$70.90 |
| 7 | 80 | \$44.85 | \$8.65 | \$20.77 | \$0.00 | \$74.27 |
| 8 | 90 | \$50.45 | \$8.65 | \$21.91 | \$0.00 | \$81.01 |

Effective Date - 07/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$28.63 | \$8.65 | \$0.00 | \$0.00 | \$37.28 |
| 2 | 55 | \$31.49 | \$8.65 | \$6.27 | \$0.00 | \$46.41 |
| 3 | 60 | \$34.36 | \$8.65 | \$6.84 | \$0.00 | \$49.85 |
| 4 | 65 | \$37.22 | \$8.65 | \$7.41 | \$0.00 | \$53.28 |
| 5 | 70 | \$40.08 | \$8.65 | \$19.63 | \$0.00 | \$68.36 |
| 6 | 75 | \$42.95 | \$8.65 | \$20.20 | \$0.00 | \$71.80 |
| 7 | 80 | \$45.81 | \$8.65 | \$20.77 | \$0.00 | \$75.23 |
| 8 | 90 | \$51.53 | \$8.65 | \$21.91 | \$0.00 | \$82.09 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| DEMO: ADZEMAN <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.33 | \$9.10 | \$17.57 | \$0.00 | \$70.00 |
| | 06/01/2023 | \$43.73 | \$9.40 | \$17.82 | \$0.00 | \$70.95 |
| | 12/01/2023 | \$44.98 | \$9.40 | \$17.82 | \$0.00 | \$72.20 |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$44.33 | \$9.10 | \$17.57 | \$0.00 | \$71.00 |
| | 06/01/2023 | \$44.73 | \$9.40 | \$17.82 | \$0.00 | \$71.95 |
| | 12/01/2023 | \$45.98 | \$9.40 | \$17.82 | \$0.00 | \$73.20 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: BURNERS <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$44.08 | \$9.10 | \$17.57 | \$0.00 | \$70.75 |
| | 06/01/2023 | \$44.48 | \$9.40 | \$17.82 | \$0.00 | \$71.70 |
| | 12/01/2023 | \$45.73 | \$9.40 | \$17.82 | \$0.00 | \$72.95 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$44.33 | \$9.10 | \$17.57 | \$0.00 | \$71.00 |
| | 06/01/2023 | \$44.73 | \$9.40 | \$17.82 | \$0.00 | \$71.95 |
| | 12/01/2023 | \$45.98 | \$9.40 | \$17.82 | \$0.00 | \$73.20 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$44.08 | \$9.10 | \$17.57 | \$0.00 | \$70.75 |
| | 06/01/2023 | \$44.48 | \$9.40 | \$17.82 | \$0.00 | \$71.70 |
| | 12/01/2023 | \$45.73 | \$9.40 | \$17.82 | \$0.00 | \$72.95 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.33 | \$9.10 | \$17.57 | \$0.00 | \$70.00 |
| | 06/01/2023 | \$43.73 | \$9.40 | \$17.82 | \$0.00 | \$70.95 |
| | 12/01/2023 | \$44.98 | \$9.40 | \$17.82 | \$0.00 | \$72.20 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.05 | \$14.25 | \$16.05 | \$0.00 | \$83.35 |
| | 06/01/2023 | \$54.29 | \$14.25 | \$16.05 | \$0.00 | \$84.59 |
| | 12/01/2023 | \$55.53 | \$14.25 | \$16.05 | \$0.00 | \$85.83 |
| | 06/01/2024 | \$56.81 | \$14.25 | \$16.05 | \$0.00 | \$87.11 |
| | 12/01/2024 | \$58.25 | \$14.25 | \$16.05 | \$0.00 | \$88.55 |
| | 06/01/2025 | \$59.53 | \$14.25 | \$16.05 | \$0.00 | \$89.83 |
| | 12/01/2025 | \$60.97 | \$14.25 | \$16.05 | \$0.00 | \$91.27 |
| | 06/01/2026 | \$62.25 | \$14.25 | \$16.05 | \$0.00 | \$92.55 |
| | 12/01/2026 | \$63.69 | \$14.25 | \$16.05 | \$0.00 | \$93.99 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2020 | \$68.70 | \$9.40 | \$23.12 | \$0.00 | \$101.22 |
| For apprentice rates see "Apprentice- PILE DRIVER" | | | | | | |
| DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2020 | \$49.07 | \$9.40 | \$23.12 | \$0.00 | \$81.59 |
| For apprentice rates see "Apprentice- PILE DRIVER" | | | | | | |
| DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2020 | \$73.60 | \$9.40 | \$23.12 | \$0.00 | \$106.12 |
| For apprentice rates see "Apprentice- PILE DRIVER" | | | | | | |
| DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i> | 08/01/2020 | \$103.05 | \$9.40 | \$23.12 | \$0.00 | \$135.57 |
| For apprentice rates see "Apprentice- PILE DRIVER" | | | | | | |
| DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i> | 07/01/2020 | \$26.77 | \$6.67 | \$3.93 | \$0.16 | \$37.53 |
| ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i> | 03/01/2023 | \$59.23 | \$13.00 | \$21.63 | \$0.00 | \$93.86 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 03/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$23.69 | \$13.00 | \$0.71 | \$0.00 | \$37.40 |
| 2 | 40 | \$23.69 | \$13.00 | \$0.71 | \$0.00 | \$37.40 |
| 3 | 45 | \$26.65 | \$13.00 | \$16.13 | \$0.00 | \$55.78 |
| 4 | 45 | \$26.65 | \$13.00 | \$16.13 | \$0.00 | \$55.78 |
| 5 | 50 | \$29.62 | \$13.00 | \$16.63 | \$0.00 | \$59.25 |
| 6 | 55 | \$32.58 | \$13.00 | \$17.13 | \$0.00 | \$62.71 |
| 7 | 60 | \$35.54 | \$13.00 | \$17.63 | \$0.00 | \$66.17 |
| 8 | 65 | \$38.50 | \$13.00 | \$18.13 | \$0.00 | \$69.63 |
| 9 | 70 | \$41.46 | \$13.00 | \$18.62 | \$0.00 | \$73.08 |
| 10 | 75 | \$44.42 | \$13.00 | \$19.13 | \$0.00 | \$76.55 |

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

Apprentice to Journeyworker Ratio:2:3***

| | | | | | | |
|---|------------|---------|---------|---------|--------|----------|
| ELEVATOR CONSTRUCTOR ELEVATOR CONSTRUCTORS LOCAL 4 | 01/01/2022 | \$65.62 | \$16.03 | \$20.21 | \$0.00 | \$101.86 |
|---|------------|---------|---------|---------|--------|----------|

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2022

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$32.81 | \$16.03 | \$0.00 | \$0.00 | \$48.84 |
| 2 | 55 | \$36.09 | \$16.03 | \$20.21 | \$0.00 | \$72.33 |
| 3 | 65 | \$42.65 | \$16.03 | \$20.21 | \$0.00 | \$78.89 |
| 4 | 70 | \$45.93 | \$16.03 | \$20.21 | \$0.00 | \$82.17 |
| 5 | 80 | \$52.50 | \$16.03 | \$20.21 | \$0.00 | \$88.74 |

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

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| ELEVATOR CONSTRUCTOR HELPER ELEVATOR CONSTRUCTORS LOCAL 4 | 01/01/2022 | \$45.93 | \$16.03 | \$20.21 | \$0.00 | \$82.17 |
|--|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$42.83 | \$9.35 | \$17.82 | \$0.00 | \$70.00 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| | 06/01/2024 | \$46.56 | \$9.40 | \$17.82 | \$0.00 | \$73.78 |
| | 12/01/2024 | \$48.03 | \$9.40 | \$17.82 | \$0.00 | \$75.25 |
| | 06/01/2025 | \$49.53 | \$9.40 | \$17.82 | \$0.00 | \$76.75 |
| | 12/01/2025 | \$51.03 | \$9.40 | \$17.82 | \$0.00 | \$78.25 |
| | 06/01/2026 | \$52.58 | \$9.40 | \$17.82 | \$0.00 | \$79.80 |
| | 12/01/2026 | \$54.08 | \$9.40 | \$17.82 | \$0.00 | \$81.30 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway) | | | | | | |
| FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i> | 05/01/2023 | \$49.91 | \$14.25 | \$16.05 | \$0.00 | \$80.21 |
| | 11/01/2023 | \$51.15 | \$14.25 | \$16.05 | \$0.00 | \$81.45 |
| | 05/01/2024 | \$52.39 | \$14.25 | \$16.05 | \$0.00 | \$82.69 |
| | 11/01/2024 | \$53.68 | \$14.25 | \$16.05 | \$0.00 | \$83.98 |
| | 05/01/2025 | \$55.12 | \$14.25 | \$16.05 | \$0.00 | \$85.42 |
| | 11/01/2025 | \$56.41 | \$14.25 | \$16.05 | \$0.00 | \$86.71 |
| | 05/01/2026 | \$57.85 | \$14.25 | \$16.05 | \$0.00 | \$88.15 |
| | 11/01/2026 | \$59.14 | \$14.25 | \$16.05 | \$0.00 | \$89.44 |
| | 05/01/2027 | \$60.57 | \$14.25 | \$16.05 | \$0.00 | \$90.87 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i> | 05/01/2023 | \$51.47 | \$14.25 | \$16.05 | \$0.00 | \$81.77 |
| | 11/01/2023 | \$52.72 | \$14.25 | \$16.05 | \$0.00 | \$83.02 |
| | 05/01/2024 | \$53.97 | \$14.25 | \$16.05 | \$0.00 | \$84.27 |
| | 11/01/2024 | \$55.27 | \$14.25 | \$16.05 | \$0.00 | \$85.57 |
| | 05/01/2025 | \$56.72 | \$14.25 | \$16.05 | \$0.00 | \$87.02 |
| | 11/01/2025 | \$58.02 | \$14.25 | \$16.05 | \$0.00 | \$88.32 |
| | 05/01/2026 | \$59.47 | \$14.25 | \$16.05 | \$0.00 | \$89.77 |
| | 11/01/2026 | \$60.77 | \$14.25 | \$16.05 | \$0.00 | \$91.07 |
| | 05/01/2027 | \$62.22 | \$14.25 | \$16.05 | \$0.00 | \$92.52 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i> | 05/01/2023 | \$25.05 | \$14.25 | \$16.05 | \$0.00 | \$55.35 |
| | 11/01/2023 | \$25.78 | \$14.25 | \$16.05 | \$0.00 | \$56.08 |
| | 05/01/2024 | \$26.51 | \$14.25 | \$16.05 | \$0.00 | \$56.81 |
| | 11/01/2024 | \$27.27 | \$14.25 | \$16.05 | \$0.00 | \$57.57 |
| | 05/01/2025 | \$28.12 | \$14.25 | \$16.05 | \$0.00 | \$58.42 |
| | 11/01/2025 | \$28.88 | \$14.25 | \$16.05 | \$0.00 | \$59.18 |
| | 05/01/2026 | \$29.73 | \$14.25 | \$16.05 | \$0.00 | \$60.03 |
| | 11/01/2026 | \$30.49 | \$14.25 | \$16.05 | \$0.00 | \$60.79 |
| | 05/01/2027 | \$31.34 | \$14.25 | \$16.05 | \$0.00 | \$61.64 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i> | 03/01/2023 | \$59.23 | \$13.00 | \$21.63 | \$0.00 | \$93.86 |
| For apprentice rates see "Apprentice- ELECTRICIAN" | | | | | | |
| FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i> | 03/01/2023 | \$48.34 | \$13.00 | \$19.01 | \$0.00 | \$80.35 |
| For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN" | | | | | | |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$43.54 | \$14.25 | \$16.05 | \$0.00 | \$73.84 |
| | 06/01/2023 | \$44.56 | \$14.25 | \$16.05 | \$0.00 | \$74.86 |
| | 12/01/2023 | \$45.57 | \$14.25 | \$16.05 | \$0.00 | \$75.87 |
| | 06/01/2024 | \$46.63 | \$14.25 | \$16.05 | \$0.00 | \$76.93 |
| | 12/01/2024 | \$47.81 | \$14.25 | \$16.05 | \$0.00 | \$78.11 |
| | 06/01/2025 | \$48.87 | \$14.25 | \$16.05 | \$0.00 | \$79.17 |
| | 12/01/2025 | \$50.04 | \$14.25 | \$16.05 | \$0.00 | \$80.34 |
| | 06/01/2026 | \$51.10 | \$14.25 | \$16.05 | \$0.00 | \$81.40 |
| | 12/01/2026 | \$52.28 | \$14.25 | \$16.05 | \$0.00 | \$82.58 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$25.23 | \$9.35 | \$17.82 | \$0.00 | \$52.40 |
| | 06/01/2023 | \$25.98 | \$9.40 | \$17.82 | \$0.00 | \$53.20 |
| | 12/01/2023 | \$25.98 | \$9.40 | \$17.82 | \$0.00 | \$53.20 |
| | 06/01/2024 | \$27.01 | \$9.40 | \$17.82 | \$0.00 | \$54.23 |
| | 12/01/2024 | \$27.01 | \$9.40 | \$17.82 | \$0.00 | \$54.23 |
| | 06/01/2025 | \$28.09 | \$9.40 | \$17.82 | \$0.00 | \$55.31 |
| | 12/01/2025 | \$28.09 | \$9.40 | \$17.82 | \$0.00 | \$55.31 |
| | 06/01/2026 | \$29.21 | \$9.40 | \$17.82 | \$0.00 | \$56.43 |
| | 12/01/2026 | \$29.21 | \$9.40 | \$17.82 | \$0.00 | \$56.43 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway)" | | | | | | |
| FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i> | 03/01/2022 | \$51.77 | \$9.33 | \$20.27 | \$0.00 | \$81.37 |

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 03/01/2022

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$25.89 | \$9.33 | \$1.79 | \$0.00 | \$37.01 |
| 2 | 55 | \$28.47 | \$9.33 | \$1.79 | \$0.00 | \$39.59 |
| 3 | 60 | \$31.06 | \$9.33 | \$14.90 | \$0.00 | \$55.29 |
| 4 | 65 | \$33.65 | \$9.33 | \$14.90 | \$0.00 | \$57.88 |
| 5 | 70 | \$36.24 | \$9.33 | \$16.69 | \$0.00 | \$62.26 |
| 6 | 75 | \$38.83 | \$9.33 | \$16.69 | \$0.00 | \$64.85 |
| 7 | 80 | \$41.42 | \$9.33 | \$18.48 | \$0.00 | \$69.23 |
| 8 | 85 | \$44.00 | \$9.33 | \$18.48 | \$0.00 | \$71.81 |

Notes: Steps are 750 hrs.
 % After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
 Step 1&2 \$32.94/ 3&4 \$39.66/ 5&6 \$60.32/ 7&8 \$67.10

Apprentice to Journeyworker Ratio:1:1

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.63 | \$14.25 | \$16.05 | \$0.00 | \$83.93 |
| | 06/01/2023 | \$54.88 | \$14.25 | \$16.05 | \$0.00 | \$85.18 |
| | 12/01/2023 | \$56.13 | \$14.25 | \$16.05 | \$0.00 | \$86.43 |
| | 06/01/2024 | \$57.43 | \$14.25 | \$16.05 | \$0.00 | \$87.73 |
| | 12/01/2024 | \$58.88 | \$14.25 | \$16.05 | \$0.00 | \$89.18 |
| | 06/01/2025 | \$60.18 | \$14.25 | \$16.05 | \$0.00 | \$90.48 |
| | 12/01/2025 | \$61.63 | \$14.25 | \$16.05 | \$0.00 | \$91.93 |
| | 06/01/2026 | \$62.93 | \$14.25 | \$16.05 | \$0.00 | \$93.23 |
| | 12/01/2026 | \$64.38 | \$14.25 | \$16.05 | \$0.00 | \$94.68 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$35.08 | \$14.25 | \$16.05 | \$0.00 | \$65.38 |
| | 06/01/2023 | \$35.90 | \$14.25 | \$16.05 | \$0.00 | \$66.20 |
| | 12/01/2023 | \$36.72 | \$14.25 | \$16.05 | \$0.00 | \$67.02 |
| | 06/01/2024 | \$37.57 | \$14.25 | \$16.05 | \$0.00 | \$67.87 |
| | 12/01/2024 | \$38.52 | \$14.25 | \$16.05 | \$0.00 | \$68.82 |
| | 06/01/2025 | \$39.37 | \$14.25 | \$16.05 | \$0.00 | \$69.67 |
| | 12/01/2025 | \$40.32 | \$14.25 | \$16.05 | \$0.00 | \$70.62 |
| | 06/01/2026 | \$41.18 | \$14.25 | \$16.05 | \$0.00 | \$71.48 |
| | 12/01/2026 | \$42.13 | \$14.25 | \$16.05 | \$0.00 | \$72.43 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 1)</i> | 01/01/2023 | \$51.35 | \$8.65 | \$23.05 | \$0.00 | \$83.05 |
| | 07/01/2023 | \$52.55 | \$8.65 | \$23.05 | \$0.00 | \$84.25 |
| | 01/01/2024 | \$53.75 | \$8.65 | \$23.05 | \$0.00 | \$85.45 |
| | 07/01/2024 | \$54.95 | \$8.65 | \$23.05 | \$0.00 | \$86.65 |
| | 01/01/2025 | \$56.15 | \$8.65 | \$23.05 | \$0.00 | \$87.85 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - GLAZIER - Local 35 Zone 1

Effective Date - 01/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$25.68 | \$8.65 | \$0.00 | \$0.00 | \$34.33 |
| 2 | 55 | \$28.24 | \$8.65 | \$6.27 | \$0.00 | \$43.16 |
| 3 | 60 | \$30.81 | \$8.65 | \$6.84 | \$0.00 | \$46.30 |
| 4 | 65 | \$33.38 | \$8.65 | \$7.41 | \$0.00 | \$49.44 |
| 5 | 70 | \$35.95 | \$8.65 | \$19.63 | \$0.00 | \$64.23 |
| 6 | 75 | \$38.51 | \$8.65 | \$20.20 | \$0.00 | \$67.36 |
| 7 | 80 | \$41.08 | \$8.65 | \$20.77 | \$0.00 | \$70.50 |
| 8 | 90 | \$46.22 | \$8.65 | \$21.91 | \$0.00 | \$76.78 |

Effective Date - 07/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$26.28 | \$8.65 | \$0.00 | \$0.00 | \$34.93 |
| 2 | 55 | \$28.90 | \$8.65 | \$6.27 | \$0.00 | \$43.82 |
| 3 | 60 | \$31.53 | \$8.65 | \$6.84 | \$0.00 | \$47.02 |
| 4 | 65 | \$34.16 | \$8.65 | \$7.41 | \$0.00 | \$50.22 |
| 5 | 70 | \$36.79 | \$8.65 | \$19.63 | \$0.00 | \$65.07 |
| 6 | 75 | \$39.41 | \$8.65 | \$20.20 | \$0.00 | \$68.26 |
| 7 | 80 | \$42.04 | \$8.65 | \$20.77 | \$0.00 | \$71.46 |
| 8 | 90 | \$47.30 | \$8.65 | \$21.91 | \$0.00 | \$77.86 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|-----------------------------------|------------|---------|---------|---------|--------|---------|
| HOISTING ENGINEER/CRANES/GRADALLS | 12/01/2022 | \$53.63 | \$14.25 | \$16.05 | \$0.00 | \$83.93 |
| OPERATING ENGINEERS LOCAL 4 | 06/01/2023 | \$54.88 | \$14.25 | \$16.05 | \$0.00 | \$85.18 |
| | 12/01/2023 | \$56.13 | \$14.25 | \$16.05 | \$0.00 | \$86.43 |
| | 06/01/2024 | \$57.43 | \$14.25 | \$16.05 | \$0.00 | \$87.73 |
| | 12/01/2024 | \$58.88 | \$14.25 | \$16.05 | \$0.00 | \$89.18 |
| | 06/01/2025 | \$60.18 | \$14.25 | \$16.05 | \$0.00 | \$90.48 |
| | 12/01/2025 | \$61.63 | \$14.25 | \$16.05 | \$0.00 | \$91.93 |
| | 06/01/2026 | \$62.93 | \$14.25 | \$16.05 | \$0.00 | \$93.23 |
| | 12/01/2026 | \$64.38 | \$14.25 | \$16.05 | \$0.00 | \$94.68 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2022

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 55 | \$29.50 | \$14.25 | \$0.00 | \$0.00 | \$43.75 |
| 2 | 60 | \$32.18 | \$14.25 | \$16.05 | \$0.00 | \$62.48 |
| 3 | 65 | \$34.86 | \$14.25 | \$16.05 | \$0.00 | \$65.16 |
| 4 | 70 | \$37.54 | \$14.25 | \$16.05 | \$0.00 | \$67.84 |
| 5 | 75 | \$40.22 | \$14.25 | \$16.05 | \$0.00 | \$70.52 |
| 6 | 80 | \$42.90 | \$14.25 | \$16.05 | \$0.00 | \$73.20 |
| 7 | 85 | \$45.59 | \$14.25 | \$16.05 | \$0.00 | \$75.89 |
| 8 | 90 | \$48.27 | \$14.25 | \$16.05 | \$0.00 | \$78.57 |

Effective Date - 06/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 55 | \$30.18 | \$14.25 | \$0.00 | \$0.00 | \$44.43 |
| 2 | 60 | \$32.93 | \$14.25 | \$16.05 | \$0.00 | \$63.23 |
| 3 | 65 | \$35.67 | \$14.25 | \$16.05 | \$0.00 | \$65.97 |
| 4 | 70 | \$38.42 | \$14.25 | \$16.05 | \$0.00 | \$68.72 |
| 5 | 75 | \$41.16 | \$14.25 | \$16.05 | \$0.00 | \$71.46 |
| 6 | 80 | \$43.90 | \$14.25 | \$16.05 | \$0.00 | \$74.20 |
| 7 | 85 | \$46.65 | \$14.25 | \$16.05 | \$0.00 | \$76.95 |
| 8 | 90 | \$49.39 | \$14.25 | \$16.05 | \$0.00 | \$79.69 |

Notes:

Apprentice to Journeyworker Ratio:1:6

| | | | | | | |
|--|------------|---------|---------|---------|--------|----------|
| HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A | 02/01/2023 | \$55.31 | \$14.11 | \$26.64 | \$2.83 | \$98.89 |
| | 08/01/2023 | \$57.01 | \$14.11 | \$26.64 | \$2.83 | \$100.59 |
| | 02/01/2024 | \$58.71 | \$14.11 | \$26.64 | \$2.83 | \$102.29 |
| | 08/01/2024 | \$60.46 | \$14.11 | \$26.64 | \$2.83 | \$104.04 |
| | 02/01/2025 | \$62.21 | \$14.11 | \$26.64 | \$2.83 | \$105.79 |
| | 08/01/2025 | \$64.06 | \$14.11 | \$26.64 | \$2.83 | \$107.64 |
| | 02/01/2026 | \$66.01 | \$14.11 | \$26.64 | \$2.83 | \$109.59 |

For apprentice rates see "Apprentice- SHEET METAL WORKER"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103 | 03/01/2023 | \$59.23 | \$13.00 | \$21.63 | \$0.00 | \$93.86 |
|--|------------|---------|---------|---------|--------|---------|

For apprentice rates see "Apprentice- ELECTRICIAN"

| | | | | | | |
|---|------------|---------|---------|---------|--------|----------|
| HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - A | 02/01/2023 | \$55.31 | \$14.11 | \$26.64 | \$2.83 | \$98.89 |
| | 08/01/2023 | \$57.01 | \$14.11 | \$26.64 | \$2.83 | \$100.59 |
| | 02/01/2024 | \$58.71 | \$14.11 | \$26.64 | \$2.83 | \$102.29 |
| | 08/01/2024 | \$60.46 | \$14.11 | \$26.64 | \$2.83 | \$104.04 |
| | 02/01/2025 | \$62.21 | \$14.11 | \$26.64 | \$2.83 | \$105.79 |
| | 08/01/2025 | \$64.06 | \$14.11 | \$26.64 | \$2.83 | \$107.64 |
| | 02/01/2026 | \$66.01 | \$14.11 | \$26.64 | \$2.83 | \$109.59 |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| For apprentice rates see "Apprentice- SHEET METAL WORKER" | | | | | | |
| HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i> | 03/01/2023 | \$63.43 | \$12.50 | \$20.80 | \$0.00 | \$96.73 |
| | 09/01/2023 | \$65.18 | \$12.50 | \$20.80 | \$0.00 | \$98.48 |
| | 03/01/2024 | \$66.98 | \$12.50 | \$20.80 | \$0.00 | \$100.28 |
| | 09/01/2024 | \$68.78 | \$12.50 | \$20.80 | \$0.00 | \$102.08 |
| | 03/01/2025 | \$70.58 | \$12.50 | \$20.80 | \$0.00 | \$103.88 |
| For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER" | | | | | | |
| HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i> | 03/01/2023 | \$63.43 | \$12.25 | \$20.80 | \$0.00 | \$96.48 |
| | 09/01/2023 | \$65.18 | \$12.25 | \$20.80 | \$0.00 | \$98.23 |
| | 03/01/2024 | \$66.98 | \$12.25 | \$20.80 | \$0.00 | \$100.03 |
| | 09/01/2024 | \$68.78 | \$12.25 | \$20.80 | \$0.00 | \$101.83 |
| | 03/01/2025 | \$70.58 | \$12.25 | \$20.80 | \$0.00 | \$103.63 |
| For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER" | | | | | | |
| HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.93 | \$9.10 | \$17.57 | \$0.00 | \$70.60 |
| | 06/01/2023 | \$44.33 | \$9.40 | \$17.82 | \$0.00 | \$71.55 |
| | 12/01/2023 | \$45.58 | \$9.40 | \$17.82 | \$0.00 | \$72.80 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$43.33 | \$9.35 | \$17.82 | \$0.00 | \$70.50 |
| | 06/01/2023 | \$44.33 | \$9.40 | \$17.82 | \$0.00 | \$71.55 |
| | 12/01/2023 | \$45.58 | \$9.40 | \$17.82 | \$0.00 | \$72.80 |
| | 06/01/2024 | \$47.06 | \$9.40 | \$17.82 | \$0.00 | \$74.28 |
| | 12/01/2024 | \$48.53 | \$9.40 | \$17.82 | \$0.00 | \$75.75 |
| | 06/01/2025 | \$50.03 | \$9.40 | \$17.82 | \$0.00 | \$77.25 |
| | 12/01/2025 | \$51.53 | \$9.40 | \$17.82 | \$0.00 | \$78.75 |
| | 06/01/2026 | \$53.08 | \$9.40 | \$17.82 | \$0.00 | \$80.30 |
| | 12/01/2026 | \$54.58 | \$9.40 | \$17.82 | \$0.00 | \$81.80 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway)" | | | | | | |
| INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i> | 09/01/2022 | \$53.85 | \$13.80 | \$17.14 | \$0.00 | \$84.79 |

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

Effective Date - 09/01/2022

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$26.93 | \$13.80 | \$12.42 | \$0.00 | \$53.15 |
| 2 | 60 | \$32.31 | \$13.80 | \$13.36 | \$0.00 | \$59.47 |
| 3 | 70 | \$37.70 | \$13.80 | \$14.31 | \$0.00 | \$65.81 |
| 4 | 80 | \$43.08 | \$13.80 | \$15.25 | \$0.00 | \$72.13 |

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i> | 03/16/2023 | \$52.72 | \$8.35 | \$26.70 | \$0.00 | \$87.77 |
| | 03/16/2024 | \$53.97 | \$8.35 | \$26.70 | \$0.00 | \$89.02 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 03/16/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$31.63 | \$8.35 | \$26.70 | \$0.00 | \$66.68 |
| 2 | 70 | \$36.90 | \$8.35 | \$26.70 | \$0.00 | \$71.95 |
| 3 | 75 | \$39.54 | \$8.35 | \$26.70 | \$0.00 | \$74.59 |
| 4 | 80 | \$42.18 | \$8.35 | \$26.70 | \$0.00 | \$77.23 |
| 5 | 85 | \$44.81 | \$8.35 | \$26.70 | \$0.00 | \$79.86 |
| 6 | 90 | \$47.45 | \$8.35 | \$26.70 | \$0.00 | \$82.50 |

Effective Date - 03/16/2024

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$32.38 | \$8.35 | \$26.70 | \$0.00 | \$67.43 |
| 2 | 70 | \$37.78 | \$8.35 | \$26.70 | \$0.00 | \$72.83 |
| 3 | 75 | \$40.48 | \$8.35 | \$26.70 | \$0.00 | \$75.53 |
| 4 | 80 | \$43.18 | \$8.35 | \$26.70 | \$0.00 | \$78.23 |
| 5 | 85 | \$45.87 | \$8.35 | \$26.70 | \$0.00 | \$80.92 |
| 6 | 90 | \$48.57 | \$8.35 | \$26.70 | \$0.00 | \$83.62 |

Notes:

Apprentice to Journeyworker Ratio:1:4

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 1 | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|------------------------------|------------|---------|--------|---------|--------|---------|
| LABORER LABORERS - ZONE 1 | 12/01/2022 | \$43.18 | \$9.10 | \$17.57 | \$0.00 | \$69.85 |
| | 06/01/2023 | \$43.58 | \$9.40 | \$17.82 | \$0.00 | \$70.80 |
| | 12/01/2023 | \$44.83 | \$9.40 | \$17.82 | \$0.00 | \$72.05 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 1

Effective Date - 12/01/2022

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$25.91 | \$9.10 | \$17.57 | \$0.00 | \$52.58 |
| 2 | 70 | \$30.23 | \$9.10 | \$17.57 | \$0.00 | \$56.90 |
| 3 | 80 | \$34.54 | \$9.10 | \$17.57 | \$0.00 | \$61.21 |
| 4 | 90 | \$38.86 | \$9.10 | \$17.57 | \$0.00 | \$65.53 |

Effective Date - 06/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$26.15 | \$9.10 | \$17.57 | \$0.00 | \$52.82 |
| 2 | 70 | \$30.51 | \$9.10 | \$17.57 | \$0.00 | \$57.18 |
| 3 | 80 | \$34.86 | \$9.10 | \$17.57 | \$0.00 | \$61.53 |
| 4 | 90 | \$39.22 | \$9.10 | \$17.57 | \$0.00 | \$65.89 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|-------------------------------------|----------------|-----------|--------|---------|---------------------------|------------|
| LABORER (HEAVY & HIGHWAY) | 12/01/2022 | \$42.58 | \$9.35 | \$17.82 | \$0.00 | \$69.75 |
| LABORERS - ZONE 1 (HEAVY & HIGHWAY) | 06/01/2023 | \$43.58 | \$9.40 | \$17.82 | \$0.00 | \$70.80 |
| | 12/01/2023 | \$44.83 | \$9.40 | \$17.82 | \$0.00 | \$72.05 |
| | 06/01/2024 | \$46.31 | \$9.40 | \$17.82 | \$0.00 | \$73.53 |
| | 12/01/2024 | \$47.78 | \$9.40 | \$17.82 | \$0.00 | \$75.00 |
| | 06/01/2025 | \$49.28 | \$9.40 | \$17.82 | \$0.00 | \$76.50 |
| | 12/01/2025 | \$50.78 | \$9.40 | \$17.82 | \$0.00 | \$78.00 |
| | 06/01/2026 | \$52.33 | \$9.40 | \$17.82 | \$0.00 | \$79.55 |
| | 12/01/2026 | \$53.83 | \$9.40 | \$17.82 | \$0.00 | \$81.05 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER (Heavy & Highway) - Zone 1

Effective Date - 12/01/2022

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$25.55 | \$9.35 | \$17.82 | \$0.00 | \$52.72 |
| 2 | 70 | \$29.81 | \$9.35 | \$17.82 | \$0.00 | \$56.98 |
| 3 | 80 | \$34.06 | \$9.35 | \$17.82 | \$0.00 | \$61.23 |
| 4 | 90 | \$38.32 | \$9.35 | \$17.82 | \$0.00 | \$65.49 |

Effective Date - 06/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 60 | \$26.15 | \$9.35 | \$17.82 | \$0.00 | \$53.32 |
| 2 | 70 | \$30.51 | \$9.35 | \$17.82 | \$0.00 | \$57.68 |
| 3 | 80 | \$34.86 | \$9.35 | \$17.82 | \$0.00 | \$62.03 |
| 4 | 90 | \$39.22 | \$9.35 | \$17.82 | \$0.00 | \$66.39 |

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER
LABORERS - ZONE 1

| | | | | | |
|------------|---------|--------|---------|--------|---------|
| 12/01/2022 | \$43.18 | \$9.10 | \$17.57 | \$0.00 | \$69.85 |
| 06/01/2023 | \$43.58 | \$9.40 | \$17.82 | \$0.00 | \$70.80 |
| 12/01/2023 | \$44.83 | \$9.40 | \$17.82 | \$0.00 | \$72.05 |

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER
LABORERS - ZONE 1

| | | | | | |
|------------|---------|--------|---------|--------|---------|
| 12/01/2022 | \$43.18 | \$9.10 | \$17.57 | \$0.00 | \$69.85 |
| 06/01/2023 | \$43.58 | \$9.40 | \$17.82 | \$0.00 | \$70.80 |
| 12/01/2023 | \$44.83 | \$9.40 | \$17.82 | \$0.00 | \$72.05 |

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER
LABORERS - ZONE 1

| | | | | | |
|------------|---------|--------|---------|--------|---------|
| 12/01/2022 | \$43.33 | \$9.10 | \$17.57 | \$0.00 | \$70.00 |
| 06/01/2023 | \$43.73 | \$9.40 | \$17.82 | \$0.00 | \$70.95 |
| 12/01/2023 | \$44.98 | \$9.40 | \$17.82 | \$0.00 | \$72.20 |

For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER
LABORERS - ZONE 1

| | | | | | |
|------------|---------|--------|---------|--------|---------|
| 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| 06/01/2024 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |

For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER (HEAVY & HIGHWAY)
LABORERS - ZONE 1 (HEAVY & HIGHWAY)

| | | | | | |
|------------|---------|--------|---------|--------|---------|
| 12/01/2022 | \$42.83 | \$9.35 | \$17.82 | \$0.00 | \$70.00 |
| 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| 06/01/2024 | \$46.56 | \$9.40 | \$17.82 | \$0.00 | \$73.78 |
| 12/01/2024 | \$48.03 | \$9.40 | \$17.82 | \$0.00 | \$75.25 |
| 06/01/2025 | \$49.53 | \$9.40 | \$17.82 | \$0.00 | \$76.75 |
| 12/01/2025 | \$51.03 | \$9.40 | \$17.82 | \$0.00 | \$78.25 |
| 06/01/2026 | \$52.58 | \$9.40 | \$17.82 | \$0.00 | \$79.80 |
| 12/01/2026 | \$54.08 | \$9.40 | \$17.82 | \$0.00 | \$81.30 |

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

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|-----------------------|------------------|---------------|----------------|----------------------------------|-------------------|
| LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.18 | \$9.10 | \$17.57 | \$0.00 | \$69.85 |
| | 06/01/2023 | \$43.58 | \$9.40 | \$17.82 | \$0.00 | \$70.80 |
| | 12/01/2023 | \$44.83 | \$9.40 | \$17.82 | \$0.00 | \$72.05 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| LABORER: TREE REMOVER <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.18 | \$9.10 | \$17.57 | \$0.00 | \$69.85 |
| | 06/01/2023 | \$43.58 | \$9.40 | \$17.82 | \$0.00 | \$70.80 |
| | 12/01/2023 | \$44.83 | \$9.40 | \$17.82 | \$0.00 | \$72.05 |
| This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER" | | | | | | |
| LASER BEAM OPERATOR <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$42.83 | \$9.35 | \$17.82 | \$0.00 | \$70.00 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| | 06/01/2024 | \$46.56 | \$9.40 | \$17.82 | \$0.00 | \$73.78 |
| | 12/01/2024 | \$48.03 | \$9.40 | \$17.82 | \$0.00 | \$75.25 |
| | 06/01/2025 | \$49.53 | \$9.40 | \$17.82 | \$0.00 | \$76.75 |
| | 12/01/2025 | \$51.03 | \$9.40 | \$17.82 | \$0.00 | \$78.25 |
| | 06/01/2026 | \$52.58 | \$9.40 | \$17.82 | \$0.00 | \$79.80 |
| | 12/01/2026 | \$54.08 | \$9.40 | \$17.82 | \$0.00 | \$81.30 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway)" | | | | | | |
| MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i> | 02/01/2023 | \$46.25 | \$11.49 | \$20.37 | \$0.00 | \$78.11 |
| | 08/01/2023 | \$47.89 | \$11.49 | \$20.37 | \$0.00 | \$79.75 |
| | 02/01/2024 | \$48.89 | \$11.49 | \$20.37 | \$0.00 | \$80.75 |
| | 08/01/2024 | \$50.57 | \$11.49 | \$20.37 | \$0.00 | \$82.43 |
| | 02/01/2025 | \$51.61 | \$11.49 | \$20.37 | \$0.00 | \$83.47 |
| | 08/01/2025 | \$53.33 | \$11.49 | \$20.37 | \$0.00 | \$85.19 |
| | 02/01/2026 | \$54.41 | \$11.49 | \$20.37 | \$0.00 | \$86.27 |
| | 08/01/2026 | \$56.17 | \$11.49 | \$20.37 | \$0.00 | \$88.03 |
| 02/01/2027 | \$57.29 | \$11.49 | \$20.37 | \$0.00 | \$89.15 | |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$23.13 | \$11.49 | \$20.37 | \$0.00 | \$54.99 |
| 2 | 60 | \$27.75 | \$11.49 | \$20.37 | \$0.00 | \$59.61 |
| 3 | 70 | \$32.38 | \$11.49 | \$20.37 | \$0.00 | \$64.24 |
| 4 | 80 | \$37.00 | \$11.49 | \$20.37 | \$0.00 | \$68.86 |
| 5 | 90 | \$41.63 | \$11.49 | \$20.37 | \$0.00 | \$73.49 |

Effective Date - 08/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$23.95 | \$11.49 | \$20.37 | \$0.00 | \$55.81 |
| 2 | 60 | \$28.73 | \$11.49 | \$20.37 | \$0.00 | \$60.59 |
| 3 | 70 | \$33.52 | \$11.49 | \$20.37 | \$0.00 | \$65.38 |
| 4 | 80 | \$38.31 | \$11.49 | \$20.37 | \$0.00 | \$70.17 |
| 5 | 90 | \$43.10 | \$11.49 | \$20.37 | \$0.00 | \$74.96 |

Notes:

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|---|------------|---------|---------|---------|--------|----------|
| MARBLE MASONS, TILELAYERS & TERRAZZO MECH | 02/01/2023 | \$60.37 | \$11.49 | \$22.31 | \$0.00 | \$94.17 |
| BRICKLAYERS LOCAL 3 - MARBLE & TILE | 08/01/2023 | \$62.42 | \$11.49 | \$22.31 | \$0.00 | \$96.22 |
| | 02/01/2024 | \$63.67 | \$11.49 | \$22.31 | \$0.00 | \$97.47 |
| | 08/01/2024 | \$65.77 | \$11.49 | \$22.31 | \$0.00 | \$99.57 |
| | 02/01/2025 | \$67.07 | \$11.49 | \$22.31 | \$0.00 | \$100.87 |
| | 08/01/2025 | \$69.22 | \$11.49 | \$22.31 | \$0.00 | \$103.02 |
| | 02/01/2026 | \$70.57 | \$11.49 | \$22.31 | \$0.00 | \$104.37 |
| | 08/01/2026 | \$72.77 | \$11.49 | \$22.31 | \$0.00 | \$106.57 |
| | 02/01/2027 | \$74.17 | \$11.49 | \$22.31 | \$0.00 | \$107.97 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 02/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$30.19 | \$11.49 | \$22.31 | \$0.00 | \$63.99 |
| 2 | 60 | \$36.22 | \$11.49 | \$22.31 | \$0.00 | \$70.02 |
| 3 | 70 | \$42.26 | \$11.49 | \$22.31 | \$0.00 | \$76.06 |
| 4 | 80 | \$48.30 | \$11.49 | \$22.31 | \$0.00 | \$82.10 |
| 5 | 90 | \$54.33 | \$11.49 | \$22.31 | \$0.00 | \$88.13 |

Effective Date - 08/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$31.21 | \$11.49 | \$22.31 | \$0.00 | \$65.01 |
| 2 | 60 | \$37.45 | \$11.49 | \$22.31 | \$0.00 | \$71.25 |
| 3 | 70 | \$43.69 | \$11.49 | \$22.31 | \$0.00 | \$77.49 |
| 4 | 80 | \$49.94 | \$11.49 | \$22.31 | \$0.00 | \$83.74 |
| 5 | 90 | \$56.18 | \$11.49 | \$22.31 | \$0.00 | \$89.98 |

Notes:

Apprentice to Journeyworker Ratio:1:5

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.05 | \$14.25 | \$16.05 | \$0.00 | \$83.35 |
| | 06/01/2023 | \$54.29 | \$14.25 | \$16.05 | \$0.00 | \$84.59 |
| | 12/01/2023 | \$55.53 | \$14.25 | \$16.05 | \$0.00 | \$85.83 |
| | 06/01/2024 | \$56.81 | \$14.25 | \$16.05 | \$0.00 | \$87.11 |
| | 12/01/2024 | \$58.25 | \$14.25 | \$16.05 | \$0.00 | \$88.55 |
| | 06/01/2025 | \$59.53 | \$14.25 | \$16.05 | \$0.00 | \$89.83 |
| | 12/01/2025 | \$60.97 | \$14.25 | \$16.05 | \$0.00 | \$91.27 |
| | 06/01/2026 | \$62.25 | \$14.25 | \$16.05 | \$0.00 | \$92.55 |
| | 12/01/2026 | \$63.69 | \$14.25 | \$16.05 | \$0.00 | \$93.99 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.05 | \$14.25 | \$16.05 | \$0.00 | \$83.35 |
| | 06/01/2023 | \$54.29 | \$14.25 | \$16.05 | \$0.00 | \$84.59 |
| | 12/01/2023 | \$55.53 | \$14.25 | \$16.05 | \$0.00 | \$85.83 |
| | 06/01/2024 | \$56.81 | \$14.25 | \$16.05 | \$0.00 | \$87.11 |
| | 12/01/2024 | \$58.25 | \$14.25 | \$16.05 | \$0.00 | \$88.55 |
| | 06/01/2025 | \$59.53 | \$14.25 | \$16.05 | \$0.00 | \$89.83 |
| | 12/01/2025 | \$60.97 | \$14.25 | \$16.05 | \$0.00 | \$91.27 |
| | 06/01/2026 | \$62.25 | \$14.25 | \$16.05 | \$0.00 | \$92.55 |
| | 12/01/2026 | \$63.69 | \$14.25 | \$16.05 | \$0.00 | \$93.99 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i> | 01/02/2023 | \$47.27 | \$8.58 | \$21.57 | \$0.00 | \$77.42 |
|---|------------|---------|--------|---------|--------|---------|

Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 01/02/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 55 | \$26.00 | \$8.58 | \$5.72 | \$0.00 | \$40.30 |
| 2 | 65 | \$30.73 | \$8.58 | \$17.93 | \$0.00 | \$57.24 |
| 3 | 75 | \$35.45 | \$8.58 | \$18.98 | \$0.00 | \$63.01 |
| 4 | 85 | \$40.18 | \$8.58 | \$20.01 | \$0.00 | \$68.77 |

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:4

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| MORTAR MIXER <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$24.37 | \$14.25 | \$16.05 | \$0.00 | \$54.67 |
| | 06/01/2023 | \$24.94 | \$14.25 | \$16.05 | \$0.00 | \$55.24 |
| | 12/01/2023 | \$25.51 | \$14.25 | \$16.05 | \$0.00 | \$55.81 |
| | 06/01/2024 | \$26.11 | \$14.25 | \$16.05 | \$0.00 | \$56.41 |
| | 12/01/2024 | \$26.77 | \$14.25 | \$16.05 | \$0.00 | \$57.07 |
| | 06/01/2025 | \$27.37 | \$14.25 | \$16.05 | \$0.00 | \$57.67 |
| | 12/01/2025 | \$28.03 | \$14.25 | \$16.05 | \$0.00 | \$58.33 |
| | 06/01/2026 | \$28.62 | \$14.25 | \$16.05 | \$0.00 | \$58.92 |
| | 12/01/2026 | \$29.29 | \$14.25 | \$16.05 | \$0.00 | \$59.59 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$29.57 | \$14.25 | \$16.05 | \$0.00 | \$59.87 |
| | 06/01/2023 | \$30.27 | \$14.25 | \$16.05 | \$0.00 | \$60.57 |
| | 12/01/2023 | \$30.96 | \$14.25 | \$16.05 | \$0.00 | \$61.26 |
| | 06/01/2024 | \$31.68 | \$14.25 | \$16.05 | \$0.00 | \$61.98 |
| | 12/01/2024 | \$32.48 | \$14.25 | \$16.05 | \$0.00 | \$62.78 |
| | 06/01/2025 | \$33.20 | \$14.25 | \$16.05 | \$0.00 | \$63.50 |
| | 12/01/2025 | \$34.00 | \$14.25 | \$16.05 | \$0.00 | \$64.30 |
| | 06/01/2026 | \$34.72 | \$14.25 | \$16.05 | \$0.00 | \$65.02 |
| | 12/01/2026 | \$35.52 | \$14.25 | \$16.05 | \$0.00 | \$65.82 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.05 | \$14.25 | \$16.05 | \$0.00 | \$83.35 |
| | 06/01/2023 | \$54.29 | \$14.25 | \$16.05 | \$0.00 | \$84.59 |
| | 12/01/2023 | \$55.53 | \$14.25 | \$16.05 | \$0.00 | \$85.83 |
| | 06/01/2024 | \$56.81 | \$14.25 | \$16.05 | \$0.00 | \$87.11 |
| | 12/01/2024 | \$58.25 | \$14.25 | \$16.05 | \$0.00 | \$88.55 |
| | 06/01/2025 | \$59.53 | \$14.25 | \$16.05 | \$0.00 | \$89.83 |
| | 12/01/2025 | \$60.97 | \$14.25 | \$16.05 | \$0.00 | \$91.27 |
| | 06/01/2026 | \$62.25 | \$14.25 | \$16.05 | \$0.00 | \$92.55 |
| | 12/01/2026 | \$63.69 | \$14.25 | \$16.05 | \$0.00 | \$93.99 |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|--------|---------|---------------------------|------------|
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE I</i> | 01/01/2023 | \$56.06 | \$8.65 | \$23.05 | \$0.00 | \$87.76 |
| | 07/01/2023 | \$57.26 | \$8.65 | \$23.05 | \$0.00 | \$88.96 |
| | 01/01/2024 | \$58.46 | \$8.65 | \$23.05 | \$0.00 | \$90.16 |
| | 07/01/2024 | \$59.66 | \$8.65 | \$23.05 | \$0.00 | \$91.36 |
| | 01/01/2025 | \$60.86 | \$8.65 | \$23.05 | \$0.00 | \$92.56 |

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$28.03 | \$8.65 | \$0.00 | \$0.00 | \$36.68 |
| 2 | 55 | \$30.83 | \$8.65 | \$6.27 | \$0.00 | \$45.75 |
| 3 | 60 | \$33.64 | \$8.65 | \$6.84 | \$0.00 | \$49.13 |
| 4 | 65 | \$36.44 | \$8.65 | \$7.41 | \$0.00 | \$52.50 |
| 5 | 70 | \$39.24 | \$8.65 | \$19.63 | \$0.00 | \$67.52 |
| 6 | 75 | \$42.05 | \$8.65 | \$20.20 | \$0.00 | \$70.90 |
| 7 | 80 | \$44.85 | \$8.65 | \$20.77 | \$0.00 | \$74.27 |
| 8 | 90 | \$50.45 | \$8.65 | \$21.91 | \$0.00 | \$81.01 |

Effective Date - 07/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$28.63 | \$8.65 | \$0.00 | \$0.00 | \$37.28 |
| 2 | 55 | \$31.49 | \$8.65 | \$6.27 | \$0.00 | \$46.41 |
| 3 | 60 | \$34.36 | \$8.65 | \$6.84 | \$0.00 | \$49.85 |
| 4 | 65 | \$37.22 | \$8.65 | \$7.41 | \$0.00 | \$53.28 |
| 5 | 70 | \$40.08 | \$8.65 | \$19.63 | \$0.00 | \$68.36 |
| 6 | 75 | \$42.95 | \$8.65 | \$20.20 | \$0.00 | \$71.80 |
| 7 | 80 | \$45.81 | \$8.65 | \$20.77 | \$0.00 | \$75.23 |
| 8 | 90 | \$51.53 | \$8.65 | \$21.91 | \$0.00 | \$82.09 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| PAINTER (SPRAY OR SANDBLAST, NEW) * | 01/01/2023 | \$52.75 | \$8.65 | \$23.05 | \$0.00 | \$84.45 |
| * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE I</i> | 07/01/2023 | \$53.95 | \$8.65 | \$23.05 | \$0.00 | \$85.65 |
| | 01/01/2024 | \$55.15 | \$8.65 | \$23.05 | \$0.00 | \$86.85 |
| | 07/01/2024 | \$56.35 | \$8.65 | \$23.05 | \$0.00 | \$88.05 |
| | 01/01/2025 | \$57.55 | \$8.65 | \$23.05 | \$0.00 | \$89.25 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 01/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$26.38 | \$8.65 | \$0.00 | \$0.00 | \$35.03 |
| 2 | 55 | \$29.01 | \$8.65 | \$6.27 | \$0.00 | \$43.93 |
| 3 | 60 | \$31.65 | \$8.65 | \$6.84 | \$0.00 | \$47.14 |
| 4 | 65 | \$34.29 | \$8.65 | \$7.41 | \$0.00 | \$50.35 |
| 5 | 70 | \$36.93 | \$8.65 | \$19.63 | \$0.00 | \$65.21 |
| 6 | 75 | \$39.56 | \$8.65 | \$20.20 | \$0.00 | \$68.41 |
| 7 | 80 | \$42.20 | \$8.65 | \$20.77 | \$0.00 | \$71.62 |
| 8 | 90 | \$47.48 | \$8.65 | \$21.91 | \$0.00 | \$78.04 |

Effective Date - 07/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$26.98 | \$8.65 | \$0.00 | \$0.00 | \$35.63 |
| 2 | 55 | \$29.67 | \$8.65 | \$6.27 | \$0.00 | \$44.59 |
| 3 | 60 | \$32.37 | \$8.65 | \$6.84 | \$0.00 | \$47.86 |
| 4 | 65 | \$35.07 | \$8.65 | \$7.41 | \$0.00 | \$51.13 |
| 5 | 70 | \$37.77 | \$8.65 | \$19.63 | \$0.00 | \$66.05 |
| 6 | 75 | \$40.46 | \$8.65 | \$20.20 | \$0.00 | \$69.31 |
| 7 | 80 | \$43.16 | \$8.65 | \$20.77 | \$0.00 | \$72.58 |
| 8 | 90 | \$48.56 | \$8.65 | \$21.91 | \$0.00 | \$79.12 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|---------------------------------------|------------|---------|--------|---------|--------|---------|
| PAINTER (SPRAY OR SANDBLAST, REPAINT) | 01/01/2023 | \$50.81 | \$8.65 | \$23.05 | \$0.00 | \$82.51 |
| PAINTERS LOCAL 35 - ZONE 1 | 07/01/2023 | \$52.01 | \$8.65 | \$23.05 | \$0.00 | \$83.71 |
| | 01/01/2024 | \$53.21 | \$8.65 | \$23.05 | \$0.00 | \$84.91 |
| | 01/01/2025 | \$55.61 | \$8.65 | \$23.05 | \$0.00 | \$87.31 |
| | 07/01/2025 | \$54.41 | \$8.65 | \$23.05 | \$0.00 | \$86.11 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 01/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$25.41 | \$8.65 | \$0.00 | \$0.00 | \$34.06 |
| 2 | 55 | \$27.95 | \$8.65 | \$6.27 | \$0.00 | \$42.87 |
| 3 | 60 | \$30.49 | \$8.65 | \$6.84 | \$0.00 | \$45.98 |
| 4 | 65 | \$33.03 | \$8.65 | \$7.41 | \$0.00 | \$49.09 |
| 5 | 70 | \$35.57 | \$8.65 | \$19.63 | \$0.00 | \$63.85 |
| 6 | 75 | \$38.11 | \$8.65 | \$20.20 | \$0.00 | \$66.96 |
| 7 | 80 | \$40.65 | \$8.65 | \$20.77 | \$0.00 | \$70.07 |
| 8 | 90 | \$45.73 | \$8.65 | \$21.91 | \$0.00 | \$76.29 |

Effective Date - 07/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$26.01 | \$8.65 | \$0.00 | \$0.00 | \$34.66 |
| 2 | 55 | \$28.61 | \$8.65 | \$6.27 | \$0.00 | \$43.53 |
| 3 | 60 | \$31.21 | \$8.65 | \$6.84 | \$0.00 | \$46.70 |
| 4 | 65 | \$33.81 | \$8.65 | \$7.41 | \$0.00 | \$49.87 |
| 5 | 70 | \$36.41 | \$8.65 | \$19.63 | \$0.00 | \$64.69 |
| 6 | 75 | \$39.01 | \$8.65 | \$20.20 | \$0.00 | \$67.86 |
| 7 | 80 | \$41.61 | \$8.65 | \$20.77 | \$0.00 | \$71.03 |
| 8 | 90 | \$46.81 | \$8.65 | \$21.91 | \$0.00 | \$77.37 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| PAINTER / TAPER (BRUSH, NEW) * | 01/01/2023 | \$51.35 | \$8.65 | \$23.05 | \$0.00 | \$83.05 |
| * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1 | 07/01/2023 | \$52.55 | \$8.65 | \$23.05 | \$0.00 | \$84.25 |
| | 01/01/2024 | \$53.75 | \$8.65 | \$23.05 | \$0.00 | \$85.45 |
| | 07/01/2024 | \$54.95 | \$8.65 | \$23.05 | \$0.00 | \$86.65 |
| | 01/01/2025 | \$56.15 | \$8.65 | \$23.05 | \$0.00 | \$87.85 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW

Effective Date - 01/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$25.68 | \$8.65 | \$0.00 | \$0.00 | \$34.33 |
| 2 | 55 | \$28.24 | \$8.65 | \$6.27 | \$0.00 | \$43.16 |
| 3 | 60 | \$30.81 | \$8.65 | \$6.84 | \$0.00 | \$46.30 |
| 4 | 65 | \$33.38 | \$8.65 | \$7.41 | \$0.00 | \$49.44 |
| 5 | 70 | \$35.95 | \$8.65 | \$19.63 | \$0.00 | \$64.23 |
| 6 | 75 | \$38.51 | \$8.65 | \$20.20 | \$0.00 | \$67.36 |
| 7 | 80 | \$41.08 | \$8.65 | \$20.77 | \$0.00 | \$70.50 |
| 8 | 90 | \$46.22 | \$8.65 | \$21.91 | \$0.00 | \$76.78 |

Effective Date - 07/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$26.28 | \$8.65 | \$0.00 | \$0.00 | \$34.93 |
| 2 | 55 | \$28.90 | \$8.65 | \$6.27 | \$0.00 | \$43.82 |
| 3 | 60 | \$31.53 | \$8.65 | \$6.84 | \$0.00 | \$47.02 |
| 4 | 65 | \$34.16 | \$8.65 | \$7.41 | \$0.00 | \$50.22 |
| 5 | 70 | \$36.79 | \$8.65 | \$19.63 | \$0.00 | \$65.07 |
| 6 | 75 | \$39.41 | \$8.65 | \$20.20 | \$0.00 | \$68.26 |
| 7 | 80 | \$42.04 | \$8.65 | \$20.77 | \$0.00 | \$71.46 |
| 8 | 90 | \$47.30 | \$8.65 | \$21.91 | \$0.00 | \$77.86 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|----------------------------------|------------|---------|--------|---------|--------|---------|
| PAINTER / TAPER (BRUSH, REPAINT) | 01/01/2023 | \$49.41 | \$8.65 | \$23.05 | \$0.00 | \$81.11 |
| PAINTERS LOCAL 35 - ZONE 1 | 07/01/2023 | \$50.61 | \$8.65 | \$23.05 | \$0.00 | \$82.31 |
| | 01/01/2024 | \$51.81 | \$8.65 | \$23.05 | \$0.00 | \$83.51 |
| | 07/01/2024 | \$53.01 | \$8.65 | \$23.05 | \$0.00 | \$84.71 |
| | 01/01/2025 | \$54.21 | \$8.65 | \$23.05 | \$0.00 | \$85.91 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 1 - BRUSH REPAINT

Effective Date - 01/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$24.71 | \$8.65 | \$0.00 | \$0.00 | \$33.36 |
| 2 | 55 | \$27.18 | \$8.65 | \$6.27 | \$0.00 | \$42.10 |
| 3 | 60 | \$29.65 | \$8.65 | \$6.84 | \$0.00 | \$45.14 |
| 4 | 65 | \$32.12 | \$8.65 | \$7.41 | \$0.00 | \$48.18 |
| 5 | 70 | \$34.59 | \$8.65 | \$19.63 | \$0.00 | \$62.87 |
| 6 | 75 | \$37.06 | \$8.65 | \$20.20 | \$0.00 | \$65.91 |
| 7 | 80 | \$39.53 | \$8.65 | \$20.77 | \$0.00 | \$68.95 |
| 8 | 90 | \$44.47 | \$8.65 | \$21.91 | \$0.00 | \$75.03 |

Effective Date - 07/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$25.31 | \$8.65 | \$0.00 | \$0.00 | \$33.96 |
| 2 | 55 | \$27.84 | \$8.65 | \$6.27 | \$0.00 | \$42.76 |
| 3 | 60 | \$30.37 | \$8.65 | \$6.84 | \$0.00 | \$45.86 |
| 4 | 65 | \$32.90 | \$8.65 | \$7.41 | \$0.00 | \$48.96 |
| 5 | 70 | \$35.43 | \$8.65 | \$19.63 | \$0.00 | \$63.71 |
| 6 | 75 | \$37.96 | \$8.65 | \$20.20 | \$0.00 | \$66.81 |
| 7 | 80 | \$40.49 | \$8.65 | \$20.77 | \$0.00 | \$69.91 |
| 8 | 90 | \$45.55 | \$8.65 | \$21.91 | \$0.00 | \$76.11 |

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) | 12/01/2022 | \$42.58 | \$9.35 | \$17.82 | \$0.00 | \$69.75 |
| LABORERS - ZONE 1 (HEAVY & HIGHWAY) | 06/01/2023 | \$43.58 | \$9.40 | \$17.82 | \$0.00 | \$70.80 |
| | 12/01/2023 | \$44.83 | \$9.40 | \$17.82 | \$0.00 | \$72.05 |
| | 06/01/2024 | \$46.31 | \$9.40 | \$17.82 | \$0.00 | \$73.53 |
| | 12/01/2024 | \$47.78 | \$9.40 | \$17.82 | \$0.00 | \$75.00 |
| | 06/01/2025 | \$49.28 | \$9.40 | \$17.82 | \$0.00 | \$76.50 |
| | 12/01/2025 | \$50.78 | \$9.40 | \$17.82 | \$0.00 | \$78.00 |
| | 06/01/2026 | \$52.33 | \$9.40 | \$17.82 | \$0.00 | \$79.55 |
| | 12/01/2026 | \$53.83 | \$9.40 | \$17.82 | \$0.00 | \$81.05 |

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

| | | | | | | |
|---------------------------------------|------------|---------|---------|---------|--------|---------|
| PANEL & PICKUP TRUCKS DRIVER | 12/01/2021 | \$36.88 | \$13.41 | \$16.01 | \$0.00 | \$66.30 |
| TEAMSTERS JOINT COUNCIL NO. 10 ZONE A | | | | | | |

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) | 08/01/2020 | \$49.07 | \$9.40 | \$23.12 | \$0.00 | \$81.59 |
| PILE DRIVER LOCAL 56 (ZONE 1) | | | | | | |

For apprentice rates see "Apprentice- PILE DRIVER"

| | | | | | | |
|-------------------------------|------------|---------|--------|---------|--------|---------|
| PILE DRIVER | 08/01/2020 | \$49.07 | \$9.40 | \$23.12 | \$0.00 | \$81.59 |
| PILE DRIVER LOCAL 56 (ZONE 1) | | | | | | |

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2020

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|--------|---------|---------------------------|------------|
| 1 | 50 | \$24.54 | \$9.40 | \$23.12 | \$0.00 | \$57.06 |
| 2 | 60 | \$29.44 | \$9.40 | \$23.12 | \$0.00 | \$61.96 |
| 3 | 70 | \$34.35 | \$9.40 | \$23.12 | \$0.00 | \$66.87 |
| 4 | 75 | \$36.80 | \$9.40 | \$23.12 | \$0.00 | \$69.32 |
| 5 | 80 | \$39.26 | \$9.40 | \$23.12 | \$0.00 | \$71.78 |
| 6 | 80 | \$39.26 | \$9.40 | \$23.12 | \$0.00 | \$71.78 |
| 7 | 90 | \$44.16 | \$9.40 | \$23.12 | \$0.00 | \$76.68 |
| 8 | 90 | \$44.16 | \$9.40 | \$23.12 | \$0.00 | \$76.68 |

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
 Step 1&2 \$34.01/ 3&4 \$41.46/ 5&6 \$62.80/ 7&8 \$69.25

Apprentice to Journeyworker Ratio:1:5

PIPEFITTER & STEAMFITTER
PIPEFITTERS LOCAL 537

| | | | | | |
|------------|---------|---------|---------|--------|----------|
| 03/01/2023 | \$63.43 | \$12.25 | \$20.80 | \$0.00 | \$96.48 |
| 09/01/2023 | \$65.18 | \$12.25 | \$20.80 | \$0.00 | \$98.23 |
| 03/01/2024 | \$66.98 | \$12.25 | \$20.80 | \$0.00 | \$100.03 |
| 09/01/2024 | \$68.78 | \$12.25 | \$20.80 | \$0.00 | \$101.83 |
| 03/01/2025 | \$70.58 | \$12.25 | \$20.80 | \$0.00 | \$103.63 |

Apprentice - PIPEFITTER - Local 537

Effective Date - 03/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$25.37 | \$12.25 | \$8.55 | \$0.00 | \$46.17 |
| 2 | 45 | \$28.54 | \$12.25 | \$20.80 | \$0.00 | \$61.59 |
| 3 | 60 | \$38.06 | \$12.25 | \$20.80 | \$0.00 | \$71.11 |
| 4 | 70 | \$44.40 | \$12.25 | \$20.80 | \$0.00 | \$77.45 |
| 5 | 80 | \$50.74 | \$12.25 | \$20.80 | \$0.00 | \$83.79 |

Effective Date - 09/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 40 | \$26.07 | \$12.25 | \$8.55 | \$0.00 | \$46.87 |
| 2 | 45 | \$29.33 | \$12.25 | \$20.80 | \$0.00 | \$62.38 |
| 3 | 60 | \$39.11 | \$12.25 | \$20.80 | \$0.00 | \$72.16 |
| 4 | 70 | \$45.63 | \$12.25 | \$20.80 | \$0.00 | \$78.68 |
| 5 | 80 | \$52.14 | \$12.25 | \$20.80 | \$0.00 | \$85.19 |

Notes:

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

Apprentice to Journeyworker Ratio:**

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| PIPELAYER <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$42.83 | \$9.35 | \$17.82 | \$0.00 | \$70.00 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| | 06/01/2024 | \$46.56 | \$9.40 | \$17.82 | \$0.00 | \$73.78 |
| | 12/01/2024 | \$48.03 | \$9.40 | \$17.82 | \$0.00 | \$75.25 |
| | 06/01/2025 | \$49.53 | \$9.40 | \$17.82 | \$0.00 | \$76.75 |
| | 12/01/2025 | \$51.03 | \$9.40 | \$17.82 | \$0.00 | \$78.25 |
| | 06/01/2026 | \$52.58 | \$9.40 | \$17.82 | \$0.00 | \$79.80 |
| | 12/01/2026 | \$54.08 | \$9.40 | \$17.82 | \$0.00 | \$81.30 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway)" | | | | | | |
| PLUMBERS & GASFITTERS <i>PLUMBERS & GASFITTERS LOCAL 12</i> | 02/26/2023 | \$64.69 | \$14.07 | \$18.86 | \$0.00 | \$97.62 |
| | 09/03/2023 | \$66.44 | \$14.07 | \$18.86 | \$0.00 | \$99.37 |
| | 03/03/2024 | \$68.24 | \$14.07 | \$18.86 | \$0.00 | \$101.17 |
| | 09/01/2024 | \$70.04 | \$14.07 | \$18.86 | \$0.00 | \$102.97 |
| | 03/02/2025 | \$71.84 | \$14.07 | \$18.86 | \$0.00 | \$104.77 |

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 02/26/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 35 | \$22.64 | \$14.07 | \$6.80 | \$0.00 | \$43.51 |
| 2 | 40 | \$25.88 | \$14.07 | \$7.72 | \$0.00 | \$47.67 |
| 3 | 55 | \$35.58 | \$14.07 | \$10.51 | \$0.00 | \$60.16 |
| 4 | 65 | \$42.05 | \$14.07 | \$12.36 | \$0.00 | \$68.48 |
| 5 | 75 | \$48.52 | \$14.07 | \$14.22 | \$0.00 | \$76.81 |

Effective Date - 09/03/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 35 | \$23.25 | \$14.07 | \$6.80 | \$0.00 | \$44.12 |
| 2 | 40 | \$26.58 | \$14.07 | \$7.72 | \$0.00 | \$48.37 |
| 3 | 55 | \$36.54 | \$14.07 | \$10.51 | \$0.00 | \$61.12 |
| 4 | 65 | \$43.19 | \$14.07 | \$12.36 | \$0.00 | \$69.62 |
| 5 | 75 | \$49.83 | \$14.07 | \$14.22 | \$0.00 | \$78.12 |

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$69.00, Step5 with lic\$76.87

Apprentice to Journeyworker Ratio:**

| | | | | | | |
|--|------------|---------|---------|---------|--------|----------|
| PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537</i> | 03/01/2023 | \$63.43 | \$12.00 | \$20.80 | \$0.00 | \$96.23 |
| | 09/01/2023 | \$65.18 | \$12.00 | \$20.80 | \$0.00 | \$97.98 |
| | 03/01/2024 | \$66.98 | \$12.00 | \$20.80 | \$0.00 | \$99.78 |
| | 09/01/2024 | \$68.78 | \$12.00 | \$20.80 | \$0.00 | \$101.58 |
| | 03/01/2025 | \$70.58 | \$12.00 | \$20.80 | \$0.00 | \$103.38 |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER" | | | | | | |
| PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$42.83 | \$9.35 | \$17.82 | \$0.00 | \$70.00 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| | 06/01/2024 | \$46.56 | \$9.40 | \$17.82 | \$0.00 | \$73.78 |
| | 12/01/2024 | \$48.03 | \$9.40 | \$17.82 | \$0.00 | \$75.25 |
| | 06/01/2025 | \$49.53 | \$9.40 | \$17.82 | \$0.00 | \$76.75 |
| | 12/01/2025 | \$51.03 | \$9.40 | \$17.82 | \$0.00 | \$78.25 |
| | 06/01/2026 | \$52.58 | \$9.40 | \$17.82 | \$0.00 | \$79.80 |
| | 12/01/2026 | \$54.08 | \$9.40 | \$17.82 | \$0.00 | \$81.30 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway)" | | | | | | |
| POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$44.18 | \$9.10 | \$17.57 | \$0.00 | \$70.85 |
| | 06/01/2023 | \$44.58 | \$9.40 | \$17.82 | \$0.00 | \$71.80 |
| | 12/01/2023 | \$45.83 | \$9.40 | \$17.82 | \$0.00 | \$73.05 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$43.58 | \$9.35 | \$17.82 | \$0.00 | \$70.75 |
| | 06/01/2023 | \$44.58 | \$9.40 | \$17.82 | \$0.00 | \$71.80 |
| | 12/01/2023 | \$45.83 | \$9.40 | \$17.82 | \$0.00 | \$73.05 |
| | 06/01/2024 | \$47.31 | \$9.40 | \$17.82 | \$0.00 | \$74.53 |
| | 12/01/2024 | \$48.78 | \$9.40 | \$17.82 | \$0.00 | \$76.00 |
| | 06/01/2025 | \$50.28 | \$9.40 | \$17.82 | \$0.00 | \$77.50 |
| | 12/01/2025 | \$51.78 | \$9.40 | \$17.82 | \$0.00 | \$79.00 |
| | 06/01/2026 | \$53.33 | \$9.40 | \$17.82 | \$0.00 | \$80.55 |
| | 12/01/2026 | \$54.83 | \$9.40 | \$17.82 | \$0.00 | \$82.05 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway)" | | | | | | |
| POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.63 | \$14.25 | \$16.05 | \$0.00 | \$83.93 |
| | 06/01/2023 | \$54.88 | \$14.25 | \$16.05 | \$0.00 | \$85.18 |
| | 12/01/2023 | \$56.13 | \$14.25 | \$16.05 | \$0.00 | \$86.43 |
| | 06/01/2024 | \$57.43 | \$14.25 | \$16.05 | \$0.00 | \$87.73 |
| | 12/01/2024 | \$58.88 | \$14.25 | \$16.05 | \$0.00 | \$89.18 |
| | 06/01/2025 | \$60.18 | \$14.25 | \$16.05 | \$0.00 | \$90.48 |
| | 12/01/2025 | \$61.63 | \$14.25 | \$16.05 | \$0.00 | \$91.93 |
| | 06/01/2026 | \$62.93 | \$14.25 | \$16.05 | \$0.00 | \$93.23 |
| | 12/01/2026 | \$64.38 | \$14.25 | \$16.05 | \$0.00 | \$94.68 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|-----------------------|------------------|---------------|----------------|----------------------------------|-------------------|
| PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.63 | \$14.25 | \$16.05 | \$0.00 | \$83.93 |
| | 06/01/2023 | \$54.88 | \$14.25 | \$16.05 | \$0.00 | \$85.18 |
| | 12/01/2023 | \$56.13 | \$14.25 | \$16.05 | \$0.00 | \$86.43 |
| | 06/01/2024 | \$57.43 | \$14.25 | \$16.05 | \$0.00 | \$87.73 |
| | 12/01/2024 | \$58.88 | \$14.25 | \$16.05 | \$0.00 | \$89.18 |
| | 06/01/2025 | \$60.18 | \$14.25 | \$16.05 | \$0.00 | \$90.48 |
| | 12/01/2025 | \$61.63 | \$14.25 | \$16.05 | \$0.00 | \$91.93 |
| | 06/01/2026 | \$62.93 | \$14.25 | \$16.05 | \$0.00 | \$93.23 |
| | 12/01/2026 | \$64.38 | \$14.25 | \$16.05 | \$0.00 | \$94.68 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$35.08 | \$14.25 | \$16.05 | \$0.00 | \$65.38 |
| | 06/01/2023 | \$35.90 | \$14.25 | \$16.05 | \$0.00 | \$66.20 |
| | 12/01/2023 | \$36.72 | \$14.25 | \$16.05 | \$0.00 | \$67.02 |
| | 06/01/2024 | \$37.57 | \$14.25 | \$16.05 | \$0.00 | \$67.87 |
| | 12/01/2024 | \$38.52 | \$14.25 | \$16.05 | \$0.00 | \$68.82 |
| | 06/01/2025 | \$39.37 | \$14.25 | \$16.05 | \$0.00 | \$69.67 |
| | 12/01/2025 | \$40.32 | \$14.25 | \$16.05 | \$0.00 | \$70.62 |
| | 06/01/2026 | \$41.18 | \$14.25 | \$16.05 | \$0.00 | \$71.48 |
| | 12/01/2026 | \$42.13 | \$14.25 | \$16.05 | \$0.00 | \$72.43 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| READY MIX CONCRETE DRIVERS after 4/30/12 (Drivers Hired After 4/30/2012) <i>TEAMSTERS 25 (Metro) - Aggregate</i> | 08/01/2022 | \$30.40 | \$11.91 | \$15.25 | \$0.00 | \$57.56 |
| READY-MIX CONCRETE DRIVER <i>TEAMSTERS 25 (Metro) - Aggregate</i> | 08/01/2022 | \$34.41 | \$11.91 | \$15.25 | \$0.00 | \$61.57 |
| RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.05 | \$14.25 | \$16.05 | \$0.00 | \$83.35 |
| | 06/01/2023 | \$54.29 | \$14.25 | \$16.05 | \$0.00 | \$84.59 |
| | 12/01/2023 | \$55.53 | \$14.25 | \$16.05 | \$0.00 | \$85.83 |
| | 06/01/2024 | \$56.81 | \$14.25 | \$16.05 | \$0.00 | \$87.11 |
| | 12/01/2024 | \$58.25 | \$14.25 | \$16.05 | \$0.00 | \$88.55 |
| | 06/01/2025 | \$59.53 | \$14.25 | \$16.05 | \$0.00 | \$89.83 |
| | 12/01/2025 | \$60.97 | \$14.25 | \$16.05 | \$0.00 | \$91.27 |
| | 06/01/2026 | \$62.25 | \$14.25 | \$16.05 | \$0.00 | \$92.55 |
| | 12/01/2026 | \$63.69 | \$14.25 | \$16.05 | \$0.00 | \$93.99 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.05 | \$14.25 | \$16.05 | \$0.00 | \$83.35 |
| | 06/01/2023 | \$54.29 | \$14.25 | \$16.05 | \$0.00 | \$84.59 |
| | 12/01/2023 | \$55.53 | \$14.25 | \$16.05 | \$0.00 | \$85.83 |
| | 06/01/2024 | \$56.81 | \$14.25 | \$16.05 | \$0.00 | \$87.11 |
| | 12/01/2024 | \$58.25 | \$14.25 | \$16.05 | \$0.00 | \$88.55 |
| | 06/01/2025 | \$59.53 | \$14.25 | \$16.05 | \$0.00 | \$89.83 |
| | 12/01/2025 | \$60.97 | \$14.25 | \$16.05 | \$0.00 | \$91.27 |
| | 06/01/2026 | \$62.25 | \$14.25 | \$16.05 | \$0.00 | \$92.55 |
| | 12/01/2026 | \$63.69 | \$14.25 | \$16.05 | \$0.00 | \$93.99 |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| ROOFER (Inc.Roofer Waterproofing &Roofer Damproofg) ROOFERS LOCAL 33 | 02/01/2023 | \$48.53 | \$12.78 | \$20.20 | \$0.00 | \$81.51 |
| | 08/01/2023 | \$50.03 | \$12.78 | \$20.20 | \$0.00 | \$83.01 |
| | 02/01/2024 | \$51.28 | \$12.78 | \$20.20 | \$0.00 | \$84.26 |
| | 08/01/2024 | \$52.78 | \$12.78 | \$20.20 | \$0.00 | \$85.76 |
| | 02/01/2025 | \$54.03 | \$12.78 | \$20.20 | \$0.00 | \$87.01 |
| | 08/01/2025 | \$55.53 | \$12.78 | \$20.20 | \$0.00 | \$88.51 |
| | 02/01/2026 | \$56.78 | \$12.78 | \$20.20 | \$0.00 | \$89.76 |

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$24.27 | \$12.78 | \$5.59 | \$0.00 | \$42.64 |
| 2 | 60 | \$29.12 | \$12.78 | \$20.20 | \$0.00 | \$62.10 |
| 3 | 65 | \$31.54 | \$12.78 | \$20.20 | \$0.00 | \$64.52 |
| 4 | 75 | \$36.40 | \$12.78 | \$20.20 | \$0.00 | \$69.38 |
| 5 | 85 | \$41.25 | \$12.78 | \$20.20 | \$0.00 | \$74.23 |

Effective Date - 08/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$25.02 | \$12.78 | \$5.59 | \$0.00 | \$43.39 |
| 2 | 60 | \$30.02 | \$12.78 | \$20.20 | \$0.00 | \$63.00 |
| 3 | 65 | \$32.52 | \$12.78 | \$20.20 | \$0.00 | \$65.50 |
| 4 | 75 | \$37.52 | \$12.78 | \$20.20 | \$0.00 | \$70.50 |
| 5 | 85 | \$42.53 | \$12.78 | \$20.20 | \$0.00 | \$75.51 |

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.
 (Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

| | | | | | | |
|--|------------|---------|---------|---------|--------|---------|
| ROOFER SLATE / TILE / PRECAST CONCRETE ROOFERS LOCAL 33 | 02/01/2023 | \$48.78 | \$12.78 | \$20.20 | \$0.00 | \$81.76 |
| | 08/01/2023 | \$50.28 | \$12.78 | \$20.20 | \$0.00 | \$83.26 |
| | 02/01/2024 | \$51.53 | \$12.78 | \$20.20 | \$0.00 | \$84.51 |
| | 08/01/2024 | \$53.03 | \$12.78 | \$20.20 | \$0.00 | \$86.01 |
| | 02/01/2025 | \$54.28 | \$12.78 | \$20.20 | \$0.00 | \$87.26 |
| | 08/01/2025 | \$55.78 | \$12.78 | \$20.20 | \$0.00 | \$88.76 |
| | 02/01/2026 | \$57.03 | \$12.78 | \$20.20 | \$0.00 | \$90.01 |

For apprentice rates see "Apprentice- ROOFER"

| | | | | | | |
|--|------------|---------|---------|---------|--------|----------|
| SHEETMETAL WORKER SHEETMETAL WORKERS LOCAL 17 - A | 02/01/2023 | \$55.31 | \$14.11 | \$26.64 | \$2.83 | \$98.89 |
| | 08/01/2023 | \$57.01 | \$14.11 | \$26.64 | \$2.83 | \$100.59 |
| | 02/01/2024 | \$58.71 | \$14.11 | \$26.64 | \$2.83 | \$102.29 |
| | 08/01/2024 | \$60.46 | \$14.11 | \$26.64 | \$2.83 | \$104.04 |
| | 02/01/2025 | \$62.21 | \$14.11 | \$26.64 | \$2.83 | \$105.79 |
| | 08/01/2025 | \$64.06 | \$14.11 | \$26.64 | \$2.83 | \$107.64 |
| | 02/01/2026 | \$66.01 | \$14.11 | \$26.64 | \$2.83 | \$109.59 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 42 | \$23.23 | \$14.11 | \$6.13 | \$0.00 | \$43.47 |
| 2 | 42 | \$23.23 | \$14.11 | \$6.13 | \$0.00 | \$43.47 |
| 3 | 47 | \$26.00 | \$14.11 | \$11.90 | \$1.54 | \$53.55 |
| 4 | 47 | \$26.00 | \$14.11 | \$11.90 | \$1.54 | \$53.55 |
| 5 | 52 | \$28.76 | \$14.11 | \$12.88 | \$1.65 | \$57.40 |
| 6 | 52 | \$28.76 | \$14.11 | \$13.13 | \$1.65 | \$57.65 |
| 7 | 60 | \$33.19 | \$14.11 | \$14.54 | \$1.83 | \$63.67 |
| 8 | 65 | \$35.95 | \$14.11 | \$15.52 | \$1.94 | \$67.52 |
| 9 | 75 | \$41.48 | \$14.11 | \$17.48 | \$2.16 | \$75.23 |
| 10 | 85 | \$47.01 | \$14.11 | \$18.94 | \$2.36 | \$82.42 |

Effective Date - 08/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 42 | \$23.94 | \$14.11 | \$6.13 | \$0.00 | \$44.18 |
| 2 | 42 | \$23.94 | \$14.11 | \$6.13 | \$0.00 | \$44.18 |
| 3 | 47 | \$26.79 | \$14.11 | \$11.90 | \$1.58 | \$54.38 |
| 4 | 47 | \$26.79 | \$14.11 | \$11.90 | \$1.58 | \$54.38 |
| 5 | 52 | \$29.65 | \$14.11 | \$12.88 | \$1.70 | \$58.34 |
| 6 | 52 | \$29.65 | \$14.11 | \$13.13 | \$1.70 | \$58.59 |
| 7 | 60 | \$34.21 | \$14.11 | \$14.54 | \$1.89 | \$64.75 |
| 8 | 65 | \$37.06 | \$14.11 | \$15.52 | \$2.00 | \$68.69 |
| 9 | 75 | \$42.76 | \$14.11 | \$17.48 | \$2.23 | \$76.58 |
| 10 | 85 | \$48.46 | \$14.11 | \$18.94 | \$2.45 | \$83.96 |

Notes:
Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

| | | | | | | |
|--|------------|---------|---------|---------|--------|----------|
| SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2021 | \$37.34 | \$13.41 | \$16.01 | \$0.00 | \$66.76 |
| SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2021 | \$37.63 | \$13.41 | \$16.01 | \$0.00 | \$67.05 |
| SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i> | 03/01/2023 | \$66.20 | \$10.90 | \$23.20 | \$0.00 | \$100.30 |
| | 10/01/2023 | \$67.95 | \$10.90 | \$23.20 | \$0.00 | \$102.05 |
| | 03/01/2024 | \$69.75 | \$10.90 | \$23.20 | \$0.00 | \$103.85 |
| | 10/01/2024 | \$71.55 | \$10.90 | \$23.20 | \$0.00 | \$105.65 |
| | 03/01/2025 | \$73.35 | \$10.90 | \$23.20 | \$0.00 | \$107.45 |

Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1

Effective Date - 03/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 35 | \$23.17 | \$10.90 | \$9.70 | \$0.00 | \$43.77 |
| 2 | 40 | \$26.48 | \$10.90 | \$9.70 | \$0.00 | \$47.08 |
| 3 | 45 | \$29.79 | \$10.90 | \$9.70 | \$0.00 | \$50.39 |
| 4 | 50 | \$33.10 | \$10.90 | \$9.70 | \$0.00 | \$53.70 |
| 5 | 55 | \$36.41 | \$10.90 | \$9.70 | \$0.00 | \$57.01 |
| 6 | 60 | \$39.72 | \$10.90 | \$11.20 | \$0.00 | \$61.82 |
| 7 | 65 | \$43.03 | \$10.90 | \$11.20 | \$0.00 | \$65.13 |
| 8 | 70 | \$46.34 | \$10.90 | \$11.20 | \$0.00 | \$68.44 |
| 9 | 75 | \$49.65 | \$10.90 | \$11.20 | \$0.00 | \$71.75 |
| 10 | 80 | \$52.96 | \$10.90 | \$11.20 | \$0.00 | \$75.06 |

Effective Date - 10/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 35 | \$23.78 | \$10.90 | \$9.70 | \$0.00 | \$44.38 |
| 2 | 40 | \$27.18 | \$10.90 | \$9.70 | \$0.00 | \$47.78 |
| 3 | 45 | \$30.58 | \$10.90 | \$9.70 | \$0.00 | \$51.18 |
| 4 | 50 | \$33.98 | \$10.90 | \$9.70 | \$0.00 | \$54.58 |
| 5 | 55 | \$37.37 | \$10.90 | \$9.70 | \$0.00 | \$57.97 |
| 6 | 60 | \$40.77 | \$10.90 | \$11.20 | \$0.00 | \$62.87 |
| 7 | 65 | \$44.17 | \$10.90 | \$11.20 | \$0.00 | \$66.27 |
| 8 | 70 | \$47.57 | \$10.90 | \$11.20 | \$0.00 | \$69.67 |
| 9 | 75 | \$50.96 | \$10.90 | \$11.20 | \$0.00 | \$73.06 |
| 10 | 80 | \$54.36 | \$10.90 | \$11.20 | \$0.00 | \$76.46 |

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

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|-----------------------------|------------|---------|---------|---------|--------|---------|
| STEAM BOILER OPERATOR | 12/01/2022 | \$53.05 | \$14.25 | \$16.05 | \$0.00 | \$83.35 |
| OPERATING ENGINEERS LOCAL 4 | 06/01/2023 | \$54.29 | \$14.25 | \$16.05 | \$0.00 | \$84.59 |
| | 12/01/2023 | \$55.53 | \$14.25 | \$16.05 | \$0.00 | \$85.83 |
| | 06/01/2024 | \$56.81 | \$14.25 | \$16.05 | \$0.00 | \$87.11 |
| | 12/01/2024 | \$58.25 | \$14.25 | \$16.05 | \$0.00 | \$88.55 |
| | 06/01/2025 | \$59.53 | \$14.25 | \$16.05 | \$0.00 | \$89.83 |
| | 12/01/2025 | \$60.97 | \$14.25 | \$16.05 | \$0.00 | \$91.27 |
| | 06/01/2026 | \$62.25 | \$14.25 | \$16.05 | \$0.00 | \$92.55 |
| | 12/01/2026 | \$63.69 | \$14.25 | \$16.05 | \$0.00 | \$93.99 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.05 | \$14.25 | \$16.05 | \$0.00 | \$83.35 |
| | 06/01/2023 | \$54.29 | \$14.25 | \$16.05 | \$0.00 | \$84.59 |
| | 12/01/2023 | \$55.53 | \$14.25 | \$16.05 | \$0.00 | \$85.83 |
| | 06/01/2024 | \$56.81 | \$14.25 | \$16.05 | \$0.00 | \$87.11 |
| | 12/01/2024 | \$58.25 | \$14.25 | \$16.05 | \$0.00 | \$88.55 |
| | 06/01/2025 | \$59.53 | \$14.25 | \$16.05 | \$0.00 | \$89.83 |
| | 12/01/2025 | \$60.97 | \$14.25 | \$16.05 | \$0.00 | \$91.27 |
| | 06/01/2026 | \$62.25 | \$14.25 | \$16.05 | \$0.00 | \$92.55 |
| | 12/01/2026 | \$63.69 | \$14.25 | \$16.05 | \$0.00 | \$93.99 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| | | | | | | |
|---|------------|---------|---------|---------|--------|---------|
| TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i> | 03/01/2023 | \$47.38 | \$13.00 | \$19.63 | \$0.00 | \$80.01 |
|---|------------|---------|---------|---------|--------|---------|

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 45 | \$21.32 | \$13.00 | \$0.65 | \$0.00 | \$34.97 |
| 2 | 45 | \$21.32 | \$13.00 | \$0.65 | \$0.00 | \$34.97 |
| 3 | 50 | \$23.69 | \$13.00 | \$15.20 | \$0.00 | \$51.89 |
| 4 | 50 | \$23.69 | \$13.00 | \$15.20 | \$0.00 | \$51.89 |
| 5 | 55 | \$26.06 | \$13.00 | \$15.58 | \$0.00 | \$54.64 |
| 6 | 60 | \$28.43 | \$13.00 | \$15.96 | \$0.00 | \$57.39 |
| 7 | 65 | \$30.80 | \$13.00 | \$16.34 | \$0.00 | \$60.14 |
| 8 | 70 | \$33.17 | \$13.00 | \$16.73 | \$0.00 | \$62.90 |
| 9 | 75 | \$35.54 | \$13.00 | \$17.11 | \$0.00 | \$65.65 |
| 10 | 80 | \$37.90 | \$13.00 | \$17.48 | \$0.00 | \$68.38 |

Notes:

Apprentice to Journeyworker Ratio:1:1

| | | | | | | |
|--|------------|---------|---------|---------|--------|----------|
| TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i> | 02/01/2023 | \$59.29 | \$11.49 | \$22.34 | \$0.00 | \$93.12 |
| | 08/01/2023 | \$61.34 | \$11.49 | \$22.34 | \$0.00 | \$95.17 |
| | 02/01/2024 | \$62.59 | \$11.49 | \$22.34 | \$0.00 | \$96.42 |
| | 08/01/2024 | \$64.69 | \$11.49 | \$22.34 | \$0.00 | \$98.52 |
| | 02/01/2025 | \$65.99 | \$11.49 | \$22.34 | \$0.00 | \$99.82 |
| | 08/01/2025 | \$68.14 | \$11.49 | \$22.34 | \$0.00 | \$101.97 |
| | 02/01/2026 | \$69.49 | \$11.49 | \$22.34 | \$0.00 | \$103.32 |
| | 08/01/2026 | \$71.69 | \$11.49 | \$22.34 | \$0.00 | \$105.52 |
| | 02/01/2027 | \$73.09 | \$11.49 | \$22.34 | \$0.00 | \$106.92 |

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$29.65 | \$11.49 | \$22.34 | \$0.00 | \$63.48 |
| 2 | 60 | \$35.57 | \$11.49 | \$22.34 | \$0.00 | \$69.40 |
| 3 | 70 | \$41.50 | \$11.49 | \$22.34 | \$0.00 | \$75.33 |
| 4 | 80 | \$47.43 | \$11.49 | \$22.34 | \$0.00 | \$81.26 |
| 5 | 90 | \$53.36 | \$11.49 | \$22.34 | \$0.00 | \$87.19 |

Effective Date - 08/01/2023

| Step | percent | Apprentice Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|------|---------|----------------------|---------|---------|---------------------------|------------|
| 1 | 50 | \$30.67 | \$11.49 | \$22.34 | \$0.00 | \$64.50 |
| 2 | 60 | \$36.80 | \$11.49 | \$22.34 | \$0.00 | \$70.63 |
| 3 | 70 | \$42.94 | \$11.49 | \$22.34 | \$0.00 | \$76.77 |
| 4 | 80 | \$49.07 | \$11.49 | \$22.34 | \$0.00 | \$82.90 |
| 5 | 90 | \$55.21 | \$11.49 | \$22.34 | \$0.00 | \$89.04 |

Notes:

Apprentice to Journeyworker Ratio:1:3

| | | | | | | |
|--|------------|---------|--------|---------|--------|---------|
| TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i> | 12/01/2022 | \$46.58 | \$9.35 | \$17.97 | \$0.00 | \$73.90 |
| | 06/01/2023 | \$47.58 | \$9.40 | \$17.97 | \$0.00 | \$74.95 |
| | 12/01/2023 | \$48.83 | \$9.40 | \$17.97 | \$0.00 | \$76.20 |
| | 06/01/2024 | \$50.31 | \$9.40 | \$17.97 | \$0.00 | \$77.68 |
| | 12/01/2024 | \$51.78 | \$9.40 | \$17.97 | \$0.00 | \$79.15 |
| | 06/01/2025 | \$53.28 | \$9.40 | \$17.97 | \$0.00 | \$80.65 |
| | 12/01/2025 | \$54.78 | \$9.40 | \$17.97 | \$0.00 | \$82.15 |
| | 06/01/2026 | \$56.33 | \$9.40 | \$17.97 | \$0.00 | \$83.70 |
| | 12/01/2026 | \$57.83 | \$9.40 | \$17.97 | \$0.00 | \$85.20 |

For apprentice rates see "Apprentice- LABORER"

| | | | | | | |
|---|------------|---------|--------|---------|--------|---------|
| TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i> | 12/01/2022 | \$42.70 | \$9.35 | \$17.97 | \$0.00 | \$70.02 |
| | 06/01/2023 | \$43.70 | \$9.40 | \$17.97 | \$0.00 | \$71.07 |
| | 12/01/2023 | \$44.95 | \$9.40 | \$17.97 | \$0.00 | \$72.32 |
| | 06/01/2024 | \$46.43 | \$9.40 | \$17.97 | \$0.00 | \$73.80 |
| | 12/01/2024 | \$47.90 | \$9.40 | \$17.97 | \$0.00 | \$75.27 |
| | 06/01/2025 | \$49.40 | \$9.40 | \$17.97 | \$0.00 | \$76.77 |
| | 12/01/2025 | \$50.90 | \$9.40 | \$17.97 | \$0.00 | \$78.27 |
| | 06/01/2026 | \$52.45 | \$9.40 | \$17.97 | \$0.00 | \$79.82 |
| | 12/01/2026 | \$53.95 | \$9.40 | \$17.97 | \$0.00 | \$81.32 |

For apprentice rates see "Apprentice- LABORER"

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|---|----------------|-----------|---------|---------|---------------------------|------------|
| TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i> | 12/01/2022 | \$42.58 | \$9.35 | \$17.97 | \$0.00 | \$69.90 |
| | 06/01/2023 | \$43.58 | \$9.40 | \$17.97 | \$0.00 | \$70.95 |
| | 12/01/2023 | \$44.83 | \$9.40 | \$17.97 | \$0.00 | \$72.20 |
| | 06/01/2024 | \$46.31 | \$9.40 | \$17.97 | \$0.00 | \$73.68 |
| | 12/01/2024 | \$47.78 | \$9.40 | \$17.97 | \$0.00 | \$75.15 |
| | 06/01/2025 | \$49.28 | \$9.40 | \$17.97 | \$0.00 | \$76.65 |
| | 12/01/2025 | \$50.78 | \$9.40 | \$17.97 | \$0.00 | \$78.15 |
| | 06/01/2026 | \$52.33 | \$9.40 | \$17.97 | \$0.00 | \$79.70 |
| | 12/01/2026 | \$53.83 | \$9.40 | \$17.97 | \$0.00 | \$81.20 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.05 | \$14.25 | \$16.05 | \$0.00 | \$83.35 |
| | 06/01/2023 | \$54.29 | \$14.25 | \$16.05 | \$0.00 | \$84.59 |
| | 12/01/2023 | \$55.53 | \$14.25 | \$16.05 | \$0.00 | \$85.83 |
| | 06/01/2024 | \$56.81 | \$14.25 | \$16.05 | \$0.00 | \$87.11 |
| | 12/01/2024 | \$58.25 | \$14.25 | \$16.05 | \$0.00 | \$88.55 |
| | 06/01/2025 | \$59.53 | \$14.25 | \$16.05 | \$0.00 | \$89.83 |
| | 12/01/2025 | \$60.97 | \$14.25 | \$16.05 | \$0.00 | \$91.27 |
| | 06/01/2026 | \$62.25 | \$14.25 | \$16.05 | \$0.00 | \$92.55 |
| | 12/01/2026 | \$63.69 | \$14.25 | \$16.05 | \$0.00 | \$93.99 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |
| TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2021 | \$37.92 | \$13.41 | \$16.01 | \$0.00 | \$67.34 |
| TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i> | 12/01/2022 | \$54.81 | \$9.35 | \$18.42 | \$0.00 | \$82.58 |
| | 06/01/2023 | \$55.81 | \$9.40 | \$18.42 | \$0.00 | \$83.63 |
| | 12/01/2023 | \$57.06 | \$9.40 | \$18.42 | \$0.00 | \$84.88 |
| | 06/01/2024 | \$58.54 | \$9.40 | \$18.42 | \$0.00 | \$86.36 |
| | 12/01/2024 | \$60.01 | \$9.40 | \$18.42 | \$0.00 | \$87.83 |
| | 06/01/2025 | \$61.51 | \$9.40 | \$18.42 | \$0.00 | \$89.33 |
| | 12/01/2025 | \$63.01 | \$9.40 | \$18.42 | \$0.00 | \$90.83 |
| | 06/01/2026 | \$64.56 | \$9.40 | \$18.42 | \$0.00 | \$92.38 |
| | 12/01/2026 | \$66.06 | \$9.40 | \$18.42 | \$0.00 | \$93.88 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i> | 12/01/2022 | \$56.81 | \$9.35 | \$18.42 | \$0.00 | \$84.58 |
| | 06/01/2023 | \$57.81 | \$9.40 | \$18.42 | \$0.00 | \$85.63 |
| | 12/01/2023 | \$59.06 | \$9.40 | \$18.42 | \$0.00 | \$86.88 |
| | 06/01/2024 | \$60.54 | \$9.40 | \$18.42 | \$0.00 | \$88.36 |
| | 12/01/2024 | \$62.01 | \$9.40 | \$18.42 | \$0.00 | \$89.83 |
| | 06/01/2025 | \$63.51 | \$9.40 | \$18.42 | \$0.00 | \$91.33 |
| | 12/01/2025 | \$65.01 | \$9.40 | \$18.42 | \$0.00 | \$92.83 |
| | 06/01/2026 | \$66.56 | \$9.40 | \$18.42 | \$0.00 | \$94.38 |
| | 12/01/2026 | \$68.06 | \$9.40 | \$18.42 | \$0.00 | \$95.88 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i> | 12/01/2022 | \$46.88 | \$9.35 | \$18.42 | \$0.00 | \$74.65 |
| | 06/01/2023 | \$47.88 | \$9.40 | \$18.42 | \$0.00 | \$75.70 |
| | 12/01/2023 | \$49.13 | \$9.40 | \$18.42 | \$0.00 | \$76.95 |
| | 06/01/2024 | \$50.61 | \$9.40 | \$18.42 | \$0.00 | \$78.43 |
| | 12/01/2024 | \$52.08 | \$9.40 | \$18.42 | \$0.00 | \$79.90 |
| | 06/01/2025 | \$53.58 | \$9.40 | \$18.42 | \$0.00 | \$81.40 |
| | 12/01/2025 | \$55.08 | \$9.40 | \$18.42 | \$0.00 | \$82.90 |
| | 06/01/2026 | \$56.63 | \$9.40 | \$18.42 | \$0.00 | \$84.45 |
| | 12/01/2026 | \$58.13 | \$9.40 | \$18.42 | \$0.00 | \$85.95 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i> | 12/01/2022 | \$48.88 | \$9.35 | \$18.42 | \$0.00 | \$76.65 |
| | 06/01/2023 | \$49.88 | \$9.40 | \$18.42 | \$0.00 | \$77.70 |
| | 12/01/2023 | \$51.13 | \$9.40 | \$18.42 | \$0.00 | \$78.95 |
| | 06/01/2024 | \$52.61 | \$9.40 | \$18.42 | \$0.00 | \$80.43 |
| | 12/01/2024 | \$54.08 | \$9.40 | \$18.42 | \$0.00 | \$81.90 |
| | 06/01/2025 | \$55.58 | \$9.40 | \$18.42 | \$0.00 | \$83.40 |
| | 12/01/2025 | \$57.08 | \$9.40 | \$18.42 | \$0.00 | \$84.90 |
| | 06/01/2026 | \$58.63 | \$9.40 | \$18.42 | \$0.00 | \$86.45 |
| | 12/01/2026 | \$60.13 | \$9.40 | \$18.42 | \$0.00 | \$87.95 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i> | 12/01/2021 | \$37.34 | \$13.41 | \$16.01 | \$0.00 | \$66.76 |
| WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i> | 12/01/2022 | \$43.43 | \$9.10 | \$17.57 | \$0.00 | \$70.10 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| For apprentice rates see "Apprentice- LABORER" | | | | | | |
| WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 1 (HEAVY & HIGHWAY)</i> | 12/01/2022 | \$42.83 | \$9.35 | \$17.82 | \$0.00 | \$70.00 |
| | 06/01/2023 | \$43.83 | \$9.40 | \$17.82 | \$0.00 | \$71.05 |
| | 12/01/2023 | \$45.08 | \$9.40 | \$17.82 | \$0.00 | \$72.30 |
| | 06/01/2024 | \$46.56 | \$9.40 | \$17.82 | \$0.00 | \$73.78 |
| | 12/01/2024 | \$48.03 | \$9.40 | \$17.82 | \$0.00 | \$75.25 |
| | 06/01/2025 | \$49.53 | \$9.40 | \$17.82 | \$0.00 | \$76.75 |
| | 12/01/2025 | \$51.03 | \$9.40 | \$17.82 | \$0.00 | \$78.25 |
| | 06/01/2026 | \$52.58 | \$9.40 | \$17.82 | \$0.00 | \$79.80 |
| | 12/01/2026 | \$54.08 | \$9.40 | \$17.82 | \$0.00 | \$81.30 |
| For apprentice rates see "Apprentice- LABORER (Heavy and Highway)" | | | | | | |
| WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i> | 12/01/2022 | \$53.63 | \$14.25 | \$16.05 | \$0.00 | \$83.93 |
| | 06/01/2023 | \$54.88 | \$14.25 | \$16.05 | \$0.00 | \$85.18 |
| | 12/01/2023 | \$56.13 | \$14.25 | \$16.05 | \$0.00 | \$86.43 |
| | 06/01/2024 | \$57.43 | \$14.25 | \$16.05 | \$0.00 | \$87.73 |
| | 12/01/2024 | \$58.88 | \$14.25 | \$16.05 | \$0.00 | \$89.18 |
| | 06/01/2025 | \$60.18 | \$14.25 | \$16.05 | \$0.00 | \$90.48 |
| | 12/01/2025 | \$61.63 | \$14.25 | \$16.05 | \$0.00 | \$91.93 |
| | 06/01/2026 | \$62.93 | \$14.25 | \$16.05 | \$0.00 | \$93.23 |
| | 12/01/2026 | \$64.38 | \$14.25 | \$16.05 | \$0.00 | \$94.68 |
| For apprentice rates see "Apprentice- OPERATING ENGINEERS" | | | | | | |

| Classification | Effective Date | Base Wage | Health | Pension | Supplemental Unemployment | Total Rate |
|--|----------------|-----------|---------|---------|---------------------------|------------|
| WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i> | 02/26/2023 | \$64.69 | \$14.07 | \$18.86 | \$0.00 | \$97.62 |
| | 09/03/2023 | \$66.44 | \$14.07 | \$18.86 | \$0.00 | \$99.37 |
| | 03/03/2024 | \$68.24 | \$14.07 | \$18.86 | \$0.00 | \$101.17 |
| | 09/01/2024 | \$70.04 | \$14.07 | \$18.86 | \$0.00 | \$102.97 |
| | 03/02/2025 | \$71.84 | \$14.07 | \$18.86 | \$0.00 | \$104.77 |

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

Additional Apprentices Information:

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

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

All steps are six months (1000 hours.)

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

** Multiple ratios are listed in the comment field.

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

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

APPENDIX B
PRICE ADJUSTMENTS

PRICE ADJUSTMENTS FOR CERTAIN MATERIALS IN CONSTRUCTION PROJECTS
MGL CHAPTER 30, SECTION 38A

On November 20, 2013, the Massachusetts Legislature passed a bill (Chapter 150 of the Acts of 2013) requiring that water and sewer projects bid under MGL Chapter 30 Section 39M include price adjustment clauses for **fuel** (both diesel and gasoline), **liquid asphalt** and **portland cement** contained in cast in place concrete for all projects that are advertised for bid after January 1, 2014.

The inclusion of these clauses in the construction contract is the responsibility of the awarding authority, and as such, MassDEP does not dictate what language should be used in the contract. MassDEP will, however, review the contracts to verify that price adjustment clauses have been included.

Awarding Authorities may find value from researching the *price adjustment* information on the Massachusetts Department of Transportation (MassDOT) website at <http://www.mhd.state.ma.us/default.asp?pgid=content/fuelPrices&sid=about> . MassDOT requires the use of price adjustment clauses in all of its contracts, and since 2008 has been requiring cities and towns utilizing Chapter 90 road construction funds to also include price adjustment clauses. Because of this, many cities and towns may already have drafted appropriate price adjustment language. This language would be suitable for use in SRF funded contracts. The MassDOT website has extensive information on price adjustments and required contract language for MassDOT contracts.

Attached below is the new Chapter 30, Section 38A language and the contract language that MassDOT uses in its construction contracts. The MassDOT contract language is presented as a possible starting point for borrowers that have not drafted price adjustment clauses. The LGU should consult with their legal and contract staff as appropriate in developing the price adjustment clauses.

Chapter 150 of the Acts of 2013
An Act Relative to Price Adjustment for Certain Materials in Construction Projects

Whereas, the deferred operation of this act would tend to defeat its purpose, which is to establish forthwith certain price adjustments, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same as follows:

SECTION 1. Chapter 30 of the General Laws is hereby amended by inserting after section 38 the following section:-

Section 38A. Contracts for road and bridge projects awarded as a result of a proposal or invitation for bids under section 39M shall include a price adjustment clause for each of the following materials: fuel, both diesel and gasoline; asphalt; concrete; and steel. Contracts for water and sewer projects awarded as a result of a proposal or invitation for bids under said section 39M shall include a price adjustment clause for fuel, both diesel and gasoline; liquid asphalt; and

portland cement contained in cast-in-place concrete. A base price for each material shall be set by the awarding authority or agency and shall be included in the bid documents at the time the project is advertised. The awarding authority or agency shall also identify in the bid documents the price index to be used for each material. The price adjustment clause shall provide for a contract adjustment to be made on a monthly basis when the monthly cost change exceeds plus or minus 5 per cent.

SECTION 2. Section 1 shall apply to projects which are advertised for bid after January 1, 2014.

Approved, November 25, 2013.

MassDOT Price Adjustment Clauses

DOCUMENT 00811
SPECIAL PROVISIONS
MONTHLY PRICE ADJUSTMENT FOR HOT MIX ASPHALT (HMA) MIXTURES
ENGLISH UNITS
Revised: 02/02/2009

This provision applies to all projects using greater than 100 tons of hot mix asphalt (HMA) mixtures containing liquid asphalt cement as stipulated in the Notice to Contractors section of the bid documents.

The Price Adjustment will be based on the variance in price for the liquid asphalt component only from the Base Price to the Period Price. It shall not include transportation or other charges. This Price Adjustment will occur on a monthly basis.

Base Price

The Base Price of liquid asphalt on a project as listed in the Notice to Contractors section of the bid documents is a fixed price determined at the time of bid by the Department by using the same method as for the determination of the Period Price detailed below.

Period Price

Please note that, starting December 15, 2008, two sets of period prices will be posted each month on the MassHighway website at <http://www.mhd.state.ma.us/>. They will be labeled "New Asphalt Period Price Method" and "Old Asphalt Period Price Method".

New Asphalt Period Price Method

The "New Asphalt Period Price Method" is for contracts bid after December 15, 2008 and will show the Period Price of liquid asphalt for each monthly period as determined by MassHighway using the average selling price per standard ton of PG64-28 paving grade (primary binder classification) asphalt, FOB manufacturer's terminal, as listed under the "East Coast Market - New England, Boston, Massachusetts area" section of the Poter & Partners, Inc. "Asphalt Weekly Monitor". This average selling price is listed in the issue having a publication date of the second Friday of the month and will be posted as the Period Price for that month. MassHighway will post this Period Price on this website within two (2) business days following their receipt of the relevant issue of the "Asphalt Weekly Monitor". Poter and Partners has granted MassHighway the right to publish this specific asphalt price information sourced from the Asphalt Weekly Monitor.

Old Asphalt Period Price Method

The "Old Asphalt Period Price Method" Period Price will be for contracts bid on or before December 15, 2008 and will contain liquid asphalt prices as determined by the old or previous method. These prices will continue to be posted on MassHighway's website until all contracts using the "Old Asphalt Period Price Method" Period Price have been closed.

New and Old Asphalt Period Price Methods

The paragraphs below apply to both the New and the Old Asphalt Period Price Methods. The Contract Price of the hot mix asphalt mixture will be paid under the respective item in the Contract. The price adjustment, as herein provided, upwards or downwards, will be made after the work has been performed, using the monthly period price for the month during which the work was performed.

The Price Adjustment applies only to the actual virgin liquid asphalt content in the mixture placed on the job in accordance with the Standard Specifications for Highways and Bridges, Division III, Section M3.11.03.

The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of tons of hot mix asphalt mixtures placed during each monthly period times the liquid asphalt content percentage times the variance in price between Base Price and Period Price of liquid asphalt.

This Price Adjustment will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No Price Adjustment will be allowed beyond the Completion Date of this Contract, unless there is a Department approved extension of time.

***** END OF DOCUMENT *****

DOCUMENT 00812
SPECIAL PROVISIONS
MONTHLY PRICE ADJUSTMENT FOR DIESEL FUEL AND GASOLINE –
ENGLISH UNITS
Revised: 01/26/2009

This monthly fuel price adjustment is inserted in this contract because the national and worldwide energy situation has made the future cost of fuel unpredictable. This adjustment will provide for either additional compensation to the Contractor or repayment to the Commonwealth, depending on an increase or decrease in the average price of diesel fuel or gasoline.

This adjustment will be based on fuel usage factors for various items of work developed by the Highway Research Board in Circular 158, dated July 1974. These factors will be multiplied by the quantities of work done in each item during each monthly period and further multiplied by the variance in price from the Base Price to the Period Price.

The Base Price of Diesel Fuel and Gasoline will be the price as indicated in the Department's web site (www.mhd.state.ma.us) for the month in which the contract was bid, which includes State Tax.

The Period Price will be the average of prices charged to the State, including State Tax for the bulk purchases made\ during each month.

This adjustment will be effected only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No adjustment will be paid for work done beyond the extended completion date of any contract.

Any adjustment (increase or decrease) to estimated quantities made to each item at the time of final payment will have the fuel price adjustment figured at the average period price for the entire term of the project for the difference of quantity.

The fuel price adjustment will apply only to the following items of work at the fuel factors shown:

| ITEMS COVERED | FUEL FACTORS | |
|--|--------------------|-------------------|
| | Diesel | Gasoline |
| Excavation: and Borrow Work: Items 120, 120.1, 121, 123, 124, 125, 127, 129.3, 140, 140.1, 141, 142, 143, 144., 150, 150.1, 151 and 151.1 (Both Factors used) | 0.29 Gallons / CY | 0.15 Gallons / CY |
| Surfacing Work: All Items containing Hot Mix Asphalt | 2.90 Gallons / Ton | Does Not Apply |

***** END OF DOCUMENT *****

DOCUMENT 00814
SPECIAL PROVISIONS
PRICE ADJUSTMENT FOR PORTLAND CEMENT CONCRETE MIXES
January 12, 2009

This provision applies to all projects using greater than 100 Cubic Yards (76 Cubic Meters) of Portland cement concrete containing Portland cement as stipulated in the Notice to Contractors section of the Bid Documents. This Price Adjustment will occur on a monthly basis.

The Price Adjustment will be based on the variance in price for the Portland cement component only from the Base Price to the Period Price. It shall not include transportation or other charges.

The Base Price of Portland cement on a project is a fixed price determined at the time of bid by the Department by using the same method as for the determination of the Period Price (see below) and found in the Notice to Contractors.

The Period Price of Portland cement will be determined by using the latest published price, in dollars per ton (U.S.), for Portland cement (Type I) quoted for Boston, U.S.A. in the **Construction Economics** section of *ENR Engineering News-Record* magazine or at the ENR website <http://www.enr.com> under **Construction Economics**. The Period Price will be posted on the MassHighway website the Wednesday immediately following the publishing of the monthly price in ENR, which is normally the first week of the month.

The Contract Price of the Portland cement concrete mix will be paid under the respective item in the Contract. The price adjustment, as herein provided, upwards or downwards, will be made after the work has been performed, using the monthly period price for the month during which the work was performed.

The price adjustment applies only to the actual Portland cement content in the mix placed on the job in accordance with the Standard Specifications for Highways and Bridges, Division III, Section M4.02.01.

No adjustments will be made for any cement replacement materials such as fly ash or ground granulated blast furnace slag.

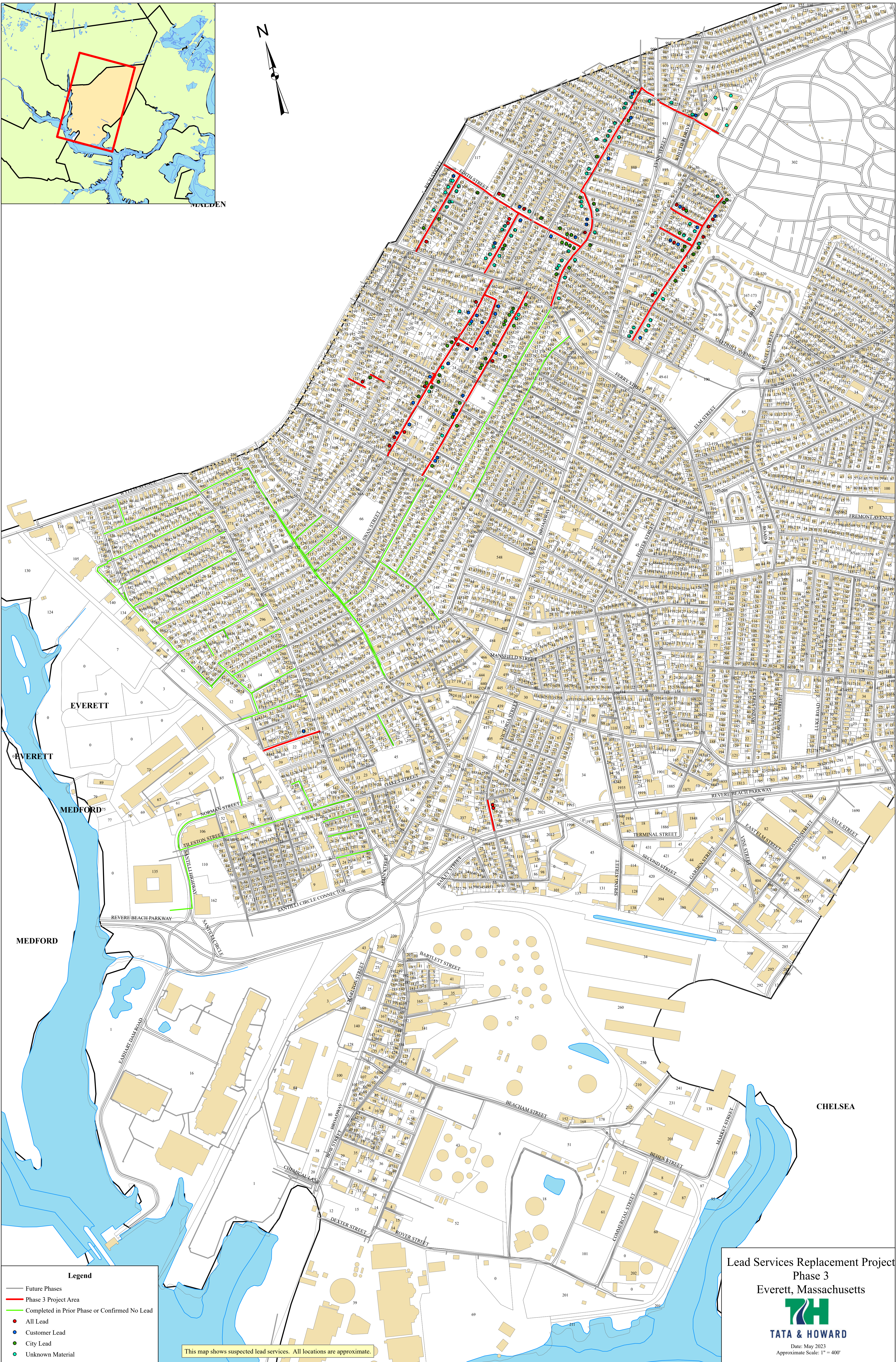
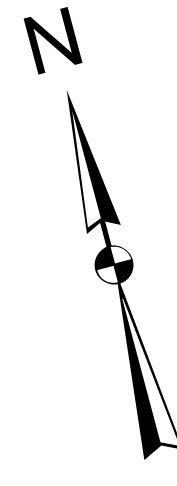
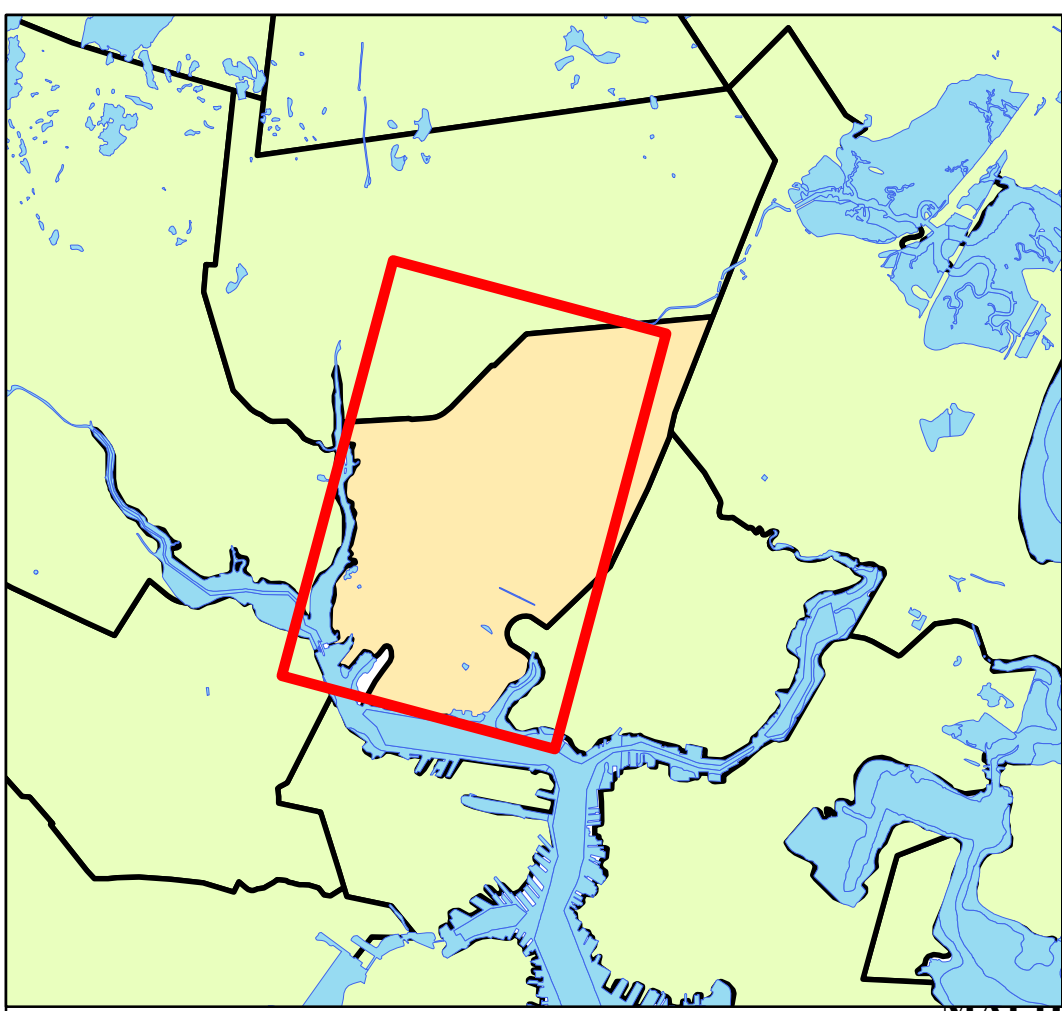
The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of cubic yards of Portland cement concrete placed during each monthly period times the Portland cement content percentage times the variance in price between the Base Price and Period Price of Portland cement.

This Price Adjustment will be paid only if the variance from the Base Price is 5% or more for a monthly period. The complete adjustment will be paid in all cases with no deduction of the 5% from either upward or downward adjustments.

No Price Adjustment will be allowed beyond the Completion Date of this Contract, unless there is a Department-approved extension of time.

END OF DOCUMENT

APPENDIX C
PROJECT MAP



Legend

- Future Phases
- Phase 3 Project Area
- Completed in Prior Phase or Confirmed No Lead
- All Lead
- Customer Lead
- City Lead
- Unknown Material

This map shows suspected lead services. All locations are approximate.

Lead Services Replacement Project
Phase 3
Everett, Massachusetts



TATA & HOWARD

Date: May 2023
Approximate Scale: 1" = 400'

APPENDIX D

LIST OF ADDRESSES

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 3
Everett, Massachusetts

| Address | Property-Side | City-Side |
|------------------|----------------------|------------------|
| 10 Central Ave. | Lead | Lead |
| 18 Central Ave. | Lead | Lead |
| 20 Central Ave. | Lead | Copper |
| 21 Central Ave. | Unknown | Cast |
| 31 Central Ave. | Lead | Copper |
| 48 Central Ave. | Lead | Copper |
| 54 Central Ave. | Copper | Lead |
| 61 Central Ave. | Unknown | Copper |
| 64 Central Ave. | Lead | Lead |
| 65 Central Ave. | Copper | Lead |
| 68 Central Ave. | Copper | Lead |
| 75 Central Ave. | Copper | Lead |
| 76 Central Ave. | Lead | Copper |
| 79 Central Ave. | Copper | Lead |
| 83 Central Ave. | Copper | Unknown |
| 91 Central Ave. | Lead | Copper |
| 104 Central Ave. | Brass | Lead |
| 106 Central Ave. | Copper | Lead |
| 107 Central Ave. | Iron | Iron |
| 108 Central Ave. | Iron | Cast |
| 123 Central Ave. | Unknown | Copper |
| 127 Central Ave. | Iron | Copper |
| 130 Central Ave. | Copper | Unknown |
| 135 Central Ave. | Lead | Copper |
| 136 Central Ave. | Lead | Copper |
| 146 Central Ave. | Lead | Lead |
| 9 Vernal St. | Copper | Lead |
| 13 Vernal St. | Lead | Copper |
| 17 Vernal St. | Lead | Copper |
| 36 Vernal St. | Unknown | Unknown |
| 49 Vernal St. | Copper | Lead |
| 52 Vernal St. | Copper | Lead |
| 54 Vernal St. | Lead | Copper |
| 58 Vernal St. | Copper | Lead |
| 68 Vernal St. | Copper | Lead |
| 72 Vernal St. | Lead | Copper |
| 100 Vernal St. | Copper | Lead |
| 102 Vernal St. | Copper | Lead |
| 108 Vernal St. | Copper | Lead |
| 109 Vernal St. | Lead | Lead |
| 117 Vernal St. | Iron | Copper |
| 119 Vernal St. | Copper | Lead |
| 124 Vernal St. | Copper | Lead |
| 142 Vernal St. | Copper | Lead |
| 143 Vernal St. | Copper | Lead |

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 3
Everett, Massachusetts

| Address | Property-Side | City-Side |
|-----------------|----------------------|------------------|
| 144 Vernal St. | Copper | Lead |
| 149 Vernal St. | Copper | Unknown |
| 150 Vernal St. | Copper | Lead |
| 152 Vernal St. | Copper | Unknown |
| 153 Vernal St. | Copper | Unknown |
| 154 Vernal St. | Copper | Lead |
| 163 Vernal St. | Copper | Lead |
| 4 Edith St. | Copper | Lead |
| 7 Edith St. | Lead | Copper |
| 8 Edith St. | Copper | Lead |
| 11 Edith St. | Copper | Lead |
| 12 Edith St. | Copper | Lead |
| 13 Edith St. | Copper | Lead |
| 16 Edith St. | Copper | Lead |
| 21 Edith St. | Copper | Lead |
| 26 Edith St. | Iron | Unknown |
| 39 Edith St. | Copper | Lead |
| 51 Edith St. | Copper | Unknown |
| 55 Edith St. | Iron | Iron |
| 59 Edith St. | Iron | Copper |
| 75 Edith St. | Copper | Iron |
| 79 Edith St. | Iron | Cast |
| 98 Edith St. | Copper | Iron |
| 11 Ashton St. | Brass | Copper |
| 22 Ashton St. | Copper | Lead |
| 33 Ashton St. | Copper | Lead |
| 38 Ashton St. | Copper | Unknown |
| 43 Ashton St. | Copper | Unknown |
| 49 Ashton St. | Copper | Unknown |
| 49R Ashton St. | Copper | Unknown |
| 56 Ashton St. | Copper | Unknown |
| 59 Ashton St. | Copper | Unknown |
| 60 Ashton St. | Copper | Unknown |
| 63 Ashton St. | Copper | Unknown |
| 66 Ashton St. | Copper | Unknown |
| 66A Ashton St. | Unknown | Unknown |
| 70 Ashton St. | Iron | Copper |
| 9 Woodward St. | Copper | Unknown |
| 12 Woodward St. | Copper | Unknown |
| 18 Woodward St. | Copper | Unknown |
| 19 Woodward St. | Copper | Unknown |
| 24 Woodward St. | Unknown | Copper |
| 26 Woodward St. | Iron | Unknown |
| 29 Woodward St. | Copper | Lead |
| 31 Woodward St. | Copper | Lead |

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 3
Everett, Massachusetts

| Address | Property-Side | City-Side |
|-----------------|----------------------|------------------|
| 37 Woodward St. | Copper | Unknown |
| 40 Woodward St. | Copper | Unknown |
| 43 Woodward St. | Copper | Unknown |
| 44 Woodward St. | Copper | Unknown |
| 48 Woodward St. | Iron | Cast |
| 52 Woodward St. | Iron | Cast |
| 53 Woodward St. | Iron | Copper |
| 7 Shute St. | Copper | Unknown |
| 26 Shute St. | Copper | Lead |
| 27 Shute St. | Copper | Unknown |
| 28 Shute St. | Copper | Unknown |
| 32 Shute St. | Copper | Unknown |
| 33 Shute St. | Copper | Lead |
| 38 Shute St. | Copper | Unknown |
| 40 Shute St. | Copper | Unknown |
| 46 Shute St. | Copper | Unknown |
| 59 Shute St. | Copper | Lead |
| 68 Shute St. | Iron | Cast |
| 71 Shute St. | Copper | Unknown |
| 74 Shute St. | Iron | Unknown |
| 80 Shute St. | Iron | Unknown |
| 89 Shute St. | Copper | Unknown |
| 93 Shute St. | Copper | Lead |
| 94 Shute St. | Copper | Unknown |
| 98 Shute St. | Unknown | Unknown |
| 100 Shute St. | Copper | Lead |
| 120 Shute St. | Copper | Unknown |
| 124 Shute St. | Copper | Unknown |
| 136 Shute St. | Copper | Cast |
| 137 Shute St. | Lead | Copper |
| 148 Shute St. | Copper | Unknown |
| 150 Shute St. | Copper | Unknown |
| 154 Shute St. | Copper | Unknown |
| 157 Shute St. | Copper | Unknown |
| 158 Shute St. | Copper | Unknown |
| 166 Shute St. | Copper | Unknown |
| 173 Shute St. | Copper | Lead |
| 177 Shute St. | Lead | Copper |
| 180 Shute St. | Unknown | Unknown |
| 184 Shute St. | Copper | Unknown |
| 190 Shute St. | Copper | Unknown |
| 194 Shute St. | Iron | Unknown |
| 196 Shute St. | Copper | Unknown |
| 209 Shute St. | Copper | Unknown |
| 226 Shute St. | Copper | Unknown |

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 3
Everett, Massachusetts

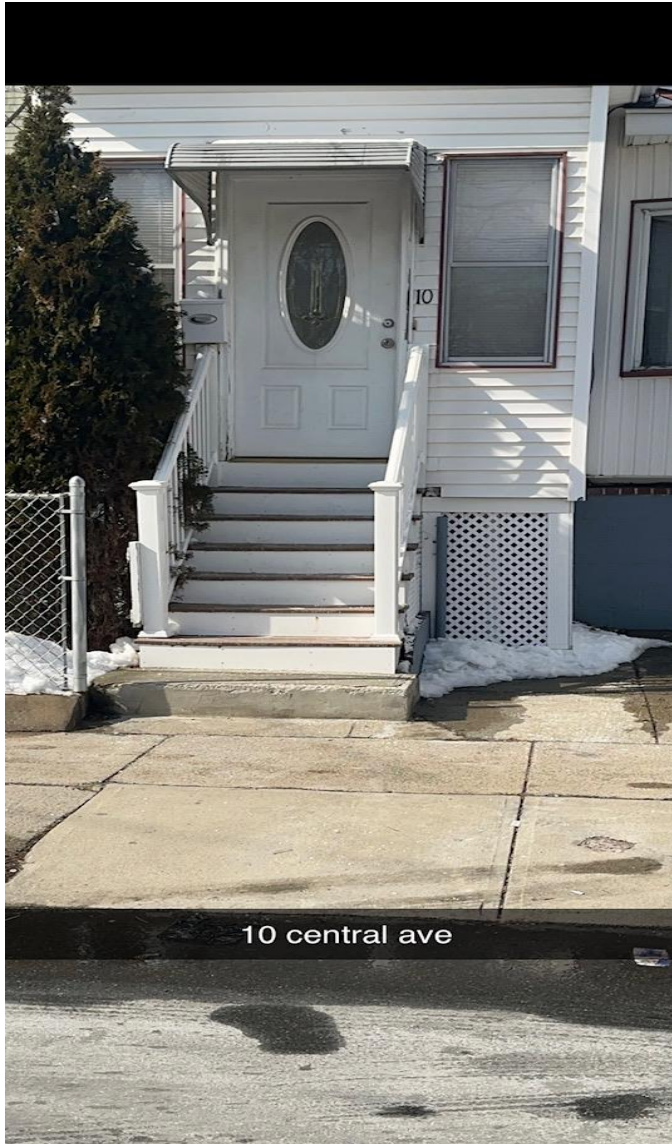
| Address | Property-Side | City-Side |
|------------------|----------------------|------------------|
| 246 Shute St. | Copper | Unknown |
| 248 Shute St. | Lead | Copper |
| 256 Shute St. | Unknown | Cast |
| 268 Shute St. | Unknown | Unknown |
| 270 Shute St. | Unknown | Unknown |
| 272 Shute St. | Unknown | Cast |
| 274 Shute St. | Unknown | Unknown |
| 1A Wilbur St. | Iron | Unknown |
| 2 Wilbur St. | Copper | Unknown |
| 5 Wilbur St. | Copper | Unknown |
| 7 Wilbur St. | Copper | Unknown |
| 7B Wilbur St. | Copper | Unknown |
| 10 Wilbur St. | Lead | Lead |
| 11 Wilbur St. | Copper | Unknown |
| 12 Wilbur St. | Copper | Unknown |
| 29 Wilbur St. | Copper | Lead |
| 34 Wilbur St. | Copper | Unknown |
| 38 Wilbur St. | Unknown | Unknown |
| 39 Wilbur St. | Copper | Unknown |
| 41 Wilbur St. | Iron | Lead |
| 54 Wilbur St. | Copper | Lead |
| 55 Wilbur St. | Copper | Lead |
| 56 Wilbur St. | Copper | Cast |
| 63 Wilbur St. | Copper | Lead |
| 65 Wilbur St. | Unknown | Copper |
| 66 Wilbur St. | Copper | Unknown |
| 67 Wilbur St. | Lead | Lead |
| 71 Wilbur St. | Iron | Iron |
| 72 Wilbur St. | Unknown | Copper |
| 78 Wilbur St. | Iron | Copper |
| 81 Wilbur St. | Iron | Iron |
| 89 Wilbur St. | Iron | Iron |
| 93 Wilbur St. | Lead | Copper |
| 103 Wilbur St. | Unknown | Iron |
| 108 Wilbur St. | Copper | Unknown |
| 109 Wilbur St. | Copper | Cast |
| 22 Glendale Ave. | Iron | Cast |
| 24 Glendale Ave. | Iron | Copper |
| 28 Glendale Ave. | Iron | Iron |
| 34 Glendale Ave. | Copper | Cast |
| 41 Glendale Ave. | Copper | Unknown |
| 27 Clifton Ave. | Lead | Copper |
| 31 Clifton Ave. | Lead | Lead |
| 32 Clifton Ave. | Copper | Lead |
| 33 Clifton Ave. | Lead | Copper |

Proposed Project Area Addresses
Lead Service Replacement Project - Phase 3
Everett, Massachusetts

| Address | Property-Side | City-Side |
|------------------|----------------------|------------------|
| 36 Clifton Ave. | Copper | Unknown |
| 16 Bettison Ave. | Lead | Copper |
| 22 Bettison Ave. | Iron | Copper |
| 33 Bettison Ave. | Lead | Copper |
| 38 Bettison Ave. | Lead | Copper |
| 54 Bettison Ave. | Iron | Copper |
| 58 Bettison Ave. | Iron | Copper |
| 2 Moreland Pl. | Iron | Lead |
| 3 Amos Ter. | Copper | Lead |
| 28 Lewis St. | Lead | Lead |
| 30 Lewis St. | Lead | Lead |
| 9 Appleton St. | Lead | Unknown |

APPENDIX E
PHOTOGRAPHS

Central Avenue





20 central ave

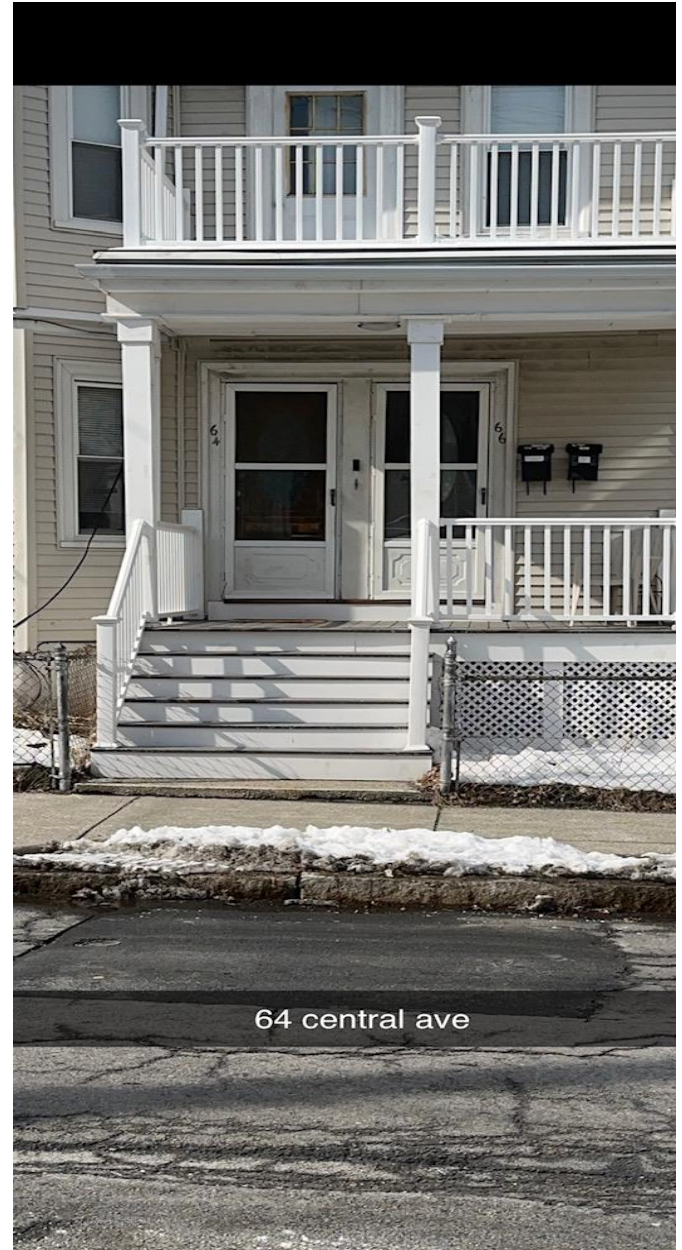


21 central ave





61 central ave



64 central ave



76 central ave



91 Central Avenue



104 central ave



107 central ave



108 central ave



123 central ave



127 central ave



135 central ave



136 central ave



146 central ave

Woodward Street







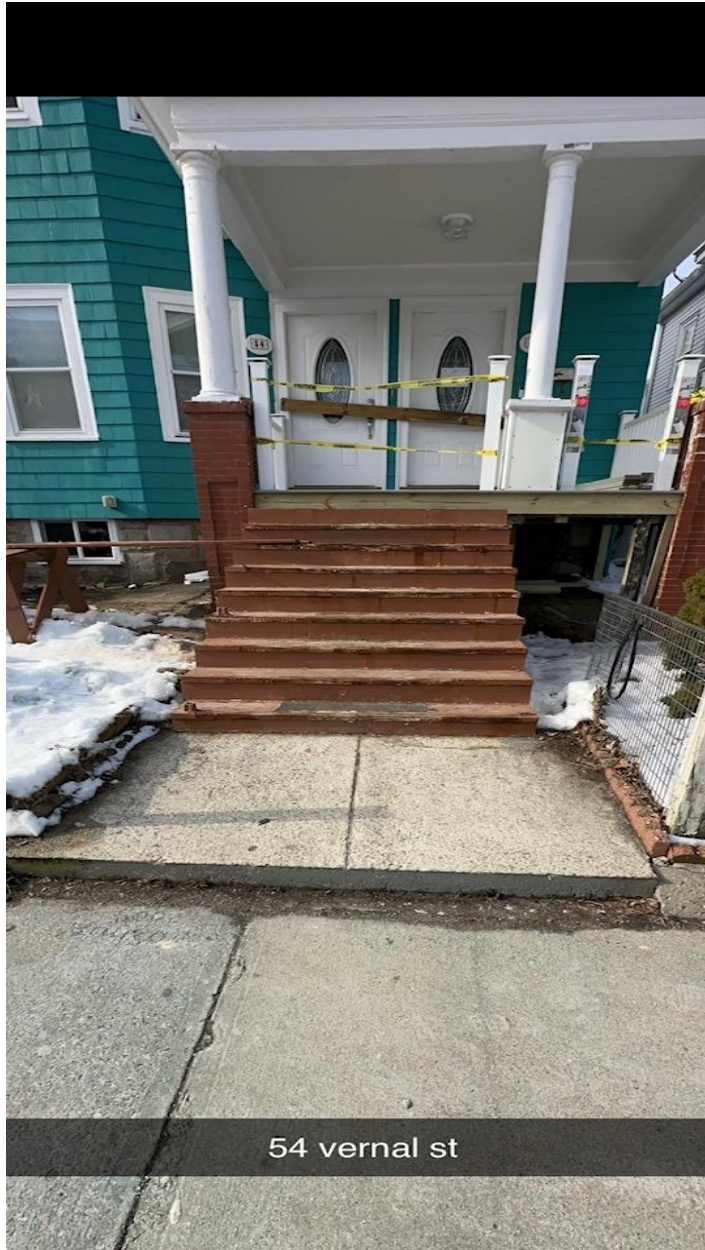
53 Woodward Street

Vernal Street

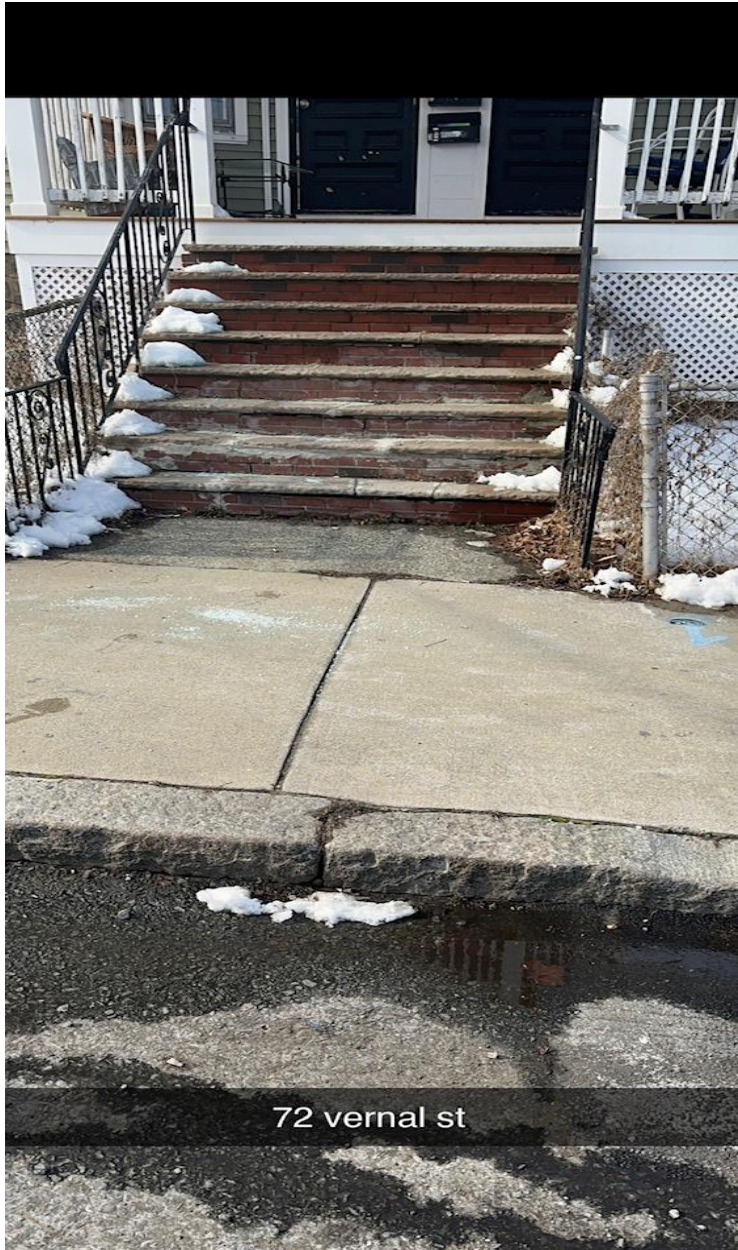




36 vernal st



54 vernal st



72 vernal st



109 vernal st



117 vernal st

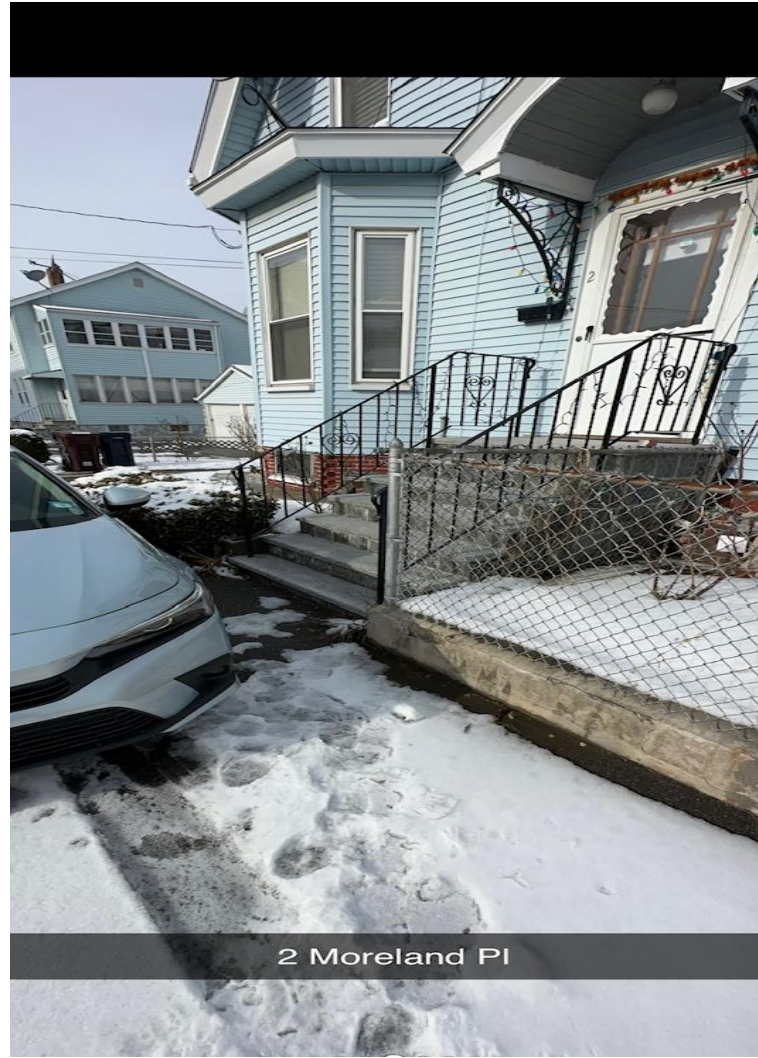
Ashton Street





70 Ashton St

Moreland Place



2 Moreland PI

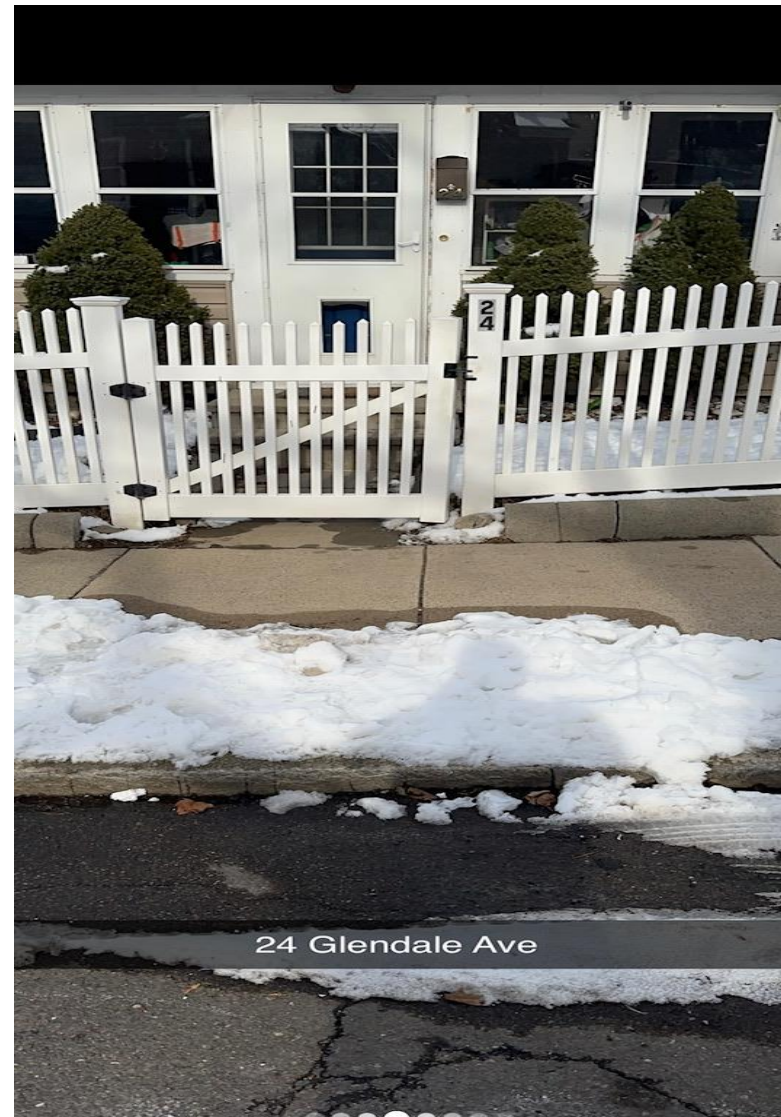
Clifton Avenue





33 Clifton Ave

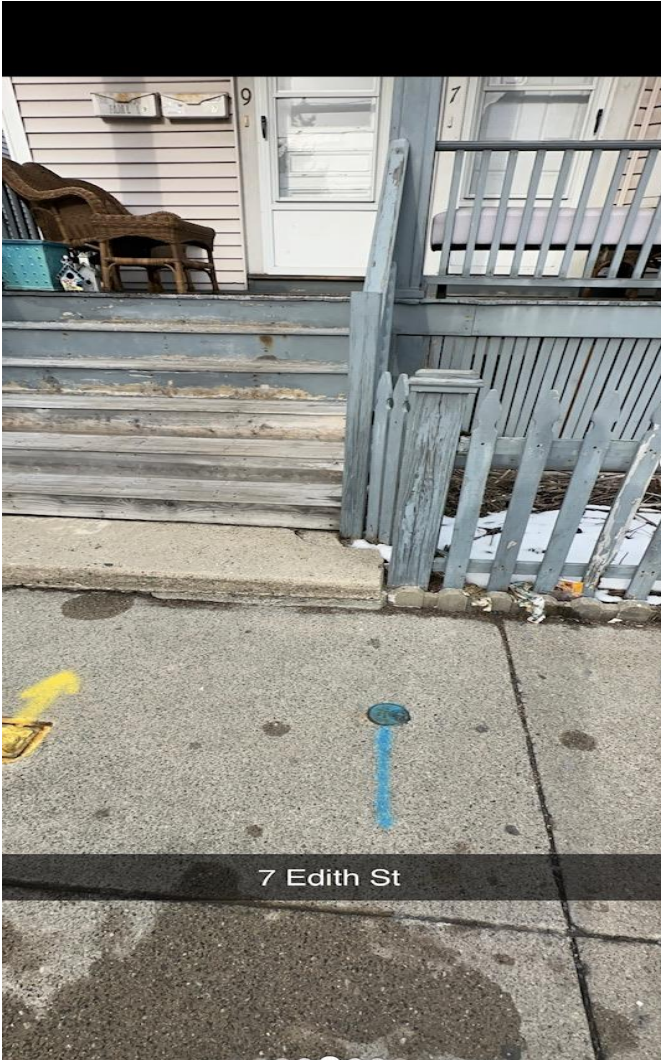
Glendale Avenue





28 glendale ave

Edith Street

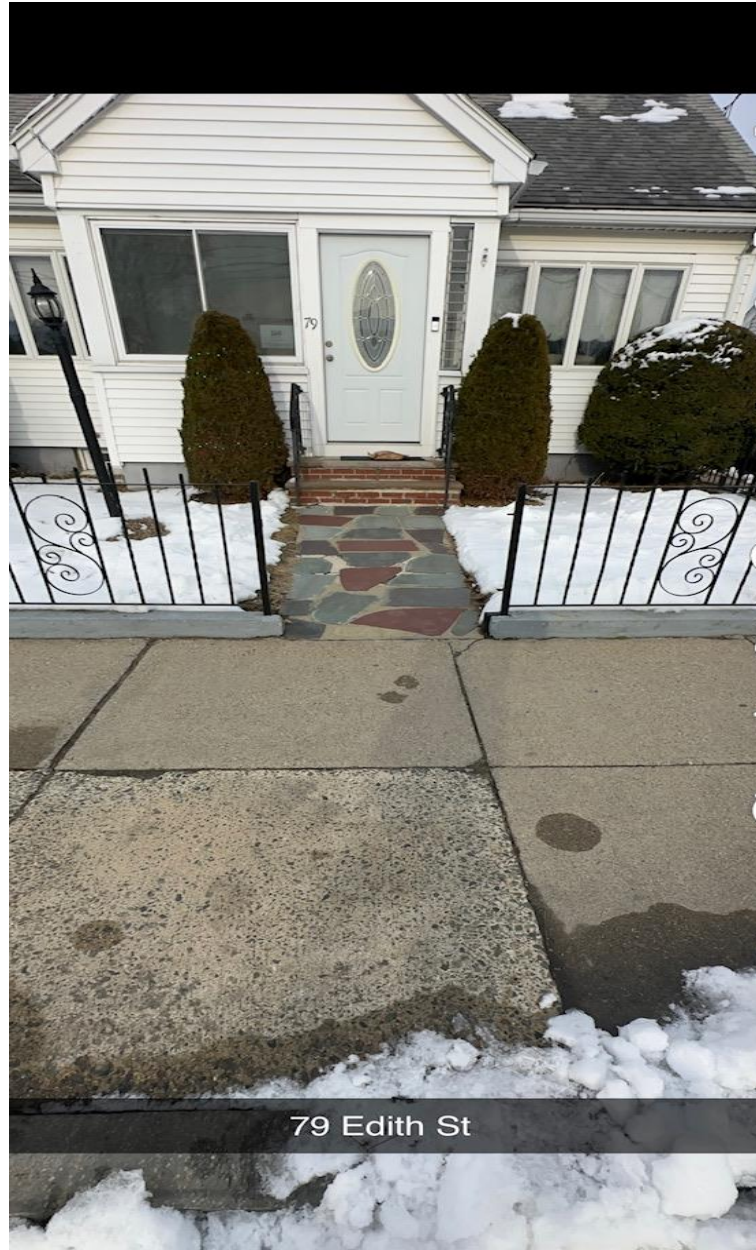




55 Edith St



59 Edith St



79 Edith St

Shute Street





80 Shute St



98 shute st





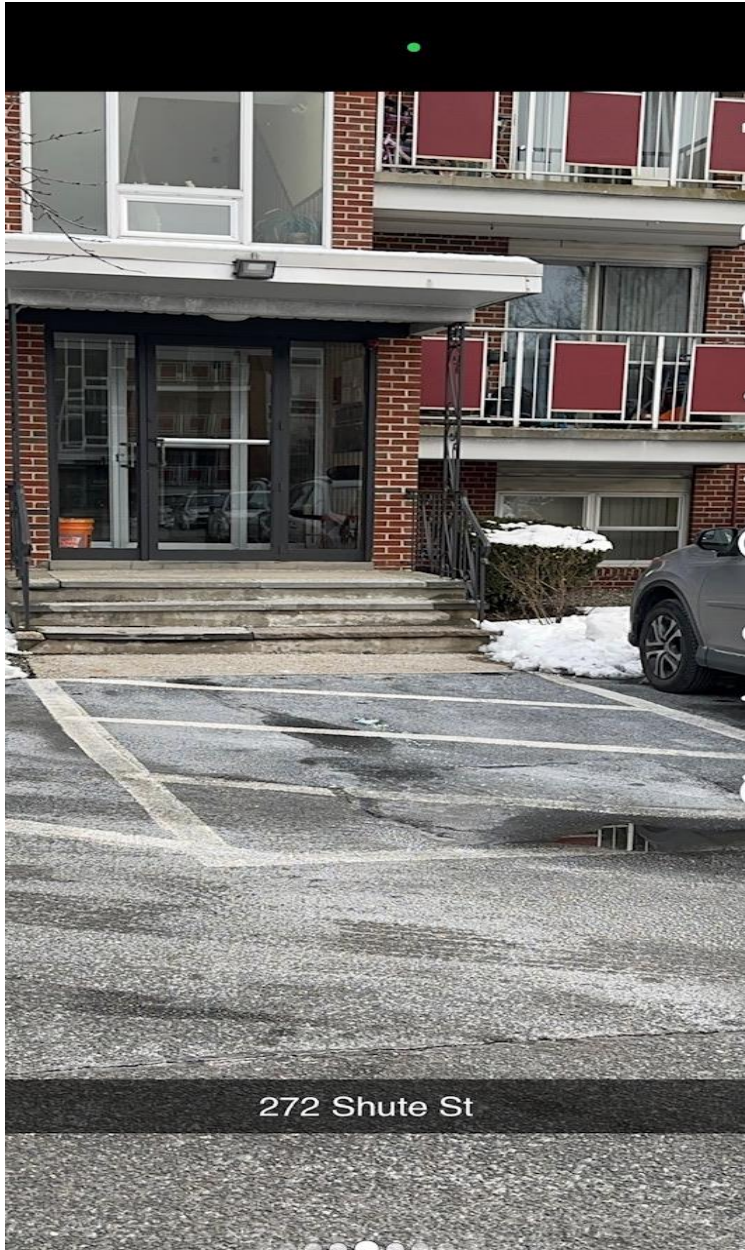




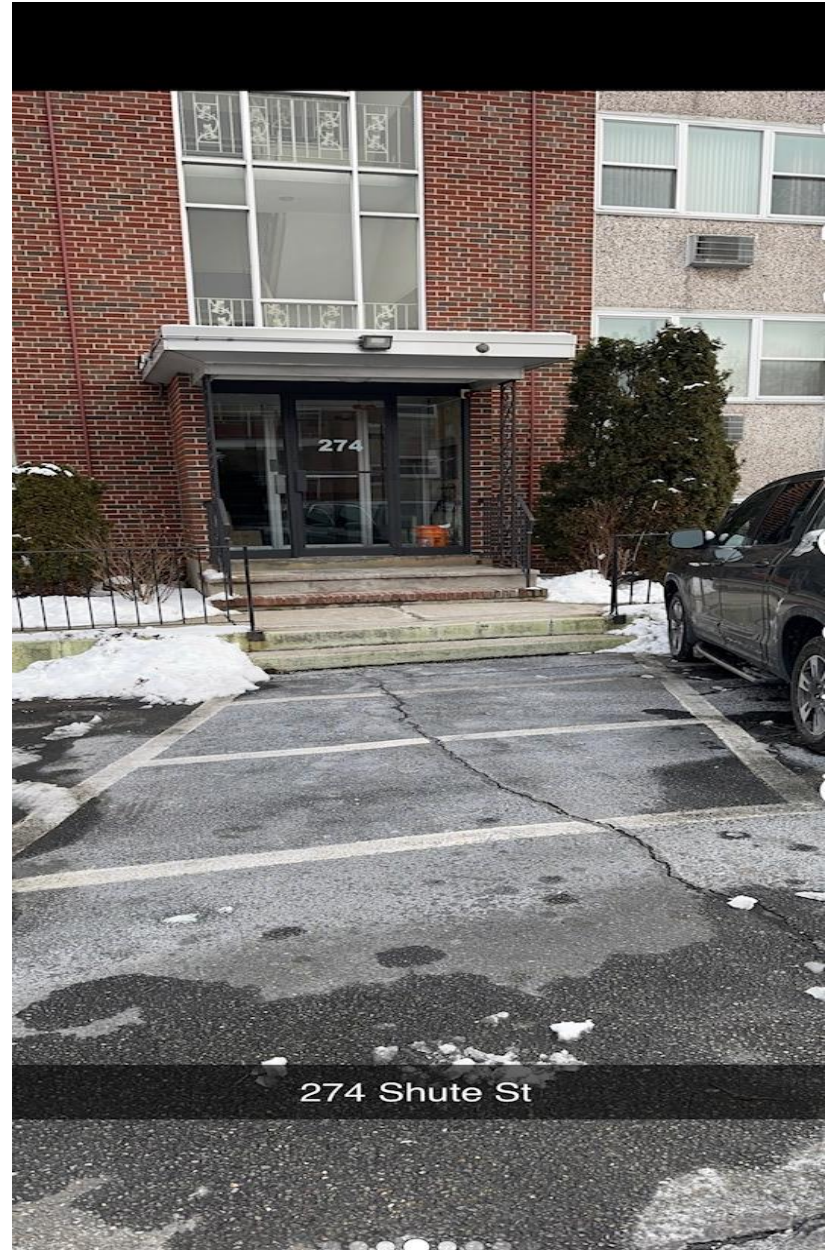
268 Shute St



270 Shute St



272 Shute St



274 Shute St

Wilbur Street





38 Wilbur Street

Image capture: Nov 2020 © 2023 Google



41 Wilbur Street



65 Wilbur Street



67 Wilbur Street



71 Wilbur Street





81 Wilbur Street



89 Wilbur Street



Bettison Avenue







54 Bettison Ave



58 Bettison Avenue

Lewis Street



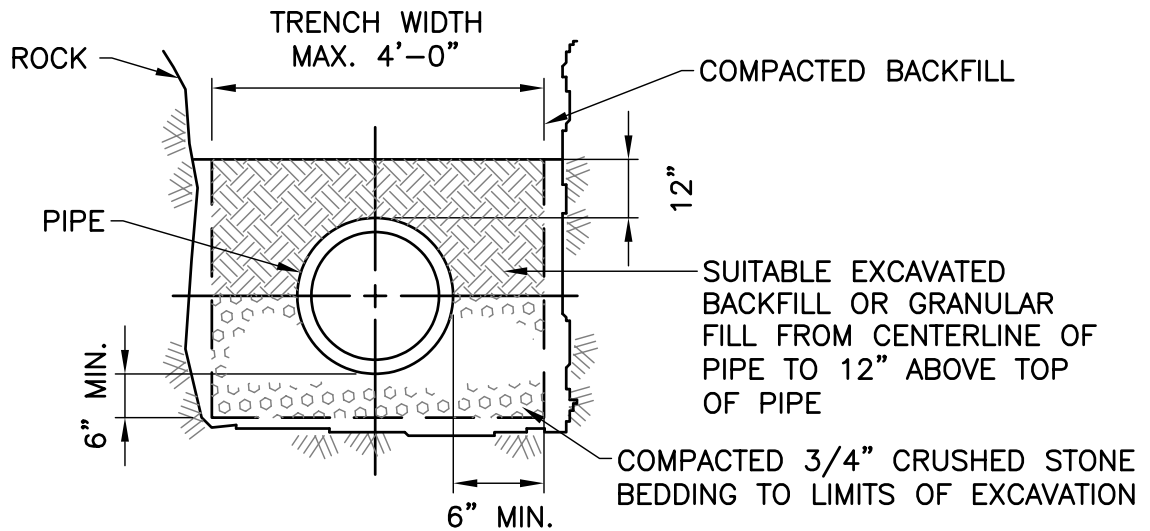
28 and 30 Lewis Street

Appleton Street

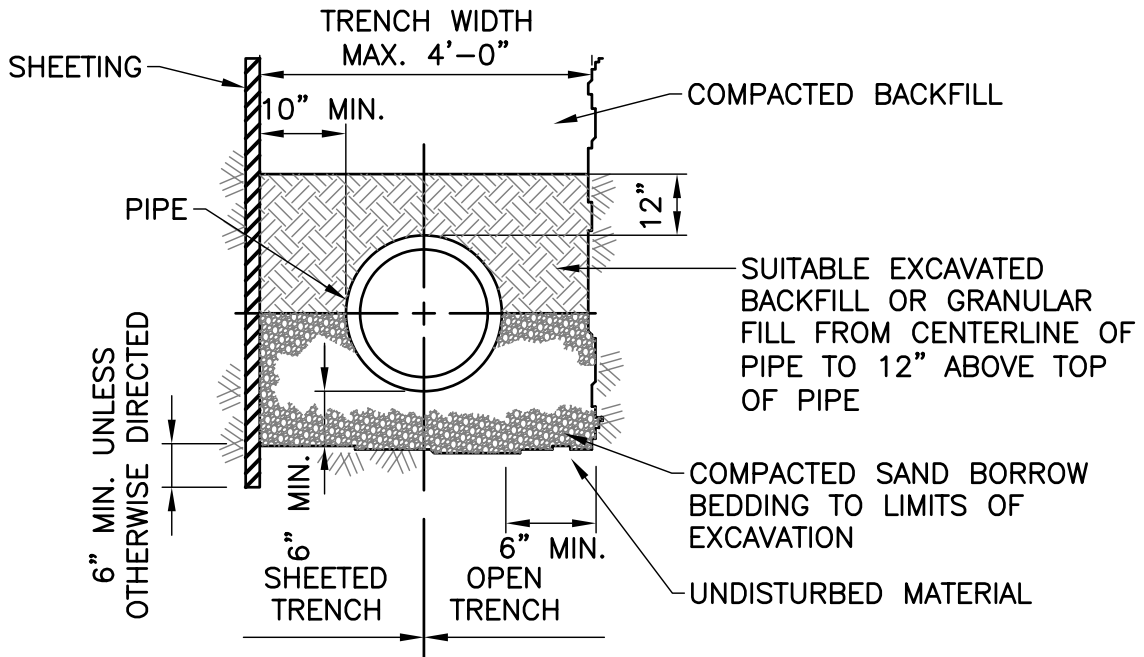


9 Appleton Street

APPENDIX F
CONSTRUCTION DETAILS



ROCK



EARTH

NOTES:

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

TYPICAL TRENCH SECTIONS

SCALE: NONE



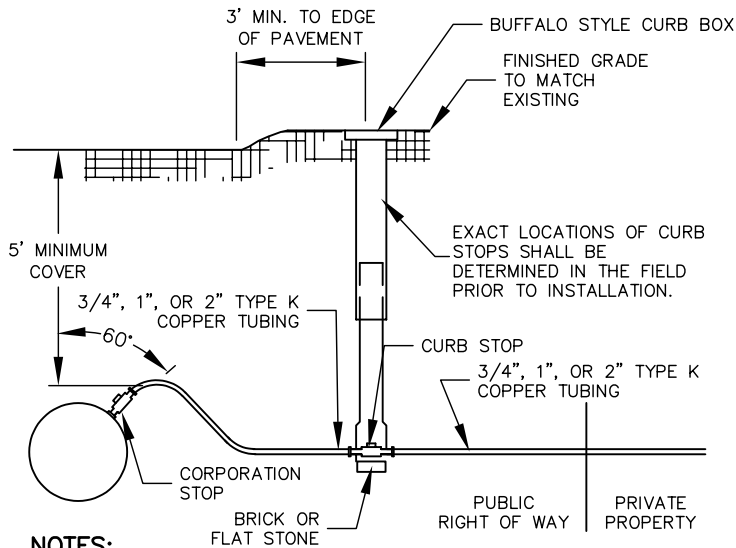
TATA & HOWARD

TYPICAL TRENCH DETAIL

LEAD SERVICES REPLACEMENT
PROJECT - PHASE 3
EVERETT, MASSACHUSETTS

Figure No.

1

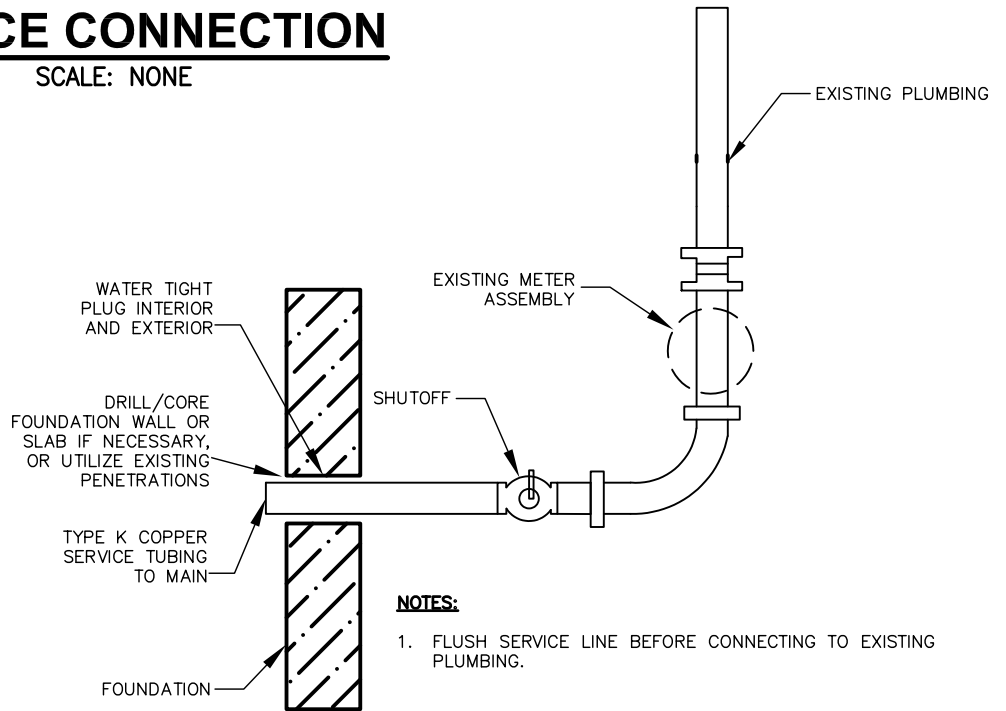


NOTES:

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



NOTES:

1. FLUSH SERVICE LINE BEFORE CONNECTING TO EXISTING PLUMBING.

WALL PENETRATION

SCALE: NONE

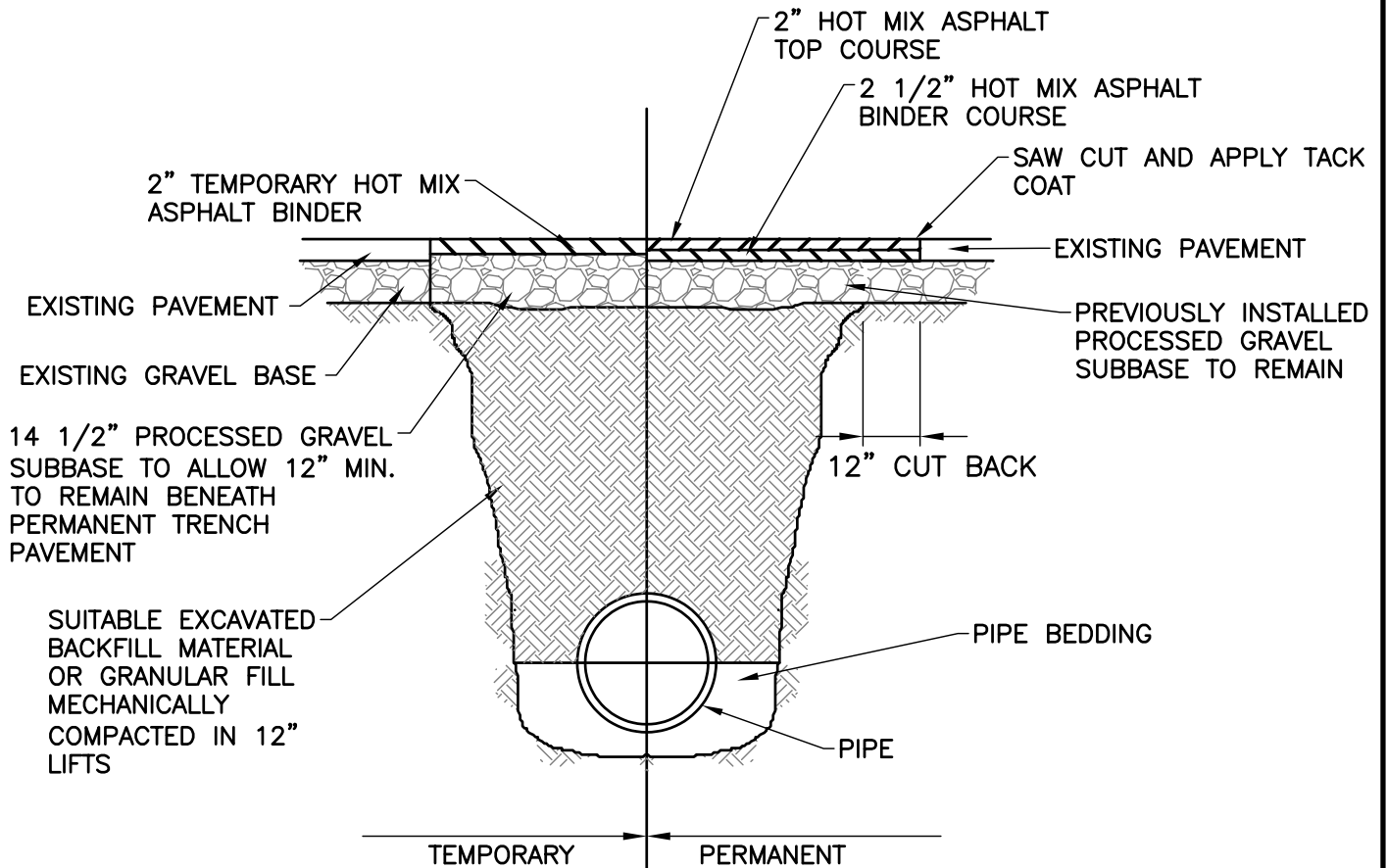
TYPICAL SERVICE CONNECTION
AND BASEMENT PENETRATION DETAIL
LEAD SERVICES REPLACEMENT
PROJECT - PHASE 3
EVERETT, MASSACHUSETTS

Figure No.

2



TATA & HOWARD



TRENCH PAVEMENT

SCALE: NONE



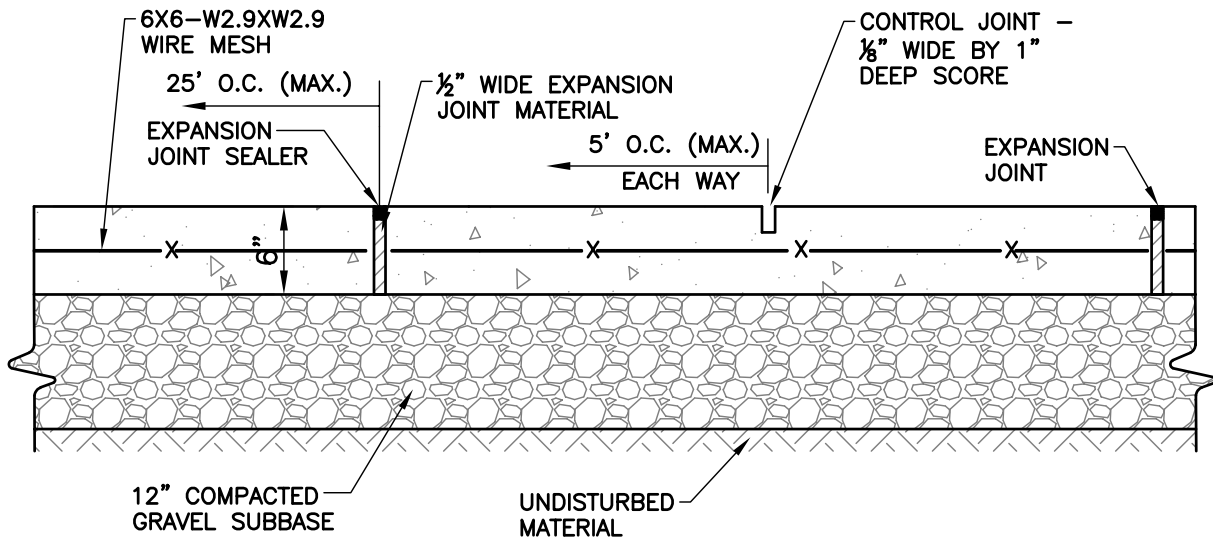
TATA & HOWARD

TYPICAL TRENCH PAVEMENT DETAIL

LEAD SERVICES REPLACEMENT
PROJECT - PHASE 3
EVERETT, MASSACHUSETTS

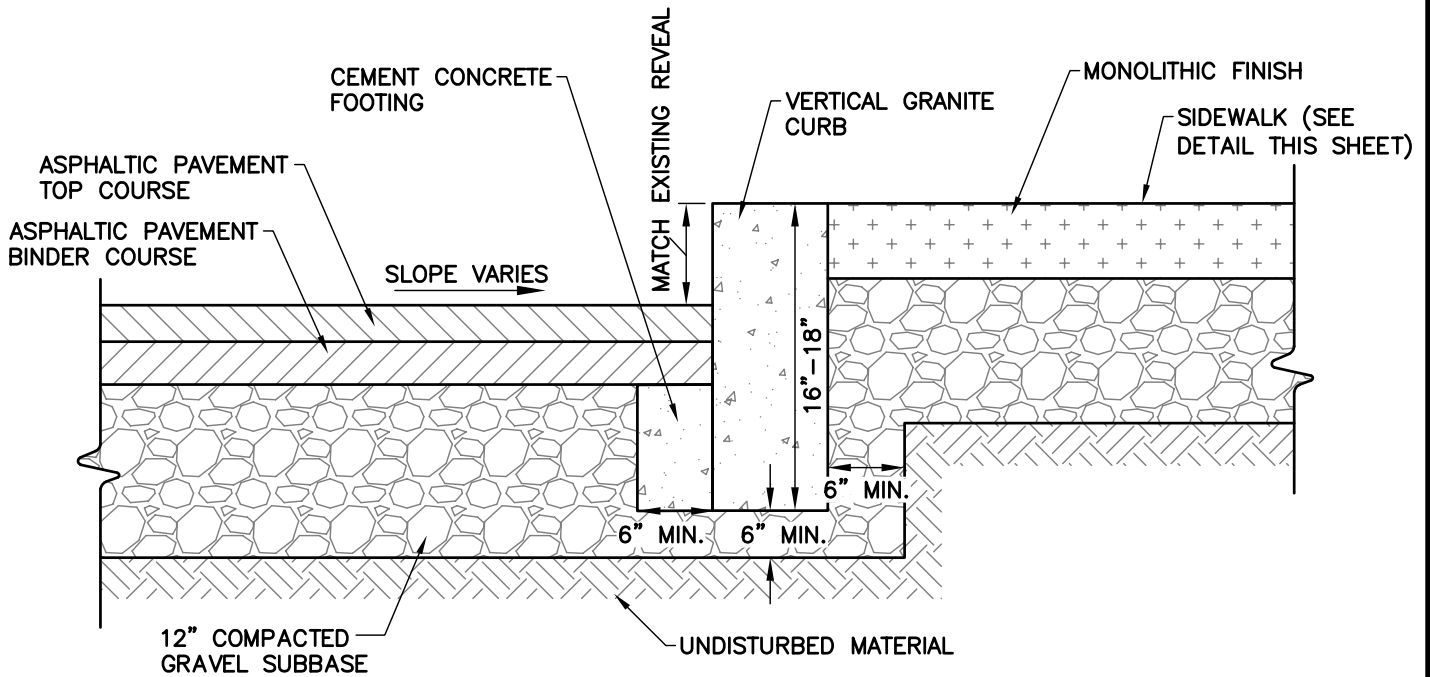
Figure No.

3



CONCRETE WALKWAY

SCALE: NONE



VERTICAL CURB

SCALE: NONE

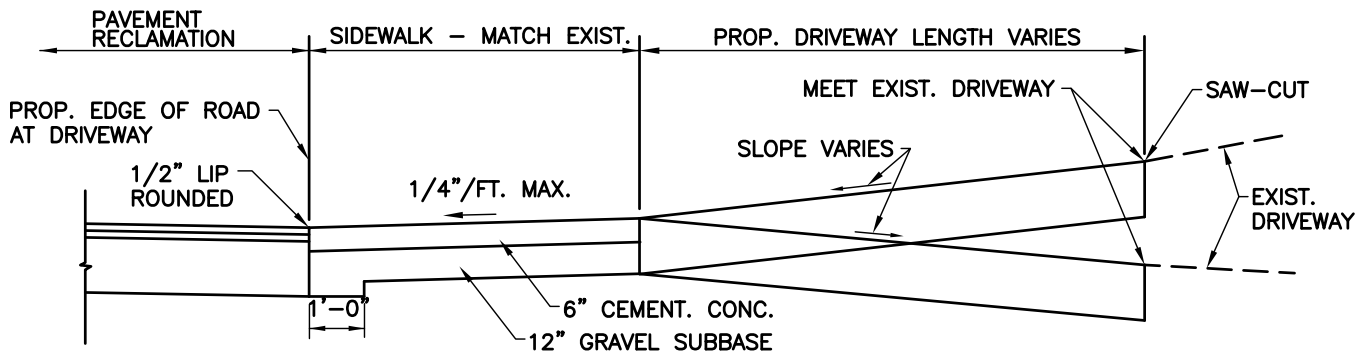


TATA & HOWARD

CONCRETE WALKWAY AND
VERTICAL CURB DETAIL
LEAD SERVICES REPLACEMENT
PROJECT - PHASE 3
EVERETT, MASSACHUSETTS

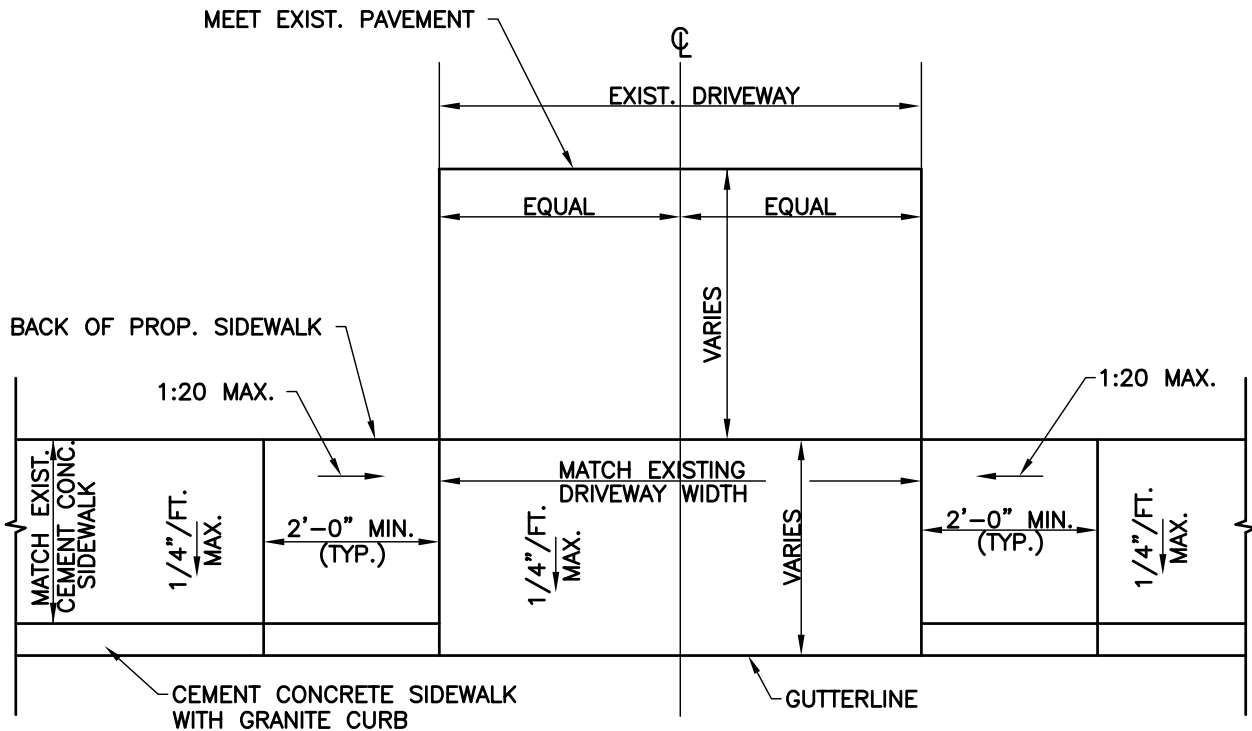
Figure No.

4



DRIVEWAY WITH SIDEWALK

SCALE: NONE



DRIVEWAY WITH SIDEWALK: PLAN VIEW

SCALE: NONE

\\file-ma\Project_Files\Everett\6694_Phase 3_Lead_Service_Replacement\Drawings\Construction_Details.dwg KHUMMEL 3/24/2023 4:19 PM



TATA & HOWARD

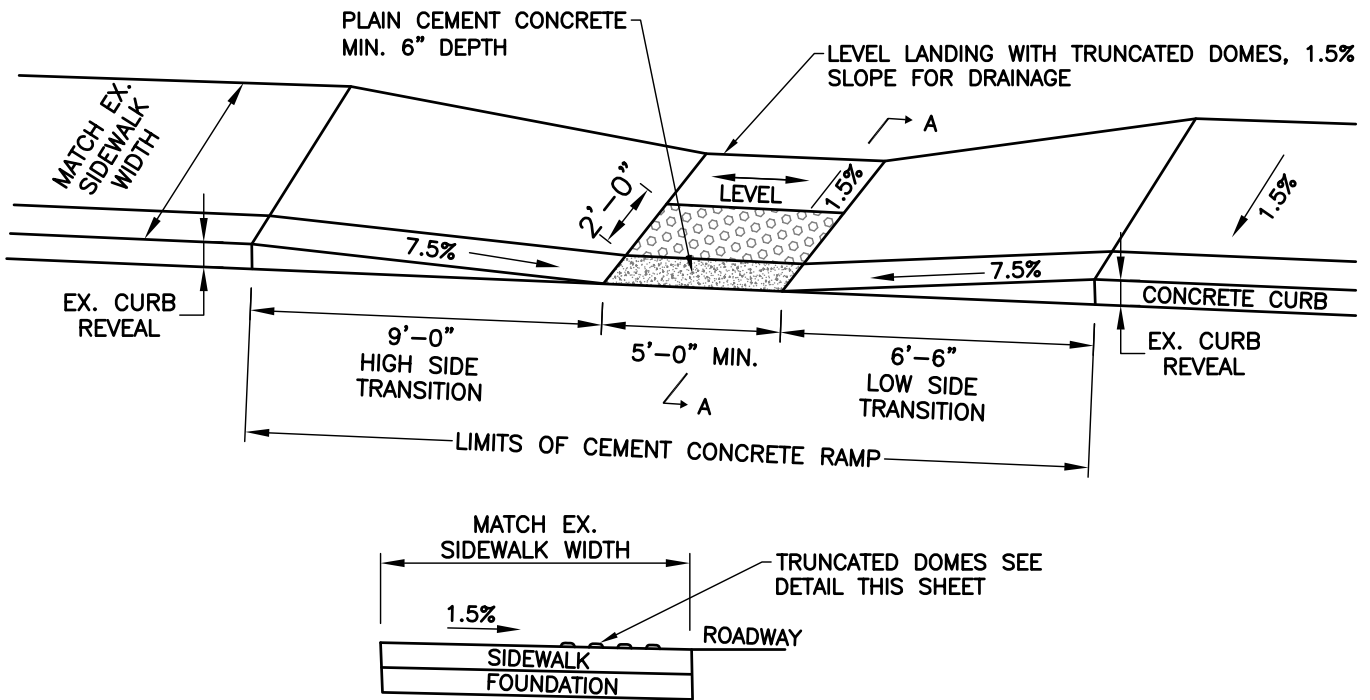
DRIVEWAY WITH SIDEWALK DETAILS

LEAD SERVICES REPLACEMENT
PROJECT - PHASE 3

EVERETT, MASSACHUSETTS

Figure No.

5



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

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TATA & HOWARD

HANDICAP RAMP DETAIL

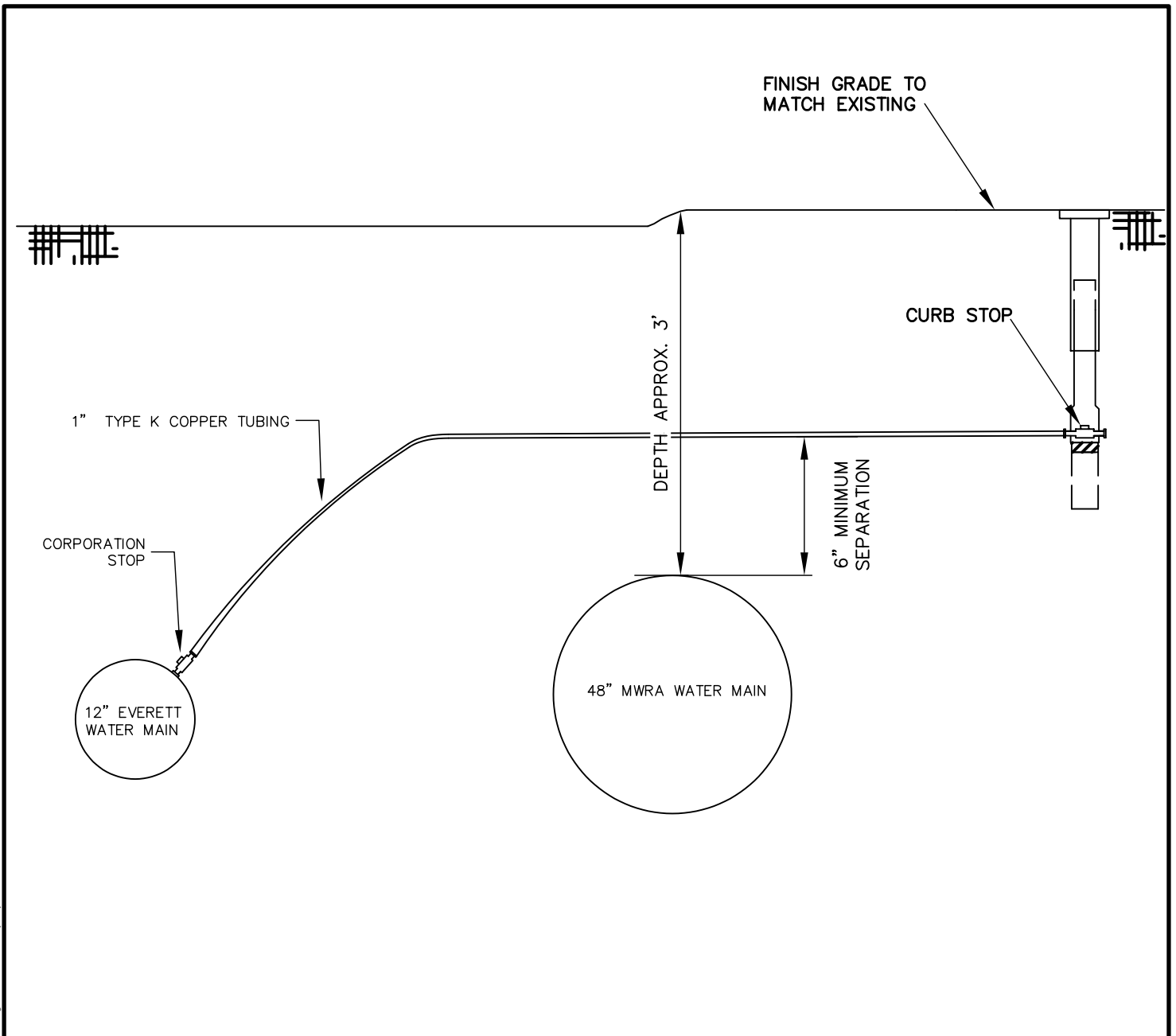
LEAD SERVICES REPLACEMENT
PROJECT - PHASE 3

EVERETT, MASSACHUSETTS

Figure No.

6

\\file-ma\Project_Files\Everett\6664_Phase 3_Lead_Service_Replacement\Drawings\Construction_Details.dwg KHUMMEL 3/24/2023 4:20 PM



NOTES:

1. A MINIMUM VERTICAL CLEARANCE OF 6-INCHES SHALL BE MAINTAINED BETWEEN MWRA WATER MAINS AND PROPOSED WATER SERVICE CONNECTION.
2. FIELD APPLIED 2" POLYURETHANE INSULATION WITH INSUL-RAP 50 JACKET TO BE INSTALLED WHEN LESS THAN 5' OF COVER OVER SERVICE LINE.
3. PIPE INSTALLATION AT MWRA CROSSINGS SHALL BE EXCAVATED BY HAND.

WATER SERVICE CONNECTION CROSSING MWRA WATER MAINS

SCALE: NONE

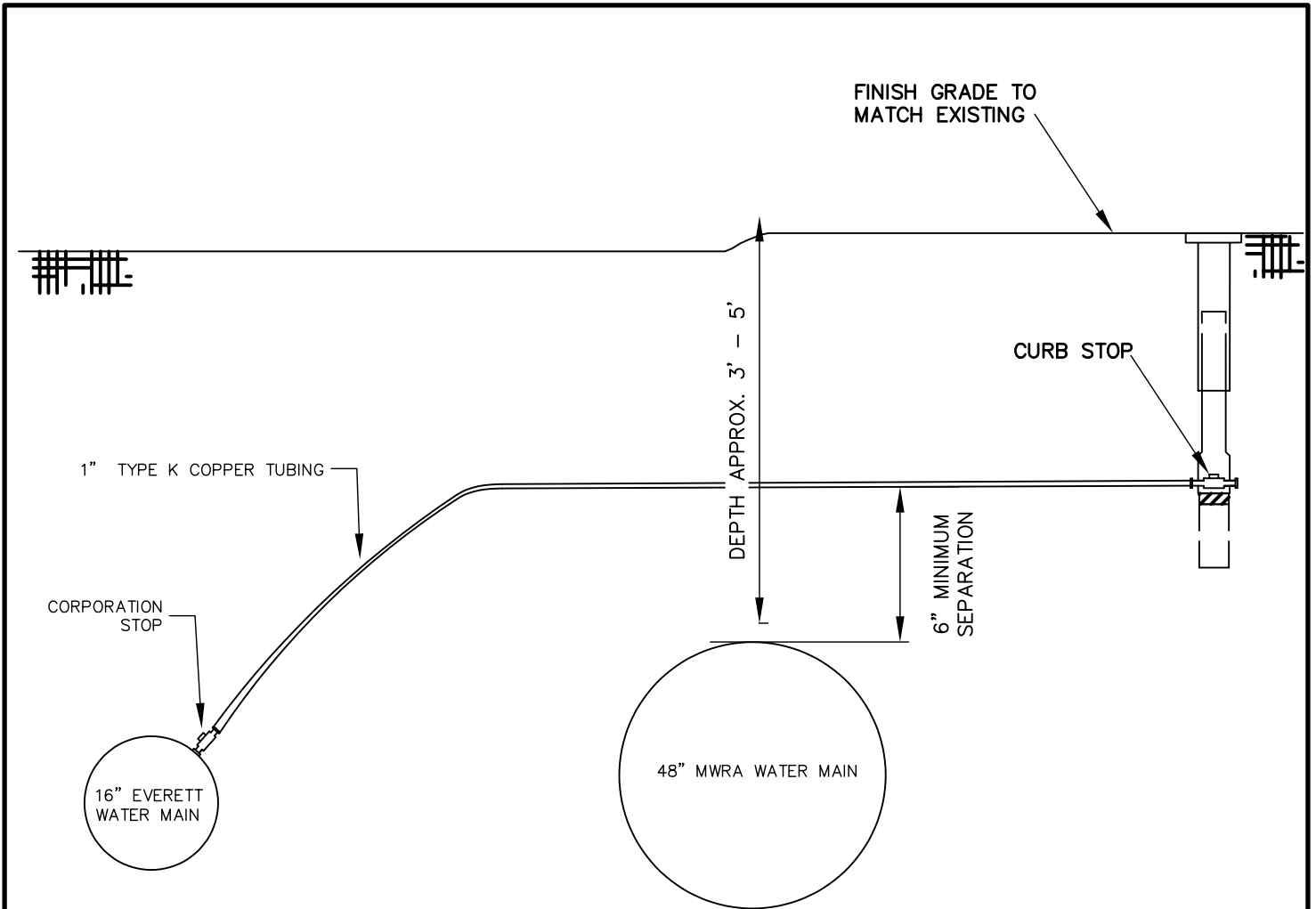


TATA & HOWARD

PROPOSED WATER SERVICE CROSSING DETAIL
137, 157, 173, 177, 209, 226 SHUTE STREET
LEAD SERVICES REPLACEMENT
PROJECT - PHASE 3
EVERETT, MASSACHUSETTS

Figure No.

7



NOTES:

1. A MINIMUM VERTICAL CLEARANCE OF 6-INCHES SHALL BE MAINTAINED BETWEEN MWRA WATER MAINS AND PROPOSED WATER SERVICE CONNECTION.
2. FIELD APPLIED 2" POLYURETHANE INSULATION WITH INSUL-RAP 50 JACKET TO BE INSTALLED WHEN LESS THAN 5' OF COVER OVER SERVICE LINE.
3. PIPE INSTALLATION AT MWRA CROSSINGS SHALL BE EXCAVATED BY HAND.

WATER SERVICE CONNECTION CROSSING MWRA WATER MAINS

SCALE: NONE



TATA & HOWARD

**PROPOSED WATER SERVICE CROSSING DETAIL
APPLETON STREET (ODD NUMBERS)**

**LEAD SERVICES REPLACEMENT
PROJECT - PHASE 3**

EVERETT, MASSACHUSETTS

Figure No.

8

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 black ink that reads "Michael Matarazzo". The signature is written in a cursive, flowing style.

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

