



MASSACHUSETTS

CITY OF SALEM, MASSACHUSETTS

**Bidding Requirements, Bond Forms, Contract Agreement, Conditions of
the Contract and Supplemental Specifications**

For

**Traffic Signal and Intersection Improvements:
Lafayette Street/Loring Avenue/West Avenue Project**

Bid No. R-31

October 7, 2015



Professional Registration No.: MA: 36453

Prepared by:

City of Salem, Massachusetts
Engineering Department
120 Washington Street, 4th Floor
Salem, Massachusetts 01970

SECTION 00100

NOTICE TO BIDDERS
CITY OF SALEM, MA

Traffic Signal and Intersection Improvements:
Lafayette Street/Loring Avenue/West Avenue
CONTRACT NO. R-31

The City of Salem, Massachusetts acting through its Purchasing Agent invites sealed bids for "Traffic Signal and Intersection Improvements: Lafayette Street/Loring Avenue/West Avenue, Contract No. R-31", in accordance with the Contract Documents prepared by the City of Salem, Engineering Department.

Bids will be received at: City of Salem
Purchasing Department
93 Washington Street, 2nd Floor
Salem, MA 01970

until 11:00 AM local time on Thursday, October 29th, 2015, at which time and place, said Bids will be publicly opened and read aloud.

The location, general characteristics, and principal details of the Work are indicated in a set of drawings, entitled "City of Salem, Traffic Signal and Intersection Improvements: Lafayette Street/Loring Avenue/West Avenue, Contract No. R-31".

The work in this Contract includes, but is not limited to:

- New granite curb and concrete sidewalk, including ADA compliant access ramps
- Pavement reconstruction
- Traffic Signal Reconstruction
- Removal and resetting of curb
- Structure adjustments as required.
- Installation of pavement markings.

Bids shall be on a Unit Price basis.

The Time of Completion for this project shall be 90 days from the Contractor's receipt of a Notice to Proceed, which is expected to be issued in May, 2015.

Bid Security: Certified, treasurer's or cashier's check or bid bond made payable to the City of Salem in the sum of five (5) percent of the Total Bid is required.

Contract Documents may be examined and obtained on or after Wednesday, October 7th, 2015 at the Purchasing Department, 93 Washington Street, 2nd Floor, Salem, MA upon payment in the amount of Fifty (\$50.00) dollars for each set. Payment shall be by certified check, company check or money order payable to the City of Salem.

Bidders requesting Contract Documents to be mailed to them shall include a separate, non-refundable mailing fee in the amount of Twenty-Five Dollars (\$25) for each set. Payment shall be by corporate check, treasurer's check or cashier's check payable to City of Salem. The City of Salem is not responsible for delivery of any mailed or delivered documents or delivery of said documents within the prescribed time set for the receipt of bids.

The selected contractor shall furnish a performance bond and a payment bond in amount at least equal to one hundred percent (100%) of the contract price.

All Bids for this project are subject to applicable bidding laws of Massachusetts, including General Laws Chapter 30, Section 39M as amended.

Direct all inquiries to Whitney Haskell, Purchasing Agent at 978.619.5696 or email at WHaskell@salem.com.

Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the contract as determined by the Department of Workforce Development under the provisions of the Massachusetts General Laws Chapter 149, Section 26-27D, inclusive, as amended. It is the responsibility of the contractor, before bid opening, to request if necessary, any additional information on Minimum Wage Rates for those trades people who may be employed for the proposed work under this contract.

No Bidder may withdraw his bid within Ninety (90) days after the actual date of the opening thereof.

An award will not be made to a Contractor who is not properly equipped to undertake and complete the work. Bids which do not include a properly completed "Affidavit" pertaining to the Non-Collusion, etc., will be declared ineligible.

The Owner and Engineer, being considered the sole and only judge, reserves the right to waive any informality in, or to reject, any or all bids, should the Owner deem it to be in the Owner's best interest to do so.

**City of Salem, MA
Purchasing Department**

SECTION 00200

INFORMATION FOR BIDDERS
CITY OF SALEM, MASSACHUSETTS
Traffic Signal and Intersection Improvements:
Lafayette Street/Loring Avenue/West Avenue
CONTRACT NO. R-31

The foregoing, Notice to Bidders, a copy of which has been published or posted according to law, and the "General Requirements and Covenants", under Division 1 of the 1995 Standard Specifications for Highways and Bridges shall constitute the "Information to Bidders". Attention is directed particularly to the following quotations from these sections which govern the preparation and submission of bids.

- 1.01 Receipt and Opening of Bids
- 1.02 Location and Work to be Done
- 1.03 Contract Documents
- 1.04 Payments for Documents
- 1.05 Questions Regarding Documents
- 1.06 Pre-Bid Conference
- 1.07 Bidders to Investigate
- 1.08 Information Not Guaranteed
- 1.09 Conditions of Work
- 1.10 Blank Form for Bid
- 1.11 Withdrawal of Bids
- 1.12 Bid Security
- 1.13 Interested Parties to Contract
- 1.14 Ability and Experience of Bidder
- 1.15 Bids
- 1.16 Comparison of Bids
- 1.17 Items and Indeterminate Items
- 1.18 Reduction in Scope of Work
- 1.19 Contract Bonds
- 1.20 Power of Attorney
- 1.21 Execution of Agreement
- 1.22 Insurance Certificates
- 1.23 Time for Completion and Liquidated Damages
- 1.24 Laws and Regulations
- 1.25 Work on State, Municipal, and Private Property
- 1.26 State Sales and Use Tax
- 1.27 Manufacturer's Experience
- 1.28 Protection of Lives and Health
- 1.29 Nondiscrimination in Employment
- 1.30 Sequence of Operations

1.01 RECEIPT AND OPENING OF BIDS

- A. The City of Salem, Massachusetts, herein called the Owner, acting through its Purchasing Agent invites sealed bids for "Traffic Signal and Intersection Improvements: Lafayette Street/Loring Avenue/West Avenue, Contract No. R-31", in accordance with the Contract Documents prepared by the City of Salem, Engineering Department, 120 Washington Street, 4th Floor, Salem, MA 01970.
- B. Such Bids, submitted in sealed envelopes plainly marked in the upper left hand corner with the Bidder's name and address, plainly marked in the lower left hand corner with the date and time of opening, addressed to:

City of Salem, Massachusetts, Purchasing Department
120 Washington Street, 3rd Floor
Salem, MA 01970
Attention: Whitney Haskell – Purchasing Agent

Endorsed: Traffic Signal and Intersection Improvements:
Lafayette Street/Loring Avenue/West Avenue,
Contract No. R-31.

Delivered by: 11:00 A.M. local time on October 29, 2015, at which time and place, said Bids will be publicly opened and read aloud.

- C. The Owner may consider informal, any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities in or reject any and all Bids. Conditional or qualified Bids will not be accepted. Any Bid received after the time and date specified shall not be considered. Should there be reasons why the Contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the Owner and the Bidder.

1.02 LOCATION AND WORK TO BE DONE

- A. The location, general characteristics, and principal details of the Work are indicated in a set of figures in the appendix of these Specifications, entitled "Traffic Signal and Intersection Improvements: Lafayette Street/Loring Avenue/West Avenue, Contract No. R-31".
- B. Additional drawings showing details in accordance with which the Work is to be done will be furnished from time to time by the Engineer, if found necessary, and shall then become part of the Specifications.
- C. The Contractor shall furnish all labor, services, materials, equipment, plant machinery, apparatus, appliances, tools, supplies and all other things necessary to perform all work required for the completion of each item of the Work and as herein specified.

- D. 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.

1.03 CONTRACT DOCUMENTS

- A. The Contract Documents, INFORMATION FOR BIDDERS, SPECIFICATIONS, and forms for BID, AGREEMENT, and BONDS, may be examined and obtained at the City of Salem's Purchasing Department, 120 Washington Street, 3rd Floor Salem, MA 01970.

1.04 PAYMENT FOR DOCUMENTS

- A. Contract Documents may be examined and obtained at the Purchasing Department, upon payment in the amount of Fifty (\$50.00) Dollars for each set. Payment shall be by certified check, company check, or money order payable to the City of Salem.
- B. A deposit, in the amount as specified in Section 00100, NOTICE TO BIDDERS, in cash or check payable to City of Salem will be required on each set of Contract Documents taken. Such deposits will be refunded to all bidders and non-bidders upon the return of said documents in good and unmarked condition within 10 days after the date of opening of general bids.
- C. To ensure refund of the deposit, Contract Documents (except documents submitted by bidders) must be returned to the Purchasing Department unmarked and in good condition and be accompanied by a letter of transmittal.

1.05 QUESTIONS REGARDING DOCUMENTS

- A. In general, no answer will be given to prospective bidders in reply to an oral question of the intent or meaning of the Contract Documents, or the equality or use of products or methods other than those designated or described in the Specifications. Any information given to bidders other than by means of the Contract Documents, including Addenda, as described below, is given informally, for information and the convenience of the bidder only and is not guaranteed. The bidder agrees that such information shall not be used as the basis of nor shall the giving of any such information entitle the bidder to assert any claim or demand against the Owner or the Engineer on account thereof.
- B. To receive consideration, such questions shall be submitted in writing or faxed to the City of Salem, Purchasing Agent, City of Salem, Massachusetts, Purchasing Department, 120 Washington Street, 3rd Floor, Salem, MA 01970, Telephone No. (978) 619-5695, Fax No. (978) 745-7461, at least seven calendar days before the established date for receipt of Bids. If the question involves the equality or use of products or methods, it must be accompanied by drawings, specifications or other

data in sufficient detail to enable the Engineer to determine the equality or suitability of the product or method. In general, the Engineer will neither approve nor disapprove particular products prior to the opening of Bids; such products will be considered when offered by the Contractor for incorporation into the Work.

- C. The Engineer will set forth as Addenda, which shall become a part of the Contract Documents, such questions received as above provided as in his sole judgment are appropriate or necessary and his decision regarding each. At least five days prior to the receipt of Bids, he will send a copy of these Addenda to those prospective bidders known to have taken out Contract Documents.
- D. The Contractor agrees to use the products and methods designated or described in the Specifications as amended by the Addenda.

1.06 PRE-BID CONFERENCE

- A. There will not be a pre-bid conference for this project.

1.07 BIDDERS TO INVESTIGATE

- A. 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.
- B. Bidders must satisfy themselves by personal examination of the Work and by such other means as they may wish, as to the actual conditions there existing, the character and requirements of the Work and difficulties attendant upon its execution, and the accuracy of all estimated quantities stated in the Bid.

1.08 INFORMATION NOT GUARANTEED

- A. All information given in 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 Owner. All such information is furnished only for the information and convenience of bidders and is not guaranteed.
- B. It is agreed and understood that the Owner 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.
- C. It is agreed further 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 Owner or the Engineer, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other conditions, natural phenomena, existing pipes or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

1.09 CONDITIONS OF WORK

- A. Each bidder must inform himself fully of the conditions relating to the construction and labor under which the work is now or will be performed; failure to do so will not relieve the successful bidder of his obligation to furnish all materials and all labor necessary to carry out the provisions of the Contract Documents and to complete the contemplated Work for the consideration set forth in his bid. Insofar as possible, the Contractor, in the carrying out of his work, shall employ such methods or means as will not cause any interruption of or interference with: the operation of the existing sewer; traffic; use of existing facilities and utilities; locations of existing utilities and structures affecting the work or other similar conditions at the site; character of equipment and facilities needed preliminary to and during prosecution of the work; requirements of owners and controlling authorities, having jurisdiction over the various lands, existing structures, facilities, and utilities; and all other conditions affecting the work to be done, and the labor and materials needed; and he shall make his bid in sole reliance thereon; and shall not, at any time after submission of a bid, assert that there was any misunderstanding in regard to the nature or amount of the work to be done.

1.10 BLANK FORM FOR BID

- A. Each bid must be submitted on the prescribed form, accompanied by the Bid Security and any other requested information. All blank spaces for bid prices must be filled in, in ink or typewritten, both in words and numerical figures, and be signed by the bidder with his business address and place of residence. Where both written words and numerical figures are given, the written words shall apply in the event of conflict. All bids shall be prepared in conformity with, and based upon and submitted subject to, all requirements of the Specifications together with all addenda thereto.
- B. Bidders shall not remove and submit the Bid pages separate from the volume of Contract Documents, but shall submit their Bids bound with the complete volume of attached Contract Documents, including all pages correctly assembled. All erasures or other changes in the Bid must be properly initialed by an authorized representative of the Bidder.

1.11 WITHDRAWAL OF BIDS

- A. Except as hereinafter in this subsection, otherwise expressly provided, once his Bid is submitted and received by the Owner for consideration and comparison with other

bids similarly submitted, the bidder agrees that he may not and will not withdraw it within Ninety (90) consecutive calendar days after the actual date of the opening of Bids.

- B. Upon proper written request and identification, Bids may be withdrawn only as follows:
 - 1. At any time prior to the designated time for the opening of Bids.
 - 2. Provided the Bid has not theretofore been accepted by the Owner, at any time subsequent to the expiration of the period during which the bidder has agreed not to withdraw his Bid.
- C. Unless a Bid is withdrawn as provided above, the bidder agrees that it shall be deemed open for acceptance until the AGREEMENT has been executed by both parties thereto or until the Owner notifies a bidder in writing that his Bid is rejected or that the Owner does not intend to accept it, or returns his Bid deposit. Notice of acceptance of a Bid shall not constitute rejection of any other Bid.

1.12 BID SECURITY

- A. Each bid must be accompanied by a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company and payable to the order of the Owner, or by a bid bond prepared on the form of BID BOND attached hereto duly executed and acknowledged by the bidder, as Principal, and by a surety company qualified to do business in the Commonwealth of Massachusetts and satisfactory to the Owner, as Surety. The check or bid bond shall be in the sum of five (5) percent of the total bid and shall be enclosed in the sealed envelope containing the Bid.
- B. Each such check or bid bond may be held by the Owner as security for the fulfillment of the bidder's agreements as hereinabove set forth and as set forth in the BID. Should the bidder fail to fulfill such agreements, his bid check shall become the property of the Owner or if a bid bond was furnished, the bid bond shall become payable to the Owner, as liquidated damages; otherwise, the bid check shall be returned to the bidder as hereinafter provided, or if the security is a bid bond, the bid bond shall become null and void.
- C. Bid checks will be returned to all except the three lowest bidders within five days, Sundays and legal holidays excluded, after the opening of Bids, and to the three lowest bidders within five days, Sunday and legal holidays excluded, after the Owner and the accepted bidder have executed the AGREEMENT. In the event that the AGREEMENT has not been executed by both the accepted bidder and the Owner within 90 consecutive calendar days after the opening of Bids, the bid check will be returned promptly upon demand of any bidder who has not been notified of the acceptance of his Bid.

- D. Bid checks accompanying Bids, which are rejected, will be returned within five days, Sundays and legal holidays excluded, after rejection.
- E. None of the three lowest Bids shall be deemed rejected, notwithstanding acceptance of any Bid, until the AGREEMENT has been executed by both the Owner and the accepted bidder.

1.13 INTERESTED PARTIES TO CONTRACT

- A. The undersigned declares; that the only person interested in this Bid as principals are named herein as such; that no official of the Owner and no person acting for or employed by the Owner is interested directly or indirectly in this Bid, or in any contract which may be made under it, or in any expected profits to arise there from; that this Bid is made in good faith, without fraud, collusion or connection with any other person bidding or refraining from bidding for the same work; that he has examined carefully the said instructions and all other documents bound herewith relating to the Contract covered by this Bid and hereby makes them part of this Bid; that he has informed himself fully in regard to all conditions pertaining to the work and place where it is to be done; and that he has made his own examination and carefully checked his estimates for cost and from them makes this Bid.

1.14 ABILITY AND EXPERIENCE OF BIDDER

- A. No award will be made to any bidder who cannot satisfy the Owner 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. The Engineer and the Owner may make such investigation as they deem necessary to determine the ability of the bidder to perform the work; and the bidder shall furnish to the Engineer and the Owner all such information and data for this purpose as the Engineer and the Owner may request.
- B. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein within the time stated. The Owner's decision or judgment on these matters shall be final, conclusive, and binding for all parties involved.

1.15 BIDS

- A. The Owner reserves the right to waive any informalities in, or to reject any or all Bids which in its sole judgment are either incomplete, conditional, obscure, or not responsive or which contain additions not called for, erasures not properly initialed, alternative, or similar irregularities, or the Owner may waive such omissions, conditions, or irregularities as he may feel appropriate.

- B. Conditional bids will not be accepted. Bidder(s) will be disqualified if more than one proposal is received from an individual, firm, partnership, corporation or association, under the same or different names and such proposals will not be considered.
- C. The Owner reserves the right to reject any or all Bids, should the Owner deem it to be in the public interest to do so.

1.16 COMPARISON OF BIDS

- A. Bids will be compared on the basis of the experience and competence of the bidders and on the basis of the totals of the quantities listed in the proposal under the enumerated items at the unit prices or lump sums bid for these items. The Contract will be awarded to the lowest responsive, responsible and eligible bidder as determined by the Owner and/or its authorized representatives or agents. However, the Owner may reject any and all bids if it is in the public interest to do so.
- B. The term, "Lowest responsive, responsible and eligible bidder," shall mean the bidder whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the Work; 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.
- C. Bids should be made on each separate item of work shown in the bid (proposal) with reasonable relation to the probable cost of doing the work included in such items. The Owner reserves the right to reject, wholly, any bid on which 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 attention of the bidder is called to the fact that unbalancing of bids may adversely affect the Contractor if certain portions for the Work are increased or decreased as provided in the Contract Documents.
- D. A bidder shall state the proposed price for the work by which the bids will be compared. This price is to cover the entire expenses incidental to the completion of the work in full conformity with the Contract and Specifications. In the event that there is a discrepancy between the unit prices and the extended totals, the unit prices shall govern. In the event that there is a discrepancy between the lump-sum or unit prices written in words and numerical figures, the prices written in words shall govern. No bid will be accepted which does not contain a unit price or lump sum as indicated for each of the applicable items enumerated in the proposal form.

1.17 ITEMS AND INDETERMINATE ITEMS

- A. The Work to be done under this Contract has been divided into parts or items to enable each bidder to bid on different portions of the work in accordance with his estimate of their cost and so that the actual quantity of work executed under each item

may be paid for at the price bid for that particular item, even though such quantity is greater or less than the estimated quantity stated in the BID.

- B. The quantities listed in the bid (proposal) are approximate. The Owner does not expressly or by implication represent that the actual amounts of work will even approximately correspond therewith, but does call particular attention to the uncertainty in the quantities of the work involved which can not be predicted in advance. The work under certain items may be materially greater or less than those given in the Bid as may be necessary in the judgment of the Owner complete the work contemplated in the Contract. Attention is particularly called to the fact that the quantity of work to be done under some bid items may be largely dependent on subsurface ground conditions encountered and, therefore, the quantities of work to be done under the various items may vary substantially from the estimated quantities or may even be omitted.
- C. Certain items in the BID cover classes of work of doubtful necessity or work for which it is impractical to estimate approximate quantities. Such items have been marked "Indeterminate".
- D. Only such quantities of the respective items of work actually performed and accepted will be paid for. An increase or decrease in quantity for any item shall not be regarded as grounds for an increase or decrease in the bid prices.

1.18 REDUCTION IN SCOPE OF WORK

- A. The Owner reserves the right to decrease the scope of the work to be done under this Contract and to omit any work in order to bring the cost within available funds. To this end, the Owner reserves the right to reduce the quantity of any items or omit all of any as set forth in the BID, either prior to executing the Contract or at any time during the progress of the Work. The Owner further reserves the right, at any time during the progress of the Work, to restore all or part of any items previously omitted or reduced. Exercise by the Owner of the above rights shall not constitute any ground or basis of claim for damages or for anticipated profits on the work omitted.

1.19 CONTRACT BONDS

- A. The Bidder whose Bid is accepted agrees to furnish the Contract Bonds in the forms which follow in Section 00600, titled PERFORMANCE AND LABOR AND MATERIALS BONDS, each in the sum of the full amount of the Bid and/or Contract Price as determined by the Engineer, and duly executed and acknowledged by the said bidder as Principal and by a surety company qualified to do business under the laws of Massachusetts and satisfactory to the Owner, as Surety, for the faithful performance of the contract and payment for labor and materials. The premiums for such Bonds shall be paid by the Contractor.

- B. Surety Companies executing the Contract Bonds must also appear on the U.S. Treasury Department's most current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (Amended) by the Audit Staff Bureau of Accounts.

1.20 POWER OF ATTORNEY

- A. Attorneys-in-fact who sign Bid Bonds or Contract Bonds must file with each Bond a certified and effectively dated copy of their power of attorney.

1.21 EXECUTION OF AGREEMENT

- A. The Bidder whose Bid is accepted will be required and agrees to duly execute the AGREEMENT and furnish the required CONTRACT BONDS within the time limit stated in the BID after notification that the AGREEMENT is ready for signature.
- B. The Bidder whose Bid is accepted upon his failure or refusal to duly execute the AGREEMENT and furnish the required CONTRACT BONDS within the time limit stated in the BID, shall forfeit to the Owner as liquidated damages for such failure or refusal, the surety deposited with his BID.

1.22 INSURANCE CERTIFICATES

- A. The Contractor will not be permitted to start any construction work until he has submitted certificates covering all insurances called for under that subsection of the AGREEMENT, titled "Insurance." The Contractor shall submit said certificates using the forms supplied by the Engineer under said subsection.

1.23 TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- A. The bidder must agree to commence work on or before the date specified in the written "NOTICE TO PROCEED" issued by the Owner, and/or Engineer acting on behalf of the Owner, and to fully complete the project within the time specified in Table A of the Agreement, after the date specified in the written "NOTICE TO PROCEED" as stipulated in Table A of the AGREEMENT. The bidder must further agree to pay as liquidated damages to the Owner, the sum as specified in Table A of the Agreement for each consecutive calendar day thereafter as hereafter provided in the AGREEMENT.

1.24 LAWS AND REGULATIONS

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

1.25 WORK ON STATE, MUNICIPAL, AND PRIVATE PROPERTY

- A. Particular attention is hereby directed to the fact that portions of the Work included under this Contract will be done within the limits of properties that are State-owned, municipal-owned, or privately owned. The Contractor shall be responsible for coordinating the prosecution of the Work of this Contract with the property owner and for providing work in accordance with any additional requirements as specified herein.

1.26 STATE SALES AND USE TAX

- A. Materials and equipment purchased for installation under this Contract are exempt from the Massachusetts Sales Tax. The Contractor shall file for exemption on behalf of the Owner with the Commonwealth of Massachusetts Department of Taxation as required by law. The exemption from the Sales Tax shall be taken into account by the Contractor during bidding.

1.27 MANUFACTURER'S EXPERIENCE

- A. Wherever it may be written that an equipment manufacturer must have a specified period of experience with his product, equipment which does not meet the specified experience period may be considered by the Owner and/or Engineer if the equipment supplier or manufacturer is willing to provide a sufficient bond or cash deposit as determined by the Owner and/or Engineer for the duration of the specified time period which will guarantee full replacement of that equipment in the event of failure at no additional cost to the Owner.

1.28 PROTECTION OF LIVES AND HEALTH

- A. The project is subject to all of the Safety and Health Regulations as promulgated by the United States Department of Labor (Title 29, Part 1926/1910 CFR, 1985 revisions); the Contract Work Hours and Safety Standards Act (40 U.S.C. 327 et seq.) as supplemented by the Department of Labor Regulations (Title 29 CFR Part 5); and OSHA 2207, 1983 revisions; and all subsequent amendments thereto. Contractors are urged to make themselves familiar with the requirements of these regulations.

1.29 NONDISCRIMINATION IN EMPLOYMENT

- A. Contracts for work under this bid (proposal) will obligate the Contractors and subcontractors not to discriminate in employment practices.
- B. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, handicap, or national origin. The Contractor shall take affirmative action to ensure that applicants are employed and the employees are treated during employment without regard to their race, color, religion, sex, age, handicap, or national origin. Such actions shall include, but not be

- limited to, the following: employment, upgrading; demotions, or transfers; recruitment or recruitment advertising, layoffs, or terminations; rates of pay or other forms of compensation; selection for training including apprenticeship; and participation in recreational and education activities. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notice to be provided setting forth the provisions of this non-discrimination clause. The Contractor will in all solicitations or advertisements for employees placed by or on behalf on the Contractor state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, handicap or national origin. The Contractor will cause the foregoing provisions to be inserted in all sub-contracts for any work covered by this Contract so that such provisions will be binding upon each sub-contractor and upon sub-contracts for standard commercial supplies or raw materials.
- C. The Contractor shall keep such records and submit such reports concerning the racial and ethnic origin of applicants for employment and employees as the Owner may require as consistent with Federal and Commonwealth law. The Contractor agrees to comply with such rules, regulations, or guidelines as the Commonwealth of Massachusetts may implement these requirements.
- D. Successful bidders and Contractors must, if required, submit a list of all Subcontractors who will perform work on the project, and written signed statements from authorized agents of labor pools with which they will or may deal with for employees on the work, that they will affirmatively cooperate in or offer no hindrance to the recruitment, employment, and equal treatment of employees seeking employment and performing work under this Contract; or a certification as to when such agents or labor pools have failed or refused to furnish them, prior to award of the Contract.
- E. The successful bidder will be required to comply with Equal Opportunity Requirements and to abide by the prevailing wage rates for Public Work Projects for all employees on the job. It is the responsibility of Bidders to inform themselves as to the local labor conditions, overtime compensation, health and welfare contributions, labor supply and prospective changes or adjustment of wage rates. Information is available at the Department of Labor.
- F. The successful bidder must be prepared to comply with the provisions of the MASSHIGHWAY Document 00718, Document B00842, and Document B00843.

1.30 SEQUENCE OF OPERATIONS

- A. The Contractor must submit to the Engineer within fourteen (14) calendar days after receipt of the Notice to Proceed for this Project, a sequence of operations, giving detailed plans and schedules of his operation during the Work. Said sequence of operations shall be reviewed and must be approved by the Owner and Engineer prior to the start of the Work. The Owner reserves the right to limit or, if found necessary

and/or required, delay construction, or certain activities thereof, in certain areas of the Contract should the Owner deem it to be in the public's best interest to do so.

- B. The Contractor shall have no claim for additional compensation or damage on account of any such delays and/or required sequence of operations.
- C. The Contractor shall maintain uninterrupted utility services at all times, and plan his work accordingly.
- D. The Contractor shall coordinate his activities with any other contract and/or contractor to complete the Work as detailed in the Specifications.

END OF SECTION

SECTION 00300

BID

CITY OF SALEM, MA

Traffic Signal and Intersection Improvements:

Lafayette Street/Loring Avenue/West Avenue

CONTRACT NO. R-31

To the City of Salem, Massachusetts, herein called the "Owner", for "Traffic Signal and Intersection Improvements: Lafayette Street/Loring Avenue/West Avenue, Contract No. R-31".

The Undersigned, as a bidder herein referred to as singular and masculine, declares as follows:

- (1) The only parties interested in this BID as Principals are named herein;
- (2) this BID is made without collusion with any other person, firm, or corporation;
- (3) no officer, agent, or employee of the Owner is directly or indirectly interested in this BID;
- (4) he has carefully examined the site of the proposed Work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed Work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this BID, and he has carefully read and examined the annexed proposed AGREEMENT and the Specifications and other Contract Documents therein referred to and knows and understands the terms and provisions thereof;
- (5) he understands that information relative to subsurface and other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) has been furnished only for his information and convenience without any warranty or guarantee, expressed or implied, that the subsurface and/or other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) actually encountered will be the same as those in any of the other Contract Documents and he agrees that he shall not use or be entitled to use any such information made available to him through the Contract Documents or otherwise or obtained by him in his own examination of the site, as a basis of or ground for any claim against the Owner or the Engineer arising from or by reason of any variance which may exist between the aforesaid information made available to or acquired by him and the subsurface and/or other conditions, natural phenomena, existing pipes and other structures (surface and/or subsurface) actually encountered during the construction work, and he has made due allowance therefore in this BID;
- (6) and he understands that the quantities of work tabulated in this BID or in the Specifications or other Contract Documents are only approximate and are subject to increase or decrease as deemed necessary by the Engineer; and he agrees that, if this BID is accepted he will contract with the Owner, as provided in the copy of the Contract Documents deposited in the office of the Engineer, this BID form being part of said

Contract Documents, and that he will perform all the work and furnish all the materials and equipment, and provide all labor, services, plant, machinery, apparatus, appliances, tools, supplies and all other things required by the Contract Documents in the manner and within the time therein prescribed and according to the requirements of the Engineer as therein set forth, and that he will take in full compensation therefore the total dollar amount tabulated from the actual measured quantities of said work and each unit or lump sum price stated in this BID as hereinafter set forth.

(Note: All entries in the entire BID must be made clearly and in ink; price bid must be written in both words and figures.)

<u>Item Number</u>	<u>Estimated Quantity</u>	<u>Brief Description: unit or lump-sum price bid in both words and figures.</u>	<u>Total in Figures</u>
120.00	150 CY	Earth Excavation, per cubic yards _____dollars and _____ cents (\$ _____)	\$ _____
145.00	1 EA	Drainage Structure Abandoned, per each _____dollars and _____ cents (\$ _____)	\$ _____
150.00	31 CY	Ordinary Borrow, per cubic yards _____dollars and _____ cents (\$ _____)	\$ _____
151.00	100 CY	Gravel Borrow, per cubic yards _____dollars and _____ cents (\$ _____)	\$ _____
156.00	1 TON	Crushed Stone, per ton _____dollars and _____ cents (\$ _____)	\$ _____

<u>Item Number</u>	<u>Estimated Quantity</u>	<u>Brief Description: unit or lump-sum price bid in both words and figures.</u>	<u>Total in Figures</u>
170.00	360 SY	Fine Grading and Compacting, per square yards _____dollars and_____cents (\$_____)	\$_____
201.00	1 EA	Catch Basin / Manhole, per each _____dollars and_____cents (\$_____)	\$_____
222.00	1 EA	Frame and Grate, per each _____dollars and_____cents (\$_____)	\$_____
431.10	20 CY	High Early Strength Cement Concrete Pavement, per cubic yard _____dollars and_____cents (\$_____)	\$_____
443.00	2 MGL	Water For roadway Dust Control, per million gallons _____dollars and_____cents (\$_____)	\$_____
460.00	17 TON	Hot Mix Asphalt, per ton _____dollars and_____cents (\$_____)	\$_____

<u>Item Number</u>	<u>Estimated Quantity</u>	<u>Brief Description: unit or lump-sum price bid in both words and figures.</u>	<u>Total in Figures</u>
464.00	7 GAL	Bitumen for Tack Coat, per gallon _____dollars and_____cents (\$_____)	\$_____
472.00	5 TON	Hot Mix Asphalt for Miscellaneous Work, per ton _____dollars and_____cents (\$_____)	\$_____
482.40	60 FT	Sawing Portland Cement Concrete, per feet _____dollars and_____cents (\$_____)	\$_____
504.00	10 FT	Granite Curb Type VB - Straight, per feet _____dollars and_____cents (\$_____)	\$_____
504.10	90 FT	Granite Curb Type VB - curved, per feet _____dollars and_____cents (\$_____)	\$_____
509.00	50 FT	Granite Transition Curb for Wheelchair Ramps - Straight, per feet _____dollars and_____cents (\$_____)	\$_____

<u>Item Number</u>	<u>Estimated Quantity</u>	<u>Brief Description: unit or lump-sum price bid in both words and figures.</u>	<u>Total in Figures</u>
509.10	80 FT	Granite Transition Curb for Wheelchair Ramps - Curved, per feet _____dollars and_____cents (\$_____)	\$_____
515.00	1 EA	Granite Curb Inlet – Curved, per each _____dollars and_____cents (\$_____)	\$_____
516.00	1 EA	Granite Curb Corner Type A, per each _____dollars and_____cents (\$_____)	\$_____
580.00	250 FT	Curb Removed and Reset, per feet _____dollars and_____cents (\$_____)	\$_____
582.00	1 EA	Curb Corner Removed and Reset, per each _____dollars and_____cents (\$_____)	\$_____
701.00	180 SY	Cement Concrete Sidewalks, per square yard _____dollars and_____cents (\$_____)	\$_____

<u>Item Number</u>	<u>Estimated Quantity</u>	<u>Brief Description: unit or lump-sum price bid in both words and figures.</u>	<u>Total in Figures</u>
701.10	20 SY	Cement Concrete in Driveways, per square yard _____dollars and_____cents (\$_____)	\$_____
701.20	110 SY	Cement Concrete Wheelchair Ramp, per square yard _____dollars and_____cents (\$_____)	\$_____
748.00	1 LS	Mobilization, per Lump Sum _____dollars and_____cents (\$_____)	\$_____
751.00	20 CY	Loam Borrow, per cubic yard _____dollars and_____cents (\$_____)	\$_____
765.00	120 SY	Seeding, per square yard _____dollars and_____cents (\$_____)	\$_____
804.30	310 LF	3-inch Electrical Conduit Type NM – Plastic (UL), per linear foot _____dollars and_____cents (\$_____)	\$_____

<u>Item Number</u>	<u>Estimated Quantity</u>	<u>Brief Description: unit or lump-sum price bid in both words and figures.</u>	<u>Total in Figures</u>
811.31	7 EA	Pull Box 12x12 inches – SD2.031, per each _____dollars and_____cents (\$_____)	\$_____
816.00	1 LS	Traffic Signal Reconstruction, per lump sum _____dollars and_____cents (\$_____)	\$_____
832.00	70 SF	Warning – Regulatory & Route Marker – Aluminum Panel (Type A), per square feet _____dollars and_____cents (\$_____)	\$_____
841.10	2 EA	Supports for Guide Sign (D6 W D8-5 inch Tubular Post) Steel, per each _____dollars and_____cents (\$_____)	\$_____
847.1	3 EA	Sign Sup (N/Guide) + Rte Mkr W/1 Brkway Post Assembly (Stl), per each _____dollars and_____cents (\$_____)	\$_____
852.00	470 SF	Safety Signing for Construction Operations, per square feet _____dollars and_____cents (\$_____)	\$_____

<u>Item Number</u>	<u>Estimated Quantity</u>	<u>Brief Description: unit or lump-sum price bid in both words and figures.</u>	<u>Total in Figures</u>
854.10	1,900 SF	Pavement Marking Removal, per square feet _____dollars and_____cents (\$_____)	\$_____
856.00	50 DAY	Special Lighting Unit (Flashing Arrow), per day _____dollars and_____cents (\$_____)	\$_____
856.12	100 DAY	Portable Changeable Message Sign, per day _____dollars and_____cents (\$_____)	\$_____
859.00	1,600 DAY	Reflectorized Drum, per day _____dollars and_____cents (\$_____)	\$_____
864.04	300 SF	Pavement Arrows and Legends Refl. White (Thermoplastic), per square feet _____dollars and_____cents (\$_____)	\$_____
865.10	1,000 SF	Cross Walks and Stop Lines Refl. White (Thermoplastic), per square feet _____dollars and_____cents (\$_____)	\$_____

<u>Item Number</u>	<u>Estimated Quantity</u>	<u>Brief Description: unit or lump-sum price bid in both words and figures.</u>	<u>Total in Figures</u>
866.06	100 FT	6-inch Reflectorized White Line Thermoplastic, per feet _____dollars and_____cents (\$_____)	\$_____
867.06	1,400 FT	6-Inch Reflectorized Yellow Line (Thermoplastic), per feet _____dollars and_____cents (\$_____)	\$_____

The bidder, by submittal of this BID, agrees with the Owner that the amount of the bid security deposited with this BID fairly and reasonably represents the amount of damages the Owner will suffer due to the failure of the bidder to fulfill his agreements as above provided.

(SEAL) _____ L.S.
(Name of Bidder)

By _____
(Signature and title of authorized representative)

(Business address)

(City and State)

Date _____

The bidder is a corporation incorporated in the State (or Commonwealth) of _____ - a partnership - an individual. (Bidder must add and delete as necessary to make this sentence read correctly.)

(Note: If the bidder is a corporation, affix corporate seal and give below the names of its president treasurer, and general manager, if any; if a partnership, give full names and residential addresses of all partners; and if an individual, give residential address, if different from business address.)

The required names and addresses of all persons interested in the foregoing Bid, as Principals, are as follows:

(Add supplementary page if necessary)

CERTIFICATE OF AUTHORIZATION
FOR
BIDDING REPRESENTATIVE

(Note: Bidder must complete for certification of authorized representative signing Bid.)

At a duly authorized meeting of the Board of Directors of the

_____ held on _____,
(Name of Corporation) (Date)

at which all the Directors were present or waived notice, it was voted that

_____ (Name of Authorized Representative) _____ (Title)

of this company shall be, and hereby is, authorized to execute bidding documents, contracts and bonds in the name and on behalf of said company, and to affix the corporate seal thereto, and such execution of any contract obligation in this company's name on its behalf of such

_____ under seal of the company shall be valid and binding upon this company.
(Title)

A true copy

ATTEST _____
(Clerk)

Place of Business _____

I hereby certify that I am the clerk of the _____
(Name of Corporation)

_____, that _____
(Name of Authorized Representative)

is the duly elected _____ of said company, and that the
(Title)

above vote has not been amended or rescinded and remains in full force and effect as of the date of this contract.

Corporate
Seal

(Clerk)

STATEMENT OF BIDDERS' QUALIFICATIONS

The following shall accompany the bid and is required as evidence of the bidder's qualifications to perform the work, as bid upon, in accordance with the contract drawings and specifications. This statement must be notarized. All questions must be answered. Additional data may be submitted on separate attached sheets.

- 1. Name of Bidder _____
- 2. Permanent Main Office Address _____
- 3. Official Mailing Address For This Contract _____
- 4. When Organized? _____
- 5. Where Incorporated, If a Corporation _____
- 6. Years Contracting under Present Name _____
- 7. List contracts on hand, and those completed similar in nature to this kind of project.

Owner	Engineer	Contract	Description	Contract Amount	Completion Date
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

- 8. List any work the firm has failed to complete, state where and why.

- 9. If you have ever defaulted on any contract, state where and why.

10. List full names and residences of all principals (i.e.: Officers, Directors, Partners, Owners) interested in this bid.

<u>Name</u>	<u>Residence</u>	<u>Title</u>	<u>Firm</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

11. State name(s) and qualifications of resident supervisor(s) for this project.

12. List major equipment available for this project and identify ownership or rental.

13. Will you furnish a detailed financial statement and other information, requested by the Owner?

14. List bank references for verifying financial ability of your company.

<u>Name</u>	<u>Address</u>
_____	_____
_____	_____

15. The undersigned hereby authorized and requests any person, firm or corporation, to furnish all information requested by the Owner and/or its designated agents relative to the recitals comprising this Statement of the Bidder's Qualifications.

Dated at _____ this _____ day of _____ 20__

(Name of Bidder)

By: _____

(Title)

State of _____

County of _____

_____ being duly sworn in person, deposes and says

that he is _____ of _____,
(Title) (Name of Bidder)

that he is the firm's duly authorized agent to execute these contract documents, and that the answers to the foregoing questions and all statements therein contained are correct and true.

Subscribed and sworn to before me this _____ day of _____ 20__.

(SEAL)

(Notary Public)

(My Commission Expires)

STATEMENT OF PROPOSED SUBCONTRACTORS

The following shall accompany the bid and is required as evidence of the bidder's qualifications to perform the work as bid upon, in accordance with the contract drawings and specifications. The Bidder must state the names and appurtenant information of all major subcontractors he proposed to use to complete the work as bid upon. Additional data may be submitted on separate attached sheets.

If subcontractors are not to be used to complete the Work and/or any portion thereof, as herein bid upon, the Bidder must acknowledge by writing "NONE" _____.

Description of Work _____

Approximate percentage of Total Bid _____

Proposed Subcontractor, Name _____

Address _____

Description of Work _____

Approximate percentage of Total Bid _____

Proposed Subcontractor, Name _____

Address _____

Description of Work _____

Approximate percentage of Total Bid _____

Proposed Subcontractor, Name _____

Address _____

Bidder to insert description of work, percentage of Total BID, and subcontractors' names as may be required.

This is to certify that all names of the above-mentioned subcontractors are submitted with full knowledge and consent of the respective parties.

The Bidder warrants that none of the proposed subcontractors have any conflict of interest as respects this contract.

Date _____

Bidder

(Name of Bidder)

By

(Signature)

(Title)

(Business Address)

(City and State)

SECTION 00400

BID BOND
CITY OF SALEM, MA
Traffic Signal and Intersection Improvements:
Lafayette Street/Loring Avenue/West Avenue
CONTRACT NO. R-31

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned (Insert Name of Bidder)
_____, as Principal, and (Insert Name of Surety)
_____, as Surety, are hereby held
and firmly bound and obligated unto the City of Salem, Massachusetts, as Owner, in the sum
of _____ Dollars (\$ _____),
as liquidated damages for payment of which, well and truly to be made, we hereby jointly and
severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of the above obligation is such that whereas the Principal has submitted to the City
of Salem, Massachusetts a certain Bid attached hereto and hereby made a part hereof, to enter
into a contract in writing, hereinafter referred to as the "AGREEMENT" and/or "Contract", for
**"Traffic Signal and Intersection Improvements: Lafayette Street/Loring Avenue/West
Avenue, Contract No. R-31"**.

NOW THEREFORE,

- (a) If said BID shall be rejected or withdrawn as provided in the INFORMATION FOR
BIDDERS attached hereto or, in the alternative,
- (b) If said BID shall be accepted and the Principal shall duly execute and deliver the form of
AGREEMENT attached hereto and shall furnish the specified bonds for the faithful
performance of the AGREEMENT and/or Contract and for the payment for labor and
materials furnished for the performance of the AGREEMENT and/or Contract,

then this obligation shall be void, otherwise it shall remain in full force and effect; it being
expressly understood and agreed that the liability of the Surety for any and all claims hereunder
in no event shall exceed the amount of this obligation.

The Surety, for value received, hereby agrees that the obligations of said Surety and its bond
shall in no way be impaired or affected by any extensions of the time with which such BID may
be accepted, and said Surety does hereby waive notice of any such extensions.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, have duly executed this bond on the _____ day of _____, 20 _____.

(SEAL)

_____ L.S.
(Name of Principal)

BY: _____
(Signature)

(Title)

(Name of Surety (Seal)

BY: _____
(Signature and Title)

BY: _____
Attorney-In-Fact

Sealed and delivered in
the presence of:

IMPORTANT: Surety Companies executing BONDS must appear on the U.S. Treasury Department's most current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts and be authorized to transact business in the state where the PROJECT is located.

If the Bond is signed on behalf of the Surety by an Attorney-In-Fact, there should be attached, a duly certified copy of his power of attorney showing his authority to sign such Bond.

SECTION 00500

CONTRACT AGREEMENT
CITY OF SALEM, MA
Traffic Signal and Intersection Improvements:
Lafayette Street/Loring Avenue/West Avenue
CONTRACT NO. R-31

THIS AGREEMENT is executed this _____ day of _____ in the year Two Thousand and _____ (herein referred to as the "AGREEMENT") by and between the City of Salem, Massachusetts party of the first part, and _____ (Name of Contractor) party of the second part.

WITNESSETH, that the parties to these presents, each in consideration of the undertakings, promises, and agreements on the part of the other herein contained, have undertaken, promised, and agreed and do hereby undertake, promise, and agree, the party of the first part for itself, its successors and assigns, and the party of the second part for himself and his heirs, executors, administrators, successors and assigns, as follows:

- | | | | |
|------|---|------|---|
| 1.01 | Definitions | 1.28 | Claims for Damages |
| 1.02 | The Contract Documents | 1.29 | Abandonment of Work or Other Default |
| 1.03 | Obligations and Liability of Contractor | 1.30 | Prices for Work |
| 1.04 | Authority of the Engineer | 1.31 | Moneys May Be Retained |
| 1.05 | Supervision of Work | 1.32 | Formal Acceptance |
| 1.06 | Insurance | 1.33 | Progress Estimates |
| 1.07 | Patents | 1.34 | Partial Acceptance |
| 1.08 | Compliance with Laws | 1.35 | Final Estimate and Payment |
| 1.09 | Provisions Required by Law Deemed
Inserted | 1.36 | Liens |
| 1.10 | Permits | 1.37 | Claims |
| 1.11 | Not to Sublet or Assign | 1.38 | Application of Moneys Retained |
| 1.12 | Delay by Owner | 1.39 | No Waiver |
| 1.13 | Time for Completion | 1.40 | Liability of Owner |
| 1.14 | Liquidated Damages | 1.41 | Guarantee |
| 1.15 | Night, Saturday, Sunday and Holiday Work | 1.42 | Retain Money for Repairs |
| 1.16 | Employ Competent Persons | 1.43 | Return of Drawings |
| 1.17 | Employ Sufficient Labor and Equipment | 1.44 | Cleaning Up |
| 1.18 | Intoxicating Liquors and/or Drugs | 1.45 | Legal Address of Contractor |
| 1.19 | Access to Work | 1.46 | Headings |
| 1.20 | Examination of Work | 1.47 | Modification or Termination |
| 1.21 | Defective Work, Etc. | 1.48 | Direct Labor cost |
| 1.22 | Protection Against Water and Storm | 1.49 | Massachusetts Tax Laws |
| 1.23 | Right to Materials | 1.50 | Minority Business |
| 1.24 | Changes | 1.51 | Termination for Convenience |
| 1.25 | Extra Work | 1.52 | Equal Employment Opportunity,
Antidiscrimination, and Affirmative Action |
| 1.26 | Extension of Time on Account of Extra Work | 1.53 | Unlawful Conduct & Participation in Boycott |
| 1.27 | Changes Not to Affect Bonds | | |

1.01 DEFINITIONS
Wherever the words hereinafter defined or pronouns used in their stead occur in the Contract Documents, they shall have the following meaning indicated which

shall be applicable to both the singular and plural thereof:

ADDENDA - Written or graphic instruments prior to the opening of Bids which Clarify, correct or change the Bidding Requirements or Contract Documents.

AGREEMENT - the written contract between Owner and Contractor covering the Work to be performed.

"AS DIRECTED," "AS ORDERED," "AS REQUESTED," "AS REQUIRED", "AS PERMITTED," or words of like import are used, it shall be understood that the direction, order, request, requirement, or permission of the Engineer is intended.

"APPROVED," "ACCEPTABLE," "SUITABLE," "SATISFACTORY," and words of like import shall mean approved by, acceptable to, suitable to, or satisfactory to the Engineer.

APPLICATION FOR PAYMENT - Form used by Contractor in requesting progress or final payments, format to be acceptable to the Engineer.

bid - The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bidder - Any person, firm or corporation submitting a bid for the work.

CHANGE ORDER - A document recommended by the Engineer, which is signed by the Contractor and Owner authorizing the addition, deletion or revision in the Work, or adjustment in the Contract Price or Contract Time, issued on or after the effective date of the Agreement.

CONTRACTOR - The person, firm or corporation with whom the Owner has entered into the Agreement.

Contract Bonds - Bid, Performance, and Labor and Materials Bonds and other instruments of security furnished by the Contractor and his surety in accordance with the Contract Documents.

CONTRACT DOCUMENTS - The Agreement, Addenda, Bid, Post Bid documentation submitted prior to the Notice Award, The Notice to Proceed, Bonds, General Conditions, Supplementary Conditions, The Specifications, the Drawings, all written Amendments, Change Orders, Field Orders, and Engineers written interpretations and clarifications.

Contract Price - The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

Contract Time - The number of calendar days stated in the Contract Documents for the completion of the Work.

Construction superintendent - That person designated by the Contractor to carry out the provisions of the Contract.

Datum or levels - The figures given in the Contract and Specifications or upon the Drawings after the word elevation or abbreviation of it, shall mean the distance in feet above mean sea level, the base of the State in which the Work is located and the United States Geodetic Survey (U.S.G.S.).

Drawings - The part of the Contract Drawings which show the characteristics and Scope of the Work to be performed and which have been prepared or approved by the Engineer.

EARTH - Wherever used as the name of an excavated material or material to be excavated, shall mean all kinds of material other than rock as defined in this section.

Elevation - The figures given on the Drawings or in the other Contract Documents after the word "elevation" or abbreviation of it shall mean the distance in feet above the datum adopted by the Engineer.

Engineer - The person, firm or corporation duly appointed by the Owner to undertake the duties and powers herein assigned to the Engineer, acting either directly or through duly authorized representatives. (For this Contract, BETA Group, Inc.)

FIELD ORDER - A written order issued by the Engineer which orders minor changes in the Work which do not involve a change in the Contract Price or an extension of the Contract time.

GENERAL REQUIREMENTS - Sections of Division 1 of the Specifications.

"HEREIN," "HEREINAFTER," "HEREUNDER," and words of like import shall be deemed to refer to the Contract Documents.

Notice of award - The written notice of the acceptance of the Bid from the Owner to the successful Bidder.
notice to proceed - Written communication issued by the Owner to the Contractor authorizing him to proceed with the Work and establishing the date of commencement of the Work.

OWNER - The public body or authority, corporation, association, firm or person with whom the Contractor has entered into the Agreement and for whom the Work is to be provided.

project or contract - The undertaking to be performed in the Contract Documents.

project representative - The authorized representative of the owner who is assigned to the project site or any part thereof.

ROCK - wherever used as the name of an excavated material to be excavated, shall mean only boulders and pieces of concrete and masonry exceeding 1 cu. yd. in volume, or igneous, sedimentary, metamorphic, and conglomerate rock which, in the opinion of the Engineer, requires, for its removal, drilling and blasting, wedging, sledging, barring, or breaking up with a power-operated tool. No soft or disintegrated rock which can be removed with a hand pick or power-operated excavator or shovel, no loose, shaken, or previously blasted rock or broken stone in rock fillings, or elsewhere, and no rock exterior to the maximum limits of measurement allowed, which may fall into the excavation, will be measured or allowed as "rock."

SHOP DRAWINGS - All drawings, diagrams, schedules and other data or information prepared for and submitted by the Contractor, to illustrate portions of the Work.

SPECIFICATIONS - The portions of the Contract documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.
subcontractor - An individual, firm or corporation, approved by the Owner and Engineer having a direct contract with the Contractor or with any other Sub-Contractor for the performance of a part of the Work on the Project.

SUBSTANTIAL COMPLETION - Date certified by the Engineer when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner can occupy or utilize the Work or designated portion thereof for which it was intended, as expressed in the Contract documents.

SUPPLEMENTARY CONDITIONS - The part of the Contract Documents which amends or supplements the General Conditions.

supplier - Any person or organization who supplies materials or equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

written notice - Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed when posted by certified or registered mail to the said party at his last given address or delivered in person to said party or his authorized representative on the Work.

WORK - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

1.02 THE CONTRACT DOCUMENTS

A. The Contract Documents, as defined above, are sometimes herein referred to as the "Contract".

The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. In the event of any conflict or inconsistency between the provisions of the AGREEMENT and the provisions of any of the other Contract Documents, the provisions of the AGREEMENT shall prevail.

A. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the edition of the standard specification, manual, code or laws or regulations identified in the reference. In the event a particular edition is not identified, the reference shall mean the latest amended edition in effect at the time of receipt of the Bid. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of the Owner, the Contractor or the Designer, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to the Engineer, or any of the Engineer's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the provisions of the AGREEMENT.

1.03 OBLIGATIONS AND LIABILITY OF CONTRACTOR

A. The Contractor shall do all the work and perform and furnish all the labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies and all other things (except as otherwise expressly provided herein) necessary and as herein specified for the proper performance and completion of the Work in the manner and within the time hereinafter

specified, in strict accordance with the Drawings, Specifications and other Contract Documents, in conformity with the directions and to the satisfaction of the Engineer, and at the prices herein agreed upon therefor.

B. All parts of the Work and all fixtures, equipment, apparatus and other items indicated on the Drawings and not mentioned in the Specifications, or vice versa, and all work and material usual and necessary to make the work complete in all its parts, including all incidental work necessary to make it complete and satisfactory and ready for use and operation, whether or not they are indicated on the Drawings or mentioned in the Specifications, shall be furnished and executed the same as if they were called for both by the Drawings and by the Specifications.

C. The Contractor shall coordinate his operations with those of any other contractors who may be employed on other work of the Owner, shall avoid interference therewith, and shall cooperate in the arrangements for storage of materials and equipment.

D. The Contractor shall conduct his work so as to interfere as little as possible with private business and public travel. Wherever and whenever necessary or required, he shall maintain fences, furnish watchmen, maintain lights, and take such other precaution as may be necessary to protect life and property.

E. The Contractor shall indemnify and save harmless the Owner and the Engineer and their officers, agents, servants and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses, including attorneys' fees, on account of bodily injury, sickness, disease or death sustained by any person or persons or injury or damage to or destruction of any property, directly or indirectly arising out of, relating to or in connection with the Work, whether or not due or claimed to be due in whole or in part to the active, passive or concurrent negligence or fault of the Contractor, his officers, agents, servants or employees, any of his subcontractors, or any of their respective officers, agents, servants or employees and/or any other person or persons, and whether or not such claims, demands, suits or proceedings are just, unjust, groundless, false or fraudulent; and the Contractor shall and does hereby assume and agrees to pay for the defense of all such claims, demands, suits and proceedings, provided, however, that the Contractor shall not be required to indemnify the Engineer, his officers, agents, servants

or employees, against any such damages occasioned solely by defects in maps, plans, drawings, designs or specifications prepared, acquired or used by the Engineer and/or solely by the negligence or fault of the Engineer; and provided further, that the Contractor shall not be required to indemnify the Owner, his officers, agents, servants or employees, against any such damages occasioned solely by acts or omissions of the Owner other than supervisory acts or omissions of the Owner in the Work.

F. The Contractor shall have complete responsibility for the Work and the protection thereof, and for preventing injuries to persons and damage to the Work and property and utilities on or about the Work, until final completion and final acceptance thereof. He shall in no way be relieved of his responsibility by and right of the Engineer to give permission or directions relating to any part of the Work, by any such permission or directions given, or by failure of the Engineer to give such permission or directions. The Contractor shall bear all costs, expenses, losses and damages on account of the quantity or character of the Work or the nature of the land (including but not limited to subsurface conditions) in or under or on which the Work is done being different from that indicated or shown in the Contract Documents or from what was estimated or expected, or on account of the weather, elements, or other causes.

G. The Contractor shall conduct his operations so as not to damage existing structures or work installed either by him or by other contractors. In case of any such damage resulting from his operations, he shall repair and make good as new the damaged portions at his own expense with the consent of the damaged party. In the event that consent is not given, the Contractor shall continue liable for the damage caused.

H. The Contractor shall be as fully responsible to the Owner for the acts and omissions of his subcontractors, their officers, agents, servants and employees as he is for his own acts and omissions and those of his own officers, agents, servants and employees.

I. Should the Contractor sustain any loss, damage or delay through any act or omission of any other contractor or any subcontractor of any such other contractor, the Contractor shall have no claim against the Owner therefor, other than for an extension of time, but shall have recourse solely to such other contractor or subcontractor.

J. If any other contractor or any subcontractor of any such other contractor shall suffer or claim to have suffered loss, damage or delay by reason of the acts or omissions of the contractor or of any of his subcontractors, the Contractor agrees to assume the defense against any such claim and to reimburse such other contractor or subcontractor for such loss or damage.

K. The Contractor agrees to and does hereby indemnify and save harmless the Owner from and against any and all claims by such other contractors or subcontractors alleging such loss, damage or delay from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses, including attorneys' fees, arising out of, relating to or resulting from such claims.

L. The Contractor shall promptly pay all federal, state and local taxes which may be assessed against him in connection with the Work or his operations under the AGREEMENT and/or the other Contract Documents, including, but not limited to, taxes attributable to the purchase of material and equipment, to the performance of services, and the employment of persons in the prosecution of the Work.

M. Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material

1. The Owner shall be responsible for any Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site which was not shown or indicated in Drawings or Specification or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the site. The Owner shall not be responsible for any such materials brought to the site by the Contractor, Subcontractors, Suppliers or anyone else for whom the Contractor is responsible.

2. To the fullest extent permitted by Laws and Regulations, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Engineer, Engineer's Consultants and the officers, directors, employees, agents other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from such hazardous condition, provided that: (i) any such claim, cost, loss or damage is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) nothing in this subparagraph shall

obligate the Owner to indemnify any person or entity from and against the consequences of that person's or entity's own negligence.

1.04 AUTHORITY OF THE ENGINEER

A. The Engineer shall be the sole judge of the intent and meaning of the Drawings and Specifications and his decisions thereon and his interpretation thereof shall be final, conclusive and binding on all parties.

B. The Engineer shall be the Owner's representative during the life of the Contract and he shall observe the Work in progress on behalf of the Owner. He shall have authority (1) to act on behalf of the Owner to the extent expressly provided in the Contract or otherwise in writing; (2) to determine the amount, quality, acceptability and fitness of all work, materials and equipment required by the Contract; and (3) to decide all questions which arise in relation to the Work, the execution thereof, and the fulfillment of the Contract.

C. The Contractor shall proceed without delay to perform the work as directed, instructed, determined or decided by the Engineer and shall comply promptly with such directions, instructions, determinations or decisions. If the Contractor has any objection thereto he may, within ten (10) days of having received any such direction, instruction, determination or decision, require that any such direction, instruction, determination or decision be put in writing and within ten (10) days after receipt of any such writing he may file a written protest with the Owner stating clearly and in detail his objections, the reasons therefor, and the nature and amount of additional compensation, if any, to which he claims he will be entitled thereby. A copy of such protest shall be filed with the Engineer at the same time it is filed with the Owner. Unless the Contractor requires that any such direction, instruction, determination or decision be put in writing within ten (10) days of having received such direction, instruction, determination or decision and unless the Contractor files such written protest with the Owner and Engineer within such ten (10) day period, he shall be deemed to have waived all grounds for protest of such direction, instruction, determination, or decision and all claims for additional compensation or damages occasioned thereby, and shall further be deemed to have accepted such direction, instruction, determination, or decision as being fair, reasonable, and finally determinative of his obligations and rights under the Contract.

1.05 SUPERVISION OF WORK

A. The Contractor shall be solely responsible for supervision of the Work, shall give the work the constant attention necessary to ensure the expeditious and orderly progress thereof, and shall cooperate with the Engineer in every possible way.

B. At all times, the Contractor shall have his agent on the Work a competent superintendent capable of reading and thoroughly understanding the Drawings and Specifications, with full authority to execute the directions of the Engineer without delay and to supply promptly such labor, services, materials, equipment, plant, apparatus, appliances, tools, supplies and other items as may be required. Such superintendent shall not be removed from the Work without the prior written consent of the Engineer. If, in the opinion of the Engineer, the superintendent or any successor proves incompetent, the Contractor shall replace him with another person approved by the Engineer; such approval, however, shall in no way relieve or diminish the Contractor's responsibility for supervision of the Work.

C. Whenever the Contractor or his agent or superintendent is not present on any part of the Work where it may be necessary to give directions or instructions with respect to such work, such directions or instructions may be given by the Engineer to and shall be received and obeyed by the designated foreman or any other person in charge of the particular work involved.

1.06 INSURANCE

A. Before starting and until final completion and acceptance of the Work and expiration of the guarantee period provided for in the AGREEMENT the Contractor shall procure and maintain insurance of the types specified in paragraphs (1) to (15), inclusive, below, and to the limits for this insurance specified in Table A at the end of this section. All insurance shall be obtained from companies satisfactory to the Owner and Engineer.

B. Insurance shall be in such forms as will protect the Contractor from all claims and liability for damages for bodily and personal injury, including accidental death, and for property damage, which may arise from operations under the Contract, whether such operations be by himself, his subcontractors, or by anyone directly or indirectly employed or engaged by him.

C. The City of Salem, Massachusetts shall be named as an "additionally insured".

D. The following types of insurance shall be provided on all policies:

1. Workmen's Compensation and Employer's Liability Insurance.

2. Bodily Injury Insurance for operations and completed operations and Contractor's Protective Bodily Injury Insurance.

3. Property Damage Insurance for operations and completed operations and Contractor's Protective Property Damage Insurance, each including coverage for injury to or destruction of wires or pipes and similar property and appurtenant apparatus and the collapse of or structural injury to any building or structure except those on which work under the Contract is being done. Blasting and explosion coverage shall be obtained if there is a need for blasting under the Contract, and no blasting shall be performed until such insurance has been secured.

4. Bodily Injury Insurance covering the operation of all motor vehicles owned by the Contractor.

5. Personal Injury Insurance to cover claims for personal injury and including claims brought by employees.

6. Property Damage Insurance covering the operation of all motor vehicles owned by the Contractor.

7. Insurance to cover bodily injuries and property damage resulting from the use of motor vehicles not owned by the Contractor, while such vehicles are being operated in connection with the prosecution of the Work.

8. Contractual Liability Insurance covering the liability assumed by the Contractor under the fifth paragraph of that subsection titled "Obligations and Liability of Contractor" of this AGREEMENT.

9. Owner's Protective Liability and Property Damage Insurance to protect the Owner and the Engineer against claims for Property damage and for bodily injuries, including accidental death, caused by the operations of the Contractor or his subcontractors on the Work. The policy shall indicate the Owner and the Engineer as the named insured. A copy of the policy shall be furnished to the Owner and a Certificate of Insurance shall be furnished to the Engineer.

10. Builders' Risk Insurance with an "All Risk" Installation Floater covering loss by fire and extended coverage in the completed value form in the amount of the total insurable value of all structures, materials, and

equipment to be built and installed. The insurance shall be obtained from a company satisfactory to the Owner. The policy shall indicate Owner, the Contractor, all subcontractors, and the Engineer as the named insured with loss payable to the Owner as Trustee. The policy shall provide for a 30-day notice to the Owner of cancellation or restrictive amendment. A copy of the policy shall be furnished to the Owner and a Certificate of Insurance shall be furnished to the Engineer. The insurance shall be obtained before the work is started and shall be maintained until the date of completion of the work as stated in the final estimate, or until the Owner occupies or otherwise take possession of the structure, whichever occurs first.

E. All policies shall be so written that the Owner will be notified in writing of cancellation or restrictive amendment at least 30 days prior to the effective date of such cancellation or amendment.

F. Certificates from the Contractor's insurance carriers stating the coverage provided, the limits of liability, and expiration dates shall be filed in triplicate with the Owner before operations are begun. Such certificates shall be on the form furnished by the Owner.

G. Certificates from the contractor naming the City of Salem, Massachusetts as additionally insured must be received by the Owner prior to initiating the work.

H. Renewal certificates must be furnished by the Contractor prior to the expiration date of any of the initial insurances.

I. No insurance required or furnished hereunder shall in any way relieve the Contractor of or diminish any of his responsibilities, obligations and liabilities under the Contract.

1.07 PATENTS

A. The Contractor's attention is directed to the following "Patent Indemnity Clause" illustrating the format and/or required wording therefore which shall be used by all manufacturers and/or suppliers, as deemed necessary by the Owner and Engineer, as an Indemnification and Hold Harmless Agreement.

B. This Agreement shall be accepted and approved in form by the Owner and Engineer prior to the approval and/or installation of the product.

PATENT INDEMNIFICATION

"In consideration for their purchase and use of the (Name of product and/or equipment) manufactured by (name of Manufacturer) and for other good and valuable consideration, (Name of Manufacturer) agrees to defend and hold harmless (Name of Contractor), BETA Group, Inc., and the (Name of Owner), and their employees and agents, from and against any liability, loss, cost, expense or damage including reasonable attorneys' and accountants' fees incurred by these entities in defending or prosecuting any claim for such liability, loss, cost, expense or damage resulting or arising out of a claim that the use of the above mentioned product and/or equipment delivered hereunder directly infringes any United States Patent, provided that (Name of Manufacturer) is given authority, information, and assistance for the defense of such suit, and (Name of Manufacturer) shall pay all damages and costs assessed against the above named entities for the use of such produce and/or equipment provided, however, that this indemnification shall not apply to equipment of (Name of Contractor) design, and provided further that if the use of such product and/or equipment is enjoined in any suit, (Name of Manufacturer) shall at its own expense and its option either procure for (name of Contractor) the right to continue the normal use of such produce and/or equipment, replace said product and/or equipment, modify said equipment or refund the purchase price thereof; and provided further that (Name of Manufacturer) indemnity as to use shall not apply to infringement resulting from the use of the produce and/or equipment delivered hereunder in combination with other items where use of the product and/or equipment per se does not constitute infringement."

1.08 COMPLIANCE WITH LAWS

A. 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 of 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 the same to the Engineer in writing.

The Contractor shall at all times observe and comply with, and cause all his agents, with all such existing and future laws, ordinances, rules, regulations, orders, decrees and other requirements, and he shall protect, indemnify and save harmless the Owner, its officers, agents, servants and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgements, penalties, losses, damages, costs and expenses, including attorneys' fees, arising from or based upon any violation or claimed violation of any such law, ordinance, rule, regulation, order, decree or other requirement, whether committed by the Contractor or any of his agents, servants, employees or subcontractors.

1.09 PROVISIONS REQUIRED BY LAW DEEMED INSERTED

A. Each and every provision of law and clause required by law to be inserted in the Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.

1.10 PERMITS

A. The Contractor shall, at his own expense, take out and maintain all necessary permits from the county, municipal, or other public authorities; shall give the notices required by law; and shall post all bonds and pay all fees and charges incident to the due and lawful prosecution of the Work.

1.11 NOT TO SUBLET OR ASSIGN

A. The Contractor shall constantly give his personal attention to the faithful prosecution of the Work, shall keep the same under his personal control, shall not assign the Contract or sublet the Work or any part thereof without the previous written consent of the Owner, and shall not assign any of the moneys payable under the Contract, or his claim thereto, unless by and with the like written consent of the Owner and the Surety on the Contract Bonds. Any assignment or subletting in violation hereof shall be void and unenforceable.

B. The Contractor shall not sublet or assign work to a subcontractor(s), for a total in excess of fifty (50) percent of the Contract Price, without prior written approval of the Owner and Engineer.

C. The Contractor shall be fully responsible to the Owner for the acts and omissions of his subcontractors, suppliers, and of persons either directly or indirectly employed by them as he is for the acts and omissions of persons directly employed by him.

D. The Contractor shall cause appropriate provisions, and applicable State or Federal regulations, to be inserted in all subcontractors relative to the work to bind subcontractors to the Contractor by the terms of the Contract Documents insofar as applicable to the work of subcontractors, and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the Contract Documents.

E. The Contractor's attention is directed to the fact that nothing contained in this Contract shall create any contractual relation between any subcontractor and the Owner.

1.12 DELAY BY OWNER

A. The Owner may delay the beginning of the Work or any part thereof if the necessary lands or rights-of-way for such work shall not have been obtained. The Contractor shall have no claim for additional compensation or damages on account of such delay, but shall be entitled only to any extension of time as hereinafter provided.

1.13 TIME FOR COMPLETION

A. The rate of progress shall be such that the Work shall be performed and completed in accordance with the Contract before the expiration of the time limit stipulated in Table A at the end of this section, except as otherwise expressly provided herein.

B. It is agreed that the rate of progress herein required has been purposely made low enough to allow for the ordinary and foreseeable delays incident to construction work of this character. No extension of time will be given for ordinary or foreseeable delays, inclement weather, or accidents, and the occurrence of such will not relieve the Contractor from the necessity of maintaining this rate of progress and completing the Work within the stipulated time limit.

C. If delays are caused by acts of God, acts of Government, unavoidable strikes, extra work, or other cause or contingencies clearly beyond the control or responsibility of the Contractor, the Contractor may be

entitled to additional time to perform and complete the Work, provided that the Contractor shall, within ten (10) days from the beginning of such delay notify the Owner in writing, with a copy to the Engineer, of the cause and particulars of the delay. Upon receipt of such notification, the Owner shall review and evaluate the cause and extent of the delay. If, under the terms of the AGREEMENT, the delay is properly excusable, the Owner will, in writing, appropriately extend the time for completion of the Work. (This paragraph will be interpreted to include delays in receipt of equipment provided that the Contractor placed his order and submitted shop drawings for such equipment promptly after execution of the Contract, that he has shown due diligence in following the progress of the order, and that the time required for delivery is in accordance with conditions generally prevailing in the industry.) The Contractor agrees that he shall not have or assert any claim for nor shall he be entitled to any additional compensation or damages on account of such delays.

D. The time in which the Work is to be performed and completed is of the essence of this AGREEMENT.

1.14 LIQUIDATED DAMAGES

A. In case the Contractor fails to complete the Work satisfactorily on or before the date of completion fixed herein or as duly extended as hereinbefore provided, the Contractor agrees that the Owner shall deduct from the payments due the Contractor each month the sum set forth in Table A at the end of this section for each calendar day of delay, which sum is agreed upon not as a penalty, but as fixed and liquidated damages for each day of such delay. If the payments due the Contractor are less than the amount of such liquidated damages, said damages shall be deducted from any other moneys due or to become due the Contractor, and, in case such damages shall exceed the amount of all moneys due or to become due the Contractor, the Contractor or his Surety shall pay the balance to the Owner.

1.15 NIGHT, SATURDAY, SUNDAY AND HOLIDAY WORK

A. No work shall be done at night, on Saturday on Sunday or on a holiday except (1) usual protective work, such as pumping and the tending of lights, (2) work done in case of emergency threatening injury to persons or property, or (3) if all of the conditions set forth in the next paragraph below are met.

B. No work other than that included in (1) and (2) above shall be done at night except when (a) in the sole

judgment of the Owner, the work will be of advantage to the Owner and can be performed satisfactorily at night, (b) the work will be done by a crew organized for regular and continuous night work, and (c) in the sole judgment of the Owner and Engineer, adequate noise prevention measures are incorporated into the Work by the Contractor to minimize any noise impact within the work area and (d) the Owner has given written permission for such night work. The Contractor is responsible for obtaining all permits and approvals required.

1.16 EMPLOY COMPETENT PERSONS

A. The Contractor shall employ only competent persons on the Work and shall not employ persons or means which may cause strikes, work stoppages or any disturbances by persons employed by the Contractor, any subcontractor, the Owner, the Engineer or any other contractor. Whenever the Engineer notifies the Contractor in writing that in his opinion any person on the Work is incompetent, unfaithful, disorderly, or otherwise unsatisfactory, or not employed in accordance with the provisions of the Contract, such person shall be discharged from the Work and shall not again be employed on it, except with the written consent of the Engineer.

1.17 EMPLOY SUFFICIENT LABOR AND EQUIPMENT

A. If in the sole judgment of the Engineer the Contractor is not employing sufficient labor, plant, equipment or other means to complete the Work within the time specified, the Engineer may, after giving written notice, require the Contractor to employ such additional labor, plant, equipment and other means as the Engineer deems necessary to enable the Work to progress properly.

1.18 INTOXICATING LIQUORS AND/OR DRUGS

A. The Contractor shall not sell and shall neither permit nor suffer the introduction and/or use of intoxicating liquors and/or drugs upon or about the Work.

1.19 ACCESS TO WORK

A. The Owner, the Engineer, and their officers, agents, servants and employees may at any and all times and for any and all purposes, enter upon the Work and the site thereof and the premises used by the

Contractor, and the Contractor shall at all times provide safe and proper facilities therefor.

1.20 EXAMINATION OF WORK

A. The Engineer shall be furnished by the Contractor with every reasonable facility for examining and inspecting the Work and for ascertaining that the Work is being performed in accordance with the requirements and intent of the Contract, even to the extent of requiring the uncovering or taking down portions of furnished work by the Contractor.

B. Should the work thus uncovered or taken down prove satisfactory, the cost of uncovering or taking down and the replacement thereof shall be considered as extra work unless the original work was done in violation of the Contract in point of time or in the absence of the Engineer or his inspector and without his written authorization, which case said cost shall be borne by the Contractor. Should the work uncovered or taken down prove unsatisfactory, said cost shall likewise borne by the Contractor.

C. Examination of inspection of the Work shall not relieve the Contractor of any of his obligations to perform and complete the Work as required by the Contract.

1.21 DEFECTIVE WORK, ETC.

A. Until acceptance and during the applicable guarantee period thereafter, the Contractor shall promptly, without charge, repair, correct or replace work, equipment, materials, apparatus or parts thereof which are defective, damaged or unsuitable or which in any way fail to comply with or be in strict accordance with the provisions and requirements of the Contract or applicable guarantee and shall pay to the Owner all resulting costs, expenses, losses or damages suffered by the Owner.

B. If any material, equipment, apparatus or other items brought upon the site for use or incorporation in the Work, or selected for the same, is rejected by the Engineer as unsuitable or not in conformity with the Specifications or any of the other Contract Documents, the Contractor shall forthwith remove such materials, equipment, apparatus and other items from the site of the Work and shall at his own cost and expense make good and replace the same and any material furnished by the Owner which shall be damaged or rendered defective by the handling or improper installation by

the Contractor, his agents, servants, employees or subcontractors.

1.22 PROTECTION AGAINST WATER AND STORM

A. The Contractor shall take all precautions necessary to prevent damage to the Work by storms or by water entering the site of the Work directly or through the ground. In case of damage by storm or water, the Contractor shall at his own cost and expense make such repairs or replacements or rebuild such parts of the Work as the Engineer may require in order that the finished Work may be completed as required by the Contract.

1.23 RIGHT TO MATERIALS

A. Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials, equipment, apparatus and other items furnished after they have been installed or incorporated in or attached or affixed to the Work or the site, but all such materials, equipment, apparatus and other items shall, upon being so installed, incorporated, attached or affixed, become the property of the Owner. Nothing in this subsection shall relieve the Contractor of his duty to protect and maintain all such materials, equipment, apparatus and other items.

1.24 CHANGES

A. The Owner, through the Engineer, may make changes in the Work and in the Drawings and Specifications therefor by making alterations therein, additions thereto or omissions therefrom. All work resulting from such changes shall be performed and furnished under the pursuant to the terms and conditions of the Contract. If such changes result in an increase or decrease in the Work to be done hereunder, or increase or decrease the quantities thereof, adjustment in compensation shall be made therefor at the unit prices stipulated in the Contract for such work, except that if unit prices are not stipulated for such work, compensation for additional or increased work shall be made as provided hereinafter under the subsection titled "Extra Work"; and for eliminated or decreased work the Contractor shall allow the Owner a reasonable credit as determined by the Engineer.

B. Except in an emergency endangering life or property, no change shall be made unless in pursuance of a written order from the Engineer authorizing the

change, and no claim for additional compensation shall be valid unless the change is so ordered.

C. The Contractor agrees that he shall neither have nor assert any claim for or be entitled to any additional compensation for damages or for loss of anticipated profits on work that is eliminated.

1.25 EXTRA WORK

A. The Contractor shall perform any extra work (work in connection with the Contract but not provided for herein) when and as ordered in writing by the Engineer, at the unit prices stipulated in the Contract for such work or, if none are so stipulated, whether (a) at the price agreed upon before such work is commenced and named in the written order for such work, or (b) if the Engineer so elects, for the reasonable cost of such work, as determined by the contractor and approved by the Engineer, plus a percentage of such cost, as set forth below. No extra work shall be paid for unless specifically ordered as such in writing by the Engineer.

B. The Contractor shall submit claim for any extra work within ten (14) calendar days of performing said extra work.

C. The cost of extra work done under (b) above shall include the reasonable cost to the Contractor of materials used and equipment installed, common and skilled labor, and foremen, and the fair rental of all machinery and equipment used on the extra work for the period of such use.

D. At the request of the Engineer, the Contractor shall furnish itemized statements for the cost of the extra work ordered as above and give the Engineer access to all records, accounts, bills and vouchers and correspondence relating thereto.

E. The Contractor may include in the cost of extra work the amounts of additional premiums, if any, (other than premiums on bonds) paid on the required insurance on account of such extra work, of Social Security or other direct assessments upon the Contractor's payroll by Federal or other properly authorized public agencies, and of other approved assessments when such assessments are not normally included in payments made by the Contractor directly to his employees, but in fact are, and are customarily recognized as, part of the cost of doing work.

F. The fair rental for all machinery and equipment shall be based upon the most recent edition of "Compilation of Rental Rates for Construction Equipment," published by the Associated Equipment Distributors, or a similar publication approved by the Engineer. Rental for machinery and equipment shall be based upon an appropriate fraction of the approved monthly rate schedule. If said extra work requires the use of machinery or equipment not already on the site of the Work the cost of transportation, not exceeding a distance of 100 miles, of such machinery or equipment to and from the Work shall be added to the fair monthly rental; provided, however, that this shall not apply to machinery or equipment already required to be furnished under the terms of the Contract.

G. The Contractor shall not include in the cost of extra work any cost or rental of small tools, building, or any portion of the time of the Contractor, his superintendent, or his office and engineering staff.

H. To the cost of extra work done by the Contractor's own forces under (b) above (determined as stated above), the Contractor may add **20** percent to cover his overhead, use of capital, the premium on the Bonds as assessed upon the amount of this extra work, and profit.

I. In the case of extra work done under (b) by a subcontractor the subcontractor shall compute, as above, his cost for the extra work, to which he may add **20** percent as in the case of the Contractor. The Contractor shall be allowed an additional 5 percent of the subcontractor's initial cost for the extra work prior to the **20** percent adjustment, to cover the costs of the Contractor's overhead use of capital, the premium on the Bonds as assessed upon the amount of this work, and profit. Said subcontractor's cost must be reasonable and approved by the Engineer.

J. If extra work is done under (b) above, the Contractor and/or subcontractor shall keep daily records of such extra work. The daily record shall include the names of men employed, the nature of the work performed, and hours worked, materials and equipment incorporated, and machinery or equipment used, if any, in the prosecution of such extra work. This daily record, to constitute verification that the work was done, must be signed both by the Contractor's authorized representative and by the Engineer. A separate daily record shall be submitted for each Extra Work Order.

1.26 EXTENSION OF TIME ON ACCOUNT OF EXTRA WORK

A. When extra work is ordered near the completion of the Contract or at any time during the progress of the Work which unavoidably increases the time for the completion of the Work, and extension of time shall be granted as hereinbefore provided.

1.27 CHANGES NOT TO AFFECT BONDS

A. It is distinctly agreed and understood that any changes made in the Work or the Drawings or Specifications therefor (whether such changes increase or decrease the amount thereof or the time required for its performance) or any changes in the manner of time of payments made by the Owner to the Contractor, or any other modifications of the Contract, shall in no way annul, release, diminish or affect the liability of the Surety on the CONTRACT BONDS given by the Contractor, it being the intent hereof that notwithstanding such changes the liability of the Surety on said bonds continue and remain in full force and effect.

1.28 CLAIMS FOR DAMAGES

A. If the Contractor makes claim for any damages alleged to have been sustained by breach of contract or otherwise, he shall, within ten (10) days after occurrence of the alleged breach or within ten (10) days after such damages are alleged to have been sustained, whichever date is the earlier, file with the Engineer a written, itemized statement of the details of the alleged breach and the details and amount of the alleged damages. The Contractor agrees that unless such statement is made and filed as so required, his claim for damages shall be deemed waived, invalid and unenforceable, and that he shall not be entitled to any compensation for any such alleged damages. Within ten (10) days after the timely filing of such statement, the Engineer shall file with the Owner a copy of the statement, together with his recommendations for action by the Owner.

B. The Contractor shall not be entitled to claim any additional compensation for damages by reason of any direction instruction, determination or decision of the Engineer, nor shall any such claims be considered, unless the Contractor shall have complied in all respects with the Article titled "Authority of the Engineer", including, but not limited to the filing of a written protest in the manner and within the time therein provided.

1.29 ABANDONMENT OF WORK OR OTHER DEFAULT

A. If the Work shall be abandoned, or any part thereof shall be sublet without previous written consent of the Owner, or the Contract or any moneys payable hereunder shall be assigned otherwise than as herein specified, or if at any time the Engineer shall be of the opinion, and shall so certify in writing, that the conditions herein specified as to rate of progress are not being complied with, or that the Work or any part thereof is being unnecessarily or unreasonably delayed, or that the Contractor has violated or is in default under any of the provisions of the Contract, or if the Contractor becomes bankrupt or insolvent or goes or is put into liquidation or dissolution, either voluntarily or involuntarily, or petitions for an arrangement or reorganization under the Bankruptcy Act, or makes a general assignment for the benefit of creditors or otherwise acknowledges insolvency, the happening of any of which shall be and constitute a default under the Contract, the Owner may notify the Contractor in writing, with a copy of such notice mailed to the Surety, to discontinue all Work or any part thereof; thereupon the Contractor shall discontinue such Work or such part thereof as the Owner may designate; and the Owner may, upon giving such notice, by contract or otherwise as it may determine, complete the Work or such part thereof and charge the entire cost and expense of so completing the Work or such part thereof to the Contractor. In addition to the said entire cost and expense of completing the Work, the Owner shall be entitled to reimbursement from the Contractor and the Contractor agrees to pay to the Owner any losses, damages, costs and expenses, including attorney's fees, sustained or incurred by the Owner by reason of any of the foregoing causes. For the purposes of such completion the Owner may for itself or for any Contractors employed by the Owner take possession of and use or cause to be used any and all materials, equipment, plant, machinery, appliances, tools, supplies and such other items of every description that may be found or located at the site of the Work.

B. All costs, expenses, losses, damages, attorney's fees and any and all other charges incurred by the Owner under this subsection shall be charged against the Contractor and deducted and/or paid by the Owner out of any moneys due or payable or to become due or payable under the Contract to the Contractor; in computing the amounts chargeable to the Contractor the Owner shall not be held to a basis of the lowest prices for which the completion of the Work or any part thereof might have been accomplished, but all sums actually paid or obligated therefor to effect its

prompt completion shall be charged to and against the account of the Contractor. In case the costs, expenses, losses, damages, attorney's fees and other charges together with all payments theretofore made to or for the account of the Contractor are less than the sum which would have been payable under the Contract if the Work had been properly performed and completed by the Contractor, the Contractor shall be entitled to receive the difference, and, in case such costs, expenses, losses, damages, attorneys' fees and other charges, together with all payments theretofore made to or for the account of the Contractor, shall exceed the said sum, the Contractor shall pay the amount of the excess to the Owner.

1.30 PRICES FOR WORK

A. The Owner shall pay and the Contractor shall receive the prices stipulated in the BID made a part hereof as full compensation for everything performed and furnished and for all risks and obligations undertaken by the Contractor under and as required by the Contract.

1.31 MONEYS MAY BE RETAINED

A. The Owner may at any time retain from any moneys which would otherwise be payable hereunder so much thereof as the Owner may deem necessary to complete the Work hereunder and to reimburse it for all costs, expenses, losses, damage and damages chargeable to the Contractor hereunder, in accordance with the States General Laws.

1.32 FORMAL ACCEPTANCE

A. This Agreement constitutes an entire contract for one whole and complete Work or result. Fixing of the date of completion and acceptance of the Work or a specified part thereof shall only be effective when accomplished by a writing specifically so stating and signed by the Owner.

1.33 PROGRESS ESTIMATES

A. Once a month, except as hereinafter provided, the Engineer shall make an estimate in writing of the total amount and value of the work done to the first of the month by the Contractor. The Owner shall retain a percentage of such estimated value, as set forth in Table A at the end of this section, as part security for fulfillment of the Contract by the Contractor and shall deduct from the balance all previous payments made to the Contractor, all sums chargeable against the

Contractor and all sums to be retained under the provisions of the Contract.

B. Estimates of lump-sum items shall be based on a schedule dividing each such item into its appropriate component parts together with a quantity and a unit price for each part so that the sum of the products of prices and quantities will equal the Contract price for the item. This schedule must be submitted by the Contractor for and must have the approval of the Engineer before the first estimate becomes due.

C. If the Engineer determines that the progress of the Work will be benefited by the delivery to the site of certain materials and equipment, when available, in advance of actual requirement therefor and if such materials and equipment are delivered and properly stored, protected and insured as determined by the Engineer, the cost to the Contractor or subcontractor as established by invoices or other suitable vouchers satisfactory to the Engineer, less the retained percentages as above provided, may be included in the progress estimates; provided always that there be duly executed and delivered by the Contractor to the Engineer at the same time a Bill of Sale in form satisfactory to the Owner, transferring and assigning to the Owner full ownership and title to such materials or equipment.

D. The Owner shall pay monthly to the Contractor in accordance with General Laws Chapter 30, Section 39, as amended:

1. Within fifteen (15) days (twenty-four (24) days in the case of the Commonwealth) after receipt from the Contractor, at the place designated by the Owner if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the Owner will make periodic payment to the Contractor for the work performed during the preceding month and for the materials not incorporated in the work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the Contractor has title or to which a subcontractor has title and has authorized the Contractor to transfer title to the Owner, less (1) a retention based on its estimate of the fair value of its claims against the Contractor and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section 39F and less (3) a retention not exceeding five percent of the approved amount of the periodic payment. After the receipt of a periodic estimate requesting final payment and within 65 days after (a)

the Contractor fully completes the work or substantially completes the work so that the value of the work remaining to be done is, in the estimate of the awarding authority, less than one percent of original contract price, or (b) the Contractor substantially completes the work and the Owner takes possession for occupancy, whichever occurs first, the Owner shall pay the Contractor the entire balance due on the contract less (1) a retention based on its estimate of the fair value of its claims against the Contractor and of the cost of completing the incomplete and unsatisfactory items of work and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section 39 F, or based on the record of payments by the Contractor to the subcontractors under this contract if such record of payment indicates that the Contractor has not paid subcontractors as provided in section 39 F. If the Owner fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate than charged by the Federal Reserve Bank of Boston commencing on the first day after said payment is due and continuing until payment delivered or mailed to the Contractor; provided, that no interest shall be due, in any event, on the amount due on periodic estimate for final payment until 15 days (24 days in the case of the Commonwealth) after receipt of such a periodic estimate from the Contractor, at the place designated by the Owner if such a place is so designated. The Contractor agrees to pay to each subcontractor a portion of any such interest in accordance with the amount due each subcontractor.

2. Forthwith after the Contractor receives payment on account of a periodic estimate, the Contractor shall pay to each subcontractor the amount paid for the labor performed and the materials furnished by that subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the Contractor.

3. Not later than the 65th day after each subcontractor substantially completes his work in accordance with the plans and specifications, the entire balance due under the subcontract less amounts retained by the Owner as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the subcontractor; and the Owner shall pay that amount to the Contractor. The Contractor shall forthwith pay to the subcontractor the full amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the Contractor.

4. Each payment made by the Owner to the Contractor pursuant to subparagraphs (2) and (3) of this paragraph for the labor performed and the materials furnished by a subcontractor shall be made to the Contractor for the account of that subcontractor; and the Owner shall take reasonable steps to compel the Contractor to make each such payment to each such subcontractor. If the Owner has received a demand for direct payment from a subcontractor for any amount which has already been included in a payment to the Contractor or which is to be included in a payment to the Contractor for payment to the subcontractor as provided in subparagraphs (2) and (3), the Owner shall act upon the demand as provided in this section.

5. If, within 70 days after the subcontractor has substantially completed the subcontract work, the subcontractor has not received from the Contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the Contractor, less any amount retained by the Owner as the estimated cost of completing the incomplete and unsatisfactory items of work, the subcontractor may demand direct payment of that balance from the Owner. The demand shall be by a sworn statement delivered to or sent by certified mail to the Owner, and a copy shall be delivered to or sent by certified mail to the Contractor at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of completion of the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the 70th day after the subcontractor has substantially completed the subcontract work. Within ten days after the subcontractor has delivered or so mailed the demand to the Owner and delivered or so mailed a copy to the Contractor, the Contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the Owner and a copy shall be delivered to or sent by certified mail to the subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract including any amount due for extra labor and materials furnished to the Contractor and of the amount due for each claim made by the Contractor against the subcontractor.

6. Within 15 days after receipt of the demand by the Owner, but in no event prior to the 17th day after substantial completion of the subcontract work, the Owner shall make direct payment to the subcontractor of the balance due under the subcontract including any amount due for extra labor and materials furnished to the Contractor, less any amount (i) retained by the Owner as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii)

specified in any court proceedings barring such payment, or (iii) disputed by the Contractor in the sworn reply; provided, that the Owner shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by subparagraph (5). The Owner shall make further direct payments to the subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this subparagraph.

7. The Owner shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of subparagraph (6) in an interest-bearing joint account in the names of the Contractor and the subcontractor in a bank in Massachusetts selected by the Owner or agreed upon by the Contractor and the subcontractor and shall notify the Contractor and the subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the Contractor and the subcontractor or as determined by decree of a court of competent jurisdiction.

8. All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to subparagraph (7) shall be made out of amounts payable to the Contractor at the time of receipt of a demand for direct payment from a subcontractor and out of amounts which later become payable to the Contractor and in the order of receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the Owner to the Contractor to the extent of such payment.

9. The Owner shall deduct from payments to a Contractor amounts which, together with the deposits in interest-bearing accounts pursuant to subparagraph (7), are sufficient to satisfy all unpaid balances of demands for direct payment received from subcontractors. All such amounts shall be earmarked for such direct payments, and the subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the Contractor.

10. If the subcontractor does not receive payment as provided in subparagraph (2) or if the Contractor does not submit a periodic estimate for the value of the labor or materials performed or furnished by the subcontractor and the subcontractor does not receive payment for same when due less the deductions provided for in subparagraph (2), the subcontractor may demand direct payment by following the procedure in subparagraph (5) and the Contractor may file a sworn reply as provided in that same

subparagraph. A demand made after the first day of the month following that for which the subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the Contractor. Thereafter the Owner shall proceed as provided in subparagraph (6), (7), (8), and (9).

11. "Subcontractor" as used in Section 1.34 shall mean a person who files a sub-bid and receives a subcontract as a result of that filed subbid or who is approved by the Owner in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the Contractor.

1.34 PARTIAL ACCEPTANCE

A. The Owner may, at any time in a written order to the Contractor (1) declare that he intends to use a specified part of the Work which in his opinion is sufficiently complete, in accordance with the Contract Documents, to permit its use; (2) enclose a tentative list of items remaining to be completed or corrected, and (3) fix the date of acceptance of that specified part of the Work.

B. Within 45 days after acceptance under this subsection, the Engineer shall make an estimate in writing of the amount and value of the part of the Work so accepted. The Owner shall pay said amount to the Contractor after deducting therefrom all previous payments, all charges against the Contractor as provided for hereunder, and all amounts to be retained under the provisions of the Contract, said payment to be made at the time of the next monthly progress estimate.

C. Acceptance by the Owner under this subsection shall not relieve the Contractor of any obligations under the Contract Documents except to the extent agreed upon in writing between the Owner and the Contractor.

D. The Owner shall have the right to exclude the Contractor from any part of the Work which has been accepted, but the Owner will allow the Contractor reasonable access thereto to complete or correct items on the tentative list.

1.35 FINAL ESTIMATE AND PAYMENT

A. As soon as practicable (but not more than sixty-five (65) days after final completion of the Work), the Engineer shall make a final estimate in writing of the

quantity of Work done under the Contract and the amount earned by the Contractor.

B. The Owner shall pay to the Contractor the entire amount found by the Engineer to be earned and due hereunder after deducting therefrom all previous payments, all charges against the Contractor as provided for hereunder, and all amounts to be retained under the provisions of the Contract. Except as in this subsection otherwise provided, such payment shall be made not later than fifteen (15) days after but in no event before, the expiration of the time within which claims for labor performed or materials or equipment furnished must be filed under the applicable Lien Law, or, if such time is not specified by law, the expiration of thirty (30) days after the completion of the Engineer's final estimate.

C. All quantities shown on progress estimates and all prior payments shall be subject to correction in the final estimate and payment as determined by the Engineer.

D. The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor under or by virtue of this Agreement; and upon satisfactory completion of the work performed under this Agreement, as a condition before final payment under this Agreement or as a termination settlement under this Agreement the Contractor shall execute and deliver to the Owner a release of all claims against the Owner arising under or by virtue of, this Agreement, except claims which are specifically exempted by the Contractor to be set forth herein. Unless otherwise provided in this Agreement, by State law or otherwise expressly agreed to be the parties to this Agreement, any payment, including final payment under, this Agreement or settlement upon termination of this Agreement shall not constitute a waiver of the Owner's claims against the Contractor or his sureties under this Agreement or applicable Performance and Labor and Materials Bonds.

1.36 LIENS

A. If at any time any notices of lien are filed and labor performed or materials or equipment manufactured, furnished, or delivered to or for the Work, the Contractor shall, at its own cost and expense, promptly discharge, remove or otherwise dispose of the same, and until such discharge, removal or disposition, the Owner shall have the right to retain from any moneys payable hereunder an amount which, in its sole

judgement, it deems necessary to satisfy such liens and pay the costs and expenses, including attorneys' fees, of defending any actions brought to enforce the same, or incurred in connection therewith or by reason thereof.

1.37 CLAIMS

A. If at any time there be any evidence of any claims for which the Contractor is or may be liable or responsible hereunder, the Contractor shall promptly settle or otherwise dispose of the same, and until such claims are settled or disposed of, the Owner may retain from any moneys which would otherwise be payable hereunder so much thereof as, in its sole judgement, it may deem necessary to settle or otherwise dispose of such claims and to pay the costs and expenses, including attorney's fees, of defending any actions brought to enforce such claims, or incurred in connection therewith or by reason thereof.

1.38 APPLICATION OF MONEYS RETAINED

A. The Owner may apply any moneys retained hereunder to reimburse itself for any and all costs, expenses, losses, damage and damages, liabilities, suits, judgements and awards incurred, suffered or sustained by the Owner and chargeable to the Contractor hereunder or as determined hereunder.

1.39 NO WAIVER

A. Neither the inspection by the Owner or the Engineer, nor any order, measurement, approval, determination, decision or certificate by the Engineer, nor any order by the Owner for the payment of money, nor any payment for or use, occupancy, possession or acceptance of the whole or any part of the Work by the Owner, nor any extension of time, nor any other act or omission of the Owner or of the Engineer shall constitute or be deemed to be an acceptance of any defective or improper work, materials, or equipment nor operate as a waiver of any requirement or provision of the Contract, nor of any remedy, power or right of or herein reserved to the Owner, nor of any right to damages for breach of contract. Any and all rights and/or remedies provided for in the Contract are intended and shall be construed to be cumulative; and, in addition to each and every other right and remedy provided for herein or by law, the Owner shall be entitled as of right to a writ of injunction against any breach or threatened breach of the Contract by the Contractor, by his subcontractors or by any other person or persons.

1.40 LIABILITY OF OWNER

A. No person, firm or corporation, other than the Contractor who signed this Contract as such, shall have any interest herein or right hereunder. No claim shall be made or be valid either against the Owner or any agent of the Owner and neither the Owner nor any agent of the Owner shall be liable for or be held to pay any money, except as herein provided. The acceptance by the Contractor of the payment as fixed in the final estimate shall operate as and shall be a full and complete release of the Owner and of every agent of the Owner of and from any and all claims, demands, damages and liabilities of, by or to the Contractor for anything done or furnished for or arising out of or relating to or by reason of the Work or for or on account of any act or neglect of the Owner or of an agent of the Owner or of any other person, arising out of, relating to or by reason of the Work, except the claim against the Owner for the unpaid balance, if any there be, of the amounts retained as herein provided.

1.41 GUARANTEE

A. The Contractor guarantees that the Work and services to be performed under the Contract, and all workmanship, materials and equipment performed, furnished, used or installed in the construction of the same, shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Drawings, Specifications, and other Contract Documents, that the strength of all parts of all manufactured equipment shall be adequate and as specified and that the performance test requirements of the Contract shall be fulfilled. This guarantee shall be for a period of one year from and after the date of completion and acceptance of the Work as stated in the final estimate. If part of the Work is accepted in accordance with that subsection of this AGREEMENT titled "Partial Acceptance", the guarantee for that part of the Work shall be for a period of one year from the date fixed for such acceptance.

B. If at any time within the said period of guarantee any part of the Work requires repairing, correction or replacement, the Owner may notify the Contractor in writing to make the required repairs, correction, or replacements. If the Contractor neglects to commence making such repairs, correction, or replacements to the satisfaction of the Owner within three (3) days from the date of receipt of such notice, or having commenced fails to prosecute such Work with diligence, the Owner may employ other persons to make the same, and all direct and indirect costs of making said repairs, correction or replacements, including compensation for

additional professional services, shall be paid by the Contractor.

1.42 RETAIN MONEY FOR REPAIRS

A. The Owner may retain out of the moneys otherwise payable to the Contractor hereunder a percentage of the amount thereof as set forth in Table A at the end of this section, and may expend the same, in the manner hereinafter provided, in making such repairs, corrections and replacements in the Work as the Owner, in its sole judgement, may deem necessary.

B. If at any time within the said period of guarantee any part of the Work requires repairing, correction or replacement, the Owner may notify the Contractor in writing to make the required repairs, correction or replacements. If the Contractor neglects to commence making such repairs, correction, or replacements to the satisfaction of the Owner within three (3) days from the date of receipt of such notice, or having commenced fails to prosecute such work with diligence, the Owner may employ other persons to make the same. The Owner shall pay the cost and expense of the same out of the amounts retained for that purpose. Upon the expiration of the said period of guarantee, provided that the Work at that time is in good order, the Contractor will be entitled to receive the whole or such part of the sum last aforesaid, if any, as may remain after the cost and expense of making said repairs, correction or replacements, in the manner aforesaid, have been paid therefrom.

1.43 RETURN OF DRAWINGS

A. All Drawings furnished by the Owner or the Engineer to the Contractor may be used only in connection with the prosecution of the Work and shall be returned by the Contractor upon completion of the Work.

1.44 CLEANING UP

A. The Contractor at all times shall keep the site of the Work free from rubbish and debris caused by his operations under the Contract. When the Work has been completed, the Contractor shall remove from the site of the Work all of his plant, machinery, tools, construction equipment, temporary work, and surplus materials so as to leave the Work and the site clean and ready for use.

1.45 LEGAL ADDRESS OF CONTRACTOR

A. The Contractor's business address and his office at or near the site of the Work are both hereby designated as places to which communications shall be delivered. The depositing of any letter, notice, or other communication in a postpaid wrapper directed to the Contractor's business address in a post office box regularly maintained by the Post Office Department or the delivery at either designated address of any letter, notice, or other communication by mail or otherwise shall be deemed sufficient service thereof upon the Contractor, and the date of such service shall be the date of receipt. The first-named address may be changed at any time by an instrument in writing, executed and acknowledged by the Contractor delivered to the Engineer. Service of any notice, letter, or other communication upon the Contractor personally shall likewise be deemed sufficient service.

1.46 HEADINGS

A. The headings or titles of any section, subsection, paragraph, provision, or part of the Contract Documents shall not be deemed to limit or restrict the content, meaning or effect of such section, subsection, paragraph, provision or part.

1.47 MODIFICATION OR TERMINATION

A. Except as otherwise expressly provided herein, the Contract may not be modified or terminated except in writing signed by the parties hereto.

1.48 DIRECT LABOR COST

A. Direct labor cost percentage for change orders in accordance with MGL C30 39G as amended shall be ____ percent. (Direct labor cost percent shall be established following award and prior to execution of the Contract).

1.49 MASSACHUSETTS TAX LAWS

A. The Contractor shall provide a statement that indicates compliance with all the requirements of Massachusetts General Law Chapter 233.

1.50 MINORITY BUSINESS

A. The goal for minority business enterprise (MBE/WBE) participation for this contract is a minimum of nine percent (9%) MBE and five percent (5%) WBE participation, on the basis of the total

dollars paid. The Contractor shall take all affirmative steps necessary to achieve this goal, and shall provide reports documenting the portion of contract and subcontract dollars paid to minority businesses, and its efforts to achieve the goals, with each invoice submitted or at such greater intervals as specified by the City of Salem. The Contractor shall require similar reports from its subcontractors.

1.51 TERMINATION FOR CONVENIENCE

A. This Agreement may be terminated by the Owner upon not less than seven days' written notice for the Owner's convenience. In the case of termination for convenience, the Owner shall be responsible for amounts due the Contractor for work performed through the date of termination, provided that the Contractor shall submit a request for payment in accordance with the provisions hereof. The Contractor shall have no other claim for payments due with respect to such termination including any claim for lost profits with respect to the balance of the project.

1.52 EQUAL EMPLOYMENT OPPORTUNITY, ANTIDISCRIMINATION AND AFFIRMATIVE ACTION

A. The Contractor shall not discriminate against or exclude any person from participation herein on grounds of race, religion, color, sex, age, or national origin; and that it shall take affirmative actions to insure that applicants are employed, and that employees are treated during their employment, without regard to race, religion, color, sex, age, handicapped status, or national origin.

1.53 UNLAWFUL CONDUCT AND PARTICIPATION IN BOYCOTT

A. The Contractor shall not participate in or cooperate with an international boycott, as defined in Section 999 (b) (3) and (4) of the Internal Revenue Code of 1954, as amended, or engage in conduct declared to be unlawful by Section 2 of Chapter 151E of the Massachusetts General Laws.

IN WITNESS WHEREOF, the parties to this AGREEMENT have hereunto set their hands and seals, and have executed, or caused to be executed by their duly authorized officials, the AGREEMENT in Four (4) copies, each of which shall be deemed an original, as of the day and year first above-written.

WITNESSES

City of Salem, Massachusetts
(Owner - party of the first part)

BY: _____
Kimberly Driscoll, Mayor

Whitney Haskell, Purchasing Agent

David Knowlton, P.E., City Engineer

Sarah Stanton, Finance Director

(SEAL)

ATTEST:

(Contractor - party of the second part)

BY: _____

(SEAL)

(Title)

ATTEST:

(Address)

Approved As To Form:

Elizabeth Rennard, City Solicitor

CERTIFICATE OF OWNER'S LEGAL COUNSEL

I, the undersigned, _____ the duly authorized and acting legal representative of the _____, acting herein through its _____, do hereby certify as follows:

I have examined the foregoing contract and surety bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions, and provisions thereof.

By: _____
(Signature)

Date: _____

(Name)

(Title)

(Address)

(City, State, Postal code)

TABLE A

Agreement subsection reference	Item	Minimum limits
1.06	Workman's Compensation and Employer's Liability Insurance	As required by the law of the Commonwealth of Massachusetts
1.06	Public Liability including Contractor's Protective, Completed Operations and Contractual Liability	<p>Bodily Injury</p> <hr/> <p>\$1,000,000 each occurrence \$2,000,000 aggregate</p> <p>Property Damage Including C.U.* Coverage</p> <hr/> <p>\$1,000,000 each occurrence \$1,000,000 aggregate</p> <hr/> <p>Blasting and explosion coverage shall be obtained if there is a need for blasting under the contract.</p>
1.06	Personal Injury Insurance	\$2,000,000 aggregate
1.06	Automobile Liability including coverage for owned, hired or borrowed vehicles	<p>Bodily Injury</p> <hr/> <p>\$1,000,000 each person \$2,000,000 each occurrence</p> <p>Property Damage</p> <hr/> <p>\$1,000,000 each occurrence</p>

1.06	Owner's Protective Liability & Property Damage	<p>Bodily Injury</p> <hr/> <p>\$1,000,000 each occurrence</p> <p>\$2,000,000 aggregate Property Damage</p> <hr/> <p>\$1,000,000 each occurrence</p> <p>\$1,000,000 aggregate</p>
1.06	Builder's Risk Insurance	Total insurable value of all structures, materials, and equipment to be built and installed. (if applicable)
1.13	a) Time of Completion - Total Contract	Within 270 consecutive calendar days after the date specified in the Notice to Proceed
1.14	Liquidated Damages for each consecutive calendar day of delay in completion time	\$ 1,000.00
1.33	Percentage of Progress Estimates to be Retained The retainage to be paid the Contractor within Ninety (90) days of the date the work is accepted By the awarding authority unless a dispute exists With respect to the work.	5%
1.33	Amount of Minimum Progress Estimates	\$ 10,000

INSURANCE CERTIFICATE
SHEET 1 OF 2
 Issued to
The City of Salem, Massachusetts

This is to certify that this Company, _____, (Name of Insurance Company) has enforced the following policies covering all work and operations of _____ (Name of Contractor), as the designate Contractor under a Contract with the City of Salem, Massachusetts as the designated Owner, dated _____ Traffic Signal and Intersection Improvements: Lafayette Street/Loring Avenue/West Avenue, Contract No. R-31.

POLICY NUMBER			
EFFECTIVE AND			
KINDS OF INSURANCE	LIMITS		EXPIRATION DATE
Workmen's Compensation and Employers Liability and Harbor Workers Coverage *			Number: _____ Effective: _____ Expires: _____
Public Liability including Contractor's Protective Personal Injury, Completed Operations, and Contractual Liability**	Bodily Injury	\$_____ each occurrence	Number: _____ Effective: _____ Expires: _____
	Property Damage including C.U.	\$_____ each occurrence	
Note: Explosion Collapse and underground coverage is provided	Coverage	\$_____ aggregate	
	Personal Injury	\$_____ aggregate	

- * Longshoremen's and Harbor Workers' Coverage may be deleted if not required by contract.
- ** Contractual Liability covers the liability assumed by the Contractor under the subsection entitled "Obligations and Liability of Contractor" of the AGREEMENT, as required by subsection entitled "Insurance" of the agreement.
- *** Blasting coverage is not required.

INSURANCE CERTIFICATE

SHEET 2 OF 2

Issued to

The City of Salem, Massachusetts

Contract Reference: City of Salem, Massachusetts

Traffic Signal and Intersection Improvements:

Lafayette Street/Loring Avenue/West Avenue, Contract No. R-31

POLICY NUMBER

EFFECTIVE AND

KINDS OF INSURANCE

LIMITS

EXPIRATION DATE

Automobile Liability including Coverage for hired or borrowed vehicles	Bodily Injury	\$_____ each person \$_____ each occurrence	Number: _____ Effective: _____ Expires: _____
	Property Damage	\$_____ each occurrence	

Owner's Protective Liability and Property Damage	Bodily Injury	\$ _____ each occurrence \$ _____ aggregate	Number: _____ Effective: _____
	Property Damage	\$ _____ each occurrence \$ _____ aggregate	

Note: A copy of the Owner's Protective Policy for the Owner is to be furnished with the completed certificates.

It is agreed that thirty (30) days notice of cancellation or restrictive amendment of said policies shall be mailed to Owner.

INSURANCE COMPANY

INSURANCE AGENCY

BY: _____
AUTHORIZED AGENT OR OFFICER

DATE: _____

SECTION 00600

CONTRACT BONDS
CITY OF SALEM, MA

Traffic Signal and Intersection Improvements:
Lafayette Street/Loring Avenue/West Avenue
CONTRACT NO. R-31

PERFORMANCE BOND

(NOTE: This Bond is issued simultaneously with the attached Labor and Materials Bond in favor of the Owner.)

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
(an individual, a partnership, a corporation)

duly organized under the Laws of the State (or Commonwealth) of _____,

and having a usual place of business at _____,

as Principal, and _____, a corporation duly organized
under the Laws of the State (or Commonwealth) of _____,

and duly authorized to do business in the State (or Commonwealth) of _____,

and having a usual place of business at _____
as Surety, are holden and stand firmly bound and obligated unto City of Salem, Massachusetts as obligee, in the sum of

_____ lawful money of the United States of America, to and for the true payment whereof we bind ourselves and, each of us, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal, be means of a written AGREEMENT (which together with the Contract Documents in said AGREEMENT referred to are collectively sometimes referred to as the "Contract") dated _____, has entered into a contract with the said obligee for "City of Salem, Traffic Signal and Intersection Improvements: Lafayette Street/Loring Avenue/West Avenue, Contract No. R-31," in the City of Salem, Massachusetts a copy of which agreement is attached hereto and by references made a part hereof.

NOW THEREFORE, THE CONDITION of this obligation is such that if the Principal shall well and truly keep and fully and faithfully perform all of the terms and conditions of said AGREEMENT and of the "Contract Documents" referred to in said AGREEMENT (which collectively are hereinafter and in said AGREEMENT sometimes referred to as the "Contract") and all modifications thereof on the Principal's part to be performed, this obligation shall be void; otherwise it shall remain in full force and effect.

Whenever the said Principal shall be, and declared by the Owner to be, in default under the said Contract, the Owner having performed the Owner's obligations thereunder Surety, for value received, shall promptly remedy the default, or, at the option of the Owner, shall promptly.

- (a) Complete the said AGREEMENT and/or Contract in accordance with its terms and conditions, or
- (b) Obtain a bid or bids for submission to and the approval of the Owner for completing the said AGREEMENT and/or Contract and any modifications thereof in accordance with the terms and conditions thereof, and upon determination by the Owner and the Surety of the lowest responsible and acceptable bidder, arrange for a contract between such bidder and the Owner, and make available to the Owner as the work progresses (even though there should be default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less a sum that shall be equal to the difference between the Contract price as fixed and provided in said AGREEMENT and/or Contract or any modifications thereof to be paid thereunder to the Principal and the amount previously paid by the Owner to and/or for the account of and/or chargeable against the Principal, but not exceeding (including other costs and damages for which the Surety may be liable hereunder) the amount set forth in the first paragraph hereof.

The Surety, for value received, agrees further that no changes in, omissions from, or alterations, modifications or additions to the terms and provisions of said AGREEMENT and/or Contract or the Work to be performed thereunder, and that no extensions of time given or changes made in the manner or time of making payments thereunder, shall in any way effect the Surety's obligations on this bond, and the Surety hereby waives notice of any such changes, omissions, alterations, modifications, additions or extensions.

No right of action shall accrue on this Bond to or for the use of any persons other than the Owner named herein or the heirs, executors, administrators, successors and assigns of the Owner.

IN WITNESS WHEREOF, we have hereunto set our hands and seals to _____
_____ counterparts of this bond, this _____ day of _____,
in the year Two Thousand and _____.

Principal (SEAL)

Principal (SEAL)

Principal (SEAL)

Surety (SEAL)

Surety (SEAL)

NOTE:

If the Principal (Contractor) is a partnership, the Bond should be signed by each of the partners.

If the Principal (Contractor) is a corporation, the Bond should be signed in its correct corporate name by its duly authorized officer or officers.

If this Bond is signed on behalf of the Surety by an attorney-in-fact, there should be attached to it a duly certified copy of his power of attorney showing his authority to sign such Bonds.

There should be executed an appropriate number of counterparts of the Bond corresponding to the number of counterparts of the AGREEMENT.

Date of Bond must not be prior to the date of Contract.

Important

Surety Companies executing BONDS must appear on the U.S. Treasury Department's most current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts and be authorized to transact business in the state where the PROJECT is located.

The attention of the Surety Companies and Principal executing this Performance Bond is Directed to the fact that said Bond shall remain in full effect throughout the life of any guaranty or warranty periods stipulated in the Contract Documents and/or Agreement.

LABOR AND MATERIALS BOND

(NOTE: This Bond is issued simultaneously with the attached Performance Bonds in favor of the Owner.)

KNOW ALL MEN BY THESE PRESENTS:

That we, _____ (an individual, a partnership, a corporation)

duly organized under the Laws of the State (or Commonwealth) of _____,

having a usual place of business at _____,

as Principal, and _____ a corporation duly organized

under the Laws of the State (or Commonwealth) of _____,

and duly authorized to do business in the State(or Commonwealth) of _____,

and having a usual place of business at _____,

as Surety, are holden and stand firmly bound and obligated unto the City of Salem, Massachusetts as obligee, in the sum of

_____ lawful money of the United States of America, to and for the true payment whereof we bind ourselves and, each of us, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal, be means of a written AGREEMENT (which together with the Contract Documents in said AGREEMENT referred to are collectively sometimes referred to as the "Contract") dated _____, has entered into a contract with the said obligee for "City of Salem, Massachusetts Roadway Pavement Rehabilitation Project, Contract No. Q-45" in the City of Salem, M Traffic Signal and Intersection Improvements: Lafayette Street/Loring Avenue/West Avenue, Contract No. R-31", Massachusetts, a copy of which agreement is attached hereto and by references made a part hereof.

NOW, THEREFORE, THE CONDITION of this obligation is such, that if the Principal shall promptly make payments to all claimants as hereinafter defined, for all labor performed or furnished and for all materials and equipment furnished for or used in or in connection with the Work called for by said AGREEMENT and/or Contract and any modifications thereof, including lumber used but not incorporated in said Work, and for the rental or hire of vehicles, tools and other appliances and equipment furnished for or used in connection with said Work, this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

- (a) A claimant is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, materials and/or equipment used or reasonably required for use in the performance of the said Work, labor and materials being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental or equipment directly applicable to the said AGREEMENT and/or Contract and any modifications thereof.
- (b) The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials or equipment were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.
- (c) No suit or action shall be commenced hereunder by any claimant.

Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials or equipment for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials or equipment were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the said Work is located, save that such service need not be made by a public officer;

After the expiration of one (1) year following the date on which the Principal ceased work on said AGREEMENT and/or Contract and any modifications thereof, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the State in which the said Work, or any part thereof, is situated, or in the United States District Court for the district in which the said Work, or any part thereof, is situated, and not elsewhere.

- (d) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics liens which may be filed of record against said AGREEMENT and/Contract or said Work, whether or not claim for the amount of such lien be presented under and against this bond.

The surety, for value received, agrees further that no changes in, omissions from, or alterations, modifications or additions to the terms and provisions of said AGREEMENT and/or Contract or the Work to be performed thereunder, and that no extensions of time given or changes made in the manner or time of making payments thereunder, shall in any way affect the Surety's obligations on this Bond, and the Surety hereby waives notice of any such changes, omissions, alterations, modifications, additions or extensions.

IN WITNESS WHEREOF, we have hereunto set our hands and seals to _____
counterparts of this Bond, this _____ day of _____, in
the year Two Thousand and _____.

Principal (SEAL)

Principal (SEAL)

Principal (SEAL)

Surety (SEAL)

Surety (SEAL)

NOTE:

If the Principal (Contractor) is a partnership, the Bond should be signed by each of the partners.

If the Principal (Contractor) is a corporation, the Bond should be signed in its correct corporate name by its duly authorized officer or officers.

If this Bond is signed on behalf of the Surety by an attorney-in-fact, there should be attached to it a duly certified copy of his power of attorney showing his authority to sign such Bonds.

There should be executed an approximate number of counterparts of the Bond corresponding to the number of counterparts of the AGREEMENT.

Date of Bond must not be prior to the date of Contract.

Important

Surety Companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

The attention of the Surety Companies and Principal executing this Labor and Materials Bond is directed to the fact that said Bond shall remain in full effect throughout the life of any guaranty or warranty periods stipulated in the Contract Documents and/or Agreement.

CERTIFICATE OF ACKNOWLEDGMENT OF CONTRACTOR IF A CORPORATION
For CONTRACT BONDS

State of _____)

) ss:

County of _____)

On this _____ day of _____, 20_____, before
me personally came _____ to me known, who being by me duly
sworn, did depose and say as follows:

That he resides at _____

and is the _____

of _____

the corporation described in and which executed the foregoing instrument; that he knows the corporate seal of said corporation; that the seal affixed to the foregoing instrument is such corporate seal and it was so affixed by order of the Board of Directors of said corporation; and that by the like order he signed thereto his name and official designation.

Notary Public (Seal)

My commission expires _____

STATE TAX CERTIFICATE

Pursuant to M.G.L., Ch. 62C, sec. 49A, I certify under the penalties of perjury that I, to the best of my knowledge and belief, have filed all state tax returns and paid all state taxes required under law.

Social Security Number *
Or Federal Identification Number *

Signature of Individual or
Corporate Name

by: _____
Corporate Office (if applicable)

* Submission of a Social Security Number or a Federal Identification Number is voluntary.

SECTION 00700

GENERAL CONDITIONS

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- 1.02 Definitions
- 1.03 Materials and Equipment
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- 1.22 Fire Prevention and Protection
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- 1.24 Disposal of Debris
- 1.25 Night, Saturday, Sunday and Holiday Work
- 1.26 Length of Work Day
- 1.27 Hurricane Protection
- 1.28 Reduction in Scope of Work

1.01 GENERAL PROVISIONS

A. The duties and obligations imposed by these General Conditions will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

B. Sections of Division 1, General Requirements govern the execution of the Work of all sections of the specifications.

C. The Specifications are written in imperative and streamlined form. This imperative language is directed to the Contractor, unless stated otherwise.

1.02 DEFINITIONS

A. Wherever the words as listed in subsection 1.01 of the AGREEMENT or pronouns used in their stead occur in the Contract Documents, they shall have the meanings as given in the AGREEMENT.

1.03 MATERIALS AND EQUIPMENT

A. General

1. Unless otherwise provided in the Contract Documents, only new materials and equipment shall be incorporated in the Work.

2. As soon as possible after execution of the AGREEMENT, submit to the Engineer the names and addresses of the manufacturers and suppliers of all materials and equipment proposed to be incorporated into the Work.

3. When shop and working drawings are required as specified below, submit, prior to the submission of such drawings, data in sufficient detail to enable the Engineer to determine whether the manufacturer and/or the supplier have the ability to furnish a product meeting the Specifications.

4. Submit data relating to the materials and equipment proposed to be incorporated into the Work in sufficient detail to enable the Engineer to identify and evaluate the particular product and to determine whether it conforms to the Contract requirements. Such data shall be submitted in a manner similar to that specified for submission of shop and working drawings.

B. Handling

1. Handle, haul, and distribute materials and all surplus materials on the different portions of the

Work, required to complete the Work in accordance with the Contract Documents.

2. Provide suitable storage room for materials and equipment during the progress of the Work, and be responsible for the protection, loss of, or damage to materials and equipment furnished under this Contract, until the final completion and acceptance of the Work.
3. Pay all storage and demurrage charges by transportation companies and vendors.

C. Storage of Excavated Material

1. Place excavated materials and equipment to be incorporated in the Work so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work.
2. Materials shall be kept neatly piled and compactly stored in such locations as will cause a minimum of inconvenience to public travel and adjoining owners, tenants and occupants.

D. Inspection

1. All materials and equipment furnished by the Contractor to be incorporated in the Work shall be subject to the inspection of the Engineer.
2. No material shall be processed or fabricated for the Work or delivered to the work site without prior concurrence of the Engineer.
3. Facilities and labor for the storage, handling, and inspection of all materials and equipment shall be furnished by the Contractor.
4. Defective materials and equipment shall be removed immediately from the site of the Work.

E. Inspection away from Site

1. If work to be done, away from the construction site, is to be inspected on behalf of the Owner during its fabrication, manufacture, or testing, or before shipment, the Contractor shall give notice to the Engineer of the place and time where such fabrication, manufacture, testing, or shipping is to be done. Such notice shall be in writing and delivered to the Engineer in ample time, as determined solely by the Engineer, so that the necessary arrangements for the inspection can be made.

F. Samples

1. Submit samples of materials for tests, as the Engineer deems necessary to demonstrate conformance with the Specifications. Such samples, including concrete test cylinders, shall be furnished, taken, stored, packed, and shipped by the Contractor as directed by the Engineer.

2. Furnish suitable molds for making concrete test cylinders. Except as otherwise expressly specified, the Owner shall make arrangements for, and pay for, the tests.

3. Pack samples so as to reach their destination in good condition, and label to indicate the material represented, the name of the building or work and location for which the material is intended, and the name of the Contractor submitting the sample. To ensure consideration of samples, notify the Engineer by letter that the samples have been shipped and properly describe the samples in the letter. Send letter of notification separate from the samples.

4. Submit data and samples, or place his orders, sufficiently early to permit consideration, inspection and testing before the materials and equipment are needed for incorporation in the Work. The consequences for failure to do so shall be the Contractor's sole responsibility.

5. In order to demonstrate the proficiency of workmen, or to facilitate the choice among several textures, types, finishes, surfaces, etc., provide such samples of workmanship of wall, floor, finish, etc., as may be required.

6. After review of the samples, data, etc. the materials and equipment used for the Work shall in all respects conform therewith.

G. Shop Testing

1. When required, furnish to the Engineer in triplicate, sworn copies of manufacturer's shop or mill tests (or reports from independent testing laboratories) relative to materials, equipment performance ratings, and concrete data.

1.04 CONTRACTOR'S SHOP AND WORKING DRAWINGS

A. Submit shop drawings to the Engineer for review and approval.

B. All submittals will be identified as the Engineer may require and in the number of copies also as required by the Engineer.

C. The data shown on the Shop Drawings will be complete regarding quantities, dimensions, specified performance and design criteria, materials and other data as particular to the Work that the Contractor proposes to provide.

1.05 OCCUPYING PRIVATE LAND

A. Entering or occupying with men, tools, materials, or equipment, any land outside the rights-of-way or property of the Owner (except after written consent from the proper parties) will not be permitted. A copy of the written consent shall be given to the Engineer.

1.06 INTERFERENCE WITH AND PROTECTION OF STREETS

A. Obtain permits from the governing authorities prior to obstructing any portion of a street, road, or private way. If any street, road or private way is rendered unsafe by the Contractor's operations, he shall make such repairs or provide such temporary ways or guards as ordered by the governing authorities.

B. Maintain streets, roads, private ways, and walks not closed in a passable and safe condition,

C. Provide at least 24 hours in advance, notice to the Owner, Police, Fire and School Departments in writing, with a copy to the Engineer, if the closure of a street or road is necessary. Cooperate with all Departments in the establishment of alternate routes and provide adequate detour signs, plainly marked and well lighted, in order to minimize confusion.

1.07 SAFETY

A. Take all precautions and provide safeguards to prevent personal injury and property damage. Provide protection for all persons including but not limited to employees and employees of other contractors and subcontractors; members of the public; and employees, agents and representatives of the Owner, the Engineer, and regulatory agencies that may be on or about the Work. Provide protection for all public and private property including but not limited to structures, pipes, and utilities, above and below ground.

B. Provide and maintain all safety equipment such as fences, barriers, signs, lights, walkways, guards and fire prevention and fire-fighting equipment.

C. Comply with all applicable Federal, State and local laws, ordinances, rules and regulations and lawful orders of all authorities having jurisdiction for the safety of persons and protection of property.

D. Designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This responsible person shall have the authority to take immediate action to correct unsafe or hazardous conditions and to enforce safety precautions and programs.

1.08 EXISTING FACILITIES

A. Dimensions of Existing Structures

1. Where the dimensions and locations of existing structures are of importance in the installation or connection of any part of the Work, verify such dimensions and locations in the field before the fabrication of any material or equipment which is dependent on the correctness of such information.

B. Proposed Pipe Location

1. Exterior pipelines will be located substantially as indicated on the Drawings, but the right is reserved to the Owner, acting through the Engineer, to make such modifications in location as may be found desirable to avoid interference with existing structures or for other reasons. Where fittings, etc., are noted on the Drawings, such notation is for the Contractor's convenience and does not relieve him for laying and jointing different or additional items where required.

2. Small interior piping is indicated diagrammatically on the Drawings, and the exact location is to be determined in the field. Piping shall be arranged in a neat, compact, and workmanlike manner, with a minimum of crossing and interlacing, so as not to interfere with equipment or access way, and, in general, without diagonal runs.

C. Interference with Existing Works

1. Conduct operations so as to interfere as little as possible with existing works. Develop a program, in cooperation with the Engineer and interested officials, which shall provide for the construction and putting into service of the new works in the most orderly manner possible. This program shall be adhered to except as deviations therefrom are expressly permitted. All work of connecting with, cutting into, and reconstructing existing pipes or structures shall be planned to interfere with the

operation of the existing facilities for the shortest time when the demands on the facilities best permit such interference, even though it may be necessary to work outside of normal working hours to meet these requirements. Electrical connections should be coordinated with the Owner so as to minimize disruption of normal plant operations. Before starting work which will interfere with the operation of existing facilities, perform preparatory work and see that all tools, materials and equipment are made ready and at hand.

2. Repair utilities damaged by the Contractors operations during the progress of the work, and be responsible for correcting all damages to existing utilities and structures at no additional expense to the Owner. Contact the proper utility or authority to correct or make any changes due to utility or other obstructions during the work but the entire responsibility and expense shall be with the Contractor.

3. Make such minor modifications in the work relating to existing structures as may be necessary, without additional compensation.

4. Submit no claim for additional compensation by reason of delay or inconvenience in adapting his operations to the need for continuous flow of sewage.

D. Existing Utilities or Connections

1. The location of existing underground pipes, conduits, and structures, as shown, has been collected from the best available sources. The Owner, together with its agents, does not imply nor guarantee the data and information in connection with underground pipes, conduits, structures and such other parts as to their completeness, nor their locations as indicated. The Contractor shall assume that there are existing water, sewer, gas and other utility connections to each and every building enroute, whether they appear on the drawings or not. An expense and/or delay occasioned by utilities and structures, or damage thereof, including those not shown, shall be the responsibility of the Contractor, at no additional expense to the Owner.

2. Above ground utilities may be present in the areas of the proposed Work. Take all necessary actions and/or precautions, including, but not limited to, utility company notification and necessary relocations (both temporary and permanent), to insure proper protection of those aboveground utilities and appurtenances to be affected by his operations. All costs associated with the aboveground utilities shall be paid by the Contractor at no additional expense to the Owner.

3. If and when encountered, existing utilities shall be properly supported and protected during the construction work and the Engineer shall be notified accordingly. The operation of existing utilities shall not be interrupted except with written permission of the operator and owner of such utilities. Allow ample time for all measures as may be required for the continuance of existing utility operations. Take extreme precautions to minimize disruption of utilities. Make prompt and full restitution for repairs by others for all disruptions caused by operations required to perform the Work.

4. Comply with all requirements of utility organizations involved.

E. Failure to Repair

1. Any emergency arising from the interruption of electric, telephone, gas, water, or sewer service due to the activities of the Contractor, shall be repaired by the Contractor as quickly as is possible.

2. If and when, in the opinion of the Owner, the Contractor is not initiating repair work as expeditiously as possible upon notification to do so, the Owner, may at his own option, make the necessary repairs using his own forces or those of others. The cost of such repairs shall be subtracted from the payments due to the Contractor.

F. Disturbance of Bounds

1. Replace all bounds disturbed during the construction operation, at no additional cost to the Owner. The bounds shall be relocated by a land surveyor approved by the Engineer and registered in the State that the Work is to be done.

1.09 WORK TO CONFORM

A. During its progress and on its completion, the Work shall conform to the lines, levels, and grades indicated on the Drawings or given by the Engineer and shall be built in strict accordance with the Contract Documents and the directions given from time to time by the Engineer.

B. All work done without instructions having been given therefore by the Engineer, without proper lines or levels, or performed during the absence of the Engineer, will not be estimated or paid for except when such work is authorized by the Engineer in writing. Work so done may be ordered uncovered or taken down, removed, and replaced at the Contractor's expense.

1.10 PLANNING AND PROGRESS SCHEDULES

A. Before starting the Work and from time to time during its progress, as the Engineer may request, the Contractor shall submit to the Engineer a written description of the methods he plans to use in doing the Work and the various steps he intends to take.

B. Within 14 calendar days after the date of formal execution of the AGREEMENT, the Contractor shall prepare and submit to the Engineer (a) a written schedule fixing the dates on which additional drawings, if any, will be needed by the Contractor and (b) a written schedule fixing the respective dates for the start and completion of various parts of the Work. Each such schedule shall be subject to review from time to time during the progress of the Work.

1.11 PRECAUTIONS DURING ADVERSE WEATHER

A. During adverse weather and against the possibility thereof, take all necessary precautions so that the Work may be properly done and satisfactory in all respects. When required by the manufacturer of the material or equipment to be installed, protection shall be provided by use of tarpaulins, wood and building-paper shelters, or other suitable means.

B. During cold weather, materials shall be preheated, if required, and the materials and adjacent structure into which they are to be incorporated shall be made and kept sufficiently warm so that a proper bond will take place and a proper curing, aging, or drying will result. Protected spaces shall be artificially heated by suitable means that will result in a moist or dry atmosphere according to the particular requirements of the work being protected. Ingredients for concrete and mortar shall be sufficiently heated so that the mixture will be warm throughout when used.

1.12 TEMPORARY HEAT

A. If temporary heat is required for the protection of the Work, provide and install suitable heating apparatus, provide adequate and proper fuel, and shall maintain heat as required.

B. Temporary heating apparatus shall be installed and operated in such manner that finished work will not be damaged.

1.13 ELECTRICAL ENERGY

A. Make all necessary applications and arrangements and pay all fees and charges for electrical energy for power and light necessary for the proper completion of the Work and during its entire progress. Provide and pay for all temporary wiring, switches, connections, and meters.

B. Provide sufficient electric lighting so that all work may be done in a workmanlike manner when there is not sufficient daylight.

1.14 CERTIFICATES OF CONFORMANCE

A. Furnish to the Engineer, in the manner as directed and prior to actual installation, notarized certificates of conformance for all materials to be furnished under this Contract. The notarized certificates of conformance shall state that the material to be furnished meets or exceeds all requirements specified under the Contract Documents. When so directed, the manufacturer's notarized certificates of conformance, certifying that the materials meet the requirements specified shall accompany each shipment of material. Unless otherwise specifically specified and/or directed by the Engineer, all testing of materials required under this Contract shall be provided by the Contractor at no additional expense to the Owner.

1.15 PATENTS

A. Pay, at no additional expense to the Owner, all applicable royalties and license fees associated with the materials and construction methods to be used under this Contract. Defend all suits or claims for infringements of any patent rights, and save the Owner and Engineer harmless from loss on account thereof, except that the Owner shall be responsible for any such loss when a particular process, design, or product of a particular manufacturer (s) is specifically specified with no option to the Contractor. However, if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Owner.

B. Refer to Specification Section 1.07, Patents, regarding the Contractor's responsibilities for any patent rights associated with the materials and construction methods to be used under this Contract.

1.16 "OR EQUAL" CLAUSE

A. Whenever a material or article required is specified or shown on the drawings by using the name of the proprietary product of a particular manufacturer or vendor, any material or article which will perform adequately, in the Engineer's sole judgment and/or opinion, the duties imposed by the general design may be considered equal and satisfactory providing the material or article so proposed is of equal substance. It shall not be purchased or installed without his written approval. In all cases new material shall be used in the project.

B. If more than one brand, name of material, device, or piece of equipment is shown or specified, each should be regarded as the equal of the other. Any other brand, make of material, device or equipment, which in the opinion of the OWNER and/or ENGINEER, is the recognized equal of that specified (considering quality, workmanship, and economy of operation), and is suitable for the purpose intended, may be accepted.

C. ENGINEER will be allowed a reasonable time within which to evaluate submittals for Substitute Items. ENGINEER will be the sole judge of acceptability. No "Or Equal" or Substitute Item will be ordered, installed or utilized without ENGINEER's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any "or equal" or substitute. ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitutes proposed or submitted by CONTRACTOR and in making changes to the Contract Documents. Whether or not ENGINEER accepts a Substitute Item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed Substitute Item.

1.17 ADDITIONAL OR SUBSTITUTE BONDS

A. If at any time the Owner, for justifiable cause, shall be or become dissatisfied with any Surety or Sureties than upon the performance or payment bonds, the Contractor shall, within five (5) calendar days after notice from the Owner so to do, substitute an acceptable bond (or bonds) in such form and sum and signed by such other Surety or Sureties as may

be acceptable to the Owner. The Contractor shall pay the premiums on such bonds with no additional expense to the Owner. No further payments shall be deemed due nor will be made until the new Surety or Sureties shall have furnished such as acceptable bond to the Owner.

1.18 SEPARATE CONTRACTS

A. The Owner reserves the right to let other contracts in connection with the construction of the contemplated work of this project or contiguous projects of the Owner. The Contractor, therefore, will afford any such other contractors reasonable opportunity for the introductions and storage of their materials and the execution of their work, will properly connect and coordinate his work with theirs, and will not commit or permit any act which will interfere with the performance of their work.

B. Coordinate operations with those of other contractors. Cooperation will be required in the arrangement for the storage of materials and in the detailed execution of the work.

C. It is essential that all parties interested in the project cooperate to the end that the entire project will be brought to a successful conclusion as rapidly as possible, but the Owner cannot guarantee that no interference or delay will be caused thereby. Interference and delay resulting from such cooperation shall not be basis of claims against the Owner.

1.19 PAYROLLS OF CONTRACTOR AND SUBCONTRACTORS

A. The Contractor and each of his Subcontractors shall prepare his payrolls on forms prescribed and in accordance with instructions to be furnished by the Owner. Within seven (7) days after the regular payment date of the payroll, the Contractor shall deliver to the Owner, with copies to the Engineer, a certified legible copy or copies of each such payroll. Each such payroll shall contain the statement required by the Federal Regulations issued pursuant to the "Anti-Kickback Statute", (48 Stat. 948; 18 U.S.C. 874; 40 U.S.C. 276C).

B. Carrying any person on his payrolls not employed by him will not be permitted. Carrying employees of a subcontractor on his payrolls will not be permitted, but such employees must be carried on the payrolls of the employing subcontractor.

C. Each Contractor or Subcontractor shall preserve his weekly payroll records for a period of three (3) years from the date of completion of the Contract. The payroll records shall set out accurately and completely the name, occupational classification, and hourly wage rate of each employee, hours worked by him during the payroll period and full weekly wages earned by him, and deductions made from such weekly wages and the actual weekly wages paid to him. Such payroll records shall be made available at all times for inspection by the Owner or his authorized representatives, the Engineer or by agents of the United States Department of Labor.

1.20 PAYMENTS BY CONTRACTOR

A. Pay for all traffic control, safety, transportation and utility services not later than the 20th day of the calendar month following that in which services are rendered. Reimbursable costs for services rendered, as specified in the Contract Documents, shall not be incorporated into partial payment estimates until such time that the Contractor submits to the Engineer actual paid invoices from those in which services were rendered.

1.21 "DIG SAFE" LAW

A. Before proceeding with construction operations, the Contractor shall notify the State of Massachusetts Underground Plant Damage Prevention Systems (DIG SAFE at 1-888-344-7233), and shall make such supplemental investigations, including exploratory excavations, by hand digging, as he deems necessary to uncover and determine the exact locations of utilities and structures, and shall have no claims for damages due to encountering subsurface structures or utilities in locations other than that shown on the drawings, or which were made known to the Contractor prior to construction operations. The Contractor shall be responsible and liable for all damages to the existing utilities and structures.

1.22 FIRE PREVENTION AND PROTECTION

A. State and municipal rules and regulations with respect to fire prevention, fire-resistant construction and fire protection shall be strictly adhered to and all work and facilities necessary therefore shall be provided and maintained by the Contractor in an approved manner.

B. Provide fire protection equipment such as water tanks, hoses, pumps, extinguishers, and other materials, and apparatus, for the protection of the

contract work, and adjacent property. Trained personnel experienced in the operation of all fire protection equipment and apparatus shall be available on the site whenever work is in progress, and at such other times as may be necessary for the safety of the public and the work.

1.23 DUST CONTROL

A. Exercise every precaution and means to prevent and control dust arising out of all construction operations from becoming a nuisance to abutting property owners or surrounding neighborhoods. Pavements adjoining pipe trench shall be kept clean of excess materials wherever and whenever directed by the Engineer. Repeated daily dust control treatment shall be provided to satisfactorily prevent the spread of dust until permanent pavement repairs are made and until earth stockpiles have been removed, and all construction operations that might cause dust have been completed. No extra payment will be made for dust control measures, compensation shall be considered to be included in the prices stipulated for the appropriate items as listed in the Bid.

1.24 DISPOSAL OF DEBRIS

A. The materials from the demolition, and those used in the construction of the Work throughout the project, shall be deposited in such a manner so as to not endanger persons or the Work, and so that free access may be had at any time to all hydrants, gates and existing equipment in the vicinity of the work. The materials shall be kept trimmed-up so as to be of as little inconvenience as possible to the public travel and plant operations. All excavated materials not approved for backfill and fill, all surplus material, and all rock and boulders resulting from the excavations, shall be removed and satisfactorily disposed of off the site by the Contractor, at no additional expense to the Owner.

B. The materials being removed from the pipelines and manholes during the cleaning process shall be deposited in such a manner as to not endanger the public, plant personnel or persons performing the work. Such debris deposits may be of such nature, high in biological organic contents, or chemically aggressive that they will require proper disposal in a safe, health risk free, environment. Contact the Owner and Engineer and all agencies having jurisdiction thereof, for approval of debris disposal methods and locations of disposal, prior to disposing of any or all debris removed from pipe cleaning

methods. All debris shall be removed and satisfactorily disposed of off the work site, at no additional expense to the Owner.

1.25 NIGHT, SATURDAY, SUNDAY AND HOLIDAY WORK

A. No work shall be done at night or on Saturdays, or Sundays or holidays without the prior written approval of the Owner and Engineer.

1.26 LENGTH OF WORK DAY

A. The Owner retains the right to restrict the Contractor to an eight-hour workday. Such restrictions shall not be the basis for damages or claims against the Owner.

B. The Contractor's attentions is also directed to the fact that should it be deemed necessary to perform various items of work during off-peak flow or traffic hours, early morning or late night hours, then he shall notify the Engineer a minimum of 24 hours in advance as to his intentions and reasons for the change in work hours. The Contractor shall be responsible for properly contacting and informing all involved parties of such a change in work hours. The Contractor shall not be entitled to any additional compensation from the Owner for any expenses that may be incurred by change of working hours and/or scheduling.

END OF SECTION

1.27 HURRICANE PROTECTION

A. Should hurricane warnings be issued, the Contractor shall take every practicable precaution to minimize danger to persons, to the work and to adjacent property. These precautions shall include closing all openings; removing all loose materials, tools and/or equipment from exposed locations; and removing or securing scaffolding and other temporary work.

1.28 REDUCTION IN SCOPE OF WORK

A. The Owner reserves the right to decrease the scope of the work to be done under this Contract and to omit any work should the Owner deem it to be in the public interest to do so. To this end, the Owner reserves the right to reduce the quantity of any items or omit all of any as set forth in the BID, either prior to executing the contract or at any time during the progress of the work. The Owner further reserves the right, at anytime during the progress of the work, to restore all or part of any items previously omitted or reduced. Exercise by the Owner of the above rights shall not constitute any ground or basis of claim for damages or for anticipated profits on the work omitted.

SECTION 00800

SUPPLEMENTARY CONDITIONS

- 1.01 General
- 1.02 Limits of Normal Excavation
- 1.03 Bolts, Anchor Bolts, and Nuts
- 1.04 Concrete Inserts
- 1.05 Sleeves
- 1.06 Cutting and Patching
- 1.07 Foundations, Installations and Grouting
- 1.08 Services of Manufacturer's Representative
- 1.09 Operating Instructions and Parts List
- 1.10 Lubricants
- 1.11 Special Tools
- 1.12 Equipment Drive Guards
- 1.13 Protection Against Electrolysis
- 1.14 Covering Excavated Trench
- 1.15 Maintaining Trench Excavations
- 1.16 Disruption of Storm Drains
- 1.17 Precaution Against Hydraulic Uplift During Construction
- 1.18 Blasting
- 1.19 Nameplates
- 1.20 Land, Easements and Rights-of-Way
- 1.21 Cleaning Finished Work

1.01 GENERAL

A. These Supplementary Conditions are requirements which amend or supplement the General Conditions specified elsewhere.

B. The duties and obligations imposed by these Supplementary Conditions will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

C. Assertion of any claim for any additional compensation or damages on account of and/or the fulfillment of these Supplementary Conditions will not be allowed.

1.02 LIMITS OF NORMAL EXCAVATION

A. In determining the quantities of excavation to which unit prices shall apply, the limits of normal width and depth of excavation shall be as described below, unless other limits are indicated in the Contract Documents.

B. For pipes in trench, the normal width of the trench shall be measured between vertical planes

which are a distance apart equal to the sum of 18 inches plus 1-1/3 times the nominal inside diameter of the pipe. If the width so computed is less than 3.0 feet, a width of 3.0 feet shall be taken as the normal width for payment. The normal depth shall be measured to a distance of 0.5 feet below the bottom of the pipe in earth and 0.5 feet in rock, unless there be a cradle underneath the pipe, in which case the normal depth shall be measured to the underside of the cradle. The trench width for the cradle shall be assumed to be that specified above for pipes in the trench.

C. For concrete placed directly against undisturbed earth, the normal width and depth of the excavation for such concrete shall be measured to the neat lines of the concrete as indicated on the Drawings or as ordered.

D. For concrete placed against rock surfaces resulting from rock excavation, the normal width and depth of the excavation shall be measured to 4 inches outside the neat lines of the concrete as indicated on the Drawings or as ordered.

E. For other structures, except manholes as noted below, the normal width shall be measured between vertical planes 1.0 feet outside the neat lines of the several parts of the structure, except that the width at any elevation shall be measured as not less than the width at a lower elevation. The normal depth shall be measured to the underside of that part of the structure for which the excavation is made.

F. No additional width or depth of trenches excavated in earth or rock shall be allowed at standard circular manholes. They pay limit for rock removed outside proposed manholes shall commence one foot (1.0) outside the widest dimension of the structure or shall be the maximum connecting trench width, whichever is greater.

G. Wherever bell holes are required for jointing pipe, they shall be provided without additional compensation over and above that resulting from measurements as above described.

1.03 BOLTS, ANCHOR BOLTS AND NUTS

A. Furnish bolts, anchor bolts, nuts, washers, plates and bolt sleeves required by equipment to be

installed under this Contract in accordance herewith. Anchor bolts shall have suitable washers and, where so required, their nuts shall be hexagonal.

B. Anchor bolts, nuts, washers, plates, and bolt sleeves shall be galvanized unless otherwise indicated or specified.

C. Expansion bolts shall have malleable iron and lead composition elements of the required number of units and size.

D. Unless otherwise specified, stud, tap, and machine bolts, and nuts shall conform to the requirements of ASTM Standard Specification for Carbon Steel Externally and Internally Threaded Standard Fasteners, Designation A307. Hexagonal nuts of the same quality of metal as the bolts shall be used. All threads shall be clean cut and shall conform to ANSI Standard B1.1-1974 for Unified Inch Screw Threads (UN and UNR Thread Form).

E. Bolts, anchor bolts, nuts and washers, specified to be galvanized, shall be zinc coated, after being threaded, by the hot-dip process in conformity with the ASTM Standard Specification for Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed and Forged Steel Shapes, Plates, Bars and Strip, Designation A123, or the ASTM Standard Specifications for Zinc Coating (Hot Dip) on Iron and Steel Hardware, Designation A153, as is appropriate.

F. Bolts, anchor bolts, nuts, and washers specified to be stainless steel shall be Type 316 stainless steel unless otherwise indicated or specified.

G. Anchor bolts and expansion bolts shall be set accurately. If anchor bolts are set before the concrete has been placed, they shall be carefully held in suitable templates of acceptable design. Where indicated on the Drawings, specified, or required, anchor bolts shall be provided with square plates at least 4 inches by 4 inches by 3/8 inches or shall have square heads and washers and be set in the concrete forms with suitable pipe sleeves, or both. If anchor or expansion bolts are set after the concrete has been placed, all necessary drilling and grouting or caulking shall be done by the Contractor and care shall be taken not to damage the structure or finish by cracking, chipping, spalling, or otherwise during the drilling and caulking.

1.04 CONCRETE INSERTS

A. Concrete inserts for hangers shall be designed to support safely, in the concrete that is used, the

maximum load that can be imposed by the hangers used in the inserts. Inserts for hangers shall be of a type which will permit adjustment of the hangers both horizontally (in one plane) and vertically and locking of the hanger head or nut. All inserts shall be galvanized.

1.05 SLEEVES

A. Unless otherwise indicated on the Drawings or specified, openings for the passage of pipes through floors and walls shall be formed of sleeves of standard-weight, galvanized steel pipe. The sleeves shall be of ample diameter to pass the pipe and its insulation, if any, and to permit such expansion as may occur. Sleeves shall be of sufficient length to be flush at the walls and the bottom of slabs and to project 1 inch above the finished floor surface. Threaded nipples shall not be used as sleeves.

B. Sleeves in exterior walls below ground or in walls to have liquids on one or both sides shall have a 2 inch annular fin of 1/8 inch plate welded with a continuous weld completely around the sleeve at about mid-length. Sleeves shall be galvanized after the fins are attached.

C. All sleeves shall be set accurately before the concrete is placed or shall be built in accurately as the masonry is being built.

1.06 CUTTING AND PATCHING

A. The Contractor shall leave all chases or openings for the installation of his own or any other contractor's or subcontractor's work, or shall cut the same in existing work, and shall see that all sleeves or forms are at the Work and properly set in ample time to prevent delays. He shall see that all such chases, openings, and sleeves are located accurately and are of proper size and shape and shall consult with the Engineer and the contractors and subcontractors concerned in reference to this work.

B. In case of his failure to leave or cut all such openings or have all such sleeves provided and set in proper time, he shall cut them or set them afterwards at his own expense, but in so doing he shall confine the cutting to the smallest extent possible consistent with the work to be done. In no case shall piers or structural members be cut without the written consent of the Engineer.

C. The Contractor shall carefully fit around, close up, repair, patch, and point around the work specified herein to the satisfaction of the Engineer.

D. All of this work shall be done by careful workmen competent to do such work and with the proper small hand tools. Power tools shall not be used except where, in the opinion of the Engineer, the type of tool proposed can be used without damage to any work or structures and without inconvenience or interference with the operation of any facilities. The Engineer's concurrence with the type of tools shall not in any way relieve or diminish the responsibility of the Contractor for such damage, inconvenience, or interference resulting from the use of such tools.

E. The Contractor shall not cut or alter the work of any subcontractors or any other contractor, nor permit any of his subcontractors to cut or alter the work of any other contractor, or subcontractor, except with the written consent of the contractor or subcontractor whose work is to be cut or altered or with the written consent of the Engineer. All cutting and patching or repairing made necessary by the negligence, carelessness, or incompetence of the Contractor or any of his subcontractors shall be done by or at the expense of the Contractor and shall be the full responsibility of the Contractor.

1.07 FOUNDATIONS, INSTALLATION AND GROUTING

A. Furnish materials and construct suitable concrete foundation for all equipment installed under this Contract, even though such foundations may not be indicated on the Drawings. The tops of foundations shall be at such elevations as will permit grouting as specified below.

B. Equipment shall be installed by skilled mechanics and in accordance with the instruction of the manufacturer.

C. In setting pumps, motors, and other items of equipment customarily grouted, make an allowance of at least 1-in. for grout under the equipment bases. Shims used to level and adjust the bases shall be steel. Shims may be left embedded in the grout, in which case they shall be installed neatly and so as to be as inconspicuous as possible in the completed work. Unless otherwise permitted, all grout shall be a suitable nonshrink grout.

D. Grout shall be mixed and placed in accordance with the recommendations of the manufacturer. Where practicable, the grout shall be placed through the grout holes in the base and worked outward and under the edges of the base and across the rough top of the concrete foundation to a peripheral form so

constructed as to provide a suitable chamber around the top edge of the finished foundation.

E. Where such procedure is impracticable, the method of placing grout shall be as permitted by the Engineer. After the grout has hardened sufficiently, all forms, hoppers, and excess grout shall be removed, and all exposed grout surfaces shall be patched in an approved manner, if necessary, given a burlap-rubbed finish, and painted with at least two coats of an acceptable paint.

1.08 SERVICES OF MANUFACTURER'S REPRESENTATIVE

A. Arrange for the services of qualified factory service representatives from the companies manufacturing or supplying equipment and/or materials to be used or installed in the work as specified, to perform the following duties.

B. After installation of the listed equipment has been completed and the equipment is presumably ready for operation, but before others operate it, the representative shall inspect, operate, test, and adjust the equipment. The inspection shall include but shall not be limited to, the following points as applicable:

1. Soundness (without cracked or otherwise damaged parts).
 2. Completeness in all details, as specified.
 3. Correctness of setting, alignment, and relative arrangement of various parts.
 4. Adequacy and correctness of packing, sealing and lubricants.
- C. The operation, testing, and adjustment shall be as required to prove that the equipment is left in proper condition for satisfactory operation under the conditions specified.

D. On completion of his work, the manufacturer's or supplier's representative shall submit in triplicate to the Engineer a complete signed report of the result of his inspection, operation, adjustments, and tests. The report shall include detailed descriptions of the points inspected, tests and adjustments made, quantitative results obtained if such are specified, and suggestions for precautions to be taken to ensure proper maintenance. The report also shall include a certificate that specifically states "the equipment conforms to the requirements of the Contract and is ready for permanent operation and that nothing in the installation will render the manufacturer's warranty null and void".

E. After the Engineer has reviewed the reports from the manufacturer's representatives, the Contractor shall make all arrangements to have the manufacturer's representatives present when the field acceptance tests are made by the Engineer without additional cost to the Owner.

1.09 OPERATING INSTRUCTIONS AND PARTS LISTS

A. Where reference is made in the Technical Specifications to operating instructions and spare parts lists, furnish, for each piece of equipment, six complete sets giving the information listed below:

1. Clear and concise instructions for the operation, adjustment, and lubrication and other maintenance of the equipment. These instructions shall include a complete lubrication chart.

2. List of all parts for the equipment, with catalog numbers and other data necessary for ordering replacement parts.

B. Such instructions and parts lists shall be annotated to indicate only the specific equipment furnished. References to other sizes and types or models of similar equipment shall be deleted or neatly lined out.

C. Such operating instructions and parts lists shall be delivered to the Engineer at the same time that the equipment to which they pertain is delivered to the site.

1.10 LUBRICANTS

A. During testing and prior to acceptance, Furnish all lubricants necessary for the proper lubrication of all equipment furnished under this Contract.

1.11 SPECIAL TOOLS

A. For each type of equipment furnished provide a complete set of all special tools (including grease guns or other lubricating devices) which may be necessary for the adjustment, operation, maintenance, and disassembly of such equipment. Tools shall be high-grade, smooth, forged, alloy, tool steel. Grease guns shall be lever type.

B. Special tools are considered to be those tools which because of their limited use are not normally available, but which are necessary for the particular equipment.

C. Special tools shall be delivered at the same time as the equipment to which they pertain. Properly store and safeguard such special tools until

completion of the work, at which time they shall be formally transmitted and delivered to the Owner.

1.12 EQUIPMENT DRIVE GUARDS

A. All equipment driven by open shafts, belts, chains, or gears shall be provided with acceptable all-metal guards enclosing the drive mechanism. Guards shall be constructed of galvanized sheet steel or galvanized woven wire or expanded metal set in a frame of galvanized steel members. Guards shall be secured in position by steel braces or straps that will permit easy removal for servicing the equipment. The guards shall conform in all respects to all applicable safety codes and regulations.

1.13 PROTECTION AGAINST ELECTROLYSIS

A. Where dissimilar metals are used in conjunction with each other, suitable insulation shall be provided between adjoining surfaces so as to eliminate direct contact and any resultant electrolysis. The insulation shall be bituminous impregnated felt, heavy bituminous coatings, nonmetallic separators or washers, or by other acceptable materials.

1.14 COVERING EXCAVATED TRENCH

A. In addition to the requirements in Section 00700 titled Interference with and Protection of Streets. Cover all open excavations when construction operations are suspended at the end of the day, or in excavated trenches where work is not actually in progress. Cover shall be capable of withstanding AASHTO H20-S16 loading. This cover shall consist of steel plates or some other satisfactory cover of adequate size and strength suitably held in place to keep all traffic out of excavations, all as verified in writing by the Contractor. The cover shall be laid over the excavation until it is backfilled.

1.15 MAINTAINING TRENCH EXCAVATIONS

A. The length of trench opened at any time, from point where ground is being broken to completed backfill, and also the amount of space in streets or public and private lands occupied by equipment, trench, and supplies, shall not exceed the length of space considered reasonably necessary and expedient by the Engineer. In determining the length of open trench or spaces for equipment, materials, supplies and other necessities, the Engineer will consider: the nature of the lands or streets where work is being done; types and methods of construction and equipment being used; inconvenience to the public or to private parties; possible dangers; and other

proper matters. All work must be constructed with a minimum inconvenience and danger to the public and all other parties concerned.

B. Whenever any trench obstructs pedestrian and vehicular traffic in or to any public street, private driveway or property entrance, or on private property, take such means as may be necessary to maintain pedestrian and vehicular traffic and access. Until such time as the work may have attained sufficient strength to support backfill, or if for any other reason it is not expedient to backfill the trench immediately, construct and maintain suitable plank crossing and bridges to carry essential traffic in or to the street, driveway or property in question, as specified or directed.

C. Suitable signs, lights, and such items required by Police Authorities to direct traffic, shall be furnished and maintained by the Contractor at his own expense.

D. Keep streets and premises free from unnecessary obstructions, debris and all other materials. The Engineer may, at any time, order all equipment, materials, surplus from excavations, debris and all other materials lying outside that length of working space, promptly removed. Should the Contractor fail to remove such material within 24 hours after notice to remove the same, the Owner may cause any part or all of such materials to be removed by such persons as he may employ, at the Contractor's expense; and may deduct the costs thereof from payments which may be or may become, due to the Contractor under the Contract. In special cases, where public safety urgently demands it, the Owner may cause such materials to be removed at the Contractor's expense without prior notice.

1.16 DISRUPTION OF STORM DRAINS

A. Portions of the Work may be located in areas that are serviced by storm drains. Take extreme precaution to minimize disruption of the drains, and repair and/or make restitution for repairs by others for all disruptions caused by the construction operations.

1.17 PRECAUTION AGAINST HYDRAULIC UPLIFT DURING CONSTRUCTION

A. Protect all structures against hydraulic uplift until such structures have beneficially completed.

1.18 NAMEPLATES

A. With the exceptions mentioned below, each piece of equipment shall be provided with a

substantial nameplate of noncorrodible metal, securely fastened in place and clearly and permanently inscribed with the manufacturer's name, model or type designation, serial number, principal rated capacities, electrical or other power characteristics, and similar information as appropriate. Coordinate nameplate text requirements with Engineer prior to fabrication. Nameplates shall be securely mounted in a readily visible location approved by the Engineer. Equipment Specification sections may contain additional information regarding nameplates.

B. This requirement shall not apply to standard manually operated hydrants or to gate, globe, check, and plug valves.

C. Each process valve shall be provided with a substantial tag of noncorrodible metal securely fastened in place and inscribed with an identification number in conformance with the Valve Identification Schedule indicated on the drawings or furnished later by the Engineer.

1.19 LAND, EASEMENTS, AND RIGHTS-OF-WAY

A. As indicated, a portion of the work may be located within easements and/or rights-of-way, obtained or which will be obtained by the Owner, through private property. On all other lands, the Contractor has no rights unless he obtains them from the proper parties as specified in Section 00700, Occupying Private Land.

B. Prior to issuance of the Notice to Proceed, the Owner shall obtain all land, easements and rights-of-way necessary for carrying out and for the completion of the work to be performed pursuant to the Contract Documents, unless otherwise mutually agreed.

C. The Owner shall provide to the Contractor information which delineates and describes the lands owned and rights-of-way acquired.

D. The Contractor shall provide at his own expense and without liability to the Owner any additional land and access thereto that the Contractor may desire for temporary construction facilities or for storage of materials.

E. If however, lands, easements or rights-of-way cannot be obtained before work on the project begins, the Contractor shall begin his work upon such land, easements or rights-of-way as have been previously acquired by the Owner, and no claims for

damages whatsoever will be allowed by reason of its inability to procure the lands, easements, or rights-of-way for the said work, the Contractor shall not be entitled to make or assert a claim for damages by reason of the said delay, or to withdraw from the Contract except by consent of the Owner. Time for completion of work will be extended to such time as the Owner determines will compensate for the time lost by such delay, such determination to set forth in writing.

1.20 CLEANING FINISHED WORK

A. After the work is completed, the pipes, manholes and structures shall be carefully cleaned free of debris and dirt, broken masonry, and mortar, and left in first class condition, ready to use. All temporary or excess materials shall be disposed of off-site and the work left broom clean, to the satisfaction of the Engineer.

END OF SECTION

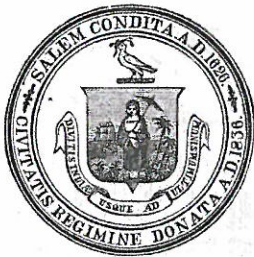
SPECIAL PROVISIONS

for

Traffic Signal and Intersection
Improvements

Lafayette Street/Loring Avenue/West Avenue
in
Salem, Massachusetts

Prepared for:



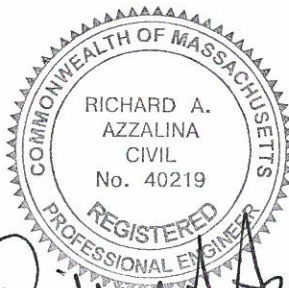
The City of Salem

Prepared by:



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September, 2015



Richard A. Azzalina
9/14/15

SPECIAL PROVISIONS

for

Traffic Signal and Intersection Improvements

Lafayette Street/Loring Avenue/West Avenue

in

Salem, Massachusetts

DESCRIPTION

Unless otherwise amended by these Special Provisions or the Contract Drawings, all Work shall conform to the requirements of the applicable "Sections" of The Commonwealth of Massachusetts, Department of Public Works Standard Specifications for Highways and Bridges, 1988 Edition, including any and all applicable amendments or addenda thereto, hereinafter referred to as the "Standard Specifications"; the 2014 Construction Standards; the 1990 Standard Drawings for Signs and Supports; the applicable 1968 Standard Drawings for Traffic Signals and Highway Lighting; and the current edition of the Manual on Uniform Traffic Control Devices, as amended.

ITEM 804.3

**3 INCH ELECTRICAL CONDUIT
TYPE NM PLASTIC (UL)**

FOOT

The work under this Item shall conform to the relevant provisions of Section 800 of the MassDOT Standard Specifications for Highways and Bridges, as amended, and the following:

DESCRIPTION

The work shall include the furnishing and installation of 3-inch non-metallic conduit for traffic signal and lighting systems in accordance with the plans and as required by the Engineer. Details have been attached.

MATERIALS

The conduit material shall be Schedule 80 polyvinyl chloride (PVC) plastic conduit. The conduit quantity may be increased or decreased by the Engineer depending upon actual conditions encountered as provided for in Section 4.06 of the Standard Specifications.

Gravel borrow for trench backfill, if required per the Engineer, shall be as specified in Section M1.03.0 Type c of the Standard Specifications.

CONSTRUCTION METHODS

Conduit in Grass or in Planted Areas

Where new conduits are installed in grass and planted areas, work shall include placement of a minimum of 4 inches of loam borrow, seed and any other materials replaced in kind to restore disturbed areas to their original condition. Any existing plants (bushes, flowers, etc.) removed or damaged as a result of this project shall be replaced in kind. No separate payment shall be made for this work, but all costs in connection therewith shall be included in the unit price bid for Item 804.3.

Conduit under Sidewalk, Paved Median or Driveways

Where conduit is installed in sidewalk or paved median or driveway areas, the work shall include excavating and backfilling of trenches, including the required compaction. Payment for cement concrete or asphalt pavement shall be paid for under the respective item.

Conduit Crossing Under Roadways

Trenches in existing asphalt pavements not subject to full depth reconstruction shall be sawcut to an 18 inch width. The existing pavements shall be sawcut through their full depth and the pavement removed.

After conduit installation, the trench shall be backfilled in accordance with the standard specifications and per the details shown on the contract drawings. The finished grade of the

backfill shall be below existing pavement surface as shown on the construction details.

Where conduit crosses under roadways, no separate payment shall be made for the excavation, saw cutting of pavement, backfill or incidental materials, but all costs in connection therewith shall be included in the contract unit price for Item 804.3.

METHOD OF MEASUREMENT

Item 804.3, 3 Inch Electrical Conduit Type NM Plastic (UL), shall be measured per Foot of conduit actually installed.

BASIS OF PAYMENT

Item 804.3, 3 Inch Electrical Conduit Type NM Plastic (UL), shall be paid at the contract unit price bid, per Foot, which payment shall be considered as full compensation for all labor, tools, equipment, materials, and incidentals required to complete the work as described above.

ITEM 816.01 TRAFFIC SIGNAL RECONSTRUCTION LOCATION 1 LUMP SUM

The Work to be done under this Item shall conform to the relevant provisions of Section 815 of the MassDOT Standard Specifications for Highways and Bridges, the General Requirements for Demolition, Work Involving Painted Steel and the following:

The work to be done under this Item consists of the furnishing and installation of a new traffic control signal system, complete and ready for operation, at the following location:

- Location 1 – Lafayette Street/ Loring Avenue

The work at this location shall be in compliance with ADA/AAB standards and shall include all or part of the following: furnishing and installing traffic control equipment including traffic signal mast arms and foundations, signal posts and foundations, a new controller, cabinet and foundation, installing signal heads, pedestrian pushbuttons, and a complete preemption system. Work shall also include furnishing and installing all materials and equipment necessary for a video detection system including video cameras, video detection processor, wire and cable, and all incidental materials and labor necessary for operating and controlling the traffic control signals at this location, as shown on the Contract Drawings and as specified herein, all in accordance with the applicable provisions of the Standard Specification for Traffic Control Devices (Section 800), NEMA Standards Publication No. TS-2, Type 1 Chassis Configuration, the Manual on Uniform Traffic Control Devices (2009 Edition) and the following:

Timing, sequence, and operation shall be as shown on the Sequence and Timing chart included in the Contract Drawings.

A list of major items required is included on the Signal Timing Plan. The lump sum price bid for Traffic Signal Reconstruction Location 1 shall be full compensation for all labor, materials, and equipment necessary or incidental to the installation of a new traffic control signal system.

Within 10 days following execution of the Contract, the Contractor shall submit shop drawings for signal supports, a list of equipment, and manufacturer's equipment specifications to the Engineer in accordance with the relevant provisions of Section 815.20. All equipment shall be listed on MassDOT's Qualified Construction Materials List.

The Contractor shall not commence any work until approval of the shop drawings and manufacturer's data has been received in writing from the Engineer. Approval of these drawings will be general in character and shall not relieve the Contractor from the responsibility of, or the necessity of, furnishing materials and workmanship conforming to the plans and specifications.

The Contractor shall deliver to the Engineer a certificate of compliance by the manufacturer for all materials purchased from the manufacturer.

The cost of disposal of the existing signal equipment will be included in this lump sum item.

REGULATIONS AND CODE

All electrical equipment shall conform to the standards of the NEMA and U.L. wherever applicable. In addition to the requirements of the Contract Drawings, Standard Specifications, and Special Provisions, all materials and workmanship shall conform to the requirements of the NEC, ASTM, OSHA and/or ANSI, all applicable State and Local codes and Department of Public Safety regulations.

FINE TUNING, ADJUSTMENT AND TESTING PERIOD

After the Contractor has finished modifying the controller and installing all other associated signal equipment to operate as specified in the contract documents, the fine tuning, adjusting and testing period shall begin. During this period, the Contractor as required by the Engineer, will make necessary adjustments and conduct tests to insure safe and efficient operation of the equipment. This period shall not last for more than 30 days. No request for final acceptance will be considered until successful completion of the testing period.

MAINTENANCE OF TRAFFIC SIGNALS

It shall be the responsibility of the Contractor to provide all labor, equipment and material required for the maintenance of the proposed traffic signal control equipment within the project limits, including damage by automobile accident from the date of written notice given to the Engineer that the Contractor will begin work on the proposed traffic signal control system until the date when the District Highway Director shall recommend acceptance of the completed project. This written notice must be given before the Contractor may proceed with any traffic signal system work.

GUARANTEES OF THE TRAFFIC SIGNAL SYSTEM

The Contractor shall diagnose (troubleshoot) the system and at no additional charge to owner any part of the traffic signal control equipment installed by the Contractor that is found to be defective in workmanship, material, or manner of functioning within six months from date of final acceptance of the installation under this Contract.

The one-year warranty period on equipment stipulated in Subsection 815.20 of the Standard Specifications still applies.

ENTERING PRIVATE UTILITY COMPANY FACILITIES

The electrical service conduit and cable from the utility pole, to the traffic signal control cabinet will be provided by the Contractor. The local electric utility company will connect the terminals of the control cabinet to the source of supply.

The contractor will be responsible for all costs and fees related to the service connection provided by the utility. Their payment shall be the sole responsibility of the Contractor and considered incidental to the item.

The installation of conduit and wiring on or in local electric utility company facilities shall be in strict accordance with the regulations of the utility company. All work performed by the Contractor at local electric utility company structures shall be performed under the direct observation of a utility company inspector or representative.

The Contractor will be responsible for coordinating the electrical work in the vicinity of the control cabinets and for notifying the local electric utility company that construction has started and arranging the necessary time schedule with them for installation of electrical service to the control cabinets. Under no conditions shall the Contractor make permanent patch to the roadway or apply the final roadway surface if the roadway is to be resurfaced, or until services to the control cabinets have been completed.

For the purpose of these paragraphs, the phrase "Traffic Signal Control Equipment" is intended to include, but is not limited to: controllers, detectors, signal housings, supporting structures, cabinets, wires, conduit and all other ancillary electrical equipment used for traffic control.

CONTROLLERS AND CABINETS

The controllers, malfunction management units, detector amplifiers, bus interface units and all other ancillary traffic signal control components included in the traffic control cabinet shall comply with the National Electrical Manufacturers Association (NEMA) Standard No. TS 2, Traffic Controller Assemblies.

The top of the concrete base for the controller cabinet shall be 18 in. above grade. Controller cabinet foundations shall not obstruct a sidewalk or crosswalk so that passage by physically challenged persons is impaired. Anchor bolts shall be internal to the cabinet. The foundation shall provide a spare sweep as required by the engineer.

All sweeps to be installed in cabinet foundation shall be 3-inch (PVC) sweeps with sufficient 3 inch PVC riser to project above the finish grade of the base. A cement concrete pad and walkway shall abut the front of the cabinet and shall be built in accordance with the MassDOT's sidewalk specifications. The width of the concrete pad and walkway shall be a minimum of 3 feet wide and shall be equal to the length of the long side of the cabinet foundation.

TS 2 TYPE 1 CONTROLLERS

Controllers shall conform to Section 3, Controller Units of NEMA No. TS 2, Traffic Controller Assemblies. The controllers shall be supplied in an 8-phase TS 2 Type 1 configuration. Controllers shall utilize an input/output interface conforming to Section 3.3.1 of the NEMA TS 2 Standard for all input/output functions with the backpanel terminals and facilities, the malfunction management unit, detector rack assemblies and auxiliary devices.

The local controller shall be capable of being operated in the full-actuated mode, in the free mode and as semi-actuated in the coordinated mode. The controller shall be Type 8DW, keyboard entry, menu-driven unit mounted in an eight-phase cabinet. The controller unit shall meet all applicable requirements of the N.E.M.A. Standard Publication No. TS-2, Type 1,

MassDOT's Current Standard Specifications, and include the following as minimum requirements for the "Keyboard Entry Controller Unit":

- a. The Keyboard Entry Controller Unit must be type-tested and approved by the Department.
- b. The controller shall have hard-wire interconnect capability and internal time base coordination logic. The coordination control shall have the capabilities to operate as described under Section 815.41 of the Standard Specifications.
- c. The controller shall have a data transfer/printer port for data transfer to another controller, printer or laptop PC computer. A port shall be provided for uploading or downloading controller-operating parameters from a laptop PC computer.
- d. The controller shall have a security code function.
- e. The controller unit shall have internal fire preemption control capabilities.
- f. The phase or phases selected for "call to non-actuated" (C.N.A.) modes shall be determined as needed by keyboard entries.

The Contractor's attention is directed to Table 2, Required Signal Light Switching Assemblies, Section 815.41 of the Standard Specifications. The Contractor shall furnish the appropriate type and number of load switches and place unutilized load switches in the control cabinet for future use. Load relays shall be easily replaced using a screwdriver. Component relays requiring soldering are not acceptable.

In addition to the convenience outlet as described under Subsection 815.41, a lamp with an on/off switch shall be installed in the controller cabinet.

Construction Methods

The unit shall consist of a mainframe suitable for shelf mounting, with appropriate interface harnesses.

Operator programmable data entry shall be accomplished through a menu driven keyboard and a display located on the front panel.

Connectors shall be provided for interconnecting all inputs and outputs with their external control circuits.

Timing shall be accomplished by digital methods and with power applied shall use the power line frequency as the time base.

All components shall be operated in accordance with good commercial practice to optimize life and performance.

The design goal shall be such that, under 24 hour a day operating conditions in their circuit

applications, all components shall have a life of not less than 5 years.

The circuit reference designation for each component on the printed circuit board shall be clearly marked immediately adjacent to the component.

Electrical

The controller shall be designed for use of nominal 120 volt, 60 Hz single phase alternating current. It shall operate correctly in the voltage range of 95 to 135 volts AC.

All DC inputs and outputs shall conform to NEMA TS2 - Type 1 standards for transition zone, response time, current capability, surge and noise immunity, as well as all other applicable electrical specifications.

Environmental

The controller shall maintain all its programmed functions from -30 degrees F to +165 degrees F.

The unit shall perform to this specification when operated in relative humidity from 5% to 95%.

The unit shall conform to all applicable portions of the Environmental and Operating Standards as described in the NEMA Standards TS2-1992.

Functional

The control equipment shall also be capable of providing a yearly time program for selecting four cycle lengths, three splits, and three offsets plus flashing operation for control of local controllers. The schedule shall be as included and/or as shown on the plans.

The controller shall be fully compatible with all existing and proposed local controllers and capable of communicating with a computer at a remote location - via a telephone linkage (dial up modem) to the nearest telephone pole or manhole. The modem shall have a data rate of 1,200 baud minimum and use a 10- or 11-bit asynchronous protocol. The power on which the modem runs shall be 12 VDC. The interface shall be through an RS232 port. The modem shall have a 5-year warranty. The modem shall meet the environmental aspects of the NEMA specifications for controllers and corollary equipment.

The Contractor shall provide graphics required for intersection and system monitoring. These graphics shall be customized to reflect the exact geometry, detection, and signalization of the intersections included in the subsystem listed herein. All street names shall be labeled.

The Contractor shall program each programmable local hardware component according to the "Time of Day Schedule" as follows:

TIME OF DAY SCHEDULE (BACK UP)

	6 AM- 10 AM	10 AM- 11 AM	11 AM- 3 PM	3 PM- 7 PM	7 PM- 9 PM	9 PM- 6AM
Mon - Fri	Free	Free	Free	Free	Free	Free
Sat	Free	Free	Free	Free	Free	Free
Sun/Hol	Free	Free	Free	Free	Free	Free

NOTE: CYCLE-SPLIT-OFFSET

NOTE: Patterns shown on the plans are as follows:

AM	1-1-1
PM	2-2-2

Note: Following implementation of the system, thresholds shall be revised as fine tuning occurs.

CABINET

The TS 2 Type 1 cabinet shall meet the requirements of configuration 3 as defined in Table 5.3.1-1, "Type 1 Configurations" of the NEMA TS 2 Standard. The cabinet shall be fabricated of sheet aluminum to size six (6) dimensions as specified in Table 7.3-1 of the NEMA TS 2 Standards.

It is intended that equipment be mounted and that all necessary provisions for mounting and wiring all equipment shall be made at the factory of the controller equipment manufacturer prior to shipping the cabinet and the control components. All necessary terminal strips, brackets, etc., shall be installed at the factory. Thus, the amount of field wiring shall be kept to a minimum. Terminals for auxiliary equipment to be installed shall be clearly and permanently labeled as to functions.

No equipment components shall be stacked. Brackets, shelves, hangers, or other supports designed to assure convenient accessibility for inspection and maintenance shall be installed at the factory. Adjustable aluminum shelving is required. No plywood shelving, side panels or rear panels shall be used in any cabinet.

The cabinet shall include 4 video suppressors. The controller cabinet shall contain a video compressor mounted on the side of the cabinet for video detection.

FLASHER

Flashers shall comply with Subsection 6.3 of the NEMA TS 2 Standard and be equipped with two output indicator lights which will show flashing power out to the cabinet assembly.

FLASH TRANSFER RELAYS

Flash transfer relays shall comply with Subsection 6.4 of the NEMA TS 2 Standard.

The field electrical loading for flash operation shall be wired through the transfer relays such that the load on the 2-circuit flasher is a balanced as possible within the limitations of the signal phasing.

LOAD SWITCHES

Load switches shall comply with Subsection 6.3 of the NEMA TS 2 Standard and be equipped with two output indicator lights which will show flashing power out to the cabinet assembly. A full complement of load switches to accommodate each available position of the back panel shall be provided.

BUS INTERFACE UNITS

The Bus Interface Unit (BIU) shall comply with Section 8 of the NEMA TS 2 Standard. The BIU shall be fully interchangeable with any other manufacturer's unit and interchangeable in a NEMA TS 2 Type 1 cabinet assembly.

The BIU shall perform the interface function between port 1 at the controller unit, the malfunction management unit, detector rack assembly, and the backpanel terminal and facilities.

At a minimum, two LED indicators shall be provided on the BIU front panel. One indicator shall serve a dual use; as a power-on indication and as a diagnostic indicator for proper operation of the device. The second indicator shall serve as a transmit indicator illuminating each time data is transmitted.

MALFUNCTION MANAGEMENT UNIT

The malfunction management unit (MMU) shall comply with Section 4 of the NEMA TS 2 standard. The MMU shall be capable of operating as either a Type 16 with 16 channels (8-vehicle, 4-pedestrian, 4-overlap) or a Type 12 with 12 channels (8-vehicle, 4-overlap). The MMU's supplied shall be configured to operate as Type 16 units.

The MMU's, in either the Type 16 or Type 12 configuration, shall be capable of operating in a NEMA TS 2 Type 1 cabinet or a NEMA TS 1 cabinet without loss of functionality.

VIDEO DETECTION SYSTEM

The contractor shall install a "GridSmart" single 360° video camera detection system as manufactured by the Aldis Corporation. The camera with mounting hardware shall be located on the proposed 40 foot mast arm at the northeast corner of the intersection. The final location of the camera on the mast arm shall be determined in the field by the contractor to ensure a necessary field of view of the camera on all approaches to the intersection and shall conform to

manufacturer's recommendations.

The proposed Control Unit and all other equipment necessary for a fully functioning video detection system is to be installed in the existing traffic control cabinet.

All limbs and/or branches of trees, regardless of size, that restrict camera visibility shall be trimmed or removed. All locations for tree trimming shall be determined by, and all tree trimming work shall be done to the satisfaction of the City. The quality and method of work shall conform to accepted tree trimming practices. All trees to be trimmed must be within the City Right of Way.

SPARE EQUIPMENT

The Contractor shall provide the following spare signal equipment in the traffic signal controller cabinet:

1. A full complement of load switches to accommodate each available position of the back panel;
2. A full complement of flash transfer relays to accommodate each available position of the back panel;
3. A 25 foot RS-232 cable for communication function with a laptop computer.
4. Two spare BIUs.

OPTICAL FIRE PREEMPTION SYSTEM

To be consistent with equipment provided at other locations in the City of Salem, the optical Fire Preemption System shall be manufactured by OPTICOM.

The work consists of furnishing and installing optical traffic signal preemption systems ready for operation, as described herein and shown on the plans. Included in the work are the furnishing and installing of traffic signal preemption unit and related equipment, optical detection equipment and all necessary connections to the traffic signal controller. A separate cable shall be installed for the fire preemption equipment, apart from the traffic signal cable.

The fire preemption system shall consist of a data-encoded phase selector to be installed within the existing control cabinet. This unit will serve to validate, identify, classify, and record the signal from the optical detectors located on support structures at the intersection. Upon receiving a valid signal from the detector, the phase selector shall generate a preempt call to the controller initiating a preemption operation as shown on the plans.

The phase selector shall be a rack-mounted plug-in four channel, dual priority device. Programming the phase selector shall be via a PC-based computer utilizing unit specific software. One copy of software on a disk shall be supplied and licensed to the City as part of this contract. A hard copy of final programming data shall be left in the control cabinet. The Contractor shall supply a complete set of interface cables for phase selector to laptop connection.

Emergency vehicles equipped with optical energy emitters transmit optical energy impulses to optical detectors mounted at the intersection. When optical energy impulses are received at the intersection, control of the signals shall transfer from the local controller to show a selected display shown on the plans to assist the vehicle through the intersection without conflict. After the vehicle has passed through the intersection, control of the signals shall then return to the local controller which shall restore the appropriate timings that were in effect prior to preemption.

1. General Operation and Description of Work

The following description of work specifies the responsibilities involved in the installation of optical preemption equipment.

The Contractor is required to supply material and labor, required or shown for the complete installation of optical preemption equipment at the specified location in this project. Intersection preemption equipment required includes optical detectors, phase selectors, card rack, preemption indicator lights, cable, interfacing of preemption equipment to the local and system master, making electrical connections and all required incidentals.

The following area the operational requirements of the optical preemption system:

- Operating sequence, as specified, shall be initiated when detector receives optical energy of the required repetition rate from an emitter.
- Detector shall transform the optical signals into electrical signals and transmit the electrical signal to the phase selector for processing.
- Phase selector shall cause the local or closed loop system master to show a selected display identical to one of the color interval displays normally available in the controller which will assist the emergency vehicles through the intersection without conflict.

- Phase selector shall allow the controller to release from hold and resume normal operation after optical energy signals are lost provided the desired green display has already been obtained. The controller shall not allow service following released to normal operation to any phase where an active call from a waiting vehicle or pedestrian does not exist. Detector cable for optical preemption equipment shall meet specifications of the system manufacturer.

The Contractor shall arrange for a trained representative of the manufacturer of the optical energy preemption equipment to perform the following field supervision and turn-on services:

- The representative shall select the proper quantity and place and method of installing all components on each controller, to comply with the operational requirements shown in the preemption schedule included in these special provisions.
- The representative shall instruct the Contractor and municipal personnel in the procedures of installation and operations.
- The representative shall be available to assist, supervise and check all wiring to insure proper operation.
- The representative shall perform a final checkout to include initial adjustment of range and timing to acceptable standards within the capabilities of the intersection.
- The representative shall initiate documentation for as-built drawings.
- The representative shall demonstrate the system and instruct the drivers of fire fighting vehicles in the operation of the system.
- Any operation problems occurring within the next 30 days shall be corrected by the Field Service representative. This requirement is not intended to modify the Contractor's six-month guarantee obligation, as set further in an earlier portion of these Special Provisions.

The cost of these field supervision and turn-on services shall be included in the lump sum prices bid for traffic signal controls and no additional payment shall be made therefor.

2. Installation

The preemption equipment manufacturer shall be responsible for preemption system design and documentation.

Preemption System Design and documentation shall include the following:

- Provide the installing agency with locations for detector installation. Suggested detector locations are shown on the plans and may be changed to improve the operation. Notice shall be given to the Engineer prior to any change.
- Provide the controller manufacturer, Engineer and owner with electrical diagrams.

The installer shall install the equipment consistent with the preemption equipment manufacturer's recommended installation procedures and electrical diagrams in a neat and workmanlike manner.

Operating checkout includes the following:

- Verifying that the pre-emption system is properly installed as per the pre-emption equipment manufacture's recommendations and the electrical diagrams as provided by the pre-emption equipment manufacturer.
- Verifying that the priority system timing and range are property set. Pre-emption equipment warranties are put into effect.
- Instructing the vehicle drivers or their representative(s) in the operation of the pre-emption system.

3. Warranty

All components of the preemption system specified herein, shall be warranted by the manufacturer to be free of defects in materials and workmanship for a period of two years from the date of delivery or one year from the date of installation, whichever occurs first.

The Contractor shall repair or replace, free of charge to the City of Salem, any part that fails in any manner during the warranty period, and six months after final acceptance of the project by the Owner.

PREEMPTION CONFIRMATION LIGHT

A preemption confirmation light shall be provided and mounted as shown on the plans. It shall be located in a position where it may be visible from all preemption approaches to each intersection. The light shall be weather tight and consist of a double flash clear (white) strobe which shall be illuminated whenever the controller is in the emergency preemption phase. The indicator light shall meet ITE, NEMA, IMSA and MassDOT standards. It shall be capable of flashing at a rate of 60 to 75 flashes per minute. Candela intensity shall be a minimum of 1,000 for clear lenses.

MAST ARM FOUNDATIONS

Cement Concrete foundations for mast arm structures shall conform to the “Massachusetts Department of Transportation Highway Division – Mast Arm & Foundation Details Standard Drawings”, which are included in the Contract Drawings.

In the event that soil conditions or ledge prevent the use of the MassDOT standard foundation types, the Contractor is responsible for the selection and design of alternative foundation types. Alternative foundation types could include spread footings, coring and socketing into rock or other foundations previously used to support similar loads. The Contractor shall obtain the necessary soil borings and soil information required for use in the selection and design of the appropriate mast arm foundations.

The Contractor shall submit Shop Drawings of any bolt circle details for approval by the Engineer. Anchor bolts shall be set accurately and tops shall be formed neatly.

The top forming of cast in place units shall extend downward for a minimum of 24 inches on the side of the foundation. The lower portion of all foundations shall be placed directly against undisturbed earth. No forms or reinforcing for foundations for mast arms and control cabinet shall be set, nor shall concrete be placed until the excavation has been inspected by the Engineer and approval to proceed has been given.

Where soil conditions are such that, in the opinion of the Engineer, the typical foundation design is not suitable, the Engineer will provide a modified design for the foundation.

SIGNAL HOUSINGS

Vehicle Signal Heads - All indications shall be equipped with a cut-away visor, and red, yellow, and green LED signal modules. All signal head shall have 5 inch backplates with a reflective border.

Pedestrian Signal Heads - All indications shall be equipped with a hood visor, and lunar white and portland orange LED signal modules.

The final adjustment of the facing of signals shall be made as required by the Engineer after all

the signals at an intersection are operating, but prior to installing the through bolt above.

LIGHT EMITTING DIODE (LED) SIGNAL MODULE

Any equipment that has been type-tested and approved according to Section 815.21 of the Standard Specifications prior to the date of award of this Contract will be considered as meeting these Specifications.

All Red, Yellow and Green LED signal housings with the exception of optically programmed and fiber-optic housings shall conform to the following:

All Red and Green LED signal modules shall conform to "Interim LED Purchase Specification of the Institute of Transportation Engineers, Vehicle Traffic Control Signal Heads - Part 2: Light Emitting Diode (LED) Vehicle Traffic Signal Modules", July, 1998, or most current version, Institute of Transportation Engineers (ITE), 1627 Eye Street, NW, Suite 600, Washington, DC 20006.

Yellow LED signal modules shall conform to the above specifications with the exception that yellow modules shall meet maintained Minimum Luminous Intensity values of Table 1, Section 4 of the above referenced ITE specification of compliant green signal modules at 25°C at 120 volts AC, throughout the useful life based on normal use in traffic signal operation over the operating temperature range.

All signal modules shall conform to the following: (In the case of a conflict, the following special provision shall overrule.)

An independent laboratory shall certify that the LED signal module complies with Section 6 Quality Assurance of the above stated ITE LED Purchase Specification.

LED signal modules must be type-tested and approved by the Department according to the requirements of Subsection 815.21 of the Standard Specifications for Highways and Bridges.

On the backside of the LED signal module there shall be a permanently marked "up" arrow to aid in the proper orientation of the module during installation.

The manufacturer's name, trademark, serial number and other necessary identification shall be permanently marked on the backside of the LED signal module.

Physical and Mechanical Requirements

LED signal modules shall fit without modifications into existing traffic signal housings conforming to "Vehicle Traffic Control Signal Heads" (VTC SH) published in the Equipment and Materials Standards of the Institute of Transportation Engineers. The LED signal module shall be a single, self-contained device, not requiring on-site assembly for installation. The LED signal assembly construction shall conform to the applicable ASTM specifications for the materials used to fabricate the module.

Each red LED signal module shall be comprised of a smooth surfaced Red, UV stabilized polycarbonate outer shell, multiple LED light sources, a power supply and a polycarbonate back cover assembled in a gasketed or silicon sealed unit.

Each yellow LED signal module shall be comprised of a smooth surfaced Yellow, or transparent, UV stabilized polycarbonate outer shell, multiple LED light sources, a power supply and a polycarbonate back cover assembled in a gasketed or silicon sealed unit.

Each green LED signal module shall be comprised of a smooth surfaced Green, or transparent, UV stabilized polycarbonate outer shell, multiple LED light sources, a power supply and a polycarbonate back cover assembled in a gasketed or silicon sealed unit.

Optical and Light Output Requirements

The minimum luminous intensity values and light output shall be maintained within the rated input voltage of 117 Volts AC. Red and Green LED signal modules shall not be allowed to fall short of the minimum intensity values at any of the 44 measuring points of the standard when the lamp is turned on cold for measurements and after a 30 minute warm-up time period at 100% duty cycle. Yellow LED signal modules shall not be allowed to fall short of the minimum intensity values for green modules as described above, at any of the 44 measuring points of the standard.

Electrical

The maximum wattage for red and green 300-mm balls shall be 20 Watts and 10 Watts for the 300-mm red and green arrows. The maximum wattage for 300-mm yellow balls shall be 24 Watts and 12 Watts for the 300-mm yellow arrows.

The LED sources shall not be powered above 70% of the manufacturer's specified rated load. This shall be clearly shown in layman's terms through calculations, schematics, catalogue cuts, etc.

Red LED sources shall be AlInGaP (Aluminum Indium Gallium Phosphide) type shown clearly in a catalogue cut or similar literature.

Yellow LED sources shall be AlInGaP (Aluminum Indium Gallium Phosphide) type shown clearly in a catalogue cut or similar literature.

Green LED sources shall be InGaN (Indium Gallium Nitride) type shown clearly in a catalogue cut or similar literature.

Warranty

The LED signal module will be replaced or repaired by the manufacturer if it exhibits a failure due to workmanship or material defects within the first 60 months of field operation.

The LED signal module will be replaced or repaired by the manufacturer if it exhibits either a greater than 40 percent light output degradation or a fall below the minimum intensity levels within the first 36 months of field operation.

PEDESTRIAN SIGNAL HEADS

The pedestrian signal heads shall be 16 inch countdown pedestrian signals. The signal shall consist of international symbols of an LED upright hand symbolizing “DON’T WALK” and a walking person symbolizing “WALK”. The internal countdown module shall be comprised of two 7 segment digits, 8 inches high and made of 88 red LED’s. The countdown module shall display the number of seconds remaining throughout the flashing “DON’T WALK” pedestrian, and blank out when not activated. All LED indications on the pedestrian signal shall have an automatic dimming circuit for night illumination to reduce long-term degradation to the LED’s.

PEDESTRIAN PUSH BUTTON

Pedestrian push buttons shall be located as close as practicable to the sidewalk curb ramp serving the controlled crossing and shall permit operation from a clear ground space. If two crosswalks, oriented in different directions, end at or near the same location, the positioning of pedestrian push buttons and/or legends on the pedestrian push button signs should clearly indicate which crosswalk signal is actuated by each pedestrian push button.

Pedestrian pushbuttons shall be installed on a saddle of cast aluminum with the approved MassDOT, Highway Division instructional legend, firmly attached to the casting. The saddle shall have a clear coat finish. The plunger shall be a maximum of 42 inches above the finished sidewalk and a minimum of two inches in the smallest dimension. The force required to activate controls shall be no greater than 5 lbs. This sign and saddle shall be used in locations where a pushbutton is shown on the plans

ACCESSIBLE PEDESTRIAN SIGNALS

Audible pedestrian signals shall be provided at the locations shown on the Contract Drawings. The accessible pedestrian signals/pedestrian push button shall provide visually impaired pedestrians with a locator tone that will allow them to find the push button to actuate the walk signal. Once the push button call has been placed, the button will provide both an audible and a tactile response during the WALK phase of the cycle. The push buttons shall clearly indicate by means of tactile arrows which crosswalk signal is actuated by each push button. Audible pedestrian signals shall be of the type which produces a percussive tone during the walk signal. The assemblies shall be capable of adjusting audible volume to ambient noise levels. Audible pedestrian signals shall conform to the requirements of the MUTCD, including sound level requirements for locator tone and percussive tone during the walk signal.

The push button assembly and hardware shall be the color Black , with approval by the City of Salem. The color shall match color number 17038 of the Federal Standard 595C “Colors Used in Government Procurement.”

BACKPLATES

Backplates shall be aluminum with a non-louvered profile. Backplates shall have a 5 inch border width and which includes a 3" reflectorized yellow border. The border shall be made from an adhesive-backed retroreflective yellow micro-prismatic sheeting, Type III or IV, and cover the entire perimeter of the backplate. The sheeting shall be placed no closer than ½-inch to any single louver, and no sheeting shall cover any portion of a louver.

VISORS

All vehicular traffic signal indications shall come equipped with cut-away visors.

Pedestrian signal heads shall come equipped with cut-away visors.

Pedestrian Signal Heads – Heavy duty blind clamp fittings are required for mounting hardware.

Where mast arm mounting is required, including at intermediate arm locations, signal heads shall be all vertically fixed-mounted.

The final adjustment of the facing of signals shall be made as required by the Engineer after all the signals at an intersection are operating, but prior to installing the through bolt above.

MAST-ARM ASSEMBLIES

All Traffic Signal Mast Arm assemblies, including bases, shall follow MassDOT standards.

The assemblies shall conform to the relevant provisions of Subsection 815.43 of the Standard Specifications and shall be constructed of galvanized steel without a transformer base. Shoe bases shall be provided. Shop drawings and structural calculation submittals will be required for all mast arm assemblies. The wind speed utilized for the calculations shall be 130 mph. The length of mast arm shaft shall be according to the plans.

The Contractor shall furnish to the Engineer longhand design calculations and weld details for the mast arm assembly selected. Longhand design calculations shall be submitted with the Shop Drawings. All drawings and calculations must be stamped by a Professional Engineer registered in the Commonwealth of Massachusetts. The complete mast arm assembly shall be designed and constructed in accordance with the MassDOT Mast Arm & Foundation Details and Standard Drawings. Only poles from MassDOT prequalified manufacturers shall be used. A list of prequalified manufacturers can be obtained from the Bridge Engineer of the Massachusetts Department of Transportation (MassDOT).

Vertical mounting brackets of the type regularly supplied by the manufacturer and conforming to applicable provision of section 815 of the Standard Specifications shall be used for the attachment of signal heads to the mast arm. Sign brackets for mast arms shall be used in all locations where a sign is to be mounted to the mast arm. Mast arm sign brackets shall consist of a

mast arm clamp assembly, mounting bracket, stainless steel bands, clamp screw, hardware, and all miscellaneous materials necessary to fix mount the sign to the mast arm.

EQUIPMENT FINISH AND COLOR

All traffic signal equipment including but not limited to mast arms, signal posts, bases, signal heads, visors (outside), doors, controller cabinets, service meter socket boxes, pedestrian push button assemblies, hardware, and rigid mounting brackets for signals and signs shall be the color Black, as approved by the City of Salem. The color shall be Powder Coated Black which shall match color number 17038 of the Federal Standard 595C "Colors Used in Government Procurement." The inside of visors shall be Flat Black in accordance with Federal color number 37038. The Contractor shall submit to the Engineer and City of Salem for approval, paint chips and sample finishes on aluminum and steel of the intended color prior to any equipment being ordered.

TRAFFIC SIGNAL POSTS AND BASES

All traffic signal posts and bases shall follow MassDOT standards. Shop drawings will be required for all traffic signal posts and bases.

Bases shall be provided with a door opening and a cast aluminum door, complete with a cap screw fastening device and a tapped hole for a grounding lug.

CONCRETE BASES

All sweeps to be installed in concrete bases shall be $\frac{3}{4}$ inch steel sweeps with sufficient three inch steel riser to project above the finish grade of the base.

One spare sweep and riser, capped at both ends, shall be poured in place in each signal support foundation or base. The Engineer shall determine the location of the spare sweep. In any case no more than three sweeps shall be in any foundation.

TRAFFIC SIGNAL INTERSECTION CABLE

Intersection Cable - All traffic signal cable placed underground in conduit shall be stranded copper No. 12 AWG per IMSA 20-1. All traffic signal cable placed from the transformer base to the signal shall be stranded copper No. 14 AWG per IMSA 20-1.

Circuit protective device for the tap from No. 12 AWG to No. 14 AWG at the signal base shall not exceed 15 amps and shall comply with the N.E.C.

All traffic cables shall be labeled with suitable, durable, permanently legible tags or markers. Individual conductors, when not enclosed by the cable outer jacket, shall be bundled by phase and labeled with the appropriate phase designation.

A single cable shall be used in all conduit runs requiring up to 30 conductors. No more than

2 cables may be used for runs of 31 to 60 conductors, and no more than 3 cables may be used for runs of 61 to 90 conductors. These shall be the only cables carrying signal or pushbutton circuits in any one conduit.

A minimum of five (5) spare conductors shall be provided in the base of each signal post, mast arm pole and strain pole. Openings, where cables enter the base of a cabinet, shall be sealed with an approved elastic sealing compound. The open ends of conduits entering or leaving mast arms, posts and pull boxes shall also be sealed with the approved elastic sealing compound.

WIRING DIAGRAMS

Five sets of modified wiring diagrams for the control cabinet and all accessories shall be furnished including one mylar reproducible copy for the control cabinet when installed. All actual and potential terminal strip connections shall be shown. Accessory equipment includes flashers, switches, relays, logic modules, detectors, etc. All identification on the diagrams shall be as installed, and all field labeling shall be consistent with the diagrams. Furthermore, the format symbols, identifications, operating sequence, etc., common to all the intersection wiring diagrams shall be standardized and consistent with appropriate MassDOT standards. Before acceptance of the job, the five copies of all operating and maintenance manuals and complete and accurate parts lists shall be supplied.

All tests and any necessary repairs and replacements required to produce a fault-free system shall be included in the lump sum price bid for this Item.

SERVICE CONNECTION

All service cable shall be stranded copper No. 6 AWG. All power supply cable shall be labeled.

The Contractor shall furnish and install, or cause to be installed, all service equipment (120 volt, 60 cycle) to the satisfaction of the utility company (120/240 volt service connection will not be acceptable).

METHOD OF MEASUREMENT

Traffic Signal Reconstruction Location 1 shall be measured per Lump Sum per location.

BASIS OF PAYMENT

Traffic Signal Reconstruction Location 1 will be paid for at the Contract Lump Sum price for Item 816.01, which price shall include all labor, materials, equipment and incidental costs to complete the work and include disposal of the existing traffic signal equipment.

ITEM 841.1 **SUPPORTS FOR GUIDE SIGN (D6 w/D8 - 5 INCH** **EACH**
TUBULAR POST) STEEL

The work under this Item shall conform to the relevant provisions of Section 840 Sign Supports of the MassDOT Standard Specifications for Highways and Bridges, as amended, and the following:

The Work shall include the removal, storage, protection, handling, and re-installation of ground mounted guide sign panels onto new supports at two locations as shown on the contract drawings. The work includes all associated excavations, concrete foundations, the supplying and placing of compacted gravel, as required by the Engineer, and the restoration to original condition of any adjacent natural features disturbed in any way or manner by the operation.

Work shall also include the excavation (including Class "B" rock) of any existing foundations to be removed to a depth of at least 6 inches below grade.

MATERIALS

If in the opinion of the Engineer, the existing sign panels are unsuitable for reuse, new sign panels of a size and composition equal to the existing sign panels shall be furnished, as required by the Engineer, at no additional cost.

CONSTRUCTION METHOD

The sign panels shall be mounted in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) and the 1990 Standard Drawings for Signs and Supports.

When the visibility of the relocated sign panels is obstructed by trees and other vegetation, the Contractor shall clear the obstruction for proper sight distance. All clearing shall be done within the roadway layout, as approved by the Engineer.

Existing sign panels to be re-used shall be cleaned before being re-installed. Damage during removal or resetting to any sign panel designated for reuse by the Engineer shall be repaired or replaced by the Contractor at his own expense.

METHOD OF MEASUREMENT

The quantity of Supports for Guide Sign (D6 w/D8 – 5 inch Tubular Post) Steel to be installed shall be measured by EACH sign support installation, complete in place, including all excavations, foundations, backfill and the reinstallation of existing sign panels or the furnishing and installation of new sign panels, as required by the Engineer.

BASIS OF PAYMENT

Payment for Supports for Guide Sign (D6 w/D8 – 5 inch Tubular Post) Steel to be installed at the locations shown on the contract drawings or as directed by the Engineer, will be made at the

contract unit price per each complete installation, regardless of the number of existing or new sign panels installed on each new sign support.

The Contract Price shall constitute full compensation for furnishing and installing all materials, labor, equipment, tools, appurtenances and incidentals necessary to satisfactorily perform the work, complete in place, and accepted.

No separate payment will be made for all excavation including class "B" rock excavation; removal, storage, protection, handling, and re-installation of existing ground mounted guide sign panels or furnishing of new sign panels; gravel backfill, as required by the Engineer; compaction and restoration work but all costs in connection therewith shall be included in the price bid.

The cost of any work or materials required, due to the Contractor's negligence, shall be borne by the Contractor.

SPECIAL PROVISIONS

CITY OF SALEM, MASSACHUSETTS
Traffic Signal and Intersection Improvements:
Lafayette Street/Loring Avenue/West Avenue
CONTRACT NO. R-31

WORK SCHEDULE

Work on this project is restricted to a normal eight-hour day, five-day week, with the Prime Contractor and all subcontractors working on the same shift. No work will be allowed on the project on Saturdays, Sundays and Holidays, without prior written approval by the City Engineer.

PROVISIONS FOR TRAVEL AND PROSECUTION OF WORK

Before starting any work under this Contract, the Contractor shall submit a Schedule of Operation as stated in Section 8.02 of Standard Specifications to the City of Salem. This work schedule shall include a plan of his construction procedures, scheduling details for completing the work, proposed detours, and the safety measures he will use during the prosecution of the work as set forth in Section 850 of the Massachusetts Standard Specifications for Highways and Bridges. Approval of the construction schedule by the City of Salem is required prior to commencement of any construction activity.

The Contractor shall coordinate his work with the work to be done by the Public Utilities or other agencies, and he shall so schedule his operations as to cause the least interruption to the normal flow of traffic in existing roads.

Prior to commencement of work, the Contractor shall be responsible for obtaining all necessary local permits.

Attention is further directed to the following provisions unless otherwise directed by the Engineer:

1. Working hours for this project are from 7:00 AM to 3:30 PM, Monday through Friday, overtime is permitted.
2. No work shall be done on this Contract on Saturdays, Sundays and Holidays.
3. No detouring of traffic shall be allowed without permission of the City of Salem.

The Contractor may be required to temporarily suspend operations when such are considered by the Engineer to be a hazard to traffic.

Particular care shall be taken to establish and maintain methods and procedures, which will not create unnecessary or unusual hazards to public safety. All normal pedestrian and vehicular traffic on existing streets shall be maintained by proper scheduling of work. The convenience of the general public along and adjacent to the street shall be provided for in an adequate and satisfactory manner. Access shall be maintained to all buildings in use. The placement of necessary devices will be for daily work periods and shall be removed immediately after the conclusion of work operations. Signs having messages that are irrelevant to normal traffic

conditions will be removed or properly covered at the end of each work period. Signs are to be kept clean at all times, and legends shall be distinctive and unmarred.

The Contractor shall provide, place and erect all necessary barricades and warning signs and maintain adequate lights and illumination therefore. He shall be held responsible for all damage to the work due to any failure of signs and barricades needed to protect the work from traffic, pedestrians or other causes.

The castings of all structures, which are required to be set or reset under the pertinent items of this Contract or by others, shall be set complete in place to the established grade before placement of the wearing course.

The Contractor shall not proceed with surfacing operations without the specific written approval of the City.

The Contractor shall provide for the removal of all material spilled from his trucks on existing pavement over which it is hauled, or otherwise deposited thereon whenever, in the judgment of the Engineer, the accumulation is sufficient to cause the formation of mud or dust, or interfere with drainage or create a traffic hazard.

COOPERATION BY CONTRACTOR

Attention is directed to the provisions relating to rights of public corporations and municipal departments to enter the site of the improvement and alter, replace, and/or install facilities at some time when the Contractor will be prosecuting other required work contiguous thereto.

CONSTRUCTION (STAKES) STAKINGS

The Contractor shall employ, at his own expense, a competent civil engineer registered within the Commonwealth as a Professional Engineer or Land Surveyor. The Contractor shall require said engineer to establish all lines, elevations, stakes, reference marks, batter boards, etc., needed by the Contractor during the progress of the Work, and from time to time, to verify such marks by instrument or other appropriate means.

The Engineer shall be permitted at all times to check the lines, elevations, reference marks, stakes, batter boards, etc., set by the Contractor, who shall correct any errors in lines, elevations, stakes, reference marks, batter boards, etc. disclosed by such check. Such a check shall not be construed to be an approval of the Contractor's work and shall not relieve or diminish in any way the responsibility of the contractor for the accurate and satisfactory construction and completion of the entire Work.

The Contractor shall make, check, and be responsible for all measurements and dimensions necessary for the proper construction of and the prevention of misfittings in the Work.

INSPECTION OF WORK

The Contractor is advised that the City of Salem, Department of Public Works will be provided with a schedule of operations and will, at various times, be on-site to inspect procedures and give directions. For the purpose of observing work that affects their respective properties, inspectors for public agencies and utility companies shall be permitted access to the work, but all official orders and directives to the Contractor will be issued by the Resident Engineer appointed by the City. The Contractor shall be responsible for the cost of any and all electrical inspections.

BUY AMERICA PROVISIONS (23 CFR 635.410)

Federal Law requires that all manufacturing processes for steel and iron to be permanently incorporated in Federal-Aid highway construction projects must occur in the United States. Foreign steel and iron can be used if the cost of the material does not exceed 0.1% of the total contract cost or \$2,500 which ever is greater. The action of applying a coating to a covered material (i.e. steel and iron) is deemed a manufacturing process subject to Buy America. Coating includes epoxy coating, galvanizing, painting, and any other coating that protects or enhances the value of a material subject to requirements of Buy America.

The law permits the use of pig iron and processed, palletized, and reduced iron ore manufactured outside of the United States to be used in the domestic manufacturing process for steel and/or iron materials used in Federal-Aid construction projects.

INTERFERENCE WITH AND PROTECTION OF STREETS

- A. Should deem necessary, uniformed officers will be assigned to direct traffic. The Contractor shall make all arrangements in obtaining uniformed officers required.
- B. Nothing contained herein shall be construed as relieving the Contractor of any of his responsibilities for protection of person and property under the terms of the Contract.

PUBLIC SAFETY

The contractor shall be required to provide safe and convenient access to all abutters during the prosecution of work. Necessary access for fire apparatus and other emergency vehicles shall be maintained at all times.

Trenches shall not be excavated in traveled ways until all materials and equipment required for such work are at the site and available for immediate use. When work is not in progress, trenches in areas subject to public travel shall be covered with steel plates capable of safely sustaining a 36.5 ton truckload with impact without additional compensation. The work in each trench shall be practically continuous, with the placing of conduit or pipe, backfilling and patching of the surface closely following each preceding operation.

Particular care shall be taken to establish and maintain methods and procedures, which will not create unnecessary or unusual hazards to public safety. The contractor may be required to temporarily suspend operations when such are considered by the City of Salem to be a hazard to traffic.

The contractor shall provide and use all necessary warning devices, barricades, signs, special apparel, etc., in the performance of the work, as set forth in Section 850 of the Massachusetts Standard Specifications for Highways and Bridges.

The contractor shall provide, place and erect all necessary barricades and warning signs and maintain adequate lights and illumination therefore. He shall be held responsible for all damage to the work due to any failure of signs and barricades needed to protect the work from traffic, pedestrians or other causes.

Signs having messages that are irrelevant to normal traffic conditions will be removed or properly covered at the end of each work period. Signs are to be kept clean at all times, and legends shall be distinctive and unmarred.

All automotive equipment not protected by traffic control devices that is working on a project which is open to traffic shall have one amber flashing or strobe warning light mounted on the cab roof or on the highest practical point of the machinery. These lights shall be in operation whenever the equipment is working on the highway and/or traveling in the work area at speeds less than 25 MPH.

All vehicles, except passenger cars, which are assigned to the project which operate at speeds of 25 MPH or less shall have an official slow-moving vehicle emblem displaying in accordance with the provisions of Section 7 of Chapter 90 of the General Laws as amended by Chapter 684 of the Acts of 1970.

Flashers must be visible to both oncoming and overtaking vehicular traffic and shall have a light source of 32 minimum candlepower and a flashing frequency of 50-60 times per minute.

All personnel who are working on the traveled way or breakdown lane and who are not protected by traffic control devices shall wear approved safety vests.

The contractor shall at all times, until written acceptance of the physical work by the City of Salem be responsible for the protection of the work and shall take all precautions for preventing injuries to persons or damage to property on or about the project.

TRAFFIC CONTROL

The contractor shall have the sole responsibility for the maintenance and protection of traffic.

An authorized representative of the contractor shall be available on a 24-hour basis for the duration of the project for the purpose of correcting construction related impediments or hazards.

The contractor shall submit a Traffic Control Plan that details all typical work zones and proposed detours, if applicable.

The contractor shall provide the following traffic control measures:

- Barricade trenches and roadway excavations at the end of each work period with temporary precast concrete barriers, properly lighted and marked to guide traffic to designated travel lane, or by other means acceptable to the City and approved on the Traffic Control Plan.
- Maintain and protect traffic movements for the entire length of the project.
- Keep one lane of traffic open at all times except for brief stoppages dictated by the construction operation involving safety of vehicles in the travel lanes.
- Maintain access to business and private ways during construction operations.
- Furnish sufficient number of signs, temporary precast concrete barriers, warning lights, drums and traffic cones to warn traffic of construction and guide traffic through the construction area in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) 2003 Edition including all the latest revisions.
- Replace at no cost to the City of Salem pavement markings, legends and lane arrows removed or damaged by the construction operation.
- Restore temporary detours, if any, to original condition.

Replace traffic signal loops damaged during construction within 72 hours.

TRAFFIC OFFICERS

Police details will be paid for by the CITY. Salem's payment is limited to four (4) hours in the morning and four (4) in the afternoon or a total of only eight (8) hours per day, unless additional time is previously approved by the City Engineer. Any additional hours not previously approved by the City Engineer will be the responsibility of the Contractor. The Contractor will be responsible for scheduling such officers.

When, in the opinion of the Owner or the Engineer, public safety or convenience requires the services of police, the Engineer may direct the Contractor to provide manpower to direct traffic within or adjacent to the location of work under this Contract.

The intent is to insure public safety by police direction of traffic. Police are not to serve as watchmen to protect the Contractor's equipment and materials.

NOTICE OF OWNERS OF UTILITIES

Written notice shall be given by the Contractor to all public service corporations or municipal and State officials owning or having charge of publicly or privately owned utilities of his intention to commence operations affecting such utilities at least one week in advance of the commencement of such operations. The Contractor shall, at the same time, file a copy of such notice with the Engineer.

Following is a list of Utility Companies and others who may be involved in this project:

City of Salem
Department of Public Service
5 Jefferson Avenue
Salem, MA 01970

Mr. John Tomasz
Director
978-744-3302

National Grid
25 Research Drive
Westborough, MA 01582

Ayodele Osimboni
508-389-3657

Keyspan Energy Delivery
52 Second Avenue
Waltham, MA 02451

Mr. Dennis Peri
781-466-5241

Verizon
1166 Shawmut Avenue
New Bedford, MA 02746

Ms. Karen Nunes
508-991-3522

Salem Engineering Department
120 Washington Street
Salem, MA 01970

Mr. David Knowlton, P.E.
City Engineer
978-745-9595

Comcast
676 Island Pond Road
Manchester, NH 03109

Ms. Stacey Charest
603-628-3732

AT&T Local Network Service
157 Green Street, Suite 2
Foxborough, MA 02035

Mr. Scott Ferreira
508-216-0059

Salem Fire Department
48 Lafayette Street
Salem, MA 01907

Chief David W. Cody
978-744-6990

Salem Police Department
Salem, MA 01907

Chief Mary Butler
978-744-0171

The Contractor shall make his own investigation to assure that no damage to the existing structures, drainage lines, traffic signal conduits, and other utilities will occur as a result of his operations.

The Contractor shall notify "Mass. DIG SAFE" and procure a DIG SAFE number of each location prior to disturbing ground in any way.

"DIG SAFE" call center: Telephone 1-800-344-7233

SAFETY CONTROLS FOR CONSTRUCTION OPERATION

Safety controls for construction operations shall be done in accordance with the relevant provisions of Section 850 of the Standard Specifications, the Manual on Uniform Traffic Control Devices and the following:

The providing of safety controls for construction operations shall be considered incidental to this contract and the costs for safety controls shall be included in the unit bid price for those contract items requiring such controls.

Positioning, adjusting and re-positioning of all devices such as traffic cones, high level warning devices, etc., not otherwise classified and paid for under other items in this Contract, is considered incidental and no separate payment will be made.

SAFETY

- A. This project is subject to the Safety and Health regulations of the U.S. Department of Labor set forth in 29 CFR, Part 1926, and to the Massachusetts Department of Labor and Industries, Division of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations (454 CMR 10.0 et. seq.)." Contractors shall be familiar with the requirements of these regulations.

SANITARY REGULATIONS

- A. The Contractor shall provide adequate sanitary facilities for the use of those employed on the Work. Such facilities shall be made available when the first employees arrive on the site of the Work, shall be properly secluded from public observation, and shall be constructed and maintained during the progress of the Work in suitable numbers and at such points and in such a manner as may be required.
- B. The Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. He shall rigorously prohibit the committing of nuisances on the site of the Work, on the lands of the Owner, or any adjacent property.

DIMENSIONS OF EXISTING GRADES

- A. Upon completion of final pavement surface the grades within "Limit of Work" shall not exceed the existing grades. The Contractor shall provide a plan verifying existing grades to the City. Plan should be stamped by a registered Land Surveyor or a Professional Engineer.

PROCEDURES FOR SHOP DRAWING SUBMITTALS

The following procedure shall be followed when making shop drawing submittals for this project:

1. The Prime Contractor shall submit six (6) sets of drawings directly to the Design Engineer, Fay Spofford & Thorndike, Inc for preliminary review.

2. The Design Engineer will send a written reply, returning four (4) sets to the Prime Contractor within ten working days of receipt of the drawings.
3. If the Design Engineer's reply indicates rejection or advises corrections or additions to the drawings, steps 1 and 2 are repeated until the Design Engineer indicates that approval will be given. A maximum of two (2) submittals of each shop drawing will be reviewed by the Engineer. If more submittals are required due to the Contractor's neglect or failure to fulfill the requirements of the Contract plans and specifications, or to make corrections or modifications required by the Engineer in the review of the first two submittals, the Engineer will review the submittal and the Contractor will be responsible for the cost of the review, as determined by the Owner based on the Engineer's documentation of time and rates for additional services established in the Engineering Agreement between the Owner and the Engineer.
4. The Contractor shall take care that every separate document in each set of every submittal shall carry the following identifying information:

<u>Information Required</u>	<u>Example</u>
a. Community name of project	Salem
b. Federal Aid Project No. (if applicable) and Contract No.	D-1
c. Identifying item number from proposal if applicable.	222.0
d. Locations where material is proposed to be used, if applicable.	Ward 1 – Star Avenue
e. Name of submitting contractor	Doe Engineering
f. Personal signature and title of an official of the Prime Contractor authorized to make shop drawing submittals	John Doe, Pres.
g. Date of signature or submittal	June 15, 2012
h. Description of what is on drawing	Surface course
j. A clear, signed Professional Engineer's stamp to be affixed per Specifications.	

The Contractor shall not receive payment for, nor will he be allowed to install any item or materials which require shop drawing approval unless and until he has received shop drawing approval for that item from the Design Engineer with an approval stamp placed thereon.

The Contractor shall not receive payment for, nor will he be allowed to install any item or materials, which require shop drawing approval unless and until he receives an approved shop drawing for that item.

Within 15 days after receipt of an approved shop drawing for any item, the Contractor shall provide the City written proof that he has ordered such approved materials and written confirmation of such order and delivery schedule from the manufacturer of the item. This delivery schedule shall be appropriate for timely completion of this project.

SAW CUTS

Saw cuts shall be made in existing pavement at the limits of full depth pavement construction, limits of resurfaced pavement construction and as directed by the Engineer. At no time will feathering of pavement to meet existing conditions be permitted. Payment for this work shall be at the Contract Unit Price for Item 482.3.

OVERLOADED TRUCKS

The City of Salem will not accept any materials delivered to any project in motor vehicles or semi-trailer units that exceed the legal maximum weight allowed for the particular class, as specified in Section 19A of Chapter 90 of the General Laws of Massachusetts.

MATERIAL REMOVED AND STACKED

The Contractor shall carefully remove and store all City owned materials at a site designated on the project by the Engineer for their subsequent removal, transportation to and stacking by the Contractor at a City-owned facility.

Any materials damaged or lost during or subsequent to removal shall be replaced in kind by the Contractor without additional compensation.

All surplus materials resulting from excavation and not needed for use on the project, as determined by the Engineer, shall be disposed of by the Contractor outside and away from the limits of the project, subject to the regulations and requirements of local authorities governing the disposal of such materials at no additional compensation.

REJECTED MATERIALS AND DEFECTIVE WORK

- A. Materials furnished by the Contractor and condemned by the Engineer as unsuitable or not in conformity with the specifications shall forthwith be removed from the work by the Contractor, and shall not be made use of elsewhere in the work.
- B. Any errors, defects or omissions in the execution of the work or in the materials furnished by the Contractor, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the Contractor and in a manner satisfactory to the Engineer.

- C. The Contractor shall reimburse the Owner for any expense, losses or damages incurred in consequence of any defect, error, omission or act of the Contractor or his employees, as determined by the Engineer, occurring previous to the final payment.

SITE INVESTIGATION

The Contractor acknowledges that he has satisfied himself as to the conditions existing at the site of the work, the type of equipment required to perform this work, the quality and quantity of the materials furnished insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the Contract Documents made a part of this contract. Any failure of the Contractor to acquaint himself with available information will not relieve him from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusion or interpretation made by the Contractor is further directed to make any and all questions known to the Engineer.

MATERIALS - SAMPLES - INSPECTION

- A. Unless otherwise expressly provided in the Contract Documents, only new materials and equipment shall be incorporated in the Work. All materials and equipment furnished by the Contractor to be incorporated in the Work shall be subject to the inspection of the Engineer. No material shall be processed or fabricated for the Work or delivered to the work site without prior concurrence of the Engineer.
- B. As soon as possible after execution of the AGREEMENT, the Contractor shall submit to the Engineer the names and addresses of the manufacturers and suppliers of all materials and equipment he proposes to incorporate into the Work. When shop and working drawings are required as specified below, the Contractor shall submit, prior to the submission of such drawings, data in sufficient detail to enable the Engineer to determine whether the manufacturer and/or the supplier have the ability to furnish a product meeting the Contract Documents. As requested, the Contractor shall also submit data relating to the materials and equipment he proposes to incorporate into the Work in sufficient detail to enable the Engineer to identify and evaluate the particular product and to determine whether it conforms to the Contract requirements. Such data shall be submitted in a manner similar to that specified for submission of shop and working drawings.
- C. Facilities and labor for the storage, handling, and inspection of all materials and equipment shall be furnished by the Contractor. Defective materials and equipment shall be removed immediately from the site of the Work.
- D. If the Engineer so requires, either prior to or after commencement of the Work, the Contractor shall submit samples of materials for such special tests as the Engineer deems necessary to demonstrate that they conform to the Specifications. Such samples, including concrete test cylinders, shall be furnished, taken, stored, packed, and shipped by the Contractor as directed. The Contractor shall furnish suitable molds

for making concrete test cylinders. Except as otherwise expressly specified, the Owner shall make arrangements for, and pay for, the tests.

- E. All samples shall be packed so as to reach their destination in good condition, and shall be labeled to indicate the material represented, the name of the building or work and location for which the material is intended, and the name of the Contractor submitting the sample. To ensure consideration of samples, the Contractor shall notify the Engineer by letter that the samples have been shipped and shall properly describe the samples in the letter. The letter of notification shall be sent separate from and should not be enclosed with the samples.
- F. The Contractor shall submit data and samples, or place his orders, sufficiently early to permit consideration, inspection and testing before the materials and equipment are needed for incorporation in the Work. The consequences of his failure to do so shall be the Contractor's sole responsibility.
- G. In order to demonstrate the proficiency of workmen, or to facilitate the choice among several textures, types, finishes, surfaces, etc., the Contractor shall provide such samples of workmanship of wall, floor, finish, etc., as may be required.
- H. When required, the Contractor shall furnish to the Engineer in triplicate sworn copies of manufacturer's shop or mill tests (or reports from independent testing laboratories) relative to materials, equipment performance ratings, and concrete data.
- I. After review of the samples, data, etc. the materials and equipment used on the Work shall in all respects conform therewith.

MEASUREMENT OF MATERIALS

All delivery slips for materials to be paid by weight must be submitted on automated printed tickets. Hand-written tonnage slips will not be accepted.

All deliver slips must be signed by the Engineer and a copy of each slip must be given to the engineer at the time each load is delivered. Each slip must contain the following information:

1. The gross weight of each load.
2. The net weight of the load.
3. The tare weight of the vehicle.
4. The time of day upon leaving the plant.

DISTURBANCE OF BOUNDS

The contractor shall replace all bounds disturbed by his operation, at his own expense, the bounds shall be relocated by a land surveyor approved by the engineer and registered in the Commonwealth of Massachusetts.

FINAL CLEANUP

Before acceptance by the Owner, the Contractor shall perform a final cleanup to bring the construction site to its original or specified condition. This cleanup shall include removing all trash and debris off of the premises. Before acceptance, the condition of the site shall be approved by the Engineer.

PRICE ADJUSTMENTS

Pricing for Hot Mix Asphalt shall be adjusted monthly in accordance with MassDOT Document 00811, Special Provision, Monthly Price Adjustment for Hot Mix Asphalt Mixtures, revised 2/02/2009, or the latest published edition.

Pricing for Diesel fuel and Gasoline, Portland Cement and Steel shall be adjusted in accordance with the latest MassDOT requirements as included in these bid documents.



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

Prevailing Wage Rates

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

RONALD L. WALKER, II
Secretary

WILLIAM D MCKINNEY
Director

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

Awarding Authority: City of Salem
Contract Number: R-31 **City/Town:** SALEM
Description of Work: Traffic Signal and Intersection Improvements at Lafayette, Loring and West Avenues.
Job Location: Various, Salem, MA 01970

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the “Wage Request Number” on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards (“DLS”) if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **If an apprentice rate is not listed on the prevailing wage schedule for the trade in which an apprentice is registered with the DAS, the apprentice must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F “rental of equipment” contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee’s name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$31.65	\$10.41	\$9.33	\$0.00	\$51.39
	12/01/2015	\$31.65	\$10.41	\$10.08	\$0.00	\$52.14
	06/01/2016	\$32.15	\$10.41	\$10.08	\$0.00	\$52.64
	08/01/2016	\$32.15	\$10.91	\$10.08	\$0.00	\$53.14
	12/01/2016	\$32.15	\$10.91	\$10.89	\$0.00	\$53.95
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$31.72	\$10.41	\$9.33	\$0.00	\$51.46
	12/01/2015	\$31.72	\$10.41	\$10.08	\$0.00	\$52.21
	06/01/2016	\$32.22	\$10.41	\$10.08	\$0.00	\$52.71
	08/01/2016	\$32.22	\$10.91	\$10.08	\$0.00	\$53.21
	12/01/2016	\$32.22	\$10.91	\$10.89	\$0.00	\$54.02
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$31.84	\$10.41	\$9.33	\$0.00	\$51.58
	12/01/2015	\$31.84	\$10.41	\$10.08	\$0.00	\$52.33
	06/01/2016	\$32.34	\$10.41	\$10.08	\$0.00	\$52.83
	08/01/2016	\$32.34	\$10.91	\$10.08	\$0.00	\$53.33
	12/01/2016	\$32.34	\$10.91	\$10.89	\$0.00	\$54.14
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.29	\$9.80	\$19.23	\$0.00	\$117.32
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	12/01/2015	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	06/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
	12/01/2016	\$33.65	\$7.30	\$12.30	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	06/01/2015	\$33.43	\$10.40	\$5.95	\$0.00	\$49.78
	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	12/01/2015	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	06/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
	12/01/2016	\$33.65	\$7.30	\$12.30	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2015	\$40.32	\$6.97	\$16.21	\$0.00	\$63.50
	01/01/2016	\$41.62	\$6.97	\$16.21	\$0.00	\$64.80
	01/01/2017	\$42.92	\$6.97	\$16.21	\$0.00	\$66.10

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$26.21	\$6.97	\$10.54	\$0.00	\$43.72
2	65	\$26.21	\$6.97	\$10.54	\$0.00	\$43.72
3	70	\$28.22	\$6.97	\$11.35	\$0.00	\$46.54
4	75	\$30.24	\$6.97	\$12.16	\$0.00	\$49.37
5	80	\$32.26	\$6.97	\$12.97	\$0.00	\$52.20
6	85	\$34.27	\$6.97	\$13.78	\$0.00	\$55.02
7	90	\$36.29	\$6.97	\$14.59	\$0.00	\$57.85
8	95	\$38.30	\$6.97	\$15.40	\$0.00	\$60.67

Effective Date - 01/01/2016

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

Notes:

Apprentice to Journeyworker Ratio:1:5

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (LYNN)</i>	08/01/2015	\$49.86	\$10.18	\$18.57	\$0.00	\$78.61
	02/01/2016	\$50.43	\$10.18	\$18.57	\$0.00	\$79.18
	08/01/2016	\$51.33	\$10.18	\$18.65	\$0.00	\$80.16
	02/01/2017	\$51.90	\$10.18	\$18.65	\$0.00	\$80.73

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.93	\$10.18	\$18.57	\$0.00	\$53.68
2	60	\$29.92	\$10.18	\$18.57	\$0.00	\$58.67
3	70	\$34.90	\$10.18	\$18.57	\$0.00	\$63.65
4	80	\$39.89	\$10.18	\$18.57	\$0.00	\$68.64
5	90	\$44.87	\$10.18	\$18.57	\$0.00	\$73.62

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.22	\$10.18	\$18.57	\$0.00	\$53.97
2	60	\$30.26	\$10.18	\$18.57	\$0.00	\$59.01
3	70	\$35.30	\$10.18	\$18.57	\$0.00	\$64.05
4	80	\$40.34	\$10.18	\$18.57	\$0.00	\$69.09
5	90	\$45.39	\$10.18	\$18.57	\$0.00	\$74.14

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
<i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN	06/01/2015	\$36.20	\$7.30	\$13.40	\$0.00	\$56.90
<i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2015	\$36.95	\$7.30	\$13.40	\$0.00	\$57.65
	06/01/2016	\$37.70	\$7.30	\$13.40	\$0.00	\$58.40
	12/01/2016	\$38.70	\$7.30	\$13.40	\$0.00	\$59.40
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER	06/01/2015	\$35.05	\$7.30	\$13.40	\$0.00	\$55.75
<i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2015	\$35.80	\$7.30	\$13.40	\$0.00	\$56.50
	06/01/2016	\$36.55	\$7.30	\$13.40	\$0.00	\$57.25
	12/01/2016	\$37.55	\$7.30	\$13.40	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN	06/01/2015	\$35.05	\$7.30	\$13.40	\$0.00	\$55.75
<i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2015	\$35.80	\$7.30	\$13.40	\$0.00	\$56.50
	06/01/2016	\$36.55	\$7.30	\$13.40	\$0.00	\$57.25
	12/01/2016	\$37.55	\$7.30	\$13.40	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	03/01/2015	\$35.75	\$9.80	\$16.48	\$0.00	\$62.03

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.88	\$9.80	\$1.63	\$0.00	\$29.31
2	60	\$21.45	\$9.80	\$1.63	\$0.00	\$32.88
3	70	\$25.03	\$9.80	\$11.59	\$0.00	\$46.42
4	75	\$26.81	\$9.80	\$11.59	\$0.00	\$48.20
5	80	\$28.60	\$9.80	\$13.22	\$0.00	\$51.62
6	80	\$28.60	\$9.80	\$13.22	\$0.00	\$51.62
7	90	\$32.18	\$9.80	\$14.85	\$0.00	\$56.83
8	90	\$32.18	\$9.80	\$14.85	\$0.00	\$56.83

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (LYNN)</i>	07/01/2015	\$45.82	\$10.90	\$18.71	\$1.30	\$76.73
	01/01/2016	\$46.44	\$10.90	\$18.71	\$1.30	\$77.35

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$10.90	\$12.21	\$0.00	\$46.02
2	60	\$27.49	\$10.90	\$13.71	\$1.30	\$53.40
3	65	\$29.78	\$10.90	\$14.71	\$1.30	\$56.69
4	70	\$32.07	\$10.90	\$15.71	\$1.30	\$59.98
5	75	\$34.37	\$10.90	\$16.71	\$1.30	\$63.28
6	80	\$36.66	\$10.90	\$17.71	\$1.30	\$66.57
7	90	\$41.24	\$10.90	\$18.71	\$1.30	\$72.15

Effective Date - 01/01/2016

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

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

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR LABORERS - ZONE 2	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4	06/01/2015	\$43.83	\$10.00	\$14.55	\$0.00	\$68.38
	12/01/2015	\$45.08	\$10.00	\$14.55	\$0.00	\$69.63
	06/01/2016	\$45.83	\$10.00	\$14.55	\$0.00	\$70.38
	12/01/2016	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	06/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
	12/01/2017	\$49.08	\$10.00	\$14.55	\$0.00	\$73.63

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

COMPRESSOR OPERATOR OPERATING ENGINEERS LOCAL 4	06/01/2015	\$29.61	\$10.00	\$14.55	\$0.00	\$54.16
	12/01/2015	\$30.48	\$10.00	\$14.55	\$0.00	\$55.03
	06/01/2016	\$31.00	\$10.00	\$14.55	\$0.00	\$55.55
	12/01/2016	\$31.87	\$10.00	\$14.55	\$0.00	\$56.42
	06/01/2017	\$32.56	\$10.00	\$14.55	\$0.00	\$57.11
	12/01/2017	\$33.25	\$10.00	\$14.55	\$0.00	\$57.80

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DELEADER (BRIDGE) PAINTERS LOCAL 35 - ZONE 2	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.28	\$7.85	\$0.00	\$0.00	\$32.13
2	55	\$26.71	\$7.85	\$3.66	\$0.00	\$38.22
3	60	\$29.14	\$7.85	\$3.99	\$0.00	\$40.98
4	65	\$31.56	\$7.85	\$4.32	\$0.00	\$43.73
5	70	\$33.99	\$7.85	\$14.11	\$0.00	\$55.95
6	75	\$36.42	\$7.85	\$14.44	\$0.00	\$58.71
7	80	\$38.85	\$7.85	\$14.77	\$0.00	\$61.47
8	90	\$43.70	\$7.85	\$15.44	\$0.00	\$66.99

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$7.85	\$0.00	\$0.00	\$32.61
2	55	\$27.23	\$7.85	\$3.66	\$0.00	\$38.74
3	60	\$29.71	\$7.85	\$3.99	\$0.00	\$41.55
4	65	\$32.18	\$7.85	\$4.32	\$0.00	\$44.35
5	70	\$34.66	\$7.85	\$14.11	\$0.00	\$56.62
6	75	\$37.13	\$7.85	\$14.44	\$0.00	\$59.42
7	80	\$39.61	\$7.85	\$14.77	\$0.00	\$62.23
8	90	\$44.56	\$7.85	\$15.44	\$0.00	\$67.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN LABORERS - ZONE 2	06/01/2015	\$35.25	\$7.30	\$13.20	\$0.00	\$55.75
	12/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 2	06/01/2015	\$36.25	\$7.30	\$13.20	\$0.00	\$56.75
	12/01/2015	\$37.00	\$7.30	\$13.20	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS LABORERS - ZONE 2	06/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
	12/01/2015	\$36.75	\$7.30	\$13.20	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 2	06/01/2015	\$36.25	\$7.30	\$13.20	\$0.00	\$56.75
	12/01/2015	\$37.00	\$7.30	\$13.20	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR LABORERS - ZONE 2	06/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
	12/01/2015	\$36.75	\$7.30	\$13.20	\$0.00	\$57.25

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 2</i>	06/01/2015	\$35.25	\$7.30	\$13.20	\$0.00	\$55.75
	12/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$58.86	\$9.80	\$19.23	\$0.00	\$87.89
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$63.06	\$9.80	\$19.23	\$0.00	\$92.09
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.23	\$9.80	\$19.23	\$0.00	\$117.26
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.27	\$13.00	\$0.55	\$0.00	\$31.82
2	40	\$18.27	\$13.00	\$0.55	\$0.00	\$31.82
3	45	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
4	45	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
5	50	\$22.84	\$13.00	\$12.23	\$0.00	\$48.07
6	55	\$25.12	\$13.00	\$12.58	\$0.00	\$50.70
7	60	\$27.40	\$13.00	\$12.95	\$0.00	\$53.35
8	65	\$29.69	\$13.00	\$13.32	\$0.00	\$56.01
9	70	\$31.97	\$13.00	\$13.69	\$0.00	\$58.66
10	75	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
2	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
3	45	\$20.78	\$13.00	\$11.84	\$0.00	\$45.62
4	45	\$20.78	\$13.00	\$11.84	\$0.00	\$45.62
5	50	\$23.09	\$13.00	\$12.71	\$0.00	\$48.80
6	55	\$25.39	\$13.00	\$13.07	\$0.00	\$51.46
7	60	\$27.70	\$13.00	\$13.39	\$0.00	\$54.09
8	65	\$30.01	\$13.00	\$13.81	\$0.00	\$56.82
9	70	\$32.32	\$13.00	\$14.18	\$0.00	\$59.50
10	75	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

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

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2015	\$53.30	\$13.58	\$14.21	\$0.00	\$81.09
ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2016	\$54.53	\$14.43	\$14.96	\$0.00	\$83.92
	01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.65	\$13.58	\$0.00	\$0.00	\$40.23
2	55	\$29.32	\$13.58	\$14.21	\$0.00	\$57.11
3	65	\$34.65	\$13.58	\$14.21	\$0.00	\$62.44
4	70	\$37.31	\$13.58	\$14.21	\$0.00	\$65.10
5	80	\$42.64	\$13.58	\$14.21	\$0.00	\$70.43

Effective Date - 01/01/2016

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

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2015	\$37.31	\$13.58	\$14.21	\$0.00	\$65.10
	01/01/2016	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
	01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$40.22	\$10.00	\$14.30	\$0.00	\$64.52
	11/01/2015	\$40.80	\$10.00	\$14.30	\$0.00	\$65.10
	05/01/2016	\$41.69	\$10.00	\$14.30	\$0.00	\$65.99
	11/01/2016	\$42.28	\$10.00	\$14.30	\$0.00	\$66.58
	05/01/2017	\$43.16	\$10.00	\$14.30	\$0.00	\$67.46
	11/01/2017	\$43.89	\$10.00	\$14.30	\$0.00	\$68.19
	05/01/2018	\$44.60	\$10.00	\$14.30	\$0.00	\$68.90
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$41.65	\$10.00	\$14.30	\$0.00	\$65.95
	11/01/2015	\$42.24	\$10.00	\$14.30	\$0.00	\$66.54
	05/01/2016	\$43.13	\$10.00	\$14.30	\$0.00	\$67.43
	11/01/2016	\$43.73	\$10.00	\$14.30	\$0.00	\$68.03
	05/01/2017	\$44.62	\$10.00	\$14.30	\$0.00	\$68.92
	11/01/2017	\$45.35	\$10.00	\$14.30	\$0.00	\$69.65
	05/01/2018	\$46.07	\$10.00	\$14.30	\$0.00	\$70.37
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$21.68	\$10.00	\$14.30	\$0.00	\$45.98
	11/01/2015	\$22.02	\$10.00	\$14.30	\$0.00	\$46.32
	05/01/2016	\$22.54	\$10.00	\$14.30	\$0.00	\$46.84
	11/01/2016	\$22.89	\$10.00	\$14.30	\$0.00	\$47.19
	05/01/2017	\$23.42	\$10.00	\$14.30	\$0.00	\$47.72
	11/01/2017	\$23.84	\$10.00	\$14.30	\$0.00	\$48.14
	05/01/2018	\$24.27	\$10.00	\$14.30	\$0.00	\$48.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE <i>LOCAL 103</i> <i>/ COMMISSIONING ELECTRICIANS</i>	09/01/2015	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31
	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$35.64	\$10.00	\$14.55	\$0.00	\$60.19
	12/01/2015	\$36.69	\$10.00	\$14.55	\$0.00	\$61.24
	06/01/2016	\$37.31	\$10.00	\$14.55	\$0.00	\$61.86
	12/01/2016	\$38.35	\$10.00	\$14.55	\$0.00	\$62.90
	06/01/2017	\$39.19	\$10.00	\$14.55	\$0.00	\$63.74
12/01/2017	\$40.02	\$10.00	\$14.55	\$0.00	\$64.57	
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 2</i>	06/01/2015	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
	12/01/2015	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
	06/01/2016	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
	12/01/2016	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	09/01/2015	\$41.59	\$9.80	\$17.53	\$0.00	\$68.92

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.80	\$9.80	\$1.79	\$0.00	\$32.39
2	55	\$22.87	\$9.80	\$1.79	\$0.00	\$34.46
3	60	\$24.95	\$9.80	\$12.16	\$0.00	\$46.91
4	65	\$27.03	\$9.80	\$12.16	\$0.00	\$48.99
5	70	\$29.11	\$9.80	\$13.95	\$0.00	\$52.86
6	75	\$31.19	\$9.80	\$13.95	\$0.00	\$54.94
7	80	\$33.27	\$9.80	\$15.74	\$0.00	\$58.81
8	85	\$35.35	\$9.80	\$15.74	\$0.00	\$60.89

Notes:

Steps are 750 hrs.

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>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$29.61	\$10.00	\$14.55	\$0.00	\$54.16
	12/01/2015	\$30.48	\$10.00	\$14.55	\$0.00	\$55.03
	06/01/2016	\$31.00	\$10.00	\$14.55	\$0.00	\$55.55
	12/01/2016	\$31.87	\$10.00	\$14.55	\$0.00	\$56.42
	06/01/2017	\$32.56	\$10.00	\$14.55	\$0.00	\$57.11
	12/01/2017	\$33.25	\$10.00	\$14.55	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	07/01/2015	\$38.06	\$7.85	\$16.10	\$0.00	\$62.01
	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.03	\$7.85	\$0.00	\$0.00	\$26.88
2	55	\$20.93	\$7.85	\$3.66	\$0.00	\$32.44
3	60	\$22.84	\$7.85	\$3.99	\$0.00	\$34.68
4	65	\$24.74	\$7.85	\$4.32	\$0.00	\$36.91
5	70	\$26.64	\$7.85	\$14.11	\$0.00	\$48.60
6	75	\$28.55	\$7.85	\$14.44	\$0.00	\$50.84
7	80	\$30.45	\$7.85	\$14.77	\$0.00	\$53.07
8	90	\$34.25	\$7.85	\$15.44	\$0.00	\$57.54

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.51	\$7.85	\$0.00	\$0.00	\$27.36
2	55	\$21.46	\$7.85	\$3.66	\$0.00	\$32.97
3	60	\$23.41	\$7.85	\$3.99	\$0.00	\$35.25
4	65	\$25.36	\$7.85	\$4.32	\$0.00	\$37.53
5	70	\$27.31	\$7.85	\$14.11	\$0.00	\$49.27
6	75	\$29.26	\$7.85	\$14.44	\$0.00	\$51.55
7	80	\$31.21	\$7.85	\$14.77	\$0.00	\$53.83
8	90	\$35.11	\$7.85	\$15.44	\$0.00	\$58.40

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.56	\$10.00	\$0.00	\$0.00	\$33.56
2	60	\$25.70	\$10.00	\$14.55	\$0.00	\$50.25
3	65	\$27.84	\$10.00	\$14.55	\$0.00	\$52.39
4	70	\$29.98	\$10.00	\$14.55	\$0.00	\$54.53
5	75	\$32.12	\$10.00	\$14.55	\$0.00	\$56.67
6	80	\$34.26	\$10.00	\$14.55	\$0.00	\$58.81
7	85	\$36.41	\$10.00	\$14.55	\$0.00	\$60.96
8	90	\$38.55	\$10.00	\$14.55	\$0.00	\$63.10

Effective Date - 12/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.24	\$10.00	\$0.00	\$0.00	\$34.24
2	60	\$26.45	\$10.00	\$14.55	\$0.00	\$51.00
3	65	\$28.65	\$10.00	\$14.55	\$0.00	\$53.20
4	70	\$30.86	\$10.00	\$14.55	\$0.00	\$55.41
5	75	\$33.06	\$10.00	\$14.55	\$0.00	\$57.61
6	80	\$35.26	\$10.00	\$14.55	\$0.00	\$59.81
7	85	\$37.47	\$10.00	\$14.55	\$0.00	\$62.02
8	90	\$39.67	\$10.00	\$14.55	\$0.00	\$64.22

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	08/01/2015	\$43.31	\$10.20	\$21.48	\$2.25	\$77.24
	02/01/2016	\$44.31	\$10.20	\$21.48	\$2.25	\$78.24
	08/01/2016	\$45.46	\$10.20	\$21.48	\$2.25	\$79.39
	02/01/2017	\$46.56	\$10.20	\$21.48	\$2.25	\$80.49
	08/01/2017	\$47.66	\$10.20	\$21.48	\$2.25	\$81.59
	02/01/2018	\$48.81	\$10.20	\$21.48	\$2.25	\$82.74

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56

For apprentice rates see "Apprentice- ELECTRICIAN"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	08/01/2015	\$43.31	\$10.20	\$21.48	\$2.25	\$77.24
	02/01/2016	\$44.31	\$10.20	\$21.48	\$2.25	\$78.24
	08/01/2016	\$45.46	\$10.20	\$21.48	\$2.25	\$79.39
	02/01/2017	\$46.56	\$10.20	\$21.48	\$2.25	\$80.49
	08/01/2017	\$47.66	\$10.20	\$21.48	\$2.25	\$81.59
	02/01/2018	\$48.81	\$10.20	\$21.48	\$2.25	\$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	12/01/2015	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	06/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
	12/01/2016	\$33.65	\$7.30	\$12.30	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2015	\$43.81	\$11.50	\$13.80	\$0.00	\$69.11
	09/01/2016	\$45.81	\$11.50	\$13.80	\$0.00	\$71.11
	09/01/2017	\$47.81	\$11.50	\$13.80	\$0.00	\$73.11
	09/01/2018	\$50.06	\$11.50	\$13.80	\$0.00	\$75.36
	09/01/2019	\$52.56	\$11.50	\$13.80	\$0.00	\$77.86

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 09/01/2015

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

Effective Date - 09/01/2016

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

Notes:
Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER	09/16/2015	\$42.40	\$7.80	\$20.85	\$0.00	\$71.05
IRONWORKERS LOCAL 7 (BOSTON AREA)	03/16/2016	\$43.40	\$7.80	\$20.85	\$0.00	\$72.05
	09/16/2016	\$44.05	\$7.80	\$20.85	\$0.00	\$72.70
	03/16/2017	\$44.65	\$7.80	\$20.85	\$0.00	\$73.30

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 09/16/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.44	\$7.80	\$20.85	\$0.00	\$54.09
2	70	\$29.68	\$7.80	\$20.85	\$0.00	\$58.33
3	75	\$31.80	\$7.80	\$20.85	\$0.00	\$60.45
4	80	\$33.92	\$7.80	\$20.85	\$0.00	\$62.57
5	85	\$36.04	\$7.80	\$20.85	\$0.00	\$64.69
6	90	\$38.16	\$7.80	\$20.85	\$0.00	\$66.81

Effective Date - 03/16/2016

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

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 2	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 2

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.69	\$7.30	\$12.30	\$0.00	\$38.29
2	70	\$21.81	\$7.30	\$12.30	\$0.00	\$41.41
3	80	\$24.92	\$7.30	\$12.30	\$0.00	\$44.52
4	90	\$28.04	\$7.30	\$12.30	\$0.00	\$47.64

Effective Date - 12/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.99	\$7.30	\$12.30	\$0.00	\$38.59
2	70	\$22.16	\$7.30	\$12.30	\$0.00	\$41.76
3	80	\$25.32	\$7.30	\$12.30	\$0.00	\$44.92
4	90	\$28.49	\$7.30	\$12.30	\$0.00	\$48.09

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 2	06/01/2015	\$31.35	\$7.30	\$12.25	\$0.00	\$50.90
	12/01/2015	\$31.85	\$7.30	\$12.25	\$0.00	\$51.40

For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER LABORERS - ZONE 2	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

LABORER: MULTI-TRADE TENDER LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

For apprentice rates see "Apprentice- LABORER"

LABORER: TREE REMOVER LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"

LASER BEAM OPERATOR LABORERS - ZONE 2	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2015	\$38.08	\$10.18	\$17.25	\$0.00	\$65.51
	02/01/2016	\$38.53	\$10.18	\$17.25	\$0.00	\$65.96
	08/01/2016	\$39.23	\$10.18	\$17.33	\$0.00	\$66.74
	02/01/2017	\$39.69	\$10.18	\$17.33	\$0.00	\$67.20

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

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.04	\$10.18	\$17.25	\$0.00	\$46.47
2	60	\$22.85	\$10.18	\$17.25	\$0.00	\$50.28
3	70	\$26.66	\$10.18	\$17.25	\$0.00	\$54.09
4	80	\$30.46	\$10.18	\$17.25	\$0.00	\$57.89
5	90	\$34.27	\$10.18	\$17.25	\$0.00	\$61.70

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.27	\$10.18	\$17.25	\$0.00	\$46.70
2	60	\$23.12	\$10.18	\$17.25	\$0.00	\$50.55
3	70	\$26.97	\$10.18	\$17.25	\$0.00	\$54.40
4	80	\$30.82	\$10.18	\$17.25	\$0.00	\$58.25
5	90	\$34.68	\$10.18	\$17.25	\$0.00	\$62.11

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2015	\$49.90	\$10.18	\$18.57	\$0.00	\$78.65
	02/01/2016	\$50.47	\$10.18	\$18.57	\$0.00	\$79.22
	08/01/2016	\$51.37	\$10.18	\$18.65	\$0.00	\$80.20
	02/01/2017	\$51.94	\$10.18	\$18.65	\$0.00	\$80.77

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.95	\$10.18	\$18.57	\$0.00	\$53.70
2	60	\$29.94	\$10.18	\$18.57	\$0.00	\$58.69
3	70	\$34.93	\$10.18	\$18.57	\$0.00	\$63.68
4	80	\$39.92	\$10.18	\$18.57	\$0.00	\$68.67
5	90	\$44.91	\$10.18	\$18.57	\$0.00	\$73.66

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.24	\$10.18	\$18.57	\$0.00	\$53.99
2	60	\$30.28	\$10.18	\$18.57	\$0.00	\$59.03
3	70	\$35.33	\$10.18	\$18.57	\$0.00	\$64.08
4	80	\$40.38	\$10.18	\$18.57	\$0.00	\$69.13
5	90	\$45.42	\$10.18	\$18.57	\$0.00	\$74.17

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	04/01/2015	\$37.64	\$9.80	\$16.21	\$0.00	\$63.65
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Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 04/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$20.70	\$9.80	\$4.48	\$0.00	\$34.98
2	65	\$24.47	\$9.80	\$13.36	\$0.00	\$47.63
3	75	\$28.23	\$9.80	\$14.18	\$0.00	\$52.21
4	85	\$31.99	\$9.80	\$14.99	\$0.00	\$56.78

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER LABORERS - ZONE 2	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) OPERATING ENGINEERS LOCAL 4	06/01/2015	\$21.97	\$10.00	\$14.55	\$0.00	\$46.52
	12/01/2015	\$22.62	\$10.00	\$14.55	\$0.00	\$47.17
	06/01/2016	\$23.01	\$10.00	\$14.55	\$0.00	\$47.56
	12/01/2016	\$23.66	\$10.00	\$14.55	\$0.00	\$48.21
	06/01/2017	\$24.17	\$10.00	\$14.55	\$0.00	\$48.72
	12/01/2017	\$24.69	\$10.00	\$14.55	\$0.00	\$49.24

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	06/01/2015	\$25.68	\$10.00	\$14.55	\$0.00	\$50.23
	12/01/2015	\$26.43	\$10.00	\$14.55	\$0.00	\$50.98
	06/01/2016	\$26.89	\$10.00	\$14.55	\$0.00	\$51.44
	12/01/2016	\$27.64	\$10.00	\$14.55	\$0.00	\$52.19
	06/01/2017	\$28.24	\$10.00	\$14.55	\$0.00	\$52.79
	12/01/2017	\$28.85	\$10.00	\$14.55	\$0.00	\$53.40

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II OPERATING ENGINEERS LOCAL 4	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 - ZONE 2	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.28	\$7.85	\$0.00	\$0.00	\$32.13
2	55	\$26.71	\$7.85	\$3.66	\$0.00	\$38.22
3	60	\$29.14	\$7.85	\$3.99	\$0.00	\$40.98
4	65	\$31.56	\$7.85	\$4.32	\$0.00	\$43.73
5	70	\$33.99	\$7.85	\$14.11	\$0.00	\$55.95
6	75	\$36.42	\$7.85	\$14.44	\$0.00	\$58.71
7	80	\$38.85	\$7.85	\$14.77	\$0.00	\$61.47
8	90	\$43.70	\$7.85	\$15.44	\$0.00	\$66.99

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$7.85	\$0.00	\$0.00	\$32.61
2	55	\$27.23	\$7.85	\$3.66	\$0.00	\$38.74
3	60	\$29.71	\$7.85	\$3.99	\$0.00	\$41.55
4	65	\$32.18	\$7.85	\$4.32	\$0.00	\$44.35
5	70	\$34.66	\$7.85	\$14.11	\$0.00	\$56.62
6	75	\$37.13	\$7.85	\$14.44	\$0.00	\$59.42
7	80	\$39.61	\$7.85	\$14.77	\$0.00	\$62.23
8	90	\$44.56	\$7.85	\$15.44	\$0.00	\$67.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	07/01/2015	\$39.46	\$7.85	\$16.10	\$0.00	\$63.41
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	01/01/2016	\$40.41	\$7.85	\$16.10	\$0.00	\$64.36
	07/01/2016	\$41.36	\$7.85	\$16.10	\$0.00	\$65.31
	01/01/2017	\$42.31	\$7.85	\$16.10	\$0.00	\$66.26

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.73	\$7.85	\$0.00	\$0.00	\$27.58
2	55	\$21.70	\$7.85	\$3.66	\$0.00	\$33.21
3	60	\$23.68	\$7.85	\$3.99	\$0.00	\$35.52
4	65	\$25.65	\$7.85	\$4.32	\$0.00	\$37.82
5	70	\$27.62	\$7.85	\$14.11	\$0.00	\$49.58
6	75	\$29.60	\$7.85	\$14.44	\$0.00	\$51.89
7	80	\$31.57	\$7.85	\$14.77	\$0.00	\$54.19
8	90	\$35.51	\$7.85	\$15.44	\$0.00	\$58.80

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.21	\$7.85	\$0.00	\$0.00	\$28.06
2	55	\$22.23	\$7.85	\$3.66	\$0.00	\$33.74
3	60	\$24.25	\$7.85	\$3.99	\$0.00	\$36.09
4	65	\$26.27	\$7.85	\$4.32	\$0.00	\$38.44
5	70	\$28.29	\$7.85	\$14.11	\$0.00	\$50.25
6	75	\$30.31	\$7.85	\$14.44	\$0.00	\$52.60
7	80	\$32.33	\$7.85	\$14.77	\$0.00	\$54.95
8	90	\$36.37	\$7.85	\$15.44	\$0.00	\$59.66

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	07/01/2015	\$37.52	\$7.85	\$16.10	\$0.00	\$61.47
PAINTERS LOCAL 35 - ZONE 2	01/01/2016	\$38.47	\$7.85	\$16.10	\$0.00	\$62.42
	07/01/2016	\$39.42	\$7.85	\$16.10	\$0.00	\$63.37
	01/01/2017	\$40.37	\$7.85	\$16.10	\$0.00	\$64.32

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.76	\$7.85	\$0.00	\$0.00	\$26.61
2	55	\$20.64	\$7.85	\$3.66	\$0.00	\$32.15
3	60	\$22.51	\$7.85	\$3.99	\$0.00	\$34.35
4	65	\$24.39	\$7.85	\$4.32	\$0.00	\$36.56
5	70	\$26.26	\$7.85	\$14.11	\$0.00	\$48.22
6	75	\$28.14	\$7.85	\$14.44	\$0.00	\$50.43
7	80	\$30.02	\$7.85	\$14.77	\$0.00	\$52.64
8	90	\$33.77	\$7.85	\$15.44	\$0.00	\$57.06

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.24	\$7.85	\$0.00	\$0.00	\$27.09
2	55	\$21.16	\$7.85	\$3.66	\$0.00	\$32.67
3	60	\$23.08	\$7.85	\$3.99	\$0.00	\$34.92
4	65	\$25.01	\$7.85	\$4.32	\$0.00	\$37.18
5	70	\$26.93	\$7.85	\$14.11	\$0.00	\$48.89
6	75	\$28.85	\$7.85	\$14.44	\$0.00	\$51.14
7	80	\$30.78	\$7.85	\$14.77	\$0.00	\$53.40
8	90	\$34.62	\$7.85	\$15.44	\$0.00	\$57.91

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS) LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) *	07/01/2015	\$38.06	\$7.85	\$16.10	\$0.00	\$62.01
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.03	\$7.85	\$0.00	\$0.00	\$26.88
2	55	\$20.93	\$7.85	\$3.66	\$0.00	\$32.44
3	60	\$22.84	\$7.85	\$3.99	\$0.00	\$34.68
4	65	\$24.74	\$7.85	\$4.32	\$0.00	\$36.91
5	70	\$26.64	\$7.85	\$14.11	\$0.00	\$48.60
6	75	\$28.55	\$7.85	\$14.44	\$0.00	\$50.84
7	80	\$30.45	\$7.85	\$14.77	\$0.00	\$53.07
8	90	\$34.25	\$7.85	\$15.44	\$0.00	\$57.54

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.51	\$7.85	\$0.00	\$0.00	\$27.36
2	55	\$21.46	\$7.85	\$3.66	\$0.00	\$32.97
3	60	\$23.41	\$7.85	\$3.99	\$0.00	\$35.25
4	65	\$25.36	\$7.85	\$4.32	\$0.00	\$37.53
5	70	\$27.31	\$7.85	\$14.11	\$0.00	\$49.27
6	75	\$29.26	\$7.85	\$14.44	\$0.00	\$51.55
7	80	\$31.21	\$7.85	\$14.77	\$0.00	\$53.83
8	90	\$35.11	\$7.85	\$15.44	\$0.00	\$58.40

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	07/01/2015	\$36.12	\$7.85	\$16.10	\$0.00	\$60.07
PAINTERS LOCAL 35 - ZONE 2	01/01/2016	\$37.07	\$7.85	\$16.10	\$0.00	\$61.02
	07/01/2016	\$38.02	\$7.85	\$16.10	\$0.00	\$61.97
	01/01/2017	\$38.97	\$7.85	\$16.10	\$0.00	\$62.92

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.06	\$7.85	\$0.00	\$0.00	\$25.91
2	55	\$19.87	\$7.85	\$3.66	\$0.00	\$31.38
3	60	\$21.67	\$7.85	\$3.99	\$0.00	\$33.51
4	65	\$23.48	\$7.85	\$4.32	\$0.00	\$35.65
5	70	\$25.28	\$7.85	\$14.11	\$0.00	\$47.24
6	75	\$27.09	\$7.85	\$14.44	\$0.00	\$49.38
7	80	\$28.90	\$7.85	\$14.77	\$0.00	\$51.52
8	90	\$32.51	\$7.85	\$15.44	\$0.00	\$55.80

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.54	\$7.85	\$0.00	\$0.00	\$26.39
2	55	\$20.39	\$7.85	\$3.66	\$0.00	\$31.90
3	60	\$22.24	\$7.85	\$3.99	\$0.00	\$34.08
4	65	\$24.10	\$7.85	\$4.32	\$0.00	\$36.27
5	70	\$25.95	\$7.85	\$14.11	\$0.00	\$47.91
6	75	\$27.80	\$7.85	\$14.44	\$0.00	\$50.09
7	80	\$29.66	\$7.85	\$14.77	\$0.00	\$52.28
8	90	\$33.36	\$7.85	\$15.44	\$0.00	\$56.65

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2012	\$30.28	\$9.07	\$8.00	\$0.00	\$47.35
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2015

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

Notes:

Apprentice to Journeyworker Ratio:1:3

PIPEFITTER & STEAMFITTER	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
PIPEFITTERS LOCAL 537 (Local 138)	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95

Apprentice - PIPEFITTER Local 537 (Local 138)

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.94	\$9.70	\$5.50	\$0.00	\$34.14
2	45	\$21.31	\$9.70	\$14.89	\$0.00	\$45.90
3	60	\$28.42	\$9.70	\$14.89	\$0.00	\$53.01
4	70	\$33.15	\$9.70	\$14.89	\$0.00	\$57.74
5	80	\$37.89	\$9.70	\$14.89	\$0.00	\$62.48

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.34	\$9.70	\$5.50	\$0.00	\$34.54
2	45	\$21.76	\$9.70	\$14.89	\$0.00	\$46.35
3	60	\$29.02	\$9.70	\$14.89	\$0.00	\$53.61
4	70	\$33.85	\$9.70	\$14.89	\$0.00	\$58.44
5	80	\$38.69	\$9.70	\$14.89	\$0.00	\$63.28

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 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

PLUMBER <i>PLUMBERS & GASFITTERS LOCAL 12 (Local 138)</i>	09/01/2015	\$46.38	\$10.82	\$15.14	\$0.00	\$72.34
	03/01/2016	\$47.53	\$10.82	\$15.14	\$0.00	\$73.49
	09/01/2016	\$48.58	\$10.82	\$15.14	\$0.00	\$74.54
	03/01/2017	\$49.58	\$10.82	\$15.14	\$0.00	\$75.54

Apprentice - PLUMBER/GASFITTER - Local 12 (Local 138)

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$16.23	\$10.82	\$5.63	\$0.00	\$32.68
2	40	\$18.55	\$10.82	\$6.37	\$0.00	\$35.74
3	55	\$25.51	\$10.82	\$8.56	\$0.00	\$44.89
4	65	\$30.15	\$10.82	\$10.03	\$0.00	\$51.00
5	75	\$34.79	\$10.82	\$11.48	\$0.00	\$57.09

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$16.64	\$10.82	\$5.61	\$0.00	\$33.07
2	40	\$19.01	\$10.82	\$6.36	\$0.00	\$36.19
3	55	\$26.14	\$10.82	\$8.56	\$0.00	\$45.52
4	65	\$30.89	\$10.82	\$10.02	\$0.00	\$51.73
5	75	\$35.65	\$10.82	\$11.48	\$0.00	\$57.95

Notes:

Steps are 1 yr
Step 4 with lic\$54.05 Step5 with lic\$60.13

Apprentice to Journeyworker Ratio:1:5

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95

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

PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	06/01/2015	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2015	\$32.65	\$7.30	\$12.30	\$0.00	\$52.25
	06/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
	12/01/2016	\$33.90	\$7.30	\$12.30	\$0.00	\$53.50

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$29.61	\$10.00	\$14.55	\$0.00	\$54.16
	12/01/2015	\$30.48	\$10.00	\$14.55	\$0.00	\$55.03
	06/01/2016	\$31.00	\$10.00	\$14.55	\$0.00	\$55.55
	12/01/2016	\$31.87	\$10.00	\$14.55	\$0.00	\$56.42
	06/01/2017	\$32.56	\$10.00	\$14.55	\$0.00	\$57.11
	12/01/2017	\$33.25	\$10.00	\$14.55	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 42</i>	05/01/2015	\$22.66	\$8.49	\$9.89	\$0.00	\$41.04
	11/01/2015	\$22.78	\$8.49	\$9.89	\$0.00	\$41.16
	04/30/2016	\$22.78	\$8.49	\$10.25	\$0.00	\$41.52
	05/01/2016	\$24.15	\$8.49	\$10.68	\$0.00	\$43.32
	04/30/2017	\$24.15	\$8.49	\$11.07	\$0.00	\$43.71
	05/01/2017	\$24.21	\$8.49	\$11.54	\$0.00	\$44.24
	04/30/2018	\$24.21	\$8.49	\$11.96	\$0.00	\$44.66
	05/01/2018	\$24.24	\$8.49	\$12.46	\$0.00	\$45.19
	04/30/2019	\$24.24	\$8.49	\$12.92	\$0.00	\$45.65
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 2 (Residential Wood)</i>	04/01/2011	\$24.24	\$8.67	\$15.51	\$0.00	\$48.42
RESIDENTIAL WOOD FRAME CARPENTER **	05/01/2011	\$24.24	\$6.34	\$6.23	\$0.00	\$36.81

** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. *CARPENTERS -ZONE 2 (Residential Wood)*

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

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER (Residential Wood Frame) - Zone 2

Effective Date - 05/01/2011

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$14.54	\$6.34	\$0.00	\$0.00	\$20.88
2	60	\$14.54	\$6.34	\$6.23	\$0.00	\$27.11
3	65	\$15.76	\$6.34	\$6.23	\$0.00	\$28.33
4	70	\$16.97	\$6.34	\$6.23	\$0.00	\$29.54
5	75	\$18.18	\$6.34	\$6.23	\$0.00	\$30.75
6	80	\$19.39	\$6.34	\$6.23	\$0.00	\$31.96
7	85	\$20.60	\$6.34	\$6.23	\$0.00	\$33.17
8	90	\$21.82	\$6.34	\$6.23	\$0.00	\$34.39

Notes:

Apprentice to Journeyworker Ratio:1:5

RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) <i>ROOFERS LOCAL 33</i>	08/01/2015	\$40.11	\$11.00	\$12.00	\$0.00	\$63.11
	02/01/2016	\$41.01	\$11.00	\$12.00	\$0.00	\$64.01

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ROOFER - Local 33

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.06	\$11.00	\$3.38	\$0.00	\$34.44
2	60	\$24.07	\$11.00	\$12.00	\$0.00	\$47.07
3	65	\$26.07	\$11.00	\$12.00	\$0.00	\$49.07
4	75	\$30.08	\$11.00	\$12.00	\$0.00	\$53.08
5	85	\$34.09	\$11.00	\$12.00	\$0.00	\$57.09

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.51	\$11.00	\$3.38	\$0.00	\$34.89
2	60	\$24.61	\$11.00	\$12.00	\$0.00	\$47.61
3	65	\$26.66	\$11.00	\$12.00	\$0.00	\$49.66
4	75	\$30.76	\$11.00	\$12.00	\$0.00	\$53.76
5	85	\$34.86	\$11.00	\$12.00	\$0.00	\$57.86

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE	08/01/2015	\$40.36	\$11.00	\$12.00	\$0.00	\$63.36
ROOFERS LOCAL 33	02/01/2016	\$41.26	\$11.00	\$12.00	\$0.00	\$64.26
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER	08/01/2015	\$43.31	\$10.20	\$21.48	\$2.25	\$77.24
SHEETMETAL WORKERS LOCAL 17 - A	02/01/2016	\$44.31	\$10.20	\$21.48	\$2.25	\$78.24
	08/01/2016	\$45.46	\$10.20	\$21.48	\$2.25	\$79.39
	02/01/2017	\$46.56	\$10.20	\$21.48	\$2.25	\$80.49
	08/01/2017	\$47.66	\$10.20	\$21.48	\$2.25	\$81.59
	02/01/2018	\$48.81	\$10.20	\$21.48	\$2.25	\$82.74

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.32	\$10.20	\$4.90	\$0.00	\$32.42
2	40	\$17.32	\$10.20	\$4.90	\$0.00	\$32.42
3	45	\$19.49	\$10.20	\$9.59	\$1.18	\$40.46
4	45	\$19.49	\$10.20	\$9.59	\$1.18	\$40.46
5	50	\$21.66	\$10.20	\$10.45	\$1.27	\$43.58
6	50	\$21.66	\$10.20	\$10.70	\$1.28	\$43.84
7	60	\$25.99	\$10.20	\$12.17	\$1.45	\$49.81
8	65	\$28.15	\$10.20	\$13.04	\$1.54	\$52.93
9	75	\$32.48	\$10.20	\$14.76	\$1.72	\$59.16
10	85	\$36.81	\$10.20	\$15.98	\$1.89	\$64.88

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.72	\$10.20	\$4.90	\$0.00	\$32.82
2	40	\$17.72	\$10.20	\$4.90	\$0.00	\$32.82
3	45	\$19.94	\$10.20	\$9.59	\$1.19	\$40.92
4	45	\$19.94	\$10.20	\$9.59	\$1.19	\$40.92
5	50	\$22.16	\$10.20	\$10.45	\$1.28	\$44.09
6	50	\$22.16	\$10.20	\$10.70	\$1.29	\$44.35
7	60	\$26.59	\$10.20	\$12.17	\$1.47	\$50.43
8	65	\$28.80	\$10.20	\$13.04	\$1.56	\$53.60
9	75	\$33.23	\$10.20	\$14.76	\$1.75	\$59.94
10	85	\$37.66	\$10.20	\$15.98	\$1.92	\$65.76

Notes:
Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SIGN ERECTOR PAINTERS LOCAL 35 - ZONE 2	06/01/2013	\$25.81	\$7.07	\$7.05	\$0.00	\$39.93
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Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SIGN ERECTOR - Local 35 Zone 2

Effective Date - 06/01/2013

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

Notes:
Steps are 4 mos.

Apprentice to Journeyworker Ratio:1:1

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$31.94	\$10.41	\$9.33	\$0.00	\$51.68
	12/01/2015	\$31.94	\$10.41	\$10.08	\$0.00	\$52.43
	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$32.23	\$10.41	\$9.33	\$0.00	\$51.97
	12/01/2015	\$32.23	\$10.41	\$10.08	\$0.00	\$52.72
	06/01/2016	\$32.73	\$10.41	\$10.08	\$0.00	\$53.22
	08/01/2016	\$32.73	\$10.91	\$10.08	\$0.00	\$53.72
	12/01/2016	\$32.73	\$10.91	\$10.89	\$0.00	\$54.53
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2</i>	03/01/2015	\$48.99	\$8.42	\$14.90	\$0.00	\$72.31
	10/01/2015	\$49.35	\$8.42	\$15.65	\$0.00	\$73.42
	01/01/2016	\$48.99	\$8.67	\$15.80	\$0.00	\$73.46
	03/01/2016	\$49.89	\$8.67	\$15.80	\$0.00	\$74.36
	10/01/2016	\$50.93	\$8.67	\$15.80	\$0.00	\$75.40
	03/01/2017	\$51.83	\$8.67	\$15.80	\$0.00	\$76.30

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SPRINKLER FITTER - Local 550 (Section B) Zone 2

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.15	\$8.42	\$8.40	\$0.00	\$33.97
2	40	\$19.60	\$8.42	\$8.40	\$0.00	\$36.42
3	45	\$22.05	\$8.42	\$8.40	\$0.00	\$38.87
4	50	\$24.50	\$8.42	\$8.40	\$0.00	\$41.32
5	55	\$26.94	\$8.42	\$8.40	\$0.00	\$43.76
6	60	\$29.39	\$8.42	\$8.40	\$0.00	\$46.21
7	65	\$31.84	\$8.42	\$8.40	\$0.00	\$48.66
8	70	\$34.29	\$8.42	\$8.40	\$0.00	\$51.11
9	75	\$36.74	\$8.42	\$8.40	\$0.00	\$53.56
10	80	\$39.19	\$8.42	\$8.40	\$0.00	\$56.01

Effective Date - 10/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.27	\$8.42	\$8.40	\$0.00	\$34.09
2	40	\$19.74	\$8.42	\$8.40	\$0.00	\$36.56
3	45	\$22.21	\$8.42	\$8.40	\$0.00	\$39.03
4	50	\$24.68	\$8.42	\$8.40	\$0.00	\$41.50
5	55	\$27.14	\$8.42	\$8.40	\$0.00	\$43.96
6	60	\$29.61	\$8.42	\$8.40	\$0.00	\$46.43
7	65	\$32.08	\$8.42	\$8.40	\$0.00	\$48.90
8	70	\$34.55	\$8.42	\$8.40	\$0.00	\$51.37
9	75	\$37.01	\$8.42	\$8.40	\$0.00	\$53.83
10	80	\$39.48	\$8.42	\$8.40	\$0.00	\$56.30

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

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31
	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.70	\$13.00	\$0.41	\$0.00	\$27.11
2	40	\$13.70	\$13.00	\$0.41	\$0.00	\$27.11
3	45	\$15.41	\$13.00	\$11.03	\$0.00	\$39.44
4	45	\$15.41	\$13.00	\$11.03	\$0.00	\$39.44
5	50	\$17.13	\$13.00	\$11.30	\$0.00	\$41.43
6	55	\$18.84	\$13.00	\$11.58	\$0.00	\$43.42
7	60	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
8	65	\$22.26	\$13.00	\$12.13	\$0.00	\$47.39
9	70	\$23.98	\$13.00	\$12.41	\$0.00	\$49.39
10	75	\$25.69	\$13.00	\$12.68	\$0.00	\$51.37

Effective Date - 03/01/2016

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

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2015	\$48.80	\$10.18	\$18.57	\$0.00	\$77.55
	02/01/2016	\$49.37	\$10.18	\$18.57	\$0.00	\$78.12
	08/01/2016	\$50.27	\$10.18	\$18.65	\$0.00	\$79.10
	02/01/2017	\$50.84	\$10.18	\$18.65	\$0.00	\$79.67

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.40	\$10.18	\$18.57	\$0.00	\$53.15
2	60	\$29.28	\$10.18	\$18.57	\$0.00	\$58.03
3	70	\$34.16	\$10.18	\$18.57	\$0.00	\$62.91
4	80	\$39.04	\$10.18	\$18.57	\$0.00	\$67.79
5	90	\$43.92	\$10.18	\$18.57	\$0.00	\$72.67

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.69	\$10.18	\$18.57	\$0.00	\$53.44
2	60	\$29.62	\$10.18	\$18.57	\$0.00	\$58.37
3	70	\$34.56	\$10.18	\$18.57	\$0.00	\$63.31
4	80	\$39.50	\$10.18	\$18.57	\$0.00	\$68.25
5	90	\$44.43	\$10.18	\$18.57	\$0.00	\$73.18

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2015	\$36.45	\$7.30	\$13.40	\$0.00	\$57.15
	12/01/2015	\$37.20	\$7.30	\$13.40	\$0.00	\$57.90
	06/01/2016	\$37.95	\$7.30	\$13.40	\$0.00	\$58.65
	12/01/2016	\$38.95	\$7.30	\$13.40	\$0.00	\$59.65

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2015	\$35.17	\$7.30	\$13.40	\$0.00	\$55.87
	12/01/2015	\$35.92	\$7.30	\$13.40	\$0.00	\$56.62
	06/01/2016	\$36.67	\$7.30	\$13.40	\$0.00	\$57.37
	12/01/2016	\$37.67	\$7.30	\$13.40	\$0.00	\$58.37

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2015	\$35.05	\$7.30	\$13.40	\$0.00	\$55.75
	12/01/2015	\$35.80	\$7.30	\$13.40	\$0.00	\$56.50
	06/01/2016	\$36.55	\$7.30	\$13.40	\$0.00	\$57.25
	12/01/2016	\$37.55	\$7.30	\$13.40	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$32.52	\$10.41	\$9.33	\$0.00	\$52.26
	12/01/2015	\$32.52	\$10.41	\$10.08	\$0.00	\$53.01
	06/01/2016	\$33.02	\$10.41	\$10.08	\$0.00	\$53.51
	08/01/2016	\$33.02	\$10.91	\$10.08	\$0.00	\$54.01
	12/01/2016	\$33.02	\$10.91	\$10.89	\$0.00	\$54.82
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2015	\$47.33	\$7.30	\$13.80	\$0.00	\$68.43
	12/01/2015	\$48.08	\$7.30	\$13.80	\$0.00	\$69.18
	06/01/2016	\$48.83	\$7.30	\$13.80	\$0.00	\$69.93
	12/01/2016	\$49.83	\$7.30	\$13.80	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2015	\$49.33	\$7.30	\$13.80	\$0.00	\$70.43
	12/01/2015	\$50.08	\$7.30	\$13.80	\$0.00	\$71.18
	06/01/2016	\$50.83	\$7.30	\$13.80	\$0.00	\$71.93
	12/01/2016	\$51.83	\$7.30	\$13.80	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2015	\$39.40	\$7.30	\$13.80	\$0.00	\$60.50
	12/01/2015	\$40.15	\$7.30	\$13.80	\$0.00	\$61.25
	06/01/2016	\$40.90	\$7.30	\$13.80	\$0.00	\$62.00
	12/01/2016	\$41.90	\$7.30	\$13.80	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2015	\$41.40	\$7.30	\$13.80	\$0.00	\$62.50
	12/01/2015	\$42.15	\$7.30	\$13.80	\$0.00	\$63.25
	06/01/2016	\$42.90	\$7.30	\$13.80	\$0.00	\$64.00
	12/01/2016	\$43.90	\$7.30	\$13.80	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$31.94	\$10.41	\$9.33	\$0.00	\$51.68
	12/01/2015	\$31.94	\$10.41	\$10.08	\$0.00	\$52.43
	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12 (Local 138)</i>	09/01/2015	\$46.38	\$10.82	\$15.14	\$0.00	\$72.34
	03/01/2016	\$47.53	\$10.82	\$15.14	\$0.00	\$73.49
	09/01/2016	\$48.58	\$10.82	\$15.14	\$0.00	\$74.54
	03/01/2017	\$49.58	\$10.82	\$15.14	\$0.00	\$75.54
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$25.66	\$8.70	\$4.48	\$0.00	\$38.84
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$36.55	\$8.70	\$6.58	\$0.00	\$51.83
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$29.94	\$8.70	\$6.05	\$0.00	\$44.69
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$23.52	\$8.70	\$5.24	\$0.00	\$37.46
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$36.35	\$8.70	\$9.43	\$0.00	\$54.48
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$32.08	\$8.70	\$6.59	\$0.00	\$47.37
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$23.52	\$8.70	\$3.72	\$0.00	\$35.94
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$19.25	\$8.70	\$2.85	\$0.00	\$30.80
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$42.77	\$8.70	\$11.78	\$0.00	\$63.25

Apprentice - LINEMAN (Outside Electrical) - East Local 104

Effective Date - 09/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.66	\$8.70	\$4.24	\$0.00	\$38.60
2	65	\$27.80	\$8.70	\$4.71	\$0.00	\$41.21
3	70	\$29.94	\$8.70	\$5.43	\$0.00	\$44.07
4	75	\$32.08	\$8.70	\$6.16	\$0.00	\$46.94
5	80	\$34.22	\$8.70	\$6.88	\$0.00	\$49.80
6	85	\$36.35	\$8.70	\$7.62	\$0.00	\$52.67
7	90	\$38.49	\$8.70	\$8.83	\$0.00	\$56.02

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2015	\$28.12	\$4.25	\$3.09	\$0.00	\$35.46
	01/01/2016	\$28.98	\$4.25	\$3.12	\$0.00	\$36.35
TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2015	\$26.49	\$4.25	\$3.04	\$0.00	\$33.78
	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63
TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2015	\$26.49	\$4.25	\$3.04	\$0.00	\$33.78
	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TREE TRIMMER	02/01/2015	\$18.05	\$3.55	\$0.00	\$0.00	\$21.60
<i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$18.51	\$3.55	\$0.00	\$0.00	\$22.06
This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground.						
This classification does not apply to wholesale tree removal.						
TREE TRIMMER GROUNDMAN	02/01/2015	\$15.92	\$3.55	\$0.00	\$0.00	\$19.47
<i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$16.32	\$3.55	\$0.00	\$0.00	\$19.87
This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.						

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. Apprentices 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.