

Town of Fairhaven

40 Center Street
Fairhaven, MA 02719



Invitation for Bid

Key Dates & Information

Project Name:	Council on Aging & Recreation Roof Replacement
Site Visit Date & Time:	April 17, 2025 at 10:00AM
Last Date for Questions:	May 6, 2025
Due Date & Time for Proposals:	Filed Sub Bids – May 8, 2025 @ 3:00PM General Contractor - May 15, 2025 @ 3:00PM

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SECTION 00020

INVITATION FOR BIDS

The Town of Fairhaven invites sealed bids for the Council on Aging & Recreation Roof Replacement.

The bid documents may be obtained by emailing: kfournier@fairhaven-ma.gov where they are publicly available as of March 26, 2025.

Filed Sub-bids for HVAC must be received no later than May 8, 2025, at 3:00PM. at the Select Board Office, 40 Center Street, Fairhaven, MA 02719. Bids will immediately be opened publicly and read aloud. General Bids will be opened on May 15, 2025, at 3:00PM p.m. at the same location. Each Bid and filed sub-bid must be accompanied by a bid security consisting of a BID BOND, CASH, or CERTIFIED CHECK issued by a responsible bank or trust company in the amount of 5% of the bid price.

Pre-Bid Conference and Site Visit will be held at Council on Aging and Recreation, 227 Huttleston Avenue, Fairhaven, MA 02719 on April 17, 2025 at 10:00AM. It is imperative that all prospective bidders have a representative in attendance.

A performance bond in an amount equal to 100 percent of the total amount of the contract price with a surety company qualified to do business in the Commonwealth of Massachusetts will be required for the faithful performance of the contract as well as a labor and materials bond in an amount equal to 100 percent of the total contract price.

All bids for this project are subject to applicable public bidding laws of Massachusetts, including G.L. c.149, § 54A through 54H, as amended.

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

Attention is further directed to the requirements of G.L. c.149, §44D requiring submission of a Division of Capital Asset Management & Maintenance (DCAMM) approved Certificate of Eligibility and Update Statement with all bids.

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

The bidder agrees that its bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of the bids.

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

The Town of Fairhaven

SECTION 00100

INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids

The Town of Fairhaven, Massachusetts, herein called the Owner or Awarding Authority, will receive sealed Bids for the project known as **Council on Aging & Recreation Roof Replacement**. This Project is subject to the public bidding statutes, G.L. c. 149, §§44A-44H, including filed sub-bids for the trades noted herein. Filed sub-bids addressed to the Town of Fairhaven, Town Hall, 40 Center Street Fairhaven, MA 02719, and endorsed "Sub-bid HVAC for **Council on Aging & Recreation Roof Replacement**" (Project) and will be received at the Office of the Selectboard until 3 p.m. prevailing time, on May 8, 2025, at which time and place said filed sub-bids will be publicly opened and read aloud.

General bids similarly addressed to the Town of Fairhaven, Town Hall, 40 Center Street Fairhaven, MA 02719 and endorsed "Council on Aging & Recreation Roof Replacement" will be received at the Office of the Selectboard until 3 p.m. prevailing time, on May 15, 2025, at which time and place said bids will be publicly opened and read aloud.

Sub-bids: Every sub-bid shall be for the complete work of the sub-trade as specified, and must be submitted on the Form for Sub-bid furnished by the Awarding Authority, a sample of which is included in these Contract Documents.

1. Every such sub-bid shall be accompanied by a bid deposit in the amount of 5% of the Bid.
2. Every sub-bidder duly filing a sub-bid with the Awarding Authority shall be bound thereby to every general bidder not excluded therein from the use thereof; and any variance from such sub-bid communicated to a general bidder shall be of no effect.
3. Every sub-bid for a sub-trade designated in Item 2 of the FORM FOR GENERAL BID shall be publicly opened and read by the Awarding Authority at the time and place specified in the advertised Invitation to Bid. Not later than the second day, Saturdays, Sundays and legal holidays excluded, prior to the advertised General Bid Deadline, the Awarding Authority shall mail to every person on record as having taken a set of Contract Documents, a list of sub-bidders. The list shall be arranged by sub-trades and listing for each sub-trade the name, address and sub-bid price of every sub-bidder who has submitted a sub-bid which has not been rejected by the Awarding Authority.

Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified will not be considered. The bidder agrees that its bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids.

2. Location and Work to be Done

The Work consists of Replacement of the roof at the Council of Aging and the Recreational Center, 229 Huttleston Ave, Fairhaven, MA 02719. and all work incidental thereto, in accordance with the Specifications and conceptual plans attached hereto.

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

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

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.

3. Preparation of Bid

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

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

4. Bid Opening Procedure

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

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

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

Bid signatures will be checked.

All addenda will be through the Beacon Bid portal to all prospective bidders.

The total dollar amount of each bid will be read. All those present at the bid opening may examine all bids after the bid opening.

5. Modification

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

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

6. Ability and Experience of Bidder

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 Owner's decision or judgment on these matters will be final, conclusive, and binding.

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

7. Conditions of Work

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

8. Addenda and Interpretations

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

Any clarification of requirements or requests for additional information by proposers must be made in writing to the Beacon Bid portal <https://www.townofFairhaven.net/bids> and submitted no later than the deadline as referenced under the bid opportunity. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

9. Security for Faithful Performance

Simultaneously with his delivery of the executed Contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor and materials under this contract. The surety on such bond or bonds shall be a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Owner. The bonds shall remain in force for one year after final acceptance of the work by the Owner, unless the Owner, in writing, releases the Contractor from the obligation sooner.

10. Power of Attorney

Attorneys-in-fact who sign Contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

11. Laws and Regulations

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances or bylaws, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though written out in full. Attention is directed to Section 00850 and to other applicable sections of the Contract Documents.

12. Liquidated Damages for Failure to Enter into Contract

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

13. Obligation of Bidder

At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Contract Documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect of his bid.

14. Information Not Guaranteed

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

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.

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

15. Bid Security

Each bid and sub-bid must be accompanied by bid security in the form of a certified check, a bid bond, cash, or a treasurer's or cashier's check, payable to the Owner, in the amount of five (5) percent of the value of the bid. Such security of general bidders will be returned to all except the three lowest responsible and eligible bidders within five days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids, and the remaining securities will be returned promptly after the Owner and the accepted bidder have executed the Contract, or if no notice of intent to award has been presented to the selected contractor within 30 days, Saturdays, Sundays and holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter. Bid security of sub-bidders, except that of the sub-bidders named in the general bids of the three lowest responsible and eligible general bidders and those of the three lowest responsible and eligible sub-bidders for each sub-trade, shall be returned within five (5) days, Saturdays, Sundays and legal holidays excluded. After the opening of general bids, the bid security of the sub-bidders not returned as aforesaid, shall be returned within five (5) days, Saturdays, Sundays and legal holidays excluded, after the execution of the General Contract.

16. Right to Reject Bid

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

The Owner may also reject 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, alterations, or similar irregularities.

17. Time for Completion

The successful general bidder must agree to commence work within ten (10) days of the date of the Notice to Proceed and to fully complete the project within the time limit stated in Section 00300, FORM OF GENERAL BID.

18. Comparison of Bids

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

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

19. Award of Contract

The Contract will be awarded to "the lowest responsible and eligible bidder" pursuant to General Laws Chapter 149, Section 44A(2), as amended. Such a bidder shall possess the skill, ability and integrity necessary for the faithful performance of the work, shall be able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed, in the work, and shall otherwise comply with all applicable provisions of law. Contract award shall be subject to availability of an appropriation for funding.

20. Statutes Regulating Competitive Bidding

Any bid which does not comply with the provisions of Massachusetts General Laws Chapter 149, Sections 44A through 44H, as amended, need not be accepted and the Owner may reject every such bid.

21. Wage Rates

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

State schedules of Prevailing wage rates are included in the Supplemental General Conditions section of the Contract Documents.

22. Contractor Records

The Contractor shall comply with the provisions of Massachusetts General Laws, Chapter 30, Section 39R concerning Contractor records.

23. INSURANCE

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

24. PROJECT MANAGER

In addition to a project Architect/Engineer, the Owner may utilize the services of a project manager, whose duties shall be as set forth in the Agreement for Project Manager Services.

25. Certificate of Eligibility and Update Statement

In accordance with G.L. c.149, §44D, every bid and sub-bid must be accompanied by a copy of a certificate of eligibility issued by the Division of Capital Asset Management & Maintenance (DCAMM) showing that the bidder or sub-bidder has the classification and capacity rating to perform the work required. An appropriate update statement must also be provided with each bid. Any bid or sub-bid submitted without an appropriate certificate of eligibility or update statement shall be invalid.

SECTION 00300

FORM OF GENERAL BID

Bid of _____ (hereinafter called "Bidder")*

(____) a corporation, organized and existing under the laws of the state of

(____) a partnership

(____) a joint venture

(____) an individual
doing business as _____

To the Town of Fairhaven, Massachusetts (hereinafter called "Owner").

Gentlemen:

A) The undersigned Bidder, in compliance with your invitation for bids for the project known as **Council on Aging & Recreation Roof Replacement**, having examined the plans and specifications and related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the contract documents and the plans and specifications within the time set forth below, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract documents, of which this bid is a part.

The Bidder hereby agrees to commence work on or before the date to be specified in written "Notice to Proceed" of the Owner, and to substantially complete the project within 365 consecutive calendar days thereafter. The Bidder further agrees to pay as liquidated damages the sum of ONE THOUSAND (\$1,000) Dollars for each consecutive calendar day thereafter that the work is not complete as provided in Section 00700 GENERAL CONDITIONS.

*Specify corporation, partnership or individual as applicable.

B) Bidder acknowledges receipt of and this bid includes the following addenda:

No. _____ Dated: _____

No. _____ Dated: _____

No. _____ Dated: _____

No. _____ Dated: _____

C) The Bidder agrees to perform the work described in the specifications and shown on the plans for the following contract price: \$_____.

For alternate No. _____ Add \$_____; Subtract \$_____

For alternate No. _____ Add \$_____; Subtract \$_____

For alternate No. _____ Add \$_____; Subtract \$_____

For alternate No. _____ Add \$_____; Subtract \$_____

D) The subdivision of the proposed contract price is as follows:

Item 1. The work of the general contractor, being all work other than that covered by Item 2.
\$_____

Item 2. Sub-bids as follows:--

Sub-trade	Name of Sub-bidder	Amount	Bonds required, indicated by "Yes" or "No"
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____
_____	_____	\$_____	_____

Total of Item 2 \$_____

The undersigned agrees that each of the above named sub-bidders will be used for the work indicated at the amount stated, unless a substitution is made. The undersigned further agrees to pay the premiums for the performance and payment bonds furnished by sub-bidders as requested herein and that all of the cost of all such premiums is included in the amount set forth in Item 1 of this bid.

The undersigned agrees that if he is selected as general contractor, he will promptly confer with the awarding authority on the question of sub-bidders; and that the awarding authority may substitute for any sub-bid listed above a sub-bid filed with the awarding authority by another sub-bidder for the sub-trade against whose standing and ability the undersigned makes no objection; and that the undersigned will use all such finally selected sub-bidders at the amounts named in their respective sub-bids and be in every way as responsible for them and their work as if they had been originally named in this general bid, the total contract price being adjusted to conform thereto.

The undersigned agrees that, if he is selected as general contractor, he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price; provided, however, that if there is more than one surety company, the surety companies shall be jointly and severally liable.

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

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of bids.

Bid security is attached in the sum of five percent (5%) of the total bid in accordance with the conditions of Section 00100 INSTRUCTIONS TO BIDDERS. The bid security may become the property of the Owner in the event the contract and bonds are not executed within the time set forth above.

The selected Contractor shall furnish a performance bond and a payment bond in an amount at least equal to one hundred percent (100%) of the contract price in accordance with Section 00610 PERFORMANCE BOND, Section 00620 PAYMENT BOND, and as stipulated in Section 00700 GENERAL CONDITIONS and any supplemental general conditions thereto.

The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all the requirements of the plans and specifications.

1. Have been in business under present name for ____ years.
2. The names and addresses of all persons interested in the bid (if made by a partnership or corporation) as principals, are as follows:

(attach supplementary list if necessary)

3. The bidder is requested to state below what work of a similar character to that included in the proposed contract he has done, and give references that will enable the Owner to judge his experience, skill and business standing (add supplementary page if necessary).

<u>Completion Date</u>	<u>Project Name</u>	<u>Contract Amount</u>	<u>Design Architect</u>	<u>Reference Name</u>	<u>Telephone No.</u>
a.					
b.					
c.					
d.					
e.					
f.					

Pursuant to M.G.L. C. 62C, Sec. 49A, I certify hereby in writing, under penalties of perjury, that the within named Bidder/Contractor has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting of child support.

The undersigned bidder hereby certifies, under pains and penalties of perjury, that the foregoing bid is based upon the payment to laborers to be employed on the project of wages in an amount no less than the applicable prevailing wage rates established for the project by the Massachusetts Department of Labor and Workforce Development. The undersigned bidder agrees to indemnify the Awarding Authority for, from and against any loss, expense, damages, actions or claims, including any expense incurred in connection with any delay or stoppage of the project work arising out of or as a result of (1) the failure of the said bid to be based upon the payment of the said applicable prevailing wage rates or (2) the failure of the bidder, if selected as the contractor, to pay laborers employed on the project the said applicable prevailing wage rates.

Respectfully submitted:

Date: _____

By: _____
(Signature)

(Type Name of Bidder)

(Title)

(Business Address)

(City and State)

(Telephone Number)

SECTION 00400

FORM OF SUB-BID

To all General Bidders Except those Excluded:

A. The Undersigned proposes to furnish all labor and materials required for completing, in accordance with the hereinafter described plans, specifications and addenda, all the work specified in Section No. _____ of the specifications and in any plans specified in such section, prepared by _____, for the contract sum of _____ dollars (\$ _____).

For Alternate No. _____; Add \$ _____ Subtract \$ _____

Alternate No. _____; Add \$ _____ Subtract \$ _____

B. This sub-bid includes addenda numbered _____.

C. This sub-bid

may be used by any general bidder except:

may only be used by the following general bidders:

[To exclude general bidders, insert "X" in one box only and fill in blank following that box. Do not answer C if no general bidders are excluded.]

D. The undersigned agrees that, if he is selected as a sub-bidder, he will, within five days, Saturdays, Sundays and legal holidays excluded, after presentation of a subcontract by the general bidder selected as the general contractor, execute with such general bidder a subcontract in accordance with the terms of this sub-bid, and contingent upon the execution of the general contract, and, if requested so to do in the general bid by such general bidder, who shall pay the premiums therefor, furnish a performance and payment bond of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority, in the full sum of the subcontract price.

E. The names of all persons, firms and corporations furnishing to the undersigned labor or labor and materials for the class or classes or part thereof of work for which the provisions of the section of the specifications for this sub-trade require a listing in this paragraph, including the undersigned if customarily furnished by persons on his own payroll and in the absence of a contrary provision in the specifications, the name of each such class of work or part thereto and the bid price for such class of work or part thereof are:

Name	Class of Work	Bid Price
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

[Do not give bid price for any class or part thereof furnished by undersigned.]

F. The undersigned agrees that the above list of bids to the undersigned represents bona fide bids based on the hereinbefore described plans, specifications and addenda and that, if the undersigned is awarded the contract, they will be used for the work indicated at the amounts stated, if satisfactory to the awarding authority.

G. The undersigned further agrees to be bound to the general contractor by the terms of the hereinbefore described plans, specifications, including all general conditions stated therein, and addenda, and to assume toward him all the obligations and responsibilities that he, by those documents, assumes toward the owner.

H. The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all the requirements of the plans and specifications:

1. Have been in business under present business name _____ years.
2. Ever failed to complete any work awarded: _____
3. List one or more recent buildings with names of the general contractor and architect on which you served as a subcontractor for work of similar character as required for the above-named building.

Building	Architect	General Contractor	Amount of Contract
(a) _____	_____	_____	_____
(b) _____	_____	_____	_____
(c) _____	_____	_____	_____

4. Bank reference _____

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

The undersigned further certifies under penalties of perjury that this sub-bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date: _____

(Name of Sub-bidder)

By: _____
(Title and Name of Person
Signing Bid)

(Business Address)

(City and State)

SECTION 00500

AGREEMENT

THIS AGREEMENT made this _____ day of _____
in the year Two Thousand and ____, between _____, with a usual place
of business at _____, hereinafter called the
CONTRACTOR, and the Town of Fairhaven, acting by its _____, with a usual place of business
at _____ Street, _____, MA _____, hereinafter called the OWNER.

The CONTRACTOR and the OWNER, for the consideration hereinafter named, agree as follows:

1. Scope of Work

The Contractor shall furnish all labor, materials, equipment and insurance to perform all work required for the project known as the _____ Project, in strict accordance with the Contract Documents and all related Drawings and Specifications. The said Documents, Specifications, Drawings and any supplemental general conditions are incorporated herein by reference and are made a part of this Agreement.

2. Contract Price

The Owner shall pay the Contractor for the performance of this Agreement, subject to additions and deductions provided herein, in current funds, the sum of _____.

3. Commencement and Completion of Work and Liquidated Damages

It is agreed that time is of the essence of this Agreement. The Contractor shall commence and prosecute the work under this Agreement upon execution hereof and shall complete the work on or before _____.

- A. Definition of Term: The Term "Substantial completion" shall mean the date certified by the Owner when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner may occupy the project, or designated portion(s) thereof, for the use for which it is intended.
- B. Time as Essential Condition: It is understood and agreed that the commencement of and substantial completion of the work are essential conditions of this Agreement. It is further agreed that time is of the essence for each and every portion of the Contract Documents wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract Documents any additional time is allowed for the completion of any work, the new time fixed by such extension shall be of the essence of this Agreement. It is understood and agreed that the times for the completion of the work are reasonable, taking

into consideration the average climatic range and usual industrial conditions prevailing in this locality.

- C. Progress and Completion: Contractor shall commence work promptly upon execution of this Agreement and shall prosecute and complete the work regularly, diligently and uninterruptedly at such a rate of progress as will insure Substantial Completion within the stipulated number of calendar days.
- D. Liquidated Damages: It is expressly agreed between the Contractor and the Owner that the Contractor will be responsible for all damages which may arise due to the Contractor's failure to substantially complete the work within the above specified time. If the Contractor shall neglect, fail or refuse to complete the work within the specified number of days, or any extension thereof authorized by the Owner, Contractor agrees, as a part of the consideration for the execution of this Contract by the Owner, to pay the Owner the amount specified herein, not as a penalty, but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day, excluding Saturdays, Sundays and legal Holidays, that the Contractor shall be in default of Substantial completion after the date specified in the Agreement. Due to the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, said amount is agreed to be the amount of damages which the Owner would sustain, and said amount shall be retained from time to time by the Owner from current periodic estimates. The amount of liquidated damages shall be _____ per day.

4. Performance of the Work

- A. Direction of the Work: The Contractor shall supervise and direct the Work, using his best skills and attention which shall not be less than such state of skill and attention generally rendered by the contracting profession for projects similar to the Project in scope, difficulty and location. The Contractor shall maintain adequate supervisory personnel at the project site during the performance of the Work. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Agreement.
- B. Responsibility for the Work: (1) The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor. This obligation shall also extend to the presence on the Site of suppliers of materials or equipment, their employees, contractors, and agents engaged in the work.

(2) The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Owner in its administration of the Agreement, or by inspections, tests or approvals required or performed by persons other than the Contractor.
- C. Permits and Fees: Unless otherwise expressly provided, the Contractor shall secure and pay for all permits and fees, licenses and inspections necessary for the proper execution and completion of the Work which are customarily secured after execution of the Agreement and which are legally required at the time the bids are received, and the same shall at all times be the property of the Owner and shall be delivered to the Owner upon completion of the Project.

- D. Notices, Compliance With Laws: (1) The Contractor shall give all notices and comply with all federal, state and local laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work. The Contractor shall provide the Owner with reproductions of all permits, licenses and receipts for any fees paid. The Owner represents that it has disclosed to the Contractor all orders and requirements known to the Owner of any public authority particular to this Agreement.
- (2) If the Contractor observes that any of the Contract Documents are at variance with applicable laws, statutes, codes and regulations in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be accomplished by appropriate modification.
- (3) If the Contractor performs any Work which he knows or should know is contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility therefor and shall bear all costs attributable thereto.
- (4) In the performance of the Work, the Contractor shall comply with all applicable federal, state and local laws and regulations including those relating to workplace and employee safety. The Contractor shall notify the Owner immediately of any conditions at the place of the work which violate said laws and regulations and shall take prompt action to correct and eliminate any such violations.
- E. Project Superintendent: The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site at all times during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed on written request in each case.
- F. Progress Schedule: The Contractor, immediately after being awarded the Contract, shall prepare and submit for the Owner's information an estimated progress schedule for the Work. The progress schedule shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.
- G. Drawings, Specifications and Submittals:
- (1) The Contractor shall maintain at the site for the Owner one record copy of all Drawings, Specifications, Addenda, Change Orders and other Modifications, and "As-Built" Drawings and Specifications in good order and marked currently to record all changes made during construction, and approved Shop Drawings, Product Data and Samples. These shall be delivered to the Owner upon completion of the Work.
- (2) By approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

(3) The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Owner's approval of Shop Drawings, Product Data or Samples unless the Contractor has specifically informed the Owner in writing of such deviation at the time of submission and the Owner has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Owner's approval thereof.

(4) The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Owner on previous submittals.

(5) No portion of the Work requiring submission of a Shop Drawing, Product Data or Sample shall be commenced until the submittal has been approved by the Owner. All such portions of the Work shall be in accordance with approved submittals.

H. Protection of the Work and Owner's Property: The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this Agreement. He shall at all times safely guard and protect his own work, and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury. The Contractor shall clean the work area and restore it to its original condition upon completion of the work.

I. Quality of the Work: The Contractor shall perform the work in a good, workmanlike manner. The Contractor hereby guarantees that the entire work constructed by him under the Agreement will meet fully all requirements thereof as to quality of workmanship and materials. The Contractor hereby agrees to make at his own expense any repairs or replacements made necessary by defects in materials or workmanship supplied to him that become evident within one (1) year after the date of the final payment, and to restore to full compliance with the requirements set forth herein any part of the work constructed hereunder, which during said one (1) year period is found to be deficient with respect to any provisions of the Contract Documents. The Contractor also agrees to hold the Owner harmless from claims of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of written orders for same from the Owner. If the Contractor fails to make the repairs and replacements promptly, the Owner may do the work and the Contractor shall be liable to the Owner for the cost thereof.

J. Warranty: The Contractor guarantees to Owner that all materials incorporated into the work will be new unless otherwise specified or agreed. Prior to final payment, the Contractor shall deliver to the Owner all manufacturers' warranties, together with such endorsements or assignments as are necessary to ensure to the Owner the full rights and benefits of such warranties.

5. Affirmative Action/Equal Employment Opportunity

The Contractor is directed to comply with all applicable State Laws, Ordinances, Bylaws, and rules and regulations regarding affirmative action/equal employment opportunity requirements. Failure of the Contractor to comply with any such law, rule or regulation shall constitute grounds for the Owner to terminate the Agreement.

6. Site Information Not Guaranteed; Contractor's Investigation

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

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.

Contractor has familiarized himself with the nature and extent of the Contract Documents, work, locality, and with all local conditions and federal, state, and local laws, rules, ordinances, and regulations that in any manner may affect costs, progress, or performance of the work. Contractor has made, or has caused to be made, examinations, investigations, and tests and studies of such reports and related data in addition to those referred to in the paragraph above as he deems necessary for the performance of the work at the Contract Price, within the Contract Time, and in accordance with the other Terms and Conditions of the Contract Documents; and no additional examinations, tests, investigations, reports, and similar data are or will be required by the Contractor for such purposes.

Contractor has correlated the results of all such observations, examinations, investigations, tests, reports, and data with the Contract Documents. Contractor has given the Owner written notice of all conflicts, errors, or discrepancies that he has discovered in the Contract Documents, and the resolution thereof by the Owner is acceptable to the Contractor.

It is further agreed and understood that the Contractor shall not use or be entitled to use any of the information made available to him 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, arising from or by reason of any variance which may exist between the information made available and the actual subsurface conditions or other conditions or structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

7. Project Architect or Engineer

There ___ is ___ is not a project architect-engineer for this project who is _____. Except as otherwise indicated in the Contract Documents, the Architect/Engineer shall be a representative of the Owner and the Contractor shall direct all communications, questions and comments on the work and the performance thereof to the Architect/Engineer. Except as otherwise provided, the Architect/Engineer shall have all the authority of the Owner set forth in the Contract Documents. In general, the Architect/Engineer shall have the authority to review the performance of the work, reject work which is defective or otherwise does not comply with the Contract Documents and to order the Contractor to remedy defective work and take such actions which are necessary to make the work conform to the Contract Documents.

8. Wage Rates

Prevailing Wage Rates as determined by the Commissioner of the Department of Labor and Workforce Development under the provisions of Massachusetts General Laws, Chapter 149, Section 26 to 27G, as amended, apply to this project. It is the responsibility of the Contractor to provide the Town with certified payrolls and to comply with all requirements of the above-cited statutes.

The schedules of prevailing wage rates are included in the Contract Documents.

9. Payments to the Contractor

Within fifteen (15) days after receipt from the Contractor of a proper and satisfactory periodic estimate requesting payment of the amount due for the preceding month, the Owner shall have fifteen (15) days to make payment for:

- A. The work performed during the preceding month.
- B. 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.
- C. Less the following retention items:
 - 1. A retention based on an estimate of the fair value of the Owner's claims against the Contractor.
 - 2. A retention for direct payments to Subcontractors, if any, based on demands for same in accordance with the provisions of Section 39F of Chapter 30 of the General Laws.
 - 3. A retention not exceeding five percent (5%) of the approved amount of the periodic payment.
- D. After the receipt of a periodic estimate requesting final payment and within sixty-five (65) days after the Contractor fully completes the Work, or substantially completes the Work so that the value of the Work remaining to be done is, on the estimate of the Owner, less than 1% of the original Contract Price, or substantially completes the Work and the Owner takes possession or occupancy, whichever occurs first, the Owner shall pay the Contractor the entire balance due on the Contract less:
 - 1. A retention based on an estimate of the fair value of the Owner's claims against the Contractor and of the cost of completing the incomplete and unsatisfactory items of work.
 - 2. A retention for direct payments to Subcontractors, if any, based on demands of same in accordance with the provisions of Section 39F of Chapter 30 of the General Laws, 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 39F of Chapter 30 of the General Laws.

If the Owner fails to make payment as herein provided, there shall be added to each such payment, daily interest at the rate of 3 percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston, commencing on the first day after said payment is due, and continuing until the payment is delivered or mailed to the Contractor; provided that no interest shall be due, in any event, on the amount of a periodic estimate for final payment until fifteen (15) days after receipt of such a periodic estimate by the Owner as provided in the first paragraph of this Article. The Contractor agrees

to pay to each subcontractor a portion of any such interest paid in accordance with the amount due each subcontractor.

The Owner may make changes in any periodic estimate submitted by the Contractor and the payment due on said periodic estimate shall be computed in accordance with the changes so made, and such changes and any requirements for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided further, that the Owner may, within seven (7) days after receipt, return to the Contractor for correction, any periodic estimate which is not in acceptable form or which contains computations not arithmetically correct, and in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form and with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter.

E. Changes in the Work: No changes in the work covered by the approved Contract Documents shall be made without prior written approval of the Owner. Charges or credits for the work covered by the approved change shall be determined by one or more, or a combination of the following methods:

- (a) Unit bid prices previously approved.
- (b) An agreed lump sum.
- (c) The actual cost of:
 - (1) Labor.
 - (2) Materials entering permanently into the work.
 - (3) The ownership or rental cost of construction equipment during the time of use on the extra work.
 - (4) Power and consumable supplies for the operation of power equipment.
 - (5) Wages to be paid.

To the cost under (c) there shall be added a fixed fee to be agreed upon but not to exceed fifteen percent (15%) of the actual cost of work. The fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expenses.

F. Claims for Additional Costs: If the Contractor wishes to make a claim for an increase in the Contract Sum, he shall give the Owner written notice thereof within twenty days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property. No such claim shall be valid unless so made. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

The Contractor hereby agrees that the Contractor shall have no claim for damages of any kind against the Town on account of any delay in the commencement or performance of the work and/or any hindrance, delay or suspension of any portion of the work including, but not limited to, any claims or damages on account of having to perform out of sequence work, claims for damages on account of loss of production or other interference with the work whether such delay is caused by the Town or otherwise, except as and to the extent expressly provided under G.L. c.30, §390 in the case of written orders by the Town. The Contractor acknowledges that the Contractor's sole remedy for any such claim will be an extension of time as provided herein.

10. Final Payment, Effect

The acceptance of final payment by the Contractor shall constitute a waiver of all claims by the Contractor arising under the Agreement.

11. Contract Documents

The Contract Documents consist of the following, together with this Agreement:

- Invitation to Bid
- Instructions to Bidders
- This Contract Form
- Bid Form
- Performance Bond
- Labor & Materials Payment Bond
- Non-Collusion Certificate
- Tax Compliance Certificate
- Clerk's Certificate of Corporate Vote
- Certificate of Insurance
- General Conditions
- Supplementary General Conditions
- General Requirements
- Specifications and Addenda
- Contract Drawings
- Schedule of Prevailing Wages
- (Strike out any inapplicable item)

12. Terms Required By Law

This Agreement shall be considered to include all terms required to be included in it by the Massachusetts General Laws, and all other laws, as though such terms were set forth in full herein.

13. Indemnification

The Contractor shall indemnify and hold harmless the Owner from and against any and all claims, damages, losses, and expenses, including attorney's fees, arising out of the performance of this Agreement when such claims, damages, losses, and expenses are caused, in whole or in part, by the acts, errors, or omissions of the Contractor or his employees, agents, subcontractors or representatives.

14. Insurance

The Contractor shall purchase and maintain such insurance as will protect both the Owner and the Contractor from claims which may arise under the Agreement, including operations performed for the named insured by independent contractors and general inspection thereof by the named insured. In addition, the Contractor shall require its subcontractors to maintain such insurance. Coverage shall be provided for:

- .1 claims under workers' or workmen's compensation, disability benefit and other applicable employee benefit acts;
- .2 claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
- .3 claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
- .4 claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person;
- .5 claims for damages, including damages to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and
- .6 claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- .7 claims involving contractual liability applicable to the Contractor's obligations under Article 13.

The limits of liability for coverage required under the preceding paragraph shall be as Specified in the Supplemental Conditions.

Except for Workmen's Compensation, all liability coverage shall name the Town as an additional insured and shall provide for 30 days prior written notice to the Town of any modification or termination of coverage provided thereby. The Contractor shall provide the Owner with appropriate certificate(s) of insurance evidencing compliance with this provision prior to the commencement of any work under this Agreement.

15. Notice

All notices required to be given hereunder shall be in writing and delivered to, or mailed first class to, the parties' respective addresses stated above. In the event that immediate notice is required, it may be given by telephone or facsimile, but shall, to the extent possible, be followed by notice in writing in the manner set forth above.

16. Termination

- A. Each party shall have the right to terminate this Agreement in the event of a failure of the other party to comply with the terms of the Agreement. Such termination shall be effective upon seven days' notice to the party in default and the failure within that time of said party to cure its default.
- B. The Owner shall have the right to terminate the Agreement without cause, upon ten (10) days' written notice to the Contractor. In the event that the Agreement is terminated pursuant to this subparagraph, the Contractor shall be reimbursed in accordance with the Contract Documents for all Work performed up to the termination date, and for all materials or equipment not incorporated in the Work, but delivered and suitably stored at the site. Payment for material or equipment stored at the site shall be conditioned upon submission by the Contractor of bills of sale or such other evidence as is satisfactory to Owner to establish the Owner's title to such material or equipment or otherwise protect the Owner's interests.

17. Miscellaneous

- A. Royalties and Patents: The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified; but if the Contractor believes or 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, and thereafter the Owner insists on the use of the design, process or products specified.
- B. Assignment: The Contractor shall not assign or transfer any of its rights, duties or obligations under this Agreement without the written approval of the Owner.
- C. Governing Law: This Agreement shall be governed by and construed in accordance with the law of the Commonwealth of Massachusetts.
- D. By its signature hereon, the Contractor certifies, under the pains and penalties of perjury, that it has complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

[Remainder of page intentionally blank.]

AGREED:

TOWN OF _____, MASSACHUSETTS
(Owner)

By its _____

CONTRACTOR: _____

By _____

(Name)

(Title)

(Address)

(City and State)

Approved as to Form:

By _____
(Owner's Counsel)

In accordance with G.L. c.44, Section 31C, this is to certify that an appropriation in the amount of this contract is available therefor and that the _____ has been authorized to execute the contract and approve all requisitions and change orders.

By _____
(Owner's Accountant)

(Name)

CERTIFICATE OF VOTE
(to be filed if Contractor is a Corporation)

I, _____, hereby certify that I am the duly qualified
(Secretary of the Corporation)

and acting Secretary of _____ and I further certify that a meeting of the
(Name of Corporation)
Directors of said Company, duly called and held on _____, at which
(Date of Meeting)

all Directors were present and voting, the following vote was unanimously passed:

VOTED: To authorize and empower

Anyone acting singly, to execute Forms of General Bid, Contracts or Bonds on behalf of the Corporation.

I further certify that the above vote is still in effect and has not been changed or modified in any respect.

By: _____
(Secretary of Corporation)

A True Copy:

Attest: _____
(Notary Public)

My Commission Expires: _____
(Date)

**CERTIFICATIONS REQUIRED BY LAW
FOR PUBLIC CONSTRUCTION CONTRACTS**

You must COMPLETE and SIGN the following certifications. You must also print, at the bottom of this page, the name of the contractor for whom these certifications are submitted.

TAX COMPLIANCE

Pursuant to Chapter 62C of the Massachusetts General Laws, Section 49A(b), I, the undersigned, authorized signatory for the below named contractor, do hereby certify under the pains and penalties of perjury that said contractor has complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

NON-COLLUSION

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

PUBLIC CONTRACTOR DEBARMENT

The undersigned certifies under penalty of perjury that the below named contractor is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

OSHA TRAINING

Pursuant to G.L. c. 30, §39S, the Contractor hereby certifies under penalties of perjury as follows:

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

COMPLETE AND SIGN BELOW:

Authorized Person's Signature

Date

Print Name & Title of Signatory

Name of Contractor

SECTION 00610

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____
(Name of Contractor)

a _____ hereinafter called "Principal" and
(Corporation, Partnership, Joint Venture or Individual)

_____ of _____, State of _____
(Surety) (City & State)

_____ hereinafter called the "Surety" and licensed by the State Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are held and firmly bound to the Town of Fairhaven, Massachusetts, hereinafter called "Owner", in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20__ (the "Construction Contract"), for the construction described as follows: _____.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of the Construction Contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under the Construction Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the Surety's obligation under this Bond shall arise after (1) the Owner has declared the Principal in default of the Construction Contract or any provision thereof or (2) has declared that the Principal has failed, or is otherwise unable or unwilling, to execute the work consistent with, and in conformance to, the Construction Contract (collectively referred to as a "Contractor Default"). The determination of a Contractor Default shall be made solely by the Owner. The Owner need not terminate the Construction Contract to declare a Contractor Default or to invoke its rights under this Bond.

When the Surety's obligation under this Bond arises, the Surety, at its sole expense and at the consent and election of the Owner, shall promptly take one of the following steps: (1) arrange for the Principal to perform and complete the work of the Construction Contract; (2) arrange for a contractor other than the Principal to perform and complete the work of the Construction Contract; (3) reimburse the Owner, in a manner and at such time as the Owner shall decide, for all costs and expenses incurred by the Owner in performing and completing the work of the Construction Contract. Surety will keep Owner reasonably informed of the progress, status and results of any investigation of any claim of the Owner.

If the Surety does not proceed as provided in this Bond with due diligence and all deliberate speed, the Surety shall be deemed to be in default of this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner.

After the Surety's obligation under this Bond arises, the Surety is obligated, to the limit of the amounts of this Bond, for (1) the correction of defective work and completion of the Construction Contract; (2) additional design, professional services, and legal costs, including attorneys' fees, resulting from the Contractor Default or from the default of the Surety under this Bond; (3) any additional work beyond the Construction Contract made necessary by the Contractor Default or default of the Surety under this Bond; (4) indemnification obligation of the Principal, if any, as provided in the Construction Contract; and (5) liquidated damages as provided in the Construction Contract, or if none are so specified, actual and foreseeable consequential damages resulting from the Contractor Default or default of the Surety under this Bond.

Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction in the Commonwealth of Massachusetts.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Construction Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Construction Contract or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument is executed in ____ () counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20____.

ATTEST:

_____	By	_____
(Principal Secretary)		Principal

		(Address-Zip Code)

_____ (SEAL)
Witness as to Principal

(Address-Zip Code)

ATTEST:

_____	By	_____
		Surety

		(Attorney-in-Fact)

		(Address-Zip Code)

_____ (SEAL)
Witness as to Surety

(Address-Zip Code)

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

SECTION 00620

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____

_____ a _____
(Name of Contractor) (Corporation, Partnership, Joint Venture or
Individual)

hereinafter called "Principal" and _____ of _____,
(Surety)

State of _____ hereinafter called the "Surety" and licensed by the State
(City and State)

Division of Insurance to do business under the laws of the Commonwealth of Massachusetts, are held and firmly bound to the Town of Fairhaven, Massachusetts, hereinafter called "Owner", in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20____, for the construction described as follows:

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the work or to the specifications.

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

IN WITNESS WHEREOF, this instrument is executed in ____ () counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20__.

ATTEST:

_____	By	_____ Surety
		_____ (Attorney-in-Fact)
		_____ (Address-Zip Code)
_____ (SEAL)		
Witness as to Surety		

(Address-Zip Code)		

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

SECTION 00800

SPECIAL CONDITIONS

Page

1. Introduction
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§ SC 1.1 INTRODUCTION

The following provisions modify, change, delete from or add to Section 00700 GENERAL CONDITIONS. Where any Subsection of the General Conditions is modified or any Article Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplemental General Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

§ SC 2.1 PREVAILING WAGES

In accordance with General Laws Chapter 149, Section 26 through 27D, the Contractor is obligated to comply with the prevailing wage rates established by the Commissioner of the Department of Labor and Workforce Development for mechanics, apprentices, chauffeurs, teamsters and laborers employed on the Project. The schedule of applicable prevailing wage rates for the Project, together with a Certificate of Compliance therewith, are set forth in Attachment A herein.

§ SC 3.1 CONTRACTOR'S LIABILITY INSURANCE

General Insurance Requirements

Prior to the commencement of any Contract work of any nature, and in addition to other insurance, bonds or securities required by law or under Contract terms, the Contractor shall procure and maintain during the life of the Contract and beyond as required, the types and limits of insurance as outlined below:

- a. All insurance required of the Contractor will be maintained with companies assigned a letter rating in the "A- VIII" category from A.M. Best or which are otherwise acceptable to the Town of Fairhaven, and which are lawfully authorized to do business in the Commonwealth of Massachusetts.
- b. Each policy (except workers' compensation and personal property) shall include Town of Fairhaven, its officers and employees as Additional Insureds or loss payees. Each policy shall indicate that the coverage is primary and non-contributory.
- c. Each policy shall contain a waiver of subrogation in favor of Town of Fairhaven, its officers and employees.
- d. No policy must be allowed to expire, be cancelled or materially modified without thirty (30) days' prior written notice to the Chief Procurement Officer, Town of Fairhaven.

Liability Insurance

The Contractor shall be fully responsible for all claims for damages for bodily injury, including wrongful death, and all claims for property damage, which may result from the performance of this Contract by the Contractor, any subcontractor, or any of their respective agents or employees. The Contractor's liability shall not be limited to the extent of the insurance required herein. The Contractor shall take out and maintain in force during the life of this Contract the following types of insurance to protect the Town of Fairhaven, its agents, and employees, the Contractor, and any subcontractor performing work covered by this Contract from claims which may arise from operations by the contractor or by a subcontractor or by anyone directly or indirectly employed by either of them.

- a. **Commercial General Liability Insurance:** to cover all claims for damages for bodily injury including accidental death, as well as claims for property damage which may arise out of operations performed in connection with the Contract. The policy shall provide a combined single limit for bodily injury and property damage of one million dollars (1,000,000) per occurrence, and three million dollars (\$3,000,000) General Aggregate. Such General Aggregate limit shall apply on a per project basis. Personal and Advertising Injury coverage shall be provided at a limit of (\$1,000,000). Products and completed operations coverage should be provided at a limit of three million dollars (\$3,000,000) aggregate and shall be maintained for a period of three (3) years after substantial completion and acceptance of the project by the Town of Fairhaven or owner of the project.

The policy shall be occurrence based and provide coverage at least as broad as the current ISO form without any exclusion for Products and Completed Operations, Explosion (X), Collapse (C) and Underground Damage (U) hazards as related to the work being performed, Contractor Protective Liability coverage with respect to

operations performed by subcontractors, and Contractual Liability coverage related to this Contract. If the Contract includes work to be performed within fifty (50) feet of a railroad, any exclusion for liability assumed under contract for such work shall be deleted.

Town of Fairhaven, shall be named as an additional insured on all public liability and property damage insurance policies. The policy shall include a waiver of subrogation in favor of the Town of Fairhaven. No insurance policy obtained pursuant to this section shall contain a deductible or self insured retention.

b. Automobile Liability: to cover the liability of the Contractor arising from operations on and off the site of all motor vehicles whether they are owned, non-owned or hired. The policy shall be on an occurrence form with a combined single limit for bodily injury and property damage liability of at least one million dollars (\$1,000,000).

The policy should include a Broadened Pollution Endorsement (CA 99 48) if contractor is bringing fuel cans or possible pollutants, mobile equipment or other gas powered tools on-site. If hauling hazardous materials, contaminants or pollutants, the policy shall include coverage form MCS-90 in accordance with Sections 29 and 30 of the Motor Carrier Act of 1980.

c. Umbrella Liability: to protect the Contractor against all claims excess of the commercial general liability and automobile liability mentioned above and employer's liability coverage mentioned in the paragraph below. The coverage provided by the umbrella policy shall be at least as broad as the underlying policies. The limit of protection provided by the policy shall be as follows unless an alternative limit is indicated via addendum to this Contract.

Contract Price	Limit of Liability
Under \$1,000,000	\$2,000,000 per occurrence
\$1,000,001 - \$5,000,000	\$5,000,000 per occurrence
\$5,000,001 - \$10,000,00	\$10,000,000 per occurrence
\$10,000,001 and over	\$25,000,000 per occurrence

Workers' Compensation and Employer's Liability Insurance

Before commencing performance of this contract, the Contractor shall provide insurance for the payment of compensation and the furnishing of other benefits under the Massachusetts General Laws Chapter 152 (the so-called Workers Compensation Law) to all persons to be employed under this contract, the workers' compensation laws of any other state if there are any persons employed outside of Massachusetts, and any requirement for compensation required under any Federal Act for any maritime employee, longshoreman or harbor workers, and shall continue such insurance in full force and effect during the term of this contract. The contract shall, without limiting the generality of the foregoing, conform to the provisions of the General Laws Chapter 149 S34(a), which section is incorporated herein by reference and made a part hereof.

The Contractor shall provide employer's liability insurance in an amount not less than \$500,000 for each accident or disease for each employee.

Contractor's Pollution Legal Liability:

If applicable, the Contractor shall provide insurance coverage for bodily injury and property damage resulting from Contractor's liability arising out of pollution related exposures such as asbestos abatement, lead paint abatement, tank removal, mold remediation, removal of contaminated soil, etc. The policy shall also include coverage for on-site and off-site bodily injury and loss of damage to or loss of use of property, directly or indirectly arising out of the discharge, dispersal, release or escape of irritants, contaminants or pollutants into or upon the land, the atmosphere or any water course or body of water, whether it be gradual, or sudden and accidental. The policy shall also include defense and clean-up costs. The policy shall provide a minimum limit of one million dollars (\$1,000,000) per occurrence for this project. If the policy is claims made, the retroactive date shall be no later than the commencement date of this contract and the policy shall include an extended reporting period of at least one year from substantial completion and acceptance of the work by the Town of Fairhaven or owner of the project.

Personal Property Insurance:

Any tools, equipment, materials, and other personal property owned by Contractor shall be at the sole responsibility and risk of Contractor. The Town of Fairhaven, shall not be liable for any loss, damage, or theft to such property. Any insurance that Contractor elects to maintain on Contractor's personal property and materials shall be at the sole responsibility and cost of Contractor.

**Optional – If New Construction or Substantial Renovations are Contemplated
Installation Floater**

The Contractor shall provide insurance coverage for property under construction via either a Builder's Risk Policy or an Installation Floater. This insurance must provide coverage on an "all risk" basis and shall include materials, fixtures, equipment and supplies on the job site, off premises at any temporary storage location, or in transit. Valuation must be on a replacement cost basis. The limit of insurance will be equal to the Contract Price or, subject to the express written permission by the Town of Fairhaven or owner of the project, an amount equal to the replacement cost of equipment, materials and structures exposed at any one site. This provision shall in no way relieve the Contractor of his obligation to complete the work covered by the Contract.

Additional types of Insurance

The Contractor shall provide such other types of insurance as may be required by the Town of Fairhaven and indicated via addendum to this insurance requirement.

Proof of Insurance

No work shall be commenced on the site by the Contractor or any subcontractor until copies of the policy or certificates of the types of insurance required hereby have been furnished to the Chief Procurement Officer, in a form satisfactory to her. If the Contractor provides a Certificate of Liability Insurance, it must indicate each policy number, insurance company, policy effective and expiration date, and limits of insurance. The certificate must make specific reference to the Contract number. It must also provide proof that the policy(ies) have been properly endorsed to add the Town as an additional insured and to include a waiver of subrogation in favor of the Town and to provide the Town with at least thirty (30) days' notice of any cancellation, termination or material modification. The certificate must be signed by a duly authorized representative of the issuing insurance companies.

In addition, renewal certificates must be received by the Town thirty (30) days prior to any policy expiration. Further, policies must not be allowed to expire or be canceled without thirty (30) days prior written notice to the Town of Fairhaven.

The Contractor is responsible to make sure its sub-contractors, at all tiers, carry adequate insurance coverage and shall maintain current certificates for their sub-contractors on file at all times. Further, contractor shall provide copies to the Town of Fairhaven upon request.

Effect of Failure to Continue Insurance in Force

Failure to provide and continue in force insurance required by this contract shall be deemed a material breach of this contract and shall operate as an immediate termination thereof.

SECTION 00850

Incorporation of Applicable Provisions of the Massachusetts General Laws

Certain provisions of the Massachusetts General Laws are applicable to Construction contracts including, but not limited to, those contained in Chapter 30 and Chapter 149. All applicable provisions of the Massachusetts General Laws are incorporated into the Contract as if fully set forth herein, and shall prevail over any conflicting provisions of the General or Supplemental General Conditions.

SECTION - 00900
Scope of Work

Replacement of the roof at the Council of Aging and the Recreational Center, 229 Huttleston Ave, Fairhaven, MA 02719. Project is to be done to specifications that are prepared by DHK architects, attached herein, any changes to the specifications must be in writing and approved beforehand by an authorized Town employee.

"ATTACHMENT A"
[Wage Rates]



MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

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

Prevailing Wage Rates

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

LAUREN JONES
Secretary

MICHAEL FLANAGAN
Director

Awarding Authority: Kevin Fournier

Contract Number:

City/Town: FAIRHAVEN

Description of Work: replace roof at rec center and council of aging

Job Location: 227 huttleston ave fairhaven

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, the awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.
- This annual update requirement is generally not applicable to 27F "rental of equipment" contracts. For such contracts, the prevailing wage rates issued by DLS shall remain in effect for the duration of the contract term. However, if the prevailing wage rate sheet issued does not contain wage rates for each year covered by the contract term, the Awarding Authority must request updated rate sheets from DLS and provide them to the contractor to ensure the correct rates are being paid throughout the duration of the contract. Additionally, if an Awarding Authority exercises an option to renew or extend the contract term, they must request updated rate sheets from DLS and provide them to the contractor.
- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentices must keep their apprentice identification card on their persons during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.**
- Every contractor or subcontractor working on the construction project must submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. For a sample payroll reporting form go to <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Contractors must obtain the wage schedules from awarding authorities. Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

Issue Date: 03/07/2025

Wage Request Number: 20250307-008

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>	01/01/2025	\$39.95	\$15.57	\$20.17	\$0.00	\$75.69
	06/01/2025	\$40.95	\$15.57	\$20.17	\$0.00	\$76.69
	12/01/2025	\$40.95	\$15.57	\$21.78	\$0.00	\$78.30
	01/01/2026	\$40.95	\$16.17	\$21.78	\$0.00	\$78.90
	06/01/2026	\$41.95	\$16.17	\$21.78	\$0.00	\$79.90
	12/01/2026	\$41.95	\$16.17	\$23.52	\$0.00	\$81.64
	01/01/2027	\$41.95	\$16.77	\$23.52	\$0.00	\$82.24
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.02	\$15.57	\$20.17	\$0.00	\$75.76
	06/01/2025	\$41.02	\$15.57	\$20.17	\$0.00	\$76.76
	12/01/2025	\$41.02	\$15.57	\$21.78	\$0.00	\$78.37
	01/01/2026	\$41.02	\$16.17	\$21.78	\$0.00	\$78.97
	06/01/2026	\$42.02	\$16.17	\$21.78	\$0.00	\$79.97
	12/01/2026	\$42.02	\$16.17	\$23.52	\$0.00	\$81.71
	01/01/2027	\$42.02	\$16.77	\$23.52	\$0.00	\$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.14	\$15.57	\$20.17	\$0.00	\$75.88
	06/01/2025	\$41.14	\$15.57	\$20.17	\$0.00	\$76.88
	12/01/2025	\$41.14	\$15.57	\$21.78	\$0.00	\$78.49
	01/01/2026	\$41.14	\$16.17	\$21.78	\$0.00	\$79.09
	06/01/2026	\$42.14	\$16.17	\$21.78	\$0.00	\$80.09
	12/01/2026	\$42.14	\$16.17	\$23.52	\$0.00	\$81.83
	01/01/2027	\$42.14	\$16.77	\$23.52	\$0.00	\$82.43
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2024	\$117.16	\$10.08	\$24.29	\$0.00	\$151.53
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS WORKER (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (SOUTHERN MASS)</i>	12/01/2024	\$42.80	\$14.50	\$11.05	\$0.00	\$68.35
	06/01/2025	\$43.80	\$14.50	\$11.05	\$0.00	\$69.35
	12/01/2025	\$44.80	\$14.50	\$11.05	\$0.00	\$70.35

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79

Apprentice - *BOILERMAKER - Local 29*
Effective Date - 01/01/2024

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

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (NEW BEDFORD)</i>	02/01/2025	\$65.80	\$11.49	\$23.59	\$0.00	\$100.88
	08/01/2025	\$67.95	\$11.49	\$23.59	\$0.00	\$103.03
	02/01/2026	\$69.30	\$11.49	\$23.59	\$0.00	\$104.38
	08/01/2026	\$71.50	\$11.49	\$23.59	\$0.00	\$106.58
	02/01/2027	\$72.90	\$11.49	\$23.59	\$0.00	\$107.98

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 New Bedford

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.90	\$11.49	\$23.59	\$0.00	\$67.98
2	60	\$39.48	\$11.49	\$23.59	\$0.00	\$74.56
3	70	\$46.06	\$11.49	\$23.59	\$0.00	\$81.14
4	80	\$52.64	\$11.49	\$23.59	\$0.00	\$87.72
5	90	\$59.22	\$11.49	\$23.59	\$0.00	\$94.30

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$33.98	\$11.49	\$23.59	\$0.00	\$69.06
2	60	\$40.77	\$11.49	\$23.59	\$0.00	\$75.85
3	70	\$47.57	\$11.49	\$23.59	\$0.00	\$82.65
4	80	\$54.36	\$11.49	\$23.59	\$0.00	\$89.44
5	90	\$61.16	\$11.49	\$23.59	\$0.00	\$96.24

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN	12/01/2024	\$48.10	\$9.65	\$18.22	\$0.00	\$75.97
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2025	\$49.60	\$9.65	\$18.22	\$0.00	\$77.47
	12/01/2025	\$51.10	\$9.65	\$18.22	\$0.00	\$78.97
	06/01/2026	\$52.65	\$9.65	\$18.22	\$0.00	\$80.52
	12/01/2026	\$54.15	\$9.65	\$18.22	\$0.00	\$82.02

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER	12/01/2024	\$46.95	\$9.65	\$18.22	\$0.00	\$74.82
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2025	\$48.45	\$9.65	\$18.22	\$0.00	\$76.32
	12/01/2025	\$49.95	\$9.65	\$18.22	\$0.00	\$77.82
	06/01/2026	\$51.50	\$9.65	\$18.22	\$0.00	\$79.37
	12/01/2026	\$53.00	\$9.65	\$18.22	\$0.00	\$80.87

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING TOP MAN	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
<i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20

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>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- I.LABORER"						

CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	03/01/2025	\$49.62	\$9.83	\$19.97	\$0.00	\$79.42
	09/01/2025	\$50.87	\$9.83	\$19.97	\$0.00	\$80.67
	03/01/2026	\$52.12	\$9.83	\$19.97	\$0.00	\$81.92
	09/01/2026	\$53.37	\$9.83	\$19.97	\$0.00	\$83.17
	03/01/2027	\$54.62	\$9.83	\$19.97	\$0.00	\$84.42

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.33	\$9.83	\$1.73	\$0.00	\$33.89
2	45	\$22.33	\$9.83	\$1.73	\$0.00	\$33.89
3	55	\$27.29	\$9.83	\$3.40	\$0.00	\$40.52
4	55	\$27.29	\$9.83	\$3.40	\$0.00	\$40.52
5	70	\$34.73	\$9.83	\$16.51	\$0.00	\$61.07
6	70	\$34.73	\$9.83	\$16.51	\$0.00	\$61.07
7	80	\$39.70	\$9.83	\$18.24	\$0.00	\$67.77
8	80	\$39.70	\$9.83	\$18.24	\$0.00	\$67.77

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.89	\$9.83	\$1.73	\$0.00	\$34.45
2	45	\$22.89	\$9.83	\$1.73	\$0.00	\$34.45
3	55	\$27.98	\$9.83	\$3.40	\$0.00	\$41.21
4	55	\$27.98	\$9.83	\$3.40	\$0.00	\$41.21
5	70	\$35.61	\$9.83	\$16.51	\$0.00	\$61.95
6	70	\$35.61	\$9.83	\$16.51	\$0.00	\$61.95
7	80	\$40.70	\$9.83	\$18.24	\$0.00	\$68.77
8	80	\$40.70	\$9.83	\$18.24	\$0.00	\$68.77

Notes:

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME <i>CARPENTERS-ZONE 3 (Wood Frame)</i>	10/01/2024	\$26.65	\$7.02	\$4.80	\$0.00	\$38.47
	10/01/2025	\$27.75	\$7.02	\$4.80	\$0.00	\$39.57
	10/01/2026	\$28.85	\$7.02	\$4.80	\$0.00	\$40.67

Classification

Effective Date Base Wage Health Pension Supplemental Total Rate
Unemployment

All Aspects of New Wood Frame Work

Apprentice - CARPENTER (Wood Frame) - Zone 3

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$15.99	\$7.02	\$0.00	\$0.00	\$23.01
2	60	\$15.99	\$7.02	\$0.00	\$0.00	\$23.01
3	65	\$17.32	\$7.02	\$1.00	\$0.00	\$25.34
4	70	\$18.66	\$7.02	\$1.00	\$0.00	\$26.68
5	75	\$19.99	\$7.02	\$4.80	\$0.00	\$31.81
6	80	\$21.32	\$7.02	\$4.80	\$0.00	\$33.14
7	85	\$22.65	\$7.02	\$4.80	\$0.00	\$34.47
8	90	\$23.99	\$7.02	\$4.80	\$0.00	\$35.81

Effective Date - 10/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$16.65	\$7.02	\$0.00	\$0.00	\$23.67
2	60	\$16.65	\$7.02	\$0.00	\$0.00	\$23.67
3	65	\$18.04	\$7.02	\$1.00	\$0.00	\$26.06
4	70	\$19.43	\$7.02	\$1.00	\$0.00	\$27.45
5	75	\$20.81	\$7.02	\$4.80	\$0.00	\$32.63
6	80	\$22.20	\$7.02	\$4.80	\$0.00	\$34.02
7	85	\$23.59	\$7.02	\$4.80	\$0.00	\$35.41
8	90	\$24.98	\$7.02	\$4.80	\$0.00	\$36.80

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING BRICKLAYERS LOCAL 3 (NEW BEDFORD)	07/01/2024	\$49.19	\$13.35	\$24.21	\$1.80	\$88.55
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Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (New Bedford)

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.60	\$13.35	\$16.43	\$0.00	\$54.38
2	60	\$29.51	\$13.35	\$19.21	\$1.80	\$63.87
3	65	\$31.97	\$13.35	\$20.21	\$1.80	\$67.33
4	70	\$34.43	\$13.35	\$21.21	\$1.80	\$70.79
5	75	\$36.89	\$13.35	\$22.21	\$1.80	\$74.25
6	80	\$39.35	\$13.35	\$23.21	\$1.80	\$77.71
7	90	\$44.27	\$13.35	\$24.21	\$1.80	\$83.63

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	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES OPERATING ENGINEERS LOCAL 4	12/01/2024	\$58.18	\$15.55	\$16.50	\$0.00	\$90.23
	06/01/2025	\$59.51	\$15.55	\$16.50	\$0.00	\$91.56
	12/01/2025	\$60.98	\$15.55	\$16.50	\$0.00	\$93.03
	06/01/2026	\$62.31	\$15.55	\$16.50	\$0.00	\$94.36
	12/01/2026	\$63.79	\$15.55	\$16.50	\$0.00	\$95.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR OPERATING ENGINEERS LOCAL 4	12/01/2024	\$36.67	\$15.55	\$16.50	\$0.00	\$68.72
	06/01/2025	\$37.52	\$15.55	\$16.50	\$0.00	\$69.57
	12/01/2025	\$38.47	\$15.55	\$16.50	\$0.00	\$70.52
	06/01/2026	\$39.33	\$15.55	\$16.50	\$0.00	\$71.38
	12/01/2026	\$40.28	\$15.55	\$16.50	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) PAINTERS LOCAL 35 - ZONE 2	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Classification

Effective Date

Base Wage

Health

Pension

Supplemental
Unemployment

Total Rate

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.23	\$9.95	\$0.00	\$0.00	\$39.18
2	55	\$32.15	\$9.95	\$6.66	\$0.00	\$48.76
3	60	\$35.08	\$9.95	\$7.26	\$0.00	\$52.29
4	65	\$38.00	\$9.95	\$7.87	\$0.00	\$55.82
5	70	\$40.92	\$9.95	\$20.32	\$0.00	\$71.19
6	75	\$43.85	\$9.95	\$20.93	\$0.00	\$74.73
7	80	\$46.77	\$9.95	\$21.53	\$0.00	\$78.25
8	90	\$52.61	\$9.95	\$22.74	\$0.00	\$85.30

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN

LABORERS - ZONE 2

12/02/2024	\$47.00	\$9.65	\$18.40	\$0.00	\$75.05
06/02/2025	\$48.50	\$9.65	\$18.40	\$0.00	\$76.55
12/01/2025	\$50.00	\$9.65	\$18.40	\$0.00	\$78.05
06/01/2026	\$51.55	\$9.65	\$18.40	\$0.00	\$79.60
12/07/2026	\$53.05	\$9.65	\$18.40	\$0.00	\$81.10
06/07/2027	\$54.65	\$9.65	\$18.40	\$0.00	\$82.70
12/06/2027	\$56.25	\$9.65	\$18.40	\$0.00	\$84.30
06/05/2028	\$57.93	\$9.65	\$18.40	\$0.00	\$85.98
12/04/2028	\$59.60	\$9.65	\$18.40	\$0.00	\$87.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR

LABORERS - ZONE 2

12/02/2024	\$48.00	\$9.65	\$18.40	\$0.00	\$76.05
06/02/2025	\$49.50	\$9.65	\$18.40	\$0.00	\$77.55
12/01/2025	\$51.00	\$9.65	\$18.40	\$0.00	\$79.05
06/01/2026	\$52.55	\$9.65	\$18.40	\$0.00	\$80.60
12/07/2026	\$54.05	\$9.65	\$18.40	\$0.00	\$82.10
06/07/2027	\$55.65	\$9.65	\$18.40	\$0.00	\$83.70
12/06/2027	\$57.25	\$9.65	\$18.40	\$0.00	\$85.30
06/05/2028	\$58.93	\$9.65	\$18.40	\$0.00	\$86.98
12/04/2028	\$60.60	\$9.65	\$18.40	\$0.00	\$88.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS

LABORERS - ZONE 2

12/02/2024	\$47.75	\$9.65	\$18.40	\$0.00	\$75.80
06/02/2025	\$49.25	\$9.65	\$18.40	\$0.00	\$77.30
12/01/2025	\$50.75	\$9.65	\$18.40	\$0.00	\$78.80
06/01/2026	\$52.30	\$9.65	\$18.40	\$0.00	\$80.35
12/07/2026	\$53.80	\$9.65	\$18.40	\$0.00	\$81.85
06/07/2027	\$55.40	\$9.65	\$18.40	\$0.00	\$83.45
12/06/2027	\$57.00	\$9.65	\$18.40	\$0.00	\$85.05
06/05/2028	\$58.68	\$9.65	\$18.40	\$0.00	\$86.73
12/04/2028	\$60.35	\$9.65	\$18.40	\$0.00	\$88.40

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER	12/02/2024	\$48.00	\$9.65	\$18.40	\$0.00	\$76.05
LABORERS - ZONE 2	06/02/2025	\$49.50	\$9.65	\$18.40	\$0.00	\$77.55
	12/01/2025	\$51.00	\$9.65	\$18.40	\$0.00	\$79.05
	06/01/2026	\$52.55	\$9.65	\$18.40	\$0.00	\$80.60
	12/07/2026	\$54.05	\$9.65	\$18.40	\$0.00	\$82.10
	06/07/2027	\$55.65	\$9.65	\$18.40	\$0.00	\$83.70
	12/06/2027	\$57.25	\$9.65	\$18.40	\$0.00	\$85.30
	06/05/2028	\$58.93	\$9.65	\$18.40	\$0.00	\$86.98
	12/04/2028	\$60.60	\$9.65	\$18.40	\$0.00	\$88.65
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR	12/02/2024	\$47.75	\$9.65	\$18.40	\$0.00	\$75.80
LABORERS - ZONE 2	06/02/2025	\$49.25	\$9.65	\$18.40	\$0.00	\$77.30
	12/01/2025	\$50.75	\$9.65	\$18.40	\$0.00	\$78.80
	06/01/2026	\$52.30	\$9.65	\$18.40	\$0.00	\$80.35
	12/07/2026	\$53.80	\$9.65	\$18.40	\$0.00	\$81.85
	06/07/2027	\$55.40	\$9.65	\$18.40	\$0.00	\$83.45
	12/06/2027	\$57.00	\$9.65	\$18.40	\$0.00	\$85.05
	06/05/2028	\$58.68	\$9.65	\$18.40	\$0.00	\$86.73
	12/04/2028	\$60.35	\$9.65	\$18.40	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER	12/02/2024	\$47.00	\$9.65	\$18.40	\$0.00	\$75.05
LABORERS - ZONE 2	06/02/2025	\$48.50	\$9.65	\$18.40	\$0.00	\$76.55
	12/01/2025	\$50.00	\$9.65	\$18.40	\$0.00	\$78.05
	06/01/2026	\$51.55	\$9.65	\$18.40	\$0.00	\$79.60
	12/07/2026	\$53.05	\$9.65	\$18.40	\$0.00	\$81.10
	06/07/2027	\$54.65	\$9.65	\$18.40	\$0.00	\$82.70
	12/06/2027	\$56.25	\$9.65	\$18.40	\$0.00	\$84.30
	06/05/2028	\$57.93	\$9.65	\$18.40	\$0.00	\$85.98
	12/04/2028	\$59.60	\$9.65	\$18.40	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER	08/01/2024	\$78.11	\$10.08	\$24.29	\$0.00	\$112.48
PILE DRIVER LOCAL 56 (ZONE 2)						
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Diver wage 70/80/90 2A \$69.83, 3A \$91.79,4A \$102.14 Total Rate						
DIVER TENDER	08/01/2024	\$51.97	\$10.08	\$24.29	\$0.00	\$86.34
PILE DRIVER LOCAL 56 (ZONE 2)						
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Piledriver wage 70/80/90 2A \$54.20, 3A \$73.93,4A \$82.05 Total Rate						
DIVER TENDER (EFFLUENT)	08/01/2024	\$83.69	\$10.08	\$24.29	\$0.00	\$118.06
PILE DRIVER LOCAL 56 (ZONE 2)						
For apprentice rates see "Apprentice- PILE DRIVER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIVER/SLURRY (EFFLUENT) PILE DRIVER LOCAL 56 (ZONE 2)	08/01/2024	\$117.16	\$10.08	\$24.29	\$0.00	\$151.53
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) DRAWBRIDGE - SEIU LOCAL 888	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN ELECTRICIANS LOCAL 223	09/01/2024	\$50.02	\$12.00	\$17.72	\$0.00	\$79.74
	09/01/2025	\$52.25	\$12.25	\$18.61	\$0.00	\$83.11
	09/01/2026	\$54.72	\$12.50	\$19.56	\$0.00	\$86.78

Apprentice - ELECTRICIAN - Local 223

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.01	\$12.00	\$0.60	\$0.00	\$32.61
2	45	\$22.51	\$12.00	\$0.68	\$0.00	\$35.19
3	50	\$25.01	\$12.00	\$0.75	\$0.00	\$37.76
4	55	\$27.51	\$12.00	\$0.89	\$0.00	\$40.40
5	60	\$30.01	\$12.00	\$0.95	\$0.00	\$42.96
6	65	\$32.51	\$12.00	\$0.97	\$0.00	\$45.48
7	70	\$35.01	\$12.00	\$1.00	\$0.00	\$48.01
8	75	\$37.52	\$12.00	\$1.09	\$0.00	\$50.61

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.90	\$12.25	\$0.63	\$0.00	\$33.78
2	45	\$23.51	\$12.25	\$0.71	\$0.00	\$36.47
3	50	\$26.13	\$12.25	\$0.78	\$0.00	\$39.16
4	55	\$28.74	\$12.25	\$0.91	\$0.00	\$41.90
5	60	\$31.35	\$12.25	\$0.97	\$0.00	\$44.57
6	65	\$33.96	\$12.25	\$1.02	\$0.00	\$47.23
7	70	\$36.58	\$12.25	\$1.09	\$0.00	\$49.92
8	75	\$39.19	\$12.25	\$1.15	\$0.00	\$52.59

Notes:

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86
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Apprentice - ELEVATOR CONSTRUCTOR - Local 4
Effective Date - 01/01/2022

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

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2024	\$51.78	\$15.30	\$16.40	\$0.00	\$83.48
	05/01/2025	\$53.22	\$15.30	\$16.40	\$0.00	\$84.92
	11/01/2025	\$54.51	\$15.30	\$16.40	\$0.00	\$86.21
	05/01/2026	\$55.95	\$15.30	\$16.40	\$0.00	\$87.65
	11/01/2026	\$57.24	\$15.30	\$16.40	\$0.00	\$88.94
	05/01/2027	\$58.67	\$15.30	\$16.40	\$0.00	\$90.37
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2024	\$53.37	\$15.30	\$16.40	\$0.00	\$85.07
	05/01/2025	\$54.82	\$15.30	\$16.40	\$0.00	\$86.52
	11/01/2025	\$56.12	\$15.30	\$16.40	\$0.00	\$87.82
	05/01/2026	\$57.57	\$15.30	\$16.40	\$0.00	\$89.27
	11/01/2026	\$58.87	\$15.30	\$16.40	\$0.00	\$90.57
	05/01/2027	\$60.32	\$15.30	\$16.40	\$0.00	\$92.02
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2024	\$25.37	\$15.30	\$16.40	\$0.00	\$57.07
	05/01/2025	\$26.22	\$15.30	\$16.40	\$0.00	\$57.92
	11/01/2025	\$26.98	\$15.30	\$16.40	\$0.00	\$58.68
	05/01/2026	\$27.83	\$15.30	\$16.40	\$0.00	\$59.53
	11/01/2026	\$28.59	\$15.30	\$16.40	\$0.00	\$60.29
	05/01/2027	\$29.44	\$15.30	\$16.40	\$0.00	\$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 223</i>	09/01/2024	\$50.02	\$12.00	\$17.72	\$0.00	\$79.74
	09/01/2025	\$52.25	\$12.25	\$18.61	\$0.00	\$83.11
	09/01/2026	\$54.72	\$12.50	\$19.56	\$0.00	\$86.78

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE	09/01/2024	\$50.02	\$12.00	\$17.72	\$0.00	\$79.74
/ COMMISSIONING <i>ELECTRICIANS</i>	09/01/2025	\$52.25	\$12.25	\$18.61	\$0.00	\$83.11
<i>LOCAL 223</i>	09/01/2026	\$54.72	\$12.50	\$19.56	\$0.00	\$86.78
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER)	12/01/2024	\$45.96	\$15.55	\$16.50	\$0.00	\$78.01
<i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2025	\$47.02	\$15.55	\$16.50	\$0.00	\$79.07
	12/01/2025	\$48.19	\$15.55	\$16.50	\$0.00	\$80.24
	06/01/2026	\$49.25	\$15.55	\$16.50	\$0.00	\$81.30
	12/01/2026	\$50.43	\$15.55	\$16.50	\$0.00	\$82.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY)	12/01/2024	\$27.01	\$9.65	\$17.80	\$0.00	\$54.46
<i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2025	\$28.09	\$9.65	\$17.80	\$0.00	\$55.54
	12/01/2025	\$28.09	\$9.65	\$17.80	\$0.00	\$55.54
	06/01/2026	\$29.21	\$9.65	\$17.80	\$0.00	\$56.66
	12/01/2026	\$29.21	\$9.65	\$17.80	\$0.00	\$56.66
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FLOORCOVERER	03/01/2025	\$57.73	\$8.83	\$20.27	\$0.00	\$86.83
<i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	09/01/2025	\$59.23	\$8.83	\$20.27	\$0.00	\$88.33
	03/01/2026	\$60.73	\$8.83	\$20.27	\$0.00	\$89.83
	09/01/2026	\$62.23	\$8.83	\$20.27	\$0.00	\$91.33
	03/01/2027	\$63.73	\$8.83	\$20.27	\$0.00	\$92.83

Apprentice - FLOORCOVERER - Local 2168 Zone I

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$25.98	\$8.83	\$1.76	\$0.00	\$36.57
2	45	\$25.98	\$8.83	\$1.76	\$0.00	\$36.57
3	55	\$31.75	\$8.83	\$3.52	\$0.00	\$44.10
4	55	\$31.75	\$8.83	\$3.52	\$0.00	\$44.10
5	70	\$40.41	\$8.83	\$16.75	\$0.00	\$65.99
6	70	\$40.41	\$8.83	\$16.75	\$0.00	\$65.99
7	80	\$46.18	\$8.83	\$18.51	\$0.00	\$73.52
8	80	\$46.18	\$8.83	\$18.51	\$0.00	\$73.52

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$26.65	\$8.83	\$1.76	\$0.00	\$37.24
2	45	\$26.65	\$8.83	\$1.76	\$0.00	\$37.24
3	55	\$32.58	\$8.83	\$3.52	\$0.00	\$44.93
4	55	\$32.58	\$8.83	\$3.52	\$0.00	\$44.93
5	70	\$41.46	\$8.83	\$16.75	\$0.00	\$67.04
6	70	\$41.46	\$8.83	\$16.75	\$0.00	\$67.04
7	80	\$47.38	\$8.83	\$18.51	\$0.00	\$74.72
8	80	\$47.38	\$8.83	\$18.51	\$0.00	\$74.72

Notes: Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

<div>FORK LIFT/CHERRY PICKER</div> <div>OPERATING ENGINEERS LOCAL 4</div>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
<div>GENERATOR/LIGHTING PLANT/HEATERS</div> <div>OPERATING ENGINEERS LOCAL 4</div>	12/01/2024	\$36.67	\$15.55	\$16.50	\$0.00	\$68.72
	06/01/2025	\$37.52	\$15.55	\$16.50	\$0.00	\$69.57
	12/01/2025	\$38.47	\$15.55	\$16.50	\$0.00	\$70.52
	06/01/2026	\$39.33	\$15.55	\$16.50	\$0.00	\$71.38
	12/01/2026	\$40.28	\$15.55	\$16.50	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
<div>GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)</div> <div>GLAZIERS LOCAL 1333</div>	06/01/2020	\$39.18	\$10.80	\$10.45	\$0.00	\$60.43

Apprentice - GLAZIER - Local 1333

Effective Date - 06/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.59	\$10.80	\$1.80	\$0.00	\$32.19
2	56	\$22.04	\$10.80	\$1.80	\$0.00	\$34.64
3	63	\$24.49	\$10.80	\$2.45	\$0.00	\$37.74
4	69	\$26.94	\$10.80	\$2.45	\$0.00	\$40.19
5	75	\$29.39	\$10.80	\$3.15	\$0.00	\$43.34
6	81	\$31.83	\$10.80	\$3.15	\$0.00	\$45.78
7	88	\$34.28	\$10.80	\$10.45	\$0.00	\$55.53
8	94	\$36.73	\$10.80	\$10.45	\$0.00	\$57.98

Notes:

Apprentice to Journeyworker Ratio:1:3

HOISTING ENGINEER/CRANES/GRADALLS
OPERATING ENGINEERS LOCAL 4

12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$31.37	\$0.00	\$0.00	\$0.00	\$31.37
2	60	\$34.22	\$15.55	\$16.50	\$0.00	\$66.27
3	65	\$37.07	\$15.55	\$16.50	\$0.00	\$69.12
4	70	\$39.92	\$15.55	\$16.50	\$0.00	\$71.97
5	75	\$42.77	\$15.55	\$16.50	\$0.00	\$74.82
6	80	\$45.62	\$15.55	\$16.50	\$0.00	\$77.67
7	85	\$48.48	\$15.55	\$16.50	\$0.00	\$80.53
8	90	\$51.33	\$15.55	\$16.50	\$0.00	\$83.38

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$32.08	\$0.00	\$0.00	\$0.00	\$32.08
2	60	\$35.00	\$15.55	\$16.50	\$0.00	\$67.05
3	65	\$37.91	\$15.55	\$16.50	\$0.00	\$69.96
4	70	\$40.83	\$15.55	\$16.50	\$0.00	\$72.88
5	75	\$43.75	\$15.55	\$16.50	\$0.00	\$75.80
6	80	\$46.66	\$15.55	\$16.50	\$0.00	\$78.71
7	85	\$49.58	\$15.55	\$16.50	\$0.00	\$81.63
8	90	\$52.50	\$15.55	\$16.50	\$0.00	\$84.55

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - B	10/01/2024	\$42.33	\$14.59	\$19.04	\$2.24	\$78.20
	04/01/2025	\$43.83	\$14.59	\$19.04	\$2.24	\$79.70
	10/01/2025	\$45.08	\$14.59	\$19.04	\$2.24	\$80.95
	04/01/2026	\$46.58	\$14.59	\$19.04	\$2.24	\$82.45
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 223	09/01/2024	\$50.02	\$12.00	\$17.72	\$0.00	\$79.74
	09/01/2025	\$52.25	\$12.25	\$18.61	\$0.00	\$83.11
	09/01/2026	\$54.72	\$12.50	\$19.56	\$0.00	\$86.78
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - B	10/01/2024	\$42.33	\$30.43	\$19.04	\$2.24	\$94.04
	04/01/2025	\$43.83	\$30.43	\$19.04	\$2.24	\$95.54
	10/01/2025	\$45.08	\$30.43	\$19.04	\$2.24	\$96.79
	04/01/2026	\$46.58	\$30.43	\$19.04	\$2.24	\$98.29
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) PLUMBERS & PIPEFITTERS LOCAL 51	08/26/2024	\$52.49	\$10.80	\$21.40	\$0.00	\$84.69
	08/25/2025	\$55.24	\$10.80	\$21.40	\$0.00	\$87.44
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC MECHANIC	08/26/2024	\$52.49	\$10.80	\$21.40	\$0.00	\$84.69
PLUMBERS & PIPEFITTERS LOCAL 51	08/25/2025	\$55.24	\$10.80	\$21.40	\$0.00	\$87.44
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
LABORERS - ZONE 2	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY)	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS)	09/01/2024	\$51.23	\$14.75	\$19.61	\$0.00	\$85.59
HEAT & FROST INSULATORS LOCAL 6 (SOUTHERN MASS)	09/01/2025	\$54.31	\$14.75	\$19.61	\$0.00	\$88.67
	09/01/2026	\$57.38	\$14.75	\$19.61	\$0.00	\$91.74

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Southern MA

Effective Date - 09/01/2024						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.62	\$14.75	\$14.32	\$0.00	\$54.69
2	60	\$30.74	\$14.75	\$15.37	\$0.00	\$60.86
3	70	\$35.86	\$14.75	\$16.43	\$0.00	\$67.04
4	80	\$40.98	\$14.75	\$17.49	\$0.00	\$73.22

Effective Date - 09/01/2025						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.16	\$14.75	\$14.32	\$0.00	\$56.23
2	60	\$32.59	\$14.75	\$15.37	\$0.00	\$62.71
3	70	\$38.02	\$14.75	\$16.43	\$0.00	\$69.20
4	80	\$43.45	\$14.75	\$17.49	\$0.00	\$75.69

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER	03/16/2021	\$42.46	\$7.70	\$17.10	\$0.00	\$67.26
IRONWORKERS LOCAL 37						

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - IRONWORKER - Local 37

Effective Date - 03/16/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	70	\$29.72	\$7.70	\$17.10	\$0.00	\$54.52
2	75	\$31.85	\$7.70	\$17.10	\$0.00	\$56.65
3	80	\$33.97	\$7.70	\$17.10	\$0.00	\$58.77
4	85	\$36.09	\$7.70	\$17.10	\$0.00	\$60.89
5	90	\$38.21	\$7.70	\$17.10	\$0.00	\$63.01
6	95	\$40.34	\$7.70	\$17.10	\$0.00	\$65.14

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
LABORERS - ZONE 2	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

LABORER	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
LABORERS - ZONE 2	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76

Apprentice - LABORER - Zone 2**Effective Date -** 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.92	\$9.65	\$17.70	\$0.00	\$51.27
2	70	\$27.90	\$9.65	\$17.70	\$0.00	\$55.25
3	80	\$31.89	\$9.65	\$17.70	\$0.00	\$59.24
4	90	\$35.87	\$9.65	\$17.70	\$0.00	\$63.22

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.75	\$9.65	\$17.70	\$0.00	\$52.10
2	70	\$28.88	\$9.65	\$17.70	\$0.00	\$56.23
3	80	\$33.00	\$9.65	\$17.70	\$0.00	\$60.35
4	90	\$37.13	\$9.65	\$17.70	\$0.00	\$64.48

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

LABORER (HEAVY & HIGHWAY)	12/01/2024	\$39.86	\$9.65	\$17.80	\$0.00	\$67.31
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2025	\$41.25	\$9.65	\$17.80	\$0.00	\$68.70
	12/01/2025	\$42.63	\$9.65	\$17.80	\$0.00	\$70.08
	06/01/2026	\$44.07	\$9.65	\$17.80	\$0.00	\$71.52
	12/01/2026	\$45.51	\$9.65	\$17.80	\$0.00	\$72.96

Apprentice - LABORER (Heavy & Highway) - Zone 2**Effective Date -** 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.92	\$9.65	\$17.80	\$0.00	\$51.37
2	70	\$27.90	\$9.65	\$17.80	\$0.00	\$55.35
3	80	\$31.89	\$9.65	\$17.80	\$0.00	\$59.34
4	90	\$35.87	\$9.65	\$17.80	\$0.00	\$63.32

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.75	\$9.65	\$17.80	\$0.00	\$52.20
2	70	\$28.88	\$9.65	\$17.80	\$0.00	\$56.33
3	80	\$33.00	\$9.65	\$17.80	\$0.00	\$60.45
4	90	\$37.13	\$9.65	\$17.80	\$0.00	\$64.58

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 2</i>	12/02/2024	\$39.95	\$9.65	\$17.76	\$0.00	\$67.36
	06/02/2025	\$41.34	\$9.65	\$17.76	\$0.00	\$68.75
	12/01/2025	\$42.72	\$9.65	\$17.76	\$0.00	\$70.13
	06/01/2026	\$44.16	\$9.65	\$17.76	\$0.00	\$71.57
	12/07/2026	\$45.60	\$9.65	\$17.76	\$0.00	\$73.01
	06/07/2027	\$47.05	\$9.65	\$17.76	\$0.00	\$74.46
	12/06/2027	\$48.50	\$9.65	\$17.76	\$0.00	\$75.91
	06/05/2028	\$50.00	\$9.65	\$17.76	\$0.00	\$77.41
	12/04/2028	\$51.50	\$9.65	\$17.76	\$0.00	\$78.91
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2025	\$50.36	\$11.49	\$21.62	\$0.00	\$83.47
	08/01/2025	\$52.08	\$11.49	\$21.62	\$0.00	\$85.19
	02/01/2026	\$53.16	\$11.49	\$21.62	\$0.00	\$86.27
	08/01/2026	\$54.92	\$11.49	\$21.62	\$0.00	\$88.03
	02/01/2027	\$56.04	\$11.49	\$21.62	\$0.00	\$89.15

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile**Effective Date -** 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.18	\$11.49	\$21.62	\$0.00	\$58.29
2	60	\$30.22	\$11.49	\$21.62	\$0.00	\$63.33
3	70	\$35.25	\$11.49	\$21.62	\$0.00	\$68.36
4	80	\$40.29	\$11.49	\$21.62	\$0.00	\$73.40
5	90	\$45.32	\$11.49	\$21.62	\$0.00	\$78.43

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.04	\$11.49	\$21.62	\$0.00	\$59.15
2	60	\$31.25	\$11.49	\$21.62	\$0.00	\$64.36
3	70	\$36.46	\$11.49	\$21.62	\$0.00	\$69.57
4	80	\$41.66	\$11.49	\$21.62	\$0.00	\$74.77
5	90	\$46.87	\$11.49	\$21.62	\$0.00	\$79.98

Notes:**Apprentice to Journeyworker Ratio:1:3**MARBLE MASONS, TILELAYERS & TERRAZZO MECH
BRICKLAYERS LOCAL 3 - MARBLE & TILE

02/01/2025	\$65.82	\$11.49	\$23.56	\$0.00	\$100.87
08/01/2025	\$67.97	\$11.49	\$23.56	\$0.00	\$103.02
02/01/2026	\$69.32	\$11.49	\$23.56	\$0.00	\$104.37
08/01/2026	\$71.52	\$11.49	\$23.56	\$0.00	\$106.57
02/01/2027	\$72.92	\$11.49	\$23.56	\$0.00	\$107.97

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

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.91	\$11.49	\$23.56	\$0.00	\$67.96
2	60	\$39.49	\$11.49	\$23.56	\$0.00	\$74.54
3	70	\$46.07	\$11.49	\$23.56	\$0.00	\$81.12
4	80	\$52.66	\$11.49	\$23.56	\$0.00	\$87.71
5	90	\$59.24	\$11.49	\$23.56	\$0.00	\$94.29

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$33.99	\$11.49	\$23.56	\$0.00	\$69.04
2	60	\$40.78	\$11.49	\$23.56	\$0.00	\$75.83
3	70	\$47.58	\$11.49	\$23.56	\$0.00	\$82.63
4	80	\$54.38	\$11.49	\$23.56	\$0.00	\$89.43
5	90	\$61.17	\$11.49	\$23.56	\$0.00	\$96.22

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES)	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 2)	01/06/2025	\$45.09	\$10.08	\$21.47	\$0.00	\$76.64
MILLWRIGHTS LOCAL 1121 - Zone 2	01/05/2026	\$47.42	\$10.08	\$21.47	\$0.00	\$78.97

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate**Apprentice - MILLWRIGHT - Local 1121 Zone 2****Effective Date - 01/06/2025**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.80	\$10.08	\$5.50	\$0.00	\$40.38
2	65	\$29.31	\$10.08	\$6.50	\$0.00	\$45.89
3	75	\$33.82	\$10.08	\$18.97	\$0.00	\$62.87
4	85	\$38.33	\$10.08	\$19.97	\$0.00	\$68.38

Effective Date - 01/05/2026

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$26.08	\$10.08	\$5.50	\$0.00	\$41.66
2	65	\$30.82	\$10.08	\$6.50	\$0.00	\$47.40
3	75	\$35.57	\$10.08	\$18.97	\$0.00	\$64.62
4	85	\$40.31	\$10.08	\$19.97	\$0.00	\$70.36

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

Apprentice to Journeyworker Ratio:1:4

MORTAR MIXER	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
LABORERS - ZONE 2	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES, GRADALLS)	12/01/2024	\$25.37	\$15.30	\$16.40	\$0.00	\$57.07
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$25.97	\$15.30	\$16.40	\$0.00	\$57.67
	12/01/2025	\$26.63	\$15.30	\$16.40	\$0.00	\$58.33
	06/01/2026	\$27.22	\$15.30	\$16.40	\$0.00	\$58.92
	12/01/2026	\$27.89	\$15.30	\$16.40	\$0.00	\$59.59

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	12/01/2024	\$31.08	\$15.30	\$16.40	\$0.00	\$62.78
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$31.80	\$15.30	\$16.40	\$0.00	\$63.50
	12/01/2025	\$32.60	\$15.30	\$16.40	\$0.00	\$64.30
	06/01/2026	\$33.32	\$15.30	\$16.40	\$0.00	\$65.02
	12/01/2026	\$34.12	\$15.30	\$16.40	\$0.00	\$65.82

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
OPERATING ENGINEERS LOCAL 4	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS)	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36
PAINTERS LOCAL 35 - ZONE 2						

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.23	\$9.95	\$0.00	\$0.00	\$39.18
2	55	\$32.15	\$9.95	\$6.66	\$0.00	\$48.76
3	60	\$35.08	\$9.95	\$7.26	\$0.00	\$52.29
4	65	\$38.00	\$9.95	\$7.87	\$0.00	\$55.82
5	70	\$40.92	\$9.95	\$20.32	\$0.00	\$71.19
6	75	\$43.85	\$9.95	\$20.93	\$0.00	\$74.73
7	80	\$46.77	\$9.95	\$21.53	\$0.00	\$78.25
8	90	\$52.61	\$9.95	\$22.74	\$0.00	\$85.30

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2025	\$49.36	\$9.95	\$23.95	\$0.00	\$83.26
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2						

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.68	\$9.95	\$0.00	\$0.00	\$34.63
2	55	\$27.15	\$9.95	\$6.66	\$0.00	\$43.76
3	60	\$29.62	\$9.95	\$7.26	\$0.00	\$46.83
4	65	\$32.08	\$9.95	\$7.87	\$0.00	\$49.90
5	70	\$34.55	\$9.95	\$20.32	\$0.00	\$64.82
6	75	\$37.02	\$9.95	\$20.93	\$0.00	\$67.90
7	80	\$39.49	\$9.95	\$21.53	\$0.00	\$70.97
8	90	\$44.42	\$9.95	\$22.74	\$0.00	\$77.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (SPRAY OR SANDBLAST, REPAINT) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2025	\$47.42	\$9.95	\$23.95	\$0.00	\$81.32

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.71	\$9.95	\$0.00	\$0.00	\$33.66
2	55	\$26.08	\$9.95	\$6.66	\$0.00	\$42.69
3	60	\$28.45	\$9.95	\$7.26	\$0.00	\$45.66
4	65	\$30.82	\$9.95	\$7.87	\$0.00	\$48.64
5	70	\$33.19	\$9.95	\$20.32	\$0.00	\$63.46
6	75	\$35.57	\$9.95	\$20.93	\$0.00	\$66.45
7	80	\$37.94	\$9.95	\$21.53	\$0.00	\$69.42
8	90	\$42.68	\$9.95	\$22.74	\$0.00	\$75.37

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86
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* If 30% or more of surfaces to be painted are new construction,
NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 2*

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.98	\$9.95	\$0.00	\$0.00	\$33.93
2	55	\$26.38	\$9.95	\$6.66	\$0.00	\$42.99
3	60	\$28.78	\$9.95	\$7.26	\$0.00	\$45.99
4	65	\$31.17	\$9.95	\$7.87	\$0.00	\$48.99
5	70	\$33.57	\$9.95	\$20.32	\$0.00	\$63.84
6	75	\$35.97	\$9.95	\$20.93	\$0.00	\$66.85
7	80	\$38.37	\$9.95	\$21.53	\$0.00	\$69.85
8	90	\$43.16	\$9.95	\$22.74	\$0.00	\$75.85

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2025	\$46.02	\$9.95	\$23.95	\$0.00	\$79.92
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PAINTERS LOCAL 35 - ZONE 2

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT**Effective Date - 01/01/2025**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.01	\$9.95	\$0.00	\$0.00	\$32.96
2	55	\$25.31	\$9.95	\$6.66	\$0.00	\$41.92
3	60	\$27.61	\$9.95	\$7.26	\$0.00	\$44.82
4	65	\$29.91	\$9.95	\$7.87	\$0.00	\$47.73
5	70	\$32.21	\$9.95	\$20.32	\$0.00	\$62.48
6	75	\$34.52	\$9.95	\$20.93	\$0.00	\$65.40
7	80	\$36.82	\$9.95	\$21.53	\$0.00	\$68.30
8	90	\$41.42	\$9.95	\$22.74	\$0.00	\$74.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	12/01/2024	\$39.86	\$9.65	\$17.80	\$0.00	\$67.31
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2025	\$41.25	\$9.65	\$17.80	\$0.00	\$68.70
	12/01/2025	\$42.63	\$9.65	\$17.80	\$0.00	\$70.08
	06/01/2026	\$44.07	\$9.65	\$17.80	\$0.00	\$71.52
	12/01/2026	\$45.51	\$9.65	\$17.80	\$0.00	\$72.96

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

PANEL & PICKUP TRUCKS DRIVER	01/01/2025	\$39.78	\$15.57	\$20.17	\$0.00	\$75.52
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	06/01/2025	\$40.78	\$15.57	\$20.17	\$0.00	\$76.52
	12/01/2025	\$40.78	\$15.57	\$21.78	\$0.00	\$78.13
	01/01/2026	\$40.78	\$16.17	\$21.78	\$0.00	\$78.73
	06/01/2026	\$41.78	\$16.17	\$21.78	\$0.00	\$79.73
	12/01/2026	\$41.78	\$16.17	\$23.52	\$0.00	\$81.47
	01/01/2027	\$41.78	\$16.77	\$23.52	\$0.00	\$82.07

PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	08/01/2024	\$51.97	\$10.08	\$24.29	\$0.00	\$86.34
PILE DRIVER LOCAL 56 (ZONE 2)						
For apprentice rates see "Apprentice- PILE DRIVER"						

PILE DRIVER	08/01/2024	\$51.97	\$10.08	\$24.29	\$0.00	\$86.34
PILE DRIVER LOCAL 56 (ZONE 2)						

Apprentice - *PILE DRIVER - Local 56 Zone 2*
 Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$23.39	\$10.08	\$2.53	\$0.00	\$36.00
2	55	\$28.58	\$10.08	\$5.07	\$0.00	\$43.73
3	70	\$36.38	\$10.08	\$19.22	\$0.00	\$65.68
4	80	\$41.58	\$10.08	\$21.76	\$0.00	\$73.42

Notes:

% Indentured BEFORE 8/1/2020, 50/60/70/75/80/80/90/90

Step 1 \$60.36/2 \$65.75/3 \$70.75/4 \$73.35/5&6 \$75.95/7&8 81.14

Apprentice to Journeyworker Ratio:1:5

PIPELAYER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PLUMBER & PIPEFITTER <i>PLUMBERS & PIPEFITTERS LOCAL 51</i>	08/26/2024	\$52.49	\$10.80	\$21.40	\$0.00	\$84.69
	08/25/2025	\$55.24	\$10.80	\$21.40	\$0.00	\$87.44

Classification

Effective Date Base Wage Health Pension Supplemental
Unemployment Total Rate

Apprentice - *PLUMBER/PIPEFITTER - Local 51*

Effective Date - 08/26/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$21.00	\$10.15	\$2.50	\$0.00	\$33.65
2	50	\$26.25	\$10.15	\$2.50	\$0.00	\$38.90
3	60	\$31.49	\$10.15	\$8.90	\$0.00	\$50.54
4	70	\$36.74	\$10.15	\$14.24	\$0.00	\$61.13
5	80	\$41.99	\$10.15	\$17.80	\$0.00	\$69.94

Effective Date - 08/25/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$22.10	\$10.15	\$2.50	\$0.00	\$34.75
2	50	\$27.62	\$10.15	\$2.50	\$0.00	\$40.27
3	60	\$33.14	\$10.15	\$8.90	\$0.00	\$52.19
4	70	\$38.67	\$10.15	\$14.24	\$0.00	\$63.06
5	80	\$44.19	\$10.15	\$17.80	\$0.00	\$72.14

Notes:

Steps 2000hrs. Prior 9/1/05; 40/40/45/50/55/60/65/75/80/85

Apprentice to Journeyworker Ratio:1:3

PNEUMATIC CONTROLS (TEMP.)	08/26/2024	\$52.49	\$10.80	\$21.40	\$0.00	\$84.69
PLUMBERS & PIPEFITTERS LOCAL 51	08/25/2025	\$55.24	\$10.80	\$21.40	\$0.00	\$87.44

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

PNEUMATIC DRILL/TOOL OPERATOR	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
LABORERS - ZONE 2	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51

For apprentice rates see "Apprentice- LABORER"

PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.86	\$9.65	\$17.70	\$0.00	\$68.21
	06/01/2025	\$42.25	\$9.65	\$17.70	\$0.00	\$69.60
	12/01/2025	\$43.63	\$9.65	\$17.70	\$0.00	\$70.98
	06/01/2026	\$45.07	\$9.65	\$17.70	\$0.00	\$72.42
	12/01/2026	\$46.51	\$9.65	\$17.70	\$0.00	\$73.86
	06/01/2027	\$47.96	\$9.65	\$17.70	\$0.00	\$75.31
	12/01/2027	\$49.41	\$9.65	\$17.70	\$0.00	\$76.76
	06/01/2028	\$50.91	\$9.65	\$17.70	\$0.00	\$78.26
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.86	\$9.40	\$17.55	\$0.00	\$67.81
	06/01/2025	\$42.25	\$9.40	\$17.55	\$0.00	\$69.20
	12/01/2025	\$43.63	\$9.40	\$17.55	\$0.00	\$70.58
	06/01/2026	\$45.07	\$9.40	\$17.55	\$0.00	\$72.02
	12/01/2026	\$46.51	\$9.40	\$17.55	\$0.00	\$73.46
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$36.67	\$15.55	\$16.50	\$0.00	\$68.72
	06/01/2025	\$37.52	\$15.55	\$16.50	\$0.00	\$69.57
	12/01/2025	\$38.47	\$15.55	\$16.50	\$0.00	\$70.52
	06/01/2026	\$39.33	\$15.55	\$16.50	\$0.00	\$71.38
	12/01/2026	\$40.28	\$15.55	\$16.50	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 170 - Dauphinais (Bellingham)</i>	01/01/2025	\$27.60	\$11.26	\$6.15	\$0.00	\$45.01
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofers Waterproofing &Roofers Dampproofg) <i>ROOFERS LOCAL 33</i>	02/01/2025	\$52.03	\$13.28	\$21.70	\$0.00	\$87.01
	08/01/2025	\$53.53	\$13.28	\$21.70	\$0.00	\$88.51
	02/01/2026	\$54.78	\$13.28	\$21.70	\$0.00	\$89.76

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.02	\$13.28	\$15.55	\$0.00	\$54.85
2	60	\$31.22	\$13.28	\$21.70	\$0.00	\$66.20
3	65	\$33.82	\$13.28	\$21.70	\$0.00	\$68.80
4	75	\$39.02	\$13.28	\$21.70	\$0.00	\$74.00
5	85	\$44.23	\$13.28	\$21.70	\$0.00	\$79.21

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.77	\$13.28	\$15.55	\$0.00	\$55.60
2	60	\$32.12	\$13.28	\$21.70	\$0.00	\$67.10
3	65	\$34.79	\$13.28	\$21.70	\$0.00	\$69.77
4	75	\$40.15	\$13.28	\$21.70	\$0.00	\$75.13
5	85	\$45.50	\$13.28	\$21.70	\$0.00	\$80.48

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

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE <i>ROOFERS LOCAL 33</i>	02/01/2025	\$52.28	\$13.28	\$21.70	\$0.00	\$87.26
	08/01/2025	\$53.78	\$13.28	\$21.70	\$0.00	\$88.76
	02/01/2026	\$55.03	\$13.28	\$21.70	\$0.00	\$90.01

For apprentice rates see "Apprentice- ROOFER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SHEETMETAL WORKER <i>SHEETMETAL WORKERS LOCAL 17 - B</i>	10/01/2024	\$42.33	\$14.59	\$19.04	\$2.24	\$78.20
	04/01/2025	\$43.83	\$14.59	\$19.04	\$2.24	\$79.70
	10/01/2025	\$45.08	\$14.59	\$19.04	\$2.24	\$80.95
	04/01/2026	\$46.58	\$14.59	\$19.04	\$2.24	\$82.45

Apprentice - SHEET METAL WORKER - Local 17-B

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$16.93	\$14.59	\$4.18	\$1.09	\$36.79
2	45	\$19.05	\$14.59	\$4.71	\$1.17	\$39.52
3	50	\$21.17	\$14.59	\$11.84	\$1.45	\$49.05
4	55	\$23.28	\$14.59	\$11.84	\$1.52	\$51.23
5	60	\$25.40	\$14.59	\$15.53	\$1.64	\$57.16
6	65	\$27.51	\$14.59	\$15.84	\$1.71	\$59.65
7	70	\$29.63	\$14.59	\$16.15	\$1.78	\$62.15
8	75	\$31.75	\$14.59	\$16.45	\$1.86	\$64.65
9	80	\$33.86	\$14.59	\$16.76	\$1.93	\$67.14
10	85	\$35.98	\$14.59	\$17.07	\$2.00	\$69.64

Effective Date - 04/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.53	\$14.59	\$4.18	\$1.09	\$37.39
2	45	\$19.72	\$14.59	\$4.71	\$1.17	\$40.19
3	50	\$21.92	\$14.59	\$11.84	\$1.45	\$49.80
4	55	\$24.11	\$14.59	\$11.84	\$1.52	\$52.06
5	60	\$26.30	\$14.59	\$15.53	\$1.64	\$58.06
6	65	\$28.49	\$14.59	\$15.84	\$1.71	\$60.63
7	70	\$30.68	\$14.59	\$16.15	\$1.78	\$63.20
8	75	\$32.87	\$14.59	\$16.45	\$1.86	\$65.77
9	80	\$35.06	\$14.59	\$16.76	\$1.93	\$68.34
10	85	\$37.26	\$14.59	\$17.07	\$2.00	\$70.92

Notes:

Apprentice to Journeyworker Ratio:1:3

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.53	\$15.57	\$20.17	\$0.00	\$76.27
	06/01/2025	\$41.53	\$15.57	\$20.17	\$0.00	\$77.27
	12/01/2025	\$41.53	\$15.57	\$21.78	\$0.00	\$78.88
	01/01/2026	\$41.53	\$16.17	\$21.78	\$0.00	\$79.48
	06/01/2026	\$42.53	\$16.17	\$21.78	\$0.00	\$80.48
	12/01/2026	\$42.53	\$16.17	\$23.52	\$0.00	\$82.22
	01/01/2027	\$42.53	\$16.77	\$23.52	\$0.00	\$82.82
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2</i>	03/01/2025	\$64.93	\$11.51	\$23.80	\$0.00	\$100.24

Apprentice - SPRINKLER FITTER - Local 550 (Section B) Zone 2

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$22.73	\$11.51	\$13.07	\$0.00	\$47.31
2	40	\$25.97	\$11.51	\$13.90	\$0.00	\$51.38
3	45	\$29.22	\$11.51	\$14.72	\$0.00	\$55.45
4	50	\$32.47	\$11.51	\$15.55	\$0.00	\$59.53
5	55	\$35.71	\$11.51	\$16.38	\$0.00	\$63.60
6	60	\$38.96	\$11.51	\$17.20	\$0.00	\$67.67
7	65	\$42.20	\$11.51	\$18.03	\$0.00	\$71.74
8	70	\$45.45	\$11.51	\$18.85	\$0.00	\$75.81
9	75	\$48.70	\$11.51	\$19.68	\$0.00	\$79.89
10	80	\$51.94	\$11.51	\$20.50	\$0.00	\$83.95

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>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 223</i>	09/01/2024	\$40.69	\$11.75	\$14.53	\$0.00	\$66.97
	09/01/2025	\$42.52	\$12.00	\$15.30	\$0.00	\$69.82
	09/01/2026	\$44.41	\$12.25	\$16.09	\$0.00	\$72.75
	09/01/2027	\$46.51	\$12.50	\$16.93	\$0.00	\$75.94

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 223

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Notes: See Electrician Apprentice Wages

Telecom Apprentice Wages shall be the same as the Electrician Apprentice Wages

Apprentice to Journeyworker Ratio:2:3***

TERRAZZO FINISHERS	02/01/2025	\$64.74	\$11.49	\$23.59	\$0.00	\$99.82
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2025	\$66.89	\$11.49	\$23.59	\$0.00	\$101.97
	02/01/2026	\$68.24	\$11.49	\$23.59	\$0.00	\$103.32
	08/01/2026	\$70.44	\$11.49	\$23.59	\$0.00	\$105.52
	02/01/2027	\$71.84	\$11.49	\$23.59	\$0.00	\$106.92

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.37	\$11.49	\$23.59	\$0.00	\$67.45
2	60	\$38.84	\$11.49	\$23.59	\$0.00	\$73.92
3	70	\$45.32	\$11.49	\$23.59	\$0.00	\$80.40
4	80	\$51.79	\$11.49	\$23.59	\$0.00	\$86.87
5	90	\$58.27	\$11.49	\$23.59	\$0.00	\$93.35

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$33.45	\$11.49	\$23.59	\$0.00	\$68.53
2	60	\$40.13	\$11.49	\$23.59	\$0.00	\$75.21
3	70	\$46.82	\$11.49	\$23.59	\$0.00	\$81.90
4	80	\$53.51	\$11.49	\$23.59	\$0.00	\$88.59
5	90	\$60.20	\$11.49	\$23.59	\$0.00	\$95.28

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER	12/01/2024	\$51.28	\$9.65	\$18.22	\$0.00	\$79.15
LABORERS - FOUNDATION AND MARINE	06/01/2025	\$52.78	\$9.65	\$18.22	\$0.00	\$80.65
	12/01/2025	\$54.28	\$9.65	\$18.22	\$0.00	\$82.15
	06/01/2026	\$55.83	\$9.65	\$18.22	\$0.00	\$83.70
	12/01/2026	\$57.33	\$9.65	\$18.22	\$0.00	\$85.20

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2024	\$47.07	\$9.65	\$18.22	\$0.00	\$74.94
	06/01/2025	\$48.57	\$9.65	\$18.22	\$0.00	\$76.44
	12/01/2025	\$50.07	\$9.65	\$18.22	\$0.00	\$77.94
	06/01/2026	\$51.62	\$9.65	\$18.22	\$0.00	\$79.49
	12/01/2026	\$53.12	\$9.65	\$18.22	\$0.00	\$80.99
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2024	\$46.95	\$9.65	\$18.22	\$0.00	\$74.82
	06/01/2025	\$48.45	\$9.65	\$18.22	\$0.00	\$76.32
	12/01/2025	\$49.95	\$9.65	\$18.22	\$0.00	\$77.82
	06/01/2026	\$51.50	\$9.65	\$18.22	\$0.00	\$79.37
	12/01/2026	\$53.00	\$9.65	\$18.22	\$0.00	\$80.87
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.82	\$15.57	\$20.17	\$0.00	\$76.56
	06/01/2025	\$41.82	\$15.57	\$20.17	\$0.00	\$77.56
	12/01/2025	\$41.82	\$15.57	\$21.78	\$0.00	\$79.17
	01/01/2026	\$41.82	\$16.17	\$21.78	\$0.00	\$79.77
	06/01/2026	\$42.82	\$16.17	\$21.78	\$0.00	\$80.77
	12/01/2026	\$42.82	\$16.17	\$23.52	\$0.00	\$82.51
	01/01/2027	\$42.82	\$16.77	\$23.52	\$0.00	\$83.11
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2024	\$59.18	\$9.65	\$19.00	\$0.00	\$87.83
	06/01/2025	\$60.68	\$9.65	\$19.00	\$0.00	\$89.33
	12/01/2025	\$62.18	\$9.65	\$19.00	\$0.00	\$90.83
	06/01/2026	\$63.73	\$9.65	\$19.00	\$0.00	\$92.38
	12/01/2026	\$65.23	\$9.65	\$19.00	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2024	\$61.18	\$9.65	\$19.00	\$0.00	\$89.83
	06/01/2025	\$62.68	\$9.65	\$19.00	\$0.00	\$91.33
	12/01/2025	\$64.18	\$9.65	\$19.00	\$0.00	\$92.83
	06/01/2026	\$65.73	\$9.65	\$19.00	\$0.00	\$94.38
	12/01/2026	\$67.23	\$9.65	\$19.00	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2024	\$51.25	\$9.65	\$19.00	\$0.00	\$79.90
	06/01/2025	\$52.75	\$9.65	\$19.00	\$0.00	\$81.40
	12/01/2025	\$54.25	\$9.65	\$19.00	\$0.00	\$82.90
	06/01/2026	\$55.80	\$9.65	\$19.00	\$0.00	\$84.45
	12/01/2026	\$57.30	\$9.65	\$19.00	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2024	\$53.25	\$9.65	\$19.00	\$0.00	\$81.90
	06/01/2025	\$54.75	\$9.65	\$19.00	\$0.00	\$83.40
	12/01/2025	\$56.25	\$9.65	\$19.00	\$0.00	\$84.90
	06/01/2026	\$57.80	\$9.65	\$19.00	\$0.00	\$86.45
	12/01/2026	\$59.30	\$9.65	\$19.00	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & PIPEFITTERS LOCAL 51</i>	08/26/2024	\$52.49	\$10.80	\$21.40	\$0.00	\$84.69
	08/25/2025	\$55.24	\$10.80	\$21.40	\$0.00	\$87.44
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

Additional Apprentice Information:

All apprentices must be registered with the Division of Apprenticeship Training (DAS) in accordance with M.G.L. c. 23, §§ 11E-11L. Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the hourly prevailing wage rate established by the Commissioner under the provisions of M.G.L. c. 149, §§ 26-27D. Apprentice ratios are established by DAS pursuant to M.G.L. c. 23, §§ 11E-11L. Ratios are expressed as the allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified. The ratios listed herein have been taken from relevant private collective bargaining agreements (CBAs) and are provided for illustrative purposes only. They have not been independently verified as being accurate or continuing to be accurate. Parties having questions regarding what ratio to use should contact DAS.

100% PROJECT SPECIFICATIONS

Town of Fairhaven Senior Center and Recreation Center Roof Replacement Project

Prepared For:



Town of Fairhaven
40 Center St,
Fairhaven, MA 02719

Prepared By:



DHK ARCHITECTS, INC.
54 Canal Street Suite 200
Boston, Massachusetts 02114
617.267.6408 www.dhkinc.com

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Town of Fairhaven
227-229 Huttleston Ave, Fairhaven, MA 02719

Senior and Recreational Center Roof Replacement

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SECTION 011000

SUMMARY

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. Equality of material, article, assembly or system other than those named or described in this Section shall be determined in accordance with the provisions of Article V of the GENERAL CONDITIONS OF THE CONTRACT.

1.2 REQUIREMENTS INCLUDED

- A. This Section includes requirements for the following:
 - 1. Work under this Contract.
 - 2. Work Sequence.
 - 3. Examination of Site and Documents.
 - 4. Contractor Qualifications.
 - 5. Contract Method.
 - 6. Supervision of Work.
 - 7. Use of Premises.
 - 8. Coordination.
 - 9. Field Engineering.
 - 10. Reference Standards.
 - 11. Preconstruction Conference.
 - 12. Project Meetings.
 - 13. Permits, Inspection, and Testing Required by Governing Authorities.
 - 14. Cutting, Coring, Patching, Unless Otherwise Indicated.
 - 15. Debris Removal.
 - 16. Field Measurements.
 - 17. Safety Regulations.
 - 18. OSHA Safety and Health Course Documentation.
 - 19. Damage Responsibility.
 - 20. Owner Furnished Products. (Not Used)
 - 21. User Agency Occupancy.
 - 22. Asbestos and Hazardous Materials Discovery.
 - 23. Special Requirements. (Not Used)
 - 24. List of Drawings.

1.3 WORK UNDER THIS CONTRACT

- A. The work to be done under this contract consist of executing and completing all work for the Roof Replacement for the Town of Fairhaven. The building shall be constructed so as to meet all requirements of the Contract Documents, including, but not limited to, the plans and specifications for Senior and Recreational Center Roof Replacement. Assess and remove existing asphalt roofing system, expose roof sheathing substrate, perform necessary remedial substrate work and replacement, install new self-adhering underlayment, new ice shields and new asphalt shingle roofing system and EPDM roofing and flashing, install new rain diverters, install trough drain liners and downspouts as required. See project documents for complete scope of demolition and new work
- B. General Project Information : Project consists of replacing 12,433 square feet of asphaltic roof shingles and it's underlayment, 7,113 square feet of EPDM roof membrane and associated insulation/underlayment, and all associated flashings. Note that existing drainage troughs shall remain, but aluminum liner and flashing shall be replaced for the new asphaltic roof system.

All Fascia/Trim to be reused.
- C. The work will include all operations necessary to deliver the building and ancillary on and off site amenities in a fully installed and operable condition including all utility and site work and obtaining all necessary licenses, permits, and certificates. Where utilities exist within and adjacent to the building and ancillary parking lots, and are known by the Owner, they have been shown on the site plan appearing in, but not restricted to, the exhibits. Connections to these existing utility lines will be the responsibility of the Contractor.
- D. The scope of work, without limiting the generality thereof, includes all labor, materials, equipment and services required to perform the work described fully in the Drawings and Specifications and includes, but is not limited to the following major work:
 - 1. Installation of new roofing including, but not limited to:
 - a. Carpentry, waterproofing, damp proofing, caulking.
 - b. Roofing.
- E. Reference To Drawings: The work to be done under this Contract is shown on the Drawings listed at the end of this Section.
- F. The Contractor shall provide a schedule for completion of the project to OWNER within the construction period set forth in the Contract.
- G. The Massachusetts Standard Labor Wage rates contained in the Contract Documents, as updated on an annual basis, will be used throughout the construction of this project.

1.4 EXAMINATION OF SITE AND DOCUMENTS

- A. For information related to a pre-bid conference, if any, refer to the Bid Instructions for Bidders as amended. Bidders are strongly encouraged to attend the pre-bid conference. Only one on-site walk will be scheduled.

- B. Bidders interested in visiting the site to visually inspect the location of the work and existing conditions that may affect new work may only visit the site on a non-holiday weekday pre-arranged and agreed to by and with the User Agency and the OWNER Project Manager or Designee.
- C. The bidders are expected to examine and to be thoroughly familiar with all contract documents and with the conditions under which the work is to be carried out. The Owner will not be responsible for errors, omissions, and/or charges for extra work arising from the Contractors or Subcontractors failure to familiarize themselves with the contract documents. The Contractor and Subcontractor acknowledge that they are familiar with the conditions and requirements of the contract documents where they require, in any part of the work a given result to be produced, and that the contract documents are adequate and will produce the required results.

1.5 CONTRACTOR QUALIFICATION

- A. The Bidder shall certify in writing and demonstrate that at least three similar construction projects of equal value, size and complexity have been successfully performed.
- B. It is the Bidder's responsibility to obtain the necessary forms including updates from OWNER and make application not less than three weeks prior to advertised bid opening for the Owner, Owner's Project Representative or Designee to evaluate the application and issue a Certificate of Eligibility.
- C. The General Contractor's Update Statement is not a public record as defined in M.G.L., Chapter 4, Section 7, and will not be open to public inspection.

1.6 CONTRACT METHOD

- A. Work under this contract shall be lump sum price, for the scopes of work as described in these specifications and shown on the Drawings.

1.7 SUPERVISION OF WORK

- A. Work shall not commence until all necessary fees have been paid by the contractor, and permits have been secured.
- B. The Contractor shall be held directly responsible for the correct installation of all work performed under this Contract. The Contractor must make good repair, without expense to the Commonwealth, of any part of the new work, or existing work to remain, which may become inoperative on account of leaving the work unprotected or unsupervised during construction of the system or which may break or give out in any manner by reason of poor workmanship, defective materials or any lack of space to allow for expansion and contraction of the work during the Contractor's warranty period, from the date of final acceptance of the work by OWNER.
- C. The General Contractor shall furnish an experienced, competent, licensed superintendent satisfactory to the Owner, Owner's Project Representative or Designee, Department of Public Safety and to the Designer. The licensed superintendent shall supervise all work under this

contract and who shall remain on duty daily at the site throughout the Contract period while work is in progress.

1. Submit the name, resume, and proof of licensure of the Project superintendent for approval to the Owner Project Representative or Designee. Include experience with projects of equal size and complexity.

1.8. USE OF PREMISES

- A. Use of the Site: Limit use of the premises to work in areas indicated within the construction fence shown on the site drawings. Coordinate work of all trades required outside the construction fence boundary shown on the site drawings. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
 1. Owner Occupancy: Allow for Owner occupancy and use by the public.
 2. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, the public, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- B. Schedule and perform work to afford minimum of interruption to normal and continuous operation of utility systems. The Contractor shall submit to OWNER and the Designer for approval, proposed schedule for performing work; including construction of new utilities, re-routing of existing utilities and final connection of new work to existing work. Schedule shall indicate shutdown time required for each operation.
 1. Work includes checking all safety devices to verify that they have come back on-line after interruption. This requirement will not be waived.
- C. The Contractor shall notify the OWNER and Operating Agency in writing, 72 hours in advance of the proposed time for shutting down or interrupting any utilities, services or facilities which may affect the operation of other buildings, services or facilities of the Operating Agency.
- D. Coordinate with OWNER and the Designer, work in connection with adjacent driveways, walks, or other facilities which would prevent access thereto or interrupt, restrict, or otherwise infringe upon the Operating Agency's use thereof.
- E. The Contractor shall be aware of the sensitivity of the neighborhood organizations to noise, dust, debris, vibration, and site maintenance and take appropriate precautions to avoid conflict.
- F. Contractor, Subcontractors shall protect existing structures, surfaces, equipment and furnishing, and the like, and installed work to avoid any damage. Damage to existing work, if caused by the Contractor's operations under this Contract, shall be repaired at no cost to OWNER.
 1. An existing conditions survey shall be conducted, with the Designer, the OWNER Project Manager or Designee, and User Agency representatives, at which existing conditions will be videotaped by the Contractor. A copy of the videotape will be provided to the OWNER Project Manager or Designee.

- G. Work outside construction limits shall be expedited to fullest extent and carried out with minimum of inconvenience to normal operation of the Operating Agency and public traffic.
- H. The Contractor can gain access to the premises during the hours specified below. In addition the Contractor and his personnel will limit themselves only within the working premises during working hours. If work needs to be scheduled during times other than those listed below, Contractor shall inform the OWNER Project Manager or Designee one week prior to work.
 - 1. Coordinate with owner for delivery time. 7:00 am to 6:00pm
- I. Confine operations at the site to areas permitted by:
 - 1. Laws
 - 2. Ordinances
 - 3. Permits
 - 4. Contract Documents
 - 5. OWNER and User Entity Regulations.
 - 6. OWNER and User Entity Requirements.
- J. If required by User Agency or the OWNER Project Manager or Designee, workers will be required to wear identifying name badges.
- K. Contractor shall supervise the use of the site related to construction and be responsible for correcting any damage identified by the OWNER Project Manager or Designee to the OWNER Project Manager or Designee's satisfaction.
 - 1. An existing conditions survey shall be conducted, with the Designer, The OWNER Project Manager or Designee, and User Agency representatives, at which existing conditions will be videotaped by the Contractor. A copy of the videotape will be provided to the OWNER Project Manager or Designee.
- L. All available existing utilities adjacent to the construction site will be available for use during construction unless indicated otherwise. Temporary connections to these utilities, all metering, transformers, removal, usage, and their associated costs will be the responsibility of the appropriate Subcontractor.
 - 1. Utilities Available for use During Construction: Water & electricity.
- M. The Contractor shall verify that Subcontractors have visited the site and included all costs associated with the location of the project; and any restriction or limitations the location of the project may pose.
- N. The Contractor, Subcontractors shall at all times conduct their operations in a courteous, professional manner while on the project or in the vicinity of the project. Sexual or other harassment, offensive language or behavior will not be permitted on the site.

1.9 COORDINATION

- A. The Contractor shall be responsible for the proper fitting of all the work and for the coordination of the operations of all trades, Subcontractors or material and persons engaged

upon the work. The Contractor shall do, or cause his agents to do, all cutting, fitting, adjusting, and repair necessary in order to make the several parts of the work come together properly.

1. Examine Contract Documents in advance of start of construction and identify in writing questions, irregularities or interference to the OWNER Project Manager or Designee in writing. Failure to identify and address such issues in advance becomes the sole responsibility of the Contractor. A conflict that would cause the reduction of the normal ceiling height of any occupied space is considered to be an interference.
- B. Execute the work in an orderly and careful manner with due regard to the occupants of the facility, the public, the employees, and the normal function of the facility.
- C. The work sequence shall follow planning and schedule established by the Contractor as approved by the Designer and the OWNER Project Manager or Designee. The work upon the site of the project shall commence promptly and be executed with full simultaneous progress. Work operations which require the interruption of utilities, service, and access shall be scheduled so as to involve minimum disruption and inconvenience, and to be expedited so as to insure minimum duration of any periods of disruption or inconvenience.
- D. The Contractor shall review the tolerances established in the specifications for each type of work and as established by trade organizations. The Contractor shall coordinate the various trades and resolve any conflicts that may exist between trade tolerances without additional cost to OWNER. The Contractor shall provide any chipping, leveling, shoring or surveys to ensure that the various materials align as detailed by the Designer and as necessary for smooth transitions not noticeable in the finished work.

1.10 REFERENCE STANDARDS

- A. For products specified by association or trade standards, comply with requirements for the standard, except where more rigid requirements are specified or are required by codes.
- B. Where reference is made in the Contractual Documents to Publications and Standards issued by Associations or Societies, the intent shall be understood to specify the current edition of such Publications or Standards (including tentative revision) in effect on the date of the contract advertisement notwithstanding any reference to a particular date.

1.11 PRE-CONSTRUCTION CONFERENCE

- A. In accordance with the Contract Documents, a pre- construction conference to review the work will be conducted by the OWNER Project Manager or Designee prior to commencing construction on the site.
- B. Representatives of the following shall be required to attend this conference:
 1. OWNER
 2. Designer
 3. User Agency
 4. Contractor
 5. All Subcontractors

6. Applicable Municipal Agencies

- C. The Contractor shall have a responsible representative at the pre-construction conference to be called by the OWNER Project Manager or Designee following the award of the contract, as well as representatives of field or office forces and major Subcontractors. All such representatives shall have authority to act for their respective firms. The pre-construction conference is to be held within five days of Notice to Proceed, or as otherwise determined by OWNER.

1.12 PROJECT MEETINGS

- A. Project meetings shall be held on a weekly basis and as required subject to the discretion of the OWNER Project Manager or Designee.
- B. As a prerequisite for monthly payments, ordering schedules, shop drawing submitted schedules, and coordination meeting schedules shall be prepared and maintained by the Contractor and shall be revised and updated on a monthly basis, and a copy shall be submitted to the OWNER Project Manager or Designee and Designer.
- C. In order to expedite construction progress on this project, the Contractor shall order all materials immediately after the approval of shop drawings and shall obtain a fixed date of delivery to the project site for all materials ordered which shall not impede or otherwise interfere with construction progress. The Contractor shall present a list and written proof of all materials and equipment ordered (through purchase orders). Such list shall be presented at the meetings and shall be continuously updated.
- D. Scheduling shall be discussed with all concerned parties, and methods shall be presented by the Contractor, which shall reflect construction completion not being deferred or foreshortened. Identify critical long-lead items and other special scheduling requirements. The project schedule is to include time for submission of shop drawing submittals, time for review, and allowance for resubmittal and review.
- E. Project meetings shall be chaired by the Designer.
- F. Minutes of the project meetings shall be prepared by the Designer and shall be distributed to all present. The Designer's meeting minutes shall be the only official meeting record.

1.13 PERMITS, INSPECTION, AND TESTING REQUIRED BY GOVERNING AUTHORITIES

- A. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having any jurisdiction require any portion of the Work to be inspected, tested, or approved, the Contractor shall give the Designer, the OWNER Project Manager or Designee or his/her designated representative, and such Authority timely notice (5 business days minimum) of its readiness so the Designer may observe such inspecting, testing, or approval.
- B. Prior to the start of construction, the Contractor shall complete application to the applicable Building Code enforcement authority for a Building Permit. Such Permit shall be displayed in a conspicuous location at the project site.

- C. Unless otherwise specified under the Sections of the Specifications, the Contractor shall pay all fees required by public entities for the due and faithful performance of the work and which may arise incidental to the fulfilling of this Contract, including, but not limited to, fees associated with permits, inspections, and connections. As such, all fees, charges, and assessments in connection with the above shall be paid by the Contractor.
- D. The Contractor shall maintain at the site, for the duration of construction operations, at least one (1) up-to-date copy of all relevant codes and standards listed in the Contract Documents or determined to be applicable to the work. One (1) copy of such codes shall be for the exclusive use of OWNER and the Designer and its Consultants, and shall be kept in the Contractor's site office.
- E. The Contractor shall provide all information required by the building official(s) and shall secure the general building permit for the work promptly on award of the Contract. The Contractor shall conform to all conditions and requirements of the permit and code enforcement authority. The Contractor shall provide names and license numbers of its responsible representatives to complete the application for permit, and shall receive the permit and promptly distribute copies to OWNER and the Designer.
- F. Contractor and specialized Subcontractors as applicable shall identify all permits (other than general building permit) required from Authorities having jurisdiction over the Project for the construction and occupancy of the work. The Contractor shall, working with specialized Subcontractors as applicable, prepare the necessary applications and submit required plans and documents to obtain such permits in a timely manner, and shall furnish the required information to the Building Official and obtain the required permits as early as practicable after award of the Contract.
 - 1. The Contractor shall display all permit cards as required by the Authorities and shall deliver legible photocopies of all permits to OWNER's Project Manager or Designee and the Designer promptly upon their receipt.
 - 2. The Contractor shall arrange for all inspections, testing and approvals required for all permits, and shall notify the Designer and OWNER's Resident Engineer of such inspections at least three (3) business days in advance (longer if so required in the various Sections of the Specifications), so they may arrange to observe.
 - 3. The Contractor shall comply with all conditions and provide all notices required by all permits.
 - 4. The Contractor shall perform and/or arrange for and pay for all testing and inspections required by the Governing Codes and Authorities, other than those provided by OWNER, and shall notify the Designer and OWNER's Resident Engineer of such inspections at least three (3) business days in advance of all such testing or inspection, so they may arrange to observe.
 - 5. Where Inspecting Authorities require corrective work for conformance with applicable Codes and Authorities, the Contractor shall notify OWNER and promptly comply with such requirements, except in cases where such requirements clearly exceed the requirements of the Contract Documents, in which case the Contractor shall proceed in accordance with the procedures for modifications or changes in the work established in the Contract Documents, as amended.

1.14 CUTTING, CORING, AND PATCHING, UNLESS OTHERWISE INDICATED

- A. The Contractor shall coordinate all cutting, coring, fitting and patching of the work that may be required to make its several parts come together properly and fit it to receive or be received by work of the Subcontractors shown on the Drawings and Specifications. The Subcontractor shall perform all cutting, coring or patching as applicable to their Work.
- B. The Contractor shall coordinate the work of the Subcontractors so as not to endanger any existing work by any cutting, coring, or excavating. No Subcontractor work shall endanger or alter the work of any other Subcontractor except with the written consent of the Designer.
- C. The Contractor shall submit a written request to Designer well in advance of executing any cutting or alteration which affects:
 - 1. Work of OWNER or separate Contractor.
 - 2. Structural value or integrity of any element of the Project, including, but not limited to all building systems.
 - 3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 - 4. Efficiency, operational life, maintenance, or safety of operational elements.
 - 5. Visual qualities of sight-exposed elements.
 - 6. Request shall include:
 - a. Identification of the Project.
 - b. Description of affected work.
 - c. The necessity for cutting, alteration, or excavation.
 - d. Effect on other ongoing projects, facilities operations, or Project structure, weatherproof integrity or building systems.
 - e. Description of proposed work:
 - f. Alternatives to cutting and patching.
 - g. Cost proposal, when applicable.
 - h. Written permission of any separate subcontractor whose work will be affected (if requested by OWNER).
 - 7. Should conditions of Work or the schedule indicate a change of products from original installation, Contractor shall submit request for substitution.
 - 8. Upon approval by OWNER for such cutting or coring, the Contractor shall provide written notice to Designer designating date and time the affected work will be performed a minimum of three business days in advance.
- D. Performance:
 - 1. Execute cutting and patching by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
 - a. In general, where mechanical cutting is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings through concrete work.
 - 2. Employ original installer or fabricator to perform cutting and patching for:
 - a. Weather-exposed or moisture-resistant elements.
 - b. Sight-exposed finished surfaces.
 - 3. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.
 - 4. Restore work which has been cut or removed; install new products matching existing to provide completed Work in accordance with requirements of Contract Documents.

5. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
6. Patch with seams which are durable and as invisible as possible. Flash and seal all penetration of exterior work. Comply with specified tolerances for the work.
7. Restore exposed finishes of patched areas; and, where necessary extend finish restoration onto retained work adjoining, in a manner which will eliminate evidence of patching.
 - a. Where patch occurs in a smooth painted surface, extend final paint coat over the entire unbroken surface containing the patch.
8. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - a. For continuous surfaces, refinish to nearest intersection.
 - b. For an assembly, refinish entire unit.

E. Existing Utilities Services:

1. Interruptions to critical existing utility services is not permitted without prior notice and written approval by OWNER and others as may be required by OWNER. Any such notifications must be submitted to OWNER no later than two (2) weeks prior to the proposed interruption.
 - a. Sanitary sewer, storm drainage, and water changeovers affecting existing services shall be done with no disruptions of existing services and scheduling of such work will require approval in writing by the User Agency.
 - b. All relocation of existing electrical, telephone, and gas services that are utility company owned shall be performed by the respective utility company, and the cost of any charges for such work shall be paid by the Contractor. All utility installations and relocation shall be the responsibility of the Contractor. Coordination of all of the aforesaid work is the responsibility of the Contractor.
2. The Contractor shall locate and record on Drawings all existing utilities along the course of the work by such means as the Designer and the OWNER Project Manager or Designee may approve, and shall preserve such marked locations until the work has progressed to the point where the encountered utility is fully exposed and protected as required. It shall be the Contractor's responsibility to notify the proper authorities and/or utility company before interfering with the existing utilities.
3. Existing utilities that are indicated on the Drawings or whose locations are made known to the Contractor prior to excavations, though accuracy and information as to grades and elevations may be lacking, shall be protected from damage during the excavation and backfilling operations and, if damaged by the Contractor, it shall be repaired by the Contractor at his/her own expense.
4. All exposed conduits, wires, and/or cables shall be provided with sufficient protection and support to prevent failure, fraying, or damage due to backfilling or other construction operations.
5. The Contractor shall not obstruct access to existing active utility system manholes and catch basins which continue to serve facilities other than the project construction site. The Contractor shall exercise measures as necessary to prevent the placement of impediments that limit continuous access by authorized utility company or User Agency maintenance personnel and shall be required to reimburse the utility company or User Agency for any expense incurred as a result of need to remove any such impediments to access.

1.15 DEBRIS REMOVAL

- A. The Contractor shall coordinate the removal of all demolition and construction waste by the Subcontractor from the job site on a daily basis. Waste shall be segregated for recycling. Comply with requirements of Section 017419 - CONSTRUCTION WASTE MANAGEMENT.
- B. Debris shall be legally disposed of in a D.E.P. approved disposal site. The site to be used shall be submitted to and approved by the OWNER Project Manager or Designee prior to the start of construction. All required dumping permits shall be obtained prior to start of construction. Contractor shall submit receipts from the disposal site(s) as evidence of legal disposal. The responsible contractor shall pay the cost of any charges for debris removal.
- C. The Contractor shall bear responsibility for maintaining the building and site clean and free of debris, leaving all work in clean and proper condition satisfactory to OWNER and the Designer. The Contractor shall ensure that each of the Subcontractors clean up during and immediately upon completion of their daily work. Clean up includes the following tasks:
 - 1. Remove all rubbish, waste, tools, equipment, appurtenances caused by and used in the execution of work.
 - 2. Clean up of surface in work area.
- D. Prevent the accumulation of debris at the construction site, storage areas, parking areas, and along access roads and haul routes.
- E. Provide containers for deposit of debris and schedule periodic collection and disposal of debris.
- F. Prohibit overloading of trucks to prevent spillage on access and haul routes.
- G. The Contractor shall be responsible for proper disposal of all construction debris leaving the site.

1.16 FIELD MEASUREMENTS

- A. Although care has been taken to ensure their accuracy, the dimensions shown for existing items and structures are not guaranteed. It is the responsibility of the Contractor to verify these dimensions in the field before fabricating any construction component. No claims for extra payment due to incorrect dimensions will be considered by OWNER.

1.17 SAFETY REGULATIONS

- A. This project is subject to compliance with Public Law 91 596 "Occupational Safety and Health Act" latest edition (OSHA 29 CFR 1926), with respect to all rules and regulations pertaining to construction, including Volume 36, numbers 75 and 105, of the Federal Register, as amended, and as published by the U.S. Department of Labor and all other applicable laws.
- B. Submit the name of the Contractor's safety officer to the OWNER Project Manager or Designee. Submit copies of safety reports to the OWNER Project Manager or Designee monthly.

- C. All accident reports are to be transmitted to the Resident Engineer within 24 hours of occurrence.

1.18 OSHA SAFETY AND HEALTH COURSE DOCUMENTATION

- A. OSHA Safety and Health Course Documentation Records: M.G.L. 30 s 39S requires that everyone employed at the jobsite must complete a minimum 10-hour long course in construction safety and health approved by the U.S. Occupational Safety and Health Administration (OSHA) prior to working at the jobsite. Compliance is required of Contractors' and Subcontractors' on-site employees at all levels whether stationed in the trailer or working in the field.
- B. Documentation records shall be initially compiled by the Contractor and Subcontractors as part of their certified payrolls, and the Contractor shall create and maintain a copy of the documentation on site at all times and the employer shall submit a copy with the certified payrolls to OWNER's Compliance system. On-site documentation shall be filed in alphabetical order and immediately available to OWNER's Project Manager or Designee and OSHA inspectors. Fines imposed for non-compliance shall be promptly paid by the Contractor at no additional expense to OWNER. Delays in the progress of the Work caused by such non-compliance will not be acceptable as the basis for an extension of contract time or change order request.

1.19 DAMAGE RESPONSIBILITY

- A. The Contractor shall repair, at no cost to OWNER, any damage to building elements, site appurtenances, landscaping, utilities, etc. caused during demolition operation and work of this Contract.

1.20 OWNER FURNISHED PRODUCTS

- A. Products indicated "N.I.C." (Not in Contract), or "E. O." (Equipment by Owner), or "O.F.O.I." (Owner Furnished Owner Installed), or other similar acronyms as defined in the contract documents will be furnished and installed by the Owner. Coordination and provision of service lines for such products shall be included under these Construction Contract Documents, if indicated. Final connections from service lines to equipment will be by the Owner, unless otherwise indicated

1.21 USER AGENCY OCCUPANCY

- A. Beneficial Use and Occupancy: Refer to requirements in Section 017700 - CONTRACT CLOSEOUT, Par. 1.7.
- B. Use and Occupancy: When the project is Substantially Complete (with all work affecting health, safety, and function totally completed, and with less than one percent (<1%) of the contract value remaining) and ready for Use and Occupancy as determined by the Designer, the OWNER Project Manager or Designee and the Operating Agency, then the User Agency will take control of their building area(s) and be responsible for operating costs and security.

1.22 ASBESTOS AND HAZARDOUS MATERIALS DISCOVERY

- A. If unanticipated asbestos-containing materials or other Hazardous Materials not included in Contract are discovered at any time during the course of work, the Contractor shall cease work in the affected areas only and continue work in other areas, at the same time notify OWNER and the Designer of such discovery. Do not proceed with work in such affected areas until written instructions are received. If removal is required, payment will be made in accordance with the contract unit prices bid for each respective material. In the absence of unit prices, costs shall be negotiated or otherwise established prior to commencement of removal, in accordance with provisions of the Contract.

1.23 SPECIAL REQUIREMENTS

- A. The Contractor shall prepare a Health and Safety Plan that addresses protection of employee and public health and safety. The minimum contents of the Plan are specified in Section 013300 – SUBMITTAL REQUIREMENTS.
- B. The Contractor shall be solely responsible for implementing the procedures specified in the Plan.
- C. The Contractor shall make available complete sets of personal protective equipment and clothing to OWNER for use during site observations/inspections by OWNER and the Designer. These shall be supplied and maintained at no cost to OWNER and the Designer, and shall be returned to the Contractor upon the completion of work, except for disposable protective clothing.
1. The Contractor shall provide a repository for collection and disposal of health and safety materials. Collection and disposal of contaminated disposable supplies shall be at no additional cost.

1.24 LIST OF DRAWINGS

- A. List of drawing numbers and titles for the Project below:

NUMBER	SHEET NAME
A000	Cover Page
A001	General Architecture and Demolition Notes
A002	Architectural Legend, Symbols, and Code Review
A003	Architectural Abbreviations
A101	Demolition Roof Plan
A201	Demolition Overall Elevations
A202	Demolition Building A Elevations
A203	Demolition Building B Elevations
A301	Demolition Building Sections and Details 1 of 3
A302	Demolition Building Sections and Details 2 of 3
A303	Demolition Building Sections and Details 3 of 3
A401	New Work Roof Plan
A501	New Work Overall Elevations
A502	New Work Building A Elevations

Town of Fairhaven
227-229 Huttleston Ave, Fairhaven, MA 02719

Senior and Recreational Center Roof Replacement

A503	New Work Building B Elevations
A601	New Work Building Sections 1 of 3
A602	New Work Building Sections 2 of 3
A603	New Work Building Sections 3 of 3
A701	EPDM Roof Details 1 of 2
A702	EPDM Roof Details 2 of 2
A703	Asphalt Roof Details 1 of 2
A704	Asphalt Roof Details 2 of 2
A705	Asphalt Roof Flashing Details

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SUMMARY
011000 - 14

ISSUE DATE
08-14-2024

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. Without limitations, coordination will include Critical Path Method Scheduling (CPM), coordination of submittals, coordination of all elements of the Work, and coordination of contract closeout.
- B. Description:
 - 1. Coordinate scheduling, submittals, and work of the various trades and elements of the Work to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.
 - 2. Coordinate sequence of the Work to accommodate User Agency Occupancy. Building to be operational during construction.
- C. Meetings:
 - 1. In addition to progress meetings, hold coordination meetings and pre-installation conferences with personnel and Subcontractors to assure coordination of the Work.
- D. Coordination of Submittals:
 - 1. Schedule and coordinate submittals.
 - 2. Coordinate work of various trades having interdependent responsibilities for installing, connecting to, and placing in service such equipment.
 - 3. Review and coordinate requests for substitutions and provide recommendation to Awarding Authority and Designer as to the suitability of the proposed substitution as compared to the specified product(s), to assure compatibility with space and operating elements, and to verify compatibility with work and equipment of other trades.

PART 2 - EXECUTION (Not Used)

END OF SECTION

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SECTION 013300

SUBMITTAL REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 REQUIREMENTS INCLUDED

- A. Shop drawings, products data, samples, submittal logs (shop drawings and samples, RFI, NOI, PCO, CO and SK drawings), weather protection (if applicable), schedule of values, and schedule of submittals (within 20 days of NTP with construction).

1.3 SCHEDULE OF VALUES

- A. Prior to the first request for payment, the Contractor shall submit to the Designer and the OWNER Project Manager or Designee, a Schedule of Values of the various portions of the Work in sufficient detail to reflect various major components of each trade, including quantities when requested, aggregating the total contract sum, and divided so as to facilitate payments based upon the progress of the work among other things under each Section. The schedule shall be prepared in such form as specified or as the Designer or the OWNER Project Manager or Designee may approve, and it shall include data to substantiate its accuracy. Each item in the Schedule of Values shall include its proper share of overhead and profit. This schedule, including breakdown and values, requires the approval of the Designer and the OWNER Project Manager or Designee and shall be used only as a basis for the Contractor's request for payment.

1.4 SHOP DRAWINGS, PRODUCTS DATA, AND SAMPLES

A. General:

1. Review and submit to the Designer and where outlined below to the OWNER Project Manager or Designee, shop drawings, project data and samples required by Specifications Sections in hard and electronic copies.
2. No submissions made by FAX will be accepted.

B. Shop Drawings:

1. Original drawings shall be prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate some portion of the Work, showing fabrication, layout, setting, or erection of details.

- a. Shop drawings shall be prepared by a qualified detailer.
- b. Details shall be identified by reference to sheet and detail numbers indicated on Contract Drawings.
- c. Maximum sheet size shall be 30-inch by 42-inch.
2. Submit the information listed above in both hard and electronic format.

C. Product Data:

1. Manufacturers' catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data. Provide manufacturer's catalogue sheet, specification for each product and other pertinent data as required under the individual specification.
 - a. Modify product data submittals to delete information which is not applicable to the project.
 - b. Supplement standard information to provide additional information applicable to the project.
 - c. Clearly mark each copy to identify pertinent materials, products, or models.
 - d. Show dimensions and clearances required.
 - e. Show performance characteristics and capacities.
2. All such data shall be specific and identification of material or equipment submitted shall be clearly made in ink. Data of general nature will not be accepted.
3. Product Data shall be accompanied by transmittal notice. The Contractor's stamp of approval shall appear on the printed information itself.
4. Submit the information listed above in both hard and electronic format.

D. Samples: Provide samples of finishes at the project as required by individual Specification section. Install sample complete and finished.

1. Physical samples shall illustrate materials, equipment, or workmanship, and shall establish standards by which work is judged. After review and approval, samples may be used in construction of project if not retained for comparison
 - a. Office samples of sufficient size and quantity shall clearly illustrate:
 - 1) Functional characteristics of product or material, with integrally related parts and attachment devices.
 - 2) Full range of color samples (including standard and premium ranges).
 - 3) After review and approval by Designer and the OWNER Project Manager or Designee or Designee, samples may be used in construction of project if not retained for comparison.
 - b. Field Samples and Mock-ups:
 - 1) Erect at project site at locations acceptable to the Designer and the OWNER Project Manager or Designee.
 - 2) Construct each sample of mock-up complete, including work of all trades required in finished work. Samples shall be incorporated into a larger mock-up with varied products and trades if required.
2. Unless otherwise specified in the individual Section, the Contractor shall submit two labeled specimens of each Sample.
3. Samples shall be of adequate size to permit proper evaluation of material. Where variations in color or in other characteristics are to be expected, samples shall show the maximum range of variation. Materials exceeding the variation of the approved samples will not be approved on the Work.

4. Samples which can be conveniently mailed shall be sent directly to the Designer, accompanied by transmittal notice. On the transmittal notice the Contractor shall stamp his approval of samples submitted.
 5. All other samples shall be delivered at the field office of the OWNER Resident Engineer or Designee with sample identification tag attached and properly filled in. Transmittal notice of samples so delivered with the Contractor's stamp of approval, shall be mailed concurrently to the Designer and the OWNER Project Manager or Designee to confirm their receipt thereof.
 6. If sample is rejected by the Designer, a new sample shall be resubmitted in a timely manner as specified above. This procedure shall be repeated until the sample is approved in writing by the Designer.
 7. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of samples whether or not specified in the Specifications, at no additional cost to the Commonwealth
- E. Mock-ups: Erect at project site at location acceptable to Designer and the OWNER Project Manager or Designee, a mock-up complete, including work of all trades required in finished work as applicable to mock-up.

1.5 CONTRACTOR'S RESPONSIBILITIES:

- A. Review shop drawings, product data and samples prior to submission. Verify:
1. Field measurements.
 2. Field construction criteria.
 3. Catalog numbers and similar data.
 4. Conformance with the Specifications. Clearly identify deviations from conformance with the specifications. Identifying deviations does not constitute acceptance by the Designer or OWNER Project Manager or Designee of such deviations, or their impact on cost or schedule. Deviations which impact cost or schedule must be submitted as a Change Order, clearly identifying the reason for the deviation, and including a comparison with the specified products.
 5. Integration with adjoining work.
 6. Delivery schedule.
- B. All shop drawings prepared by Subcontractors shall be processed through the Contractor. The Contractor shall check all the shop drawings for conformity with the Contract Documents and particularly for field measurements and proper fit with adjoining work prior to submitting same to the Designer for approval. Certification shall appear on each shop drawing stating that the Contractor has made its check. Format and content of the Contractor's certification stamp shall be subject to approval by the OWNER Project Manager or Designee and the Designer and shall include, but not be limited to:
1. The Term "By Others" shall not be used on shop drawings, the Contractor shall state by whom related items are to be furnished and/or installed.
 2. The Designer reserves the right to reject and return to the Contractor, without examination, any shop drawings which have not been previously checked and certified as outlined above, which carry the term "by other" or such vague reference, which are difficult to read, or which in any way are obviously not in conformity with Contract Requirements.

3. Shop drawings shall show materials, design, dimensions, connections, and other details necessary to ensure that they accurately interpret the Contract Documents and shall also show adjoining work in such detail as required to provide proper connection with same.
 4. The Designer will check and approve shop drawings only for conformance with the design concept and for compliance with information given in the Contract Documents. Approval of shop drawings by the Designer will not release the Contractor from his responsibility for furnishing same of proper dimensions, size quantity and quality to effectively perform the work and carry out the requirements and intent of Contract Documents.
 5. Such approval will not relieve the Contractor from responsibility for errors of any sort in the shop drawings, nor for the proper coordination of any submittal with all other work. If the shop drawings deviate, or are intended to deviate, from the Contract Documents, the Contractor shall so advise the Designer in writing at the time the shop drawings are submitted, stating the difference in value between the Contract requirements and that denoted by said shop drawings.
 6. The Contractor shall assume full liability for delay attributed to insufficient time for delivery and/or installation of material or performance of the work when approval of pertinent shop drawing is withheld due to the failure of the Contractor to submit, revise, or resubmit shop drawings in adequate time to allow the Designer and the OWNER Project Manager or Designee a reasonable time, not to exceed twenty-one (21) calendar days, for normal checking and processing of each submission or resubmission.
- C. Coordinate each submittal with requirements of Contract Documents, including but not limited to, identifying specification section references.
- D. Notify the Designer in writing at the time of submission, of deviations in submittals from requirements of Contract Documents or previous submissions.
- E. Work that requires submittals shall not commence unless submitted with Designer's stamp and initials or signature indicating review and approval, and OWNER Project Manager or Designee's initials or signature of concurrence indicate review and approval.
1. No work shall be started in the shop or on the job, or materials delivered to the site, until pertinent shop drawings have been approved by the Designer and the OWNER Project Manager or Designee.
- F. After aforesaid review and approval, distribute copies.
- G. Maintain one (2) copies of each approved submittal at the project site. One for the Contractor and one for the OWNER Resident Engineer or Designee.
- 1.6 SUBMISSION REQUIREMENTS:
- A. General: All submittals shall be made to the Designer's Office. The quantity and make-up of submittals shall be as established by the Designer; however, two (2) additional copies of all submittals shall be transmitted to the OWNER Project Manager or Designee at the same time that such submittals are transmitted to the Designer. The Designer will log and distribute submittals for review by his consultant engineers. The Contractor shall distribute all shop drawings directly to the Designer. All submittals shall be in hard and electronic versions.

- B. Make submittals promptly in accordance with approved schedules, and in such sequence as to cause no delay in the work.
- C. Submit number of samples specified in each Section of the Specifications.
- D. Submittals shall include:
 - 1. Date and revision dates.
 - 2. Project title and number.
 - 3. The names of:
 - a. Designer;
 - b. Contractor;
 - c. Subcontractor;
 - d. Supplier;
 - e. Manufacturer;
 - f. Separate detailer when pertinent.
 - 4. Identification of product or material.
 - 5. Location of work and relation to adjacent structure or materials.
 - 6. Field dimensions clearly identified as such.
 - 7. Specification Section number and specific paragraph under which item is specified.
 - 8. Submission number.
 - 9. Applicable standards, such as ASTM number.
 - 10. A blank space, five-inch by four-inch, for the Designer's stamp.
 - 11. Contractor's remarks. Identify exceptions or deviations from Contract Documents and reasons for them.
 - a. If shop drawings submitted by the Contractor indicate a departure from the Contract and the Designer deems it to be minor adjustment in the interest of OWNER (subject to concurrence by the Contractor stating it does not involve a change in Contract Price or extension of time), the Designer may approve the submission, but the approval shall be subject to OWNER review and acceptance of the Designer's recommendation.
 - b. The approval of OWNER shall be inferred to contain in substance the following: The change is so ordered with the understanding that it does not involve any change in the Contract Price or Time, and that it is subject generally to all contract stipulations and covenants, and is without prejudice to any and all rights of OWNER under the Contract.
 - 12. Contractor's stamp, initialed or signed certifying review and approval of submittal.
 - 13. For each product include the following:
 - a. Manufacturer's Instructions
 - b. Certificates of Compliance
 - c. Warranties/Guarantees
 - d. Any other items as required in the applicable Specification
 - 14. Any other items as called for by the Designer, the OWNER Project Manager or Designee or required by the manufacturers.
 - 15. The Designer reserves the right to ask for shop drawings for any or all items on the project, whether or not requested in individual specification sections, at no additional cost to the Commonwealth.
- E. Manufacturer's Instruction: When required in individual Specification Section, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting and finishing, in quantities specified for product data to the Designer, with one (1)

copy submitted to the OWNER Project Manager or Designee and one (1) copy to the OWNER Resident Engineer. These copies are in addition to those materials required at Contract Closeout.

- F. Certificates of Compliance: Submit certificates of compliance with the associated Shop Drawings, Product Data, and Samples required for the product in quantities specified for certificates of compliance to the Designer, with one (1) copy submitted to the OWNER Project Manager or Designee and one (1) copy to the OWNER Resident Engineer. These copies are in addition to those materials required at Contract Closeout.
- G. Field Samples: Provide field samples of finishes at the project as required by individual Specification Section. Install sample complete and finished.
- H. Patterns and Colors: Submit accurate color charts and pattern charts to the Designer for review and selection whenever a choice of color or pattern is available in a specified product, unless the exact color and pattern of a product are indicated in the Contract Documents. Color and Pattern charts shall represent the manufacturer's complete standard offerings, except where Specifications limit the offerings by defining a particular series or product type which is normally limited in color and pattern availability. Color and Pattern charts shall be submitted in quantities specified with two (2) additional copies submitted to the OWNER Project Manager or Designee and one (1) copy to the OWNER Resident Engineer.

1.7 RESUBMISSION REQUIREMENTS

- A. Resubmission: Resubmission procedure shall follow the same procedures as the initial submittal with the following exceptions:
- B. Shop Drawings:
 - 1. Transmittal shall contain the same information as the first transmittal except that the submission number shall change sequentially. The drawing number/description shall be identical as the first transmittal but the date shall be the revised date for that submission.
 - 2. No new material should be included on the same transmittal for the resubmission.
 - 3. Indicate on drawings any changes which may have been made other than those requested by the Designer.
- C. Product Data and Samples:
 - 1. Submit any new data and samples as required from previous submittal.

1.8 THE DESIGNER'S REVIEWS AND DISTRIBUTION OF SUBMISSIONS

- A. The review period, for the Designer will not exceed twenty-one (21) calendar days from the established date of each submission indicated on the Schedule of Shop Drawings, Product Data and Samples, plus the additional time, if any, for distribution by the Contractor and receipt of submissions by the Designer and with copies to OWNER. After the Designer's (and its consultant engineers) review, distribution shall be as stated herein.

1. If submittal is 'reviewed - no exceptions taken', or 'reviewed, make corrections noted', the OWNER Project Manager or Designee shall compose a transmittal indicating the status. The Designer will then transmit the following:
 - a. One (1) copy of the submittal to the Contractor;
 - b. One (1) copy of the submittal together with the transmittal to OWNER Project Manager or Designee;
 - c. One (1) copy of the submittal together with the transmittal to OWNER Resident Engineer; and
 - d. Retain one (1) copy for Designer's records
 - e. The Contractor shall then distribute said submittals to appropriate Subcontractors.
2. If submittal is 'reviewed - revise and resubmit' or 'rejected', the Designer shall compose a transmittal indicating the status. The Designer will then transmit the following:
 - a. One (1) copy of the submittal to the Contractor;
 - b. One (1) copy of the submittal together with the transmittal to OWNER Project Manager or Designee;
 - c. One (1) copy of the submittal together with the transmittal to OWNER Resident Engineer; and
 - d. Retain one (1) copy for Designer's records
 - e. The Contractor shall then distribute said submittals to appropriate Subcontractors.
3. If a submittal is 'reviewed - no exceptions taken' or reviewed, make corrections noted' by the Designer, or approved as noted by the Designer, but the OWNER Project Manager or Designee does not concur, a meeting between the Designer and the OWNER Project Manager or Designee will immediately be established to resolve the impasse within the overall review period time frame (21 calendar days). The OWNER Project Manager or Designee will have final authority as to the disposition of the submission. The Designer's position of approval (or disapproval) must be based on the contractual criteria of design intent, function, structure, and durability. The OWNER Project Manager or Designee's contrary position must also be based on these criteria.
4. The Contractor is required to anticipate review time, including time for possible rejection and resubmission, in establishing Schedule dates.
 - a. The aforementioned time provided the Designer for checking shop drawings is from the date of receipt of shop drawings by the Designer to the mailing date of shop drawings returned to the Contractor by the Designer.
5. The Designer will process the submission and indicate the appropriate action on the submission and the transmittal. Incomplete or erroneous transmittals will be returned without action.
6. The Designer will fill out transmittal in the following sequence:
 - a. Date received from Contractor.
 - b. Date returned to Contractor.
 - c. Action taken on submission.
 - d. Distribution, including number of copies distributed and type of material distributed (i.e., print, brochure or sample, etc.).
 - e. Designer's remarks (note major deviations from the Contract Documents).

B. Designer's Review Procedure:

1. Stamped REVIEWED, "NO EXCEPTIONS TAKEN":
 - a. No corrections or resubmissions required, fabrication may proceed.
2. Stamped REVIEWED, "MAKE CORRECTIONS NOTED":
 - a. If Contractor complies with noted corrections, fabrication may proceed. Submit corrected print for final review.

- b. If, for any reason, the Contractor cannot comply with the noted corrections, fabrication shall not proceed and Contractor shall resubmit, following procedures outlined in this Section.
 3. Stamped REVIEWED, "REVISE AND RESUBMIT" OR "REJECTED":
 - a. Contractor shall revise and resubmit for review. Fabrication shall not proceed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 013543

ENVIRONMENTAL PROTECTION PROCEDURES

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 – GENERAL REQUIREMENTS that are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. For the purpose of this Section, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health, welfare or the environment.
- B. The control of environmental pollution requires consideration of air, water, and land, and involves management of runoff, dust, noise, and solid waste, as well as other pollutants. Work shall include installing, maintaining, and removing sedimentation and erosion control components within the Limits of Work.
- C. This Section does not address erosion and sedimentation control requirements which are addressed in Section 312500 - EROSION AND SEDIMENTATION CONTROLS and the Stormwater Pollution Prevention Plan (SWPPP Plan) in the Appendices.

1.3 SECTION INCLUDES

- A. Applicable Regulations.
- B. Notifications.
- C. Protection of Groundwater.
- D. Protection of Streams And Wetlands.
- E. Protection of Land Resources.
- F. Protection of Air Quality.
- G. Maintenance of Pollution Control Facilities During Construction.
- H. Noise Control.
- I. Diesel Equipment Emission Controls.
- J. Spill And Discharge Control.

1.4 RELATED SECTIONS

- A. Section 015000 - TEMPORARY FACILITIES AND CONTROLS.
- B. Section 024100 - DEMOLITION.

1.5 APPLICABLE REGULATIONS

- A. The Contractor shall comply with all applicable Federal, State and local laws and regulations concerning environmental pollution control and abatement.
- B. Fines and related costs resulting from failure to provide adequate protection against any environmentally objectionable acts and corrective action to be taken are the obligations of the Contractor.

1.6 NOTIFICATIONS

- A. OWNER may notify the Contractor in writing of any non-compliance with the foregoing provisions or of any environmentally objectionable acts and corrective action to be taken. State or local agencies responsible for verification of certain aspects of the environmental protection requirements may notify the Contractor in writing, through OWNER, of any non-compliance with State or local requirements. After receipt of such notice from OWNER or from the regulatory agency through OWNER, the Contractor shall immediately take corrective action. Such notice, when delivered to the Contractor or his/her authorized representative at the site of the Work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, OWNER may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

PART 2 - PRODUCTS

2.1 WATER

- A. Water used for dust control and equipment washes shall be clean and free of salt, oil, and other injurious materials. The Contractor shall provide all necessary water.

2.2 ONSITE SPILL KIT

- A. The Contractor shall provide the following minimum equipment to be kept onsite at all times during site work activities for any unexpected spills or discharges:
 - 1. Sand, clean fill and absorbent pillows,
 - 2. Four drums (55 gallon, U.S. DOT 17-E or 17-H),
 - 3. Shovels, and
 - 4. Steam cleaner for decontamination of tools and equipment.

PART 3 - EXECUTION

3.1 PROTECTION OF GROUNDWATER

- A. Care shall be taken to prevent, or reduce to a minimum, any discharges to the ground of liquids that may infiltrate to the underlying groundwater or enter on-site waterways. Water that has been used for washing or processing, or that contains oils or sediments that will reduce the quality of the groundwater or waterway shall not be discharged from the Site. Such waters shall be collected and disposed of by the Contractor in accordance with all applicable laws.

3.2 PROTECTION OF LAND RESOURCES

- A. Land resources within the project boundaries and outside the limits of permanent work shall be restored to a condition, after completion of remediation activities that will appear to be natural and not detract from the appearance of the project. Confine all construction activities to Limits of Work areas shown on the Drawing.
- B. Outside of the Limits of Work as shown on the Drawing, do not deface, injure, or destroy trees or shrubs, nor remove or cut them without prior approval. Snow fence or other approved equal shall be erected at the "fall line" of the tree canopy, and no vehicles or storage will be permitted within, to prevent damage to trees.
- C. The locations of storage and other facilities, required in the performance of the Work, shall not be within wetlands or resource areas.

3.3 PROTECTION OF AIR QUALITY

- A. Burning – The use of burning at the project site for the disposal of refuse and debris will not be permitted.
- B. Dust Control – Maintain all demolition excavations, stockpiles, waste areas, and all other work areas within or without the project boundaries free from dust which could cause regulatory standards for air pollution to be exceeded or cause a hazard or nuisance to others.
- C. The Contractor shall provide adequate means for the purpose of preventing dust and odor caused by construction operations throughout the period of the construction contract. If OWNER or the Designer indicates that the level of dust or odors is unacceptable, the Contractor shall employ measures necessary to reduce dust or odors to an acceptable level.
- D. The Contractor shall implement engineering controls (e.g. watering, misting) to control dust whenever required by the Designer or OWNER.

3.4 MAINTENANCE OF POLLUTION CONTROL FACILITIES DURING CONSTRUCTION

- A. During the life of this Contract, maintain all facilities constructed for pollution, erosion, and sedimentation control as long as the operations creating the particular pollutant are being carried out.

3.5 NOISE CONTROL

- A. The Contractor shall develop and maintain a noise-abatement program and enforce strict discipline over all personnel to keep noise to a minimum. Local noise ordinances shall govern.

- B. The Contractor shall execute construction work by methods and by use of equipment which will reduce excess noise.
- C. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise in compliance with applicable laws.
- D. The Contractor shall manage vehicular traffic and scheduling to reduce noise.

3.6 SPILL AND DISCHARGE CONTROL

- A. The Contractor shall provide equipment and personnel to perform emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage. The collected spill material shall be properly disposed of in accordance with applicable laws at the Contractor's expense.
- B. Costs to provide the above spill and discharge control materials shall be included in the contract base bid price.

END OF SECTION

SECTION 014000

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 REQUIREMENTS INCLUDED

- A. General Contractor's Quality Assurance.
- B. General Contractor's Testing Responsibilities.
- C. Duties of the General Contractor's testing agencies.
- D. Welding.
- E. Examination of substrate.
- F. General Contractor's Quality Assurance and Quality Control Plan.

1.3 RELATED SECTIONS

- A. Section 013100 – PROJECT MANAGEMENT AND COORDINATION:
 - 1. General project management and coordination.

1.4 GENERAL CONTRACTOR'S QUALITY ASSURANCE

- A. Qualifications for Service Agencies: Engage inspection and testing services agencies, including independent testing laboratories, which are pre-qualified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specialize in the types of inspections and tests to be performed.
- B. Each independent inspection and testing agency engaged on the project shall be authorized by authorities having jurisdiction to operate in the Commonwealth of Massachusetts.

1.5 GENERAL CONTRACTOR'S TESTING RESPONSIBILITIES

- A. The General Contractor shall provide inspections, tests and quality control services specified in individual specification Sections and required by governing authorities, except where they are specifically indicated to be solely the responsibility of a Subcontractor in the respective specification section or solely the responsibility of OWNER.
- B. Engage and pay for the services of an independent agency acceptable to the OWNER Project Manager or Designee to perform the specified inspections, testing, and quality control. Submit qualifications to the OWNER Project Manager or Designee. General Contractor's testing agency/laboratory shall be licensed by the Commonwealth of Massachusetts Department of Public Safety.
- C. Re-testing: The General Contractor is responsible for re-testing where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Documents requirements, regardless of whether the original test or service was the General Contractor's responsibility.
- D. Substitutions, Suspicious Issues and Designer Initiated Testing: The General Contractor is responsible for inspections, tests and similar services for substitutions, suspicious issues identified by the General Contractor or OWNER Project Manager or Designee, and testing initiated by the Designer.
- E. Associated Services: The General Contractor shall cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as required. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
 - 1. Provide access to the work and furnish incidental labor and facilities necessary to facilitate inspections and tests.
 - 2. Take adequate quantities or representative samples of materials that require testing or assist the agency in taking samples.
 - 3. Provide facilities for storage and curing of test samples and delivery of samples to testing laboratories.
 - 4. Provide the agency with a preliminary design mix proposed for use for material mixes that require control by the testing agency.
 - 5. Provide security and protection of samples and test equipment at the project site.
- F. The General Contractor shall prepare and submit to the OWNER Project Manager or Designee for approval a Quality Assurance and Quality Control Plan within 30 days from Notice to Proceed. A Quality Assurance and Quality Control (QA/QC) Plan shall promote completion of all work in accordance with the Contract Documents including Contract, Construction Drawings, Specifications, Project Procedures, Approved Submittals and Shop Drawings, Approved Changes, Applicable Codes and Regulations, Referenced Industry Standards, and similar items. The primary purpose of this quality plan is to ensure that all in place work by the General Contractor and all Subcontractors is performed correctly the first time and is turned over and represented as complete and defect free in accordance with the Contract Documents.
- G. If required by the Contract, the General Contractor shall assign a dedicated Quality Assurance and Quality Control Manager or Designee for the duration of the project. If the Contract does not require a dedicated Quality Assurance and Quality Control Manager or Designee, the General

Contractor shall prepare and submit to the OWNER Project Manager or Designee their QA/QC Plan as discussed in Par. E above. In addition, if this Contract does not require a dedicated QA/QC Manager or Designee, the duties of the QA/QC Manager or Designee as delineated in Par. 1.5F6 shall be carried out by another qualified member of the General Contractor's onsite staff.

1. The purpose of a QA/QC Manager or Designee shall be to prepare and submit the Quality Assurance and Quality Control Plan for approval and to be responsible for and to manage adherence to the plan throughout the construction process. The QA/QC Manager or Designee shall be designated for the project from the initial notice to proceed through system acceptances by both the designer and OWNER Project Manager or Designee. The QA/QC Manager or Designee shall at all times instill an expectation that all work will be completed correctly and in an expeditious manner and shall be responsible for enforcement of the Contractor's staff and all Subcontractors to this plan.
2. Have extensive experience in building construction, project controls, and previous QA/QC training and practical knowledge.
3. Have excellent communication and writing skills, be highly organized and be able to work with both management and Subcontractors.
4. Have a working knowledge of project scheduling.
5. The General Contractor shall submit substantiating documentation attesting to the proposed QA/QC Manager or Designee's capabilities to the OWNER Project Manager or Designee and the Designer for approval.
6. Duties of the QA/QC Manager or Designee:
 - a. Prepare and submit QA/QC Plan for approval.
 - b. Conduct and submit minutes for all requisite Quality Meetings.
 - c. Coordinate and report on all daily quality activities.
 - d. Verify accurate documentation by Subcontractors and Vendors.
 - e. Work with OWNER Commissioning Agent.
 - f. Oversee final project records pertaining to quality.
 - g. Report, photograph and distribute evidence of deficient and/or defective construction conditions or materials that cannot be corrected within three work days of observation. When such conditions or materials are remedied report, photograph and distribute evidence of remedial work prior to concealing. Photographs shall be dated and defects and/or deficiencies shall be clearly labeled on the photographs.

1.6 DUTIES OF THE GENERAL CONTRACTOR'S TESTING AGENCIES

- A. The General Contractor's independent testing agency engaged to perform inspections, sampling and testing of materials and construction shall cooperate with the Designer and General Contractor in performing its duties, and shall provide qualified personnel to perform required inspections and tests.
- B. The testing agency shall notify the Designer and General Contractor promptly of irregularities or deficiencies observed in the work during performance of its services.
- C. The testing agency shall not perform any duties of the General Contractor.
- D. The General Contractor is responsible for scheduling times for inspections, tests, taking samples and similar activities.

1.7 GENERAL CONTRACTOR'S QUALITY CONTROL REQUIREMENTS, GENERAL

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of the quality as specified.
- B. Comply fully with manufacturer's instructions, including each step in sequence.
- C. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- D. Perform work by persons qualified to produce workmanship of specified quality.
- E. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortions, or disfigurement. Anchorage devices shall be labeled to allow for visual inspection and verification of type of anchorage device.

1.8 WELDING

A. Certified Welders:

- 1. Structural welds shall be made only by operators who have been qualified by tests, as prescribed in the "Standard Qualification Procedure" of the American Welders Society, to perform the type of work required. Operators shall be certified welders; certification must be shown to the Resident Engineer and must be current. Provide a copy of certification(s) to the OWNER Resident Engineer.
- 2. Shop welding shall be in accordance with the "Code for Welding in Building Construction."
- 3. Welders shall provide their own portable generating equipment for electric welding. Use of the Commonwealth's electrical system for welding will not be permitted.

1.9 MANUFACTURER'S REPRESENTATIVES

- A. If required by specific Specification Sections, manufacturer's representative shall be present at the job site for supervision of work during installation of materials. Such representative shall be present during all aspects of construction to ensure proper installation of all applicable items. Refer to other sections of these specifications for additional requirements.

1.10 EXAMINATION OF SUBSTRATE

A. Installers of materials, products or equipment shall:

- 1. Examine base surfaces upon which materials, products or equipment are to be installed.
- 2. Examine conditions upon which materials, products or equipment are to be installed.
- 3. Where there is any question as to the dryness of a surface, test with a modern moisture-indicating machine.
- 4. Notify the General Contractor, in writing, with a copy to the Designer, if conditions are detrimental to proper and timely construction and completion of the work.

- B. Do not proceed with work until unsatisfactory substrate, or not acceptable conditions have been corrected. Commencement of installation constitutes acceptance of substrate or base surfaces, and the cost of any corrective work due shall be borne by the installer applying his/her materials, products or equipment thereon.

1.11 CONTRACTOR'S QUALITY ASSURANCE AND QUALITY CONTROL PLAN

- A. The Contractor's Quality Assurance and Quality Control Plan shall instill an expectation that all work will be completed correctly and in an expeditious manner. In all instances the Contractor shall be responsible for the adherence to and enforcement of the Contractor's staff and all Subcontractors to this plan.

- 1. Submit the General Contractor's Quality Assurance and Quality Control Plan to the OWNER Project Manager or Designee within 30 days from the Notice to Proceed. Submit in format acceptable to OWNER's Project Manager or Designee. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out quality-assurance and quality-control responsibilities. Coordinate with construction schedule.

- B. The Plan shall include specific procedures for conducting formalized inspections of predetermined selected work items at the time the Contractor first starts new work. These inspections are performed by a designated QA/QC Inspection Team composed of authorized representatives from OWNER, the Contractor, A/E, Subcontractor(s) (whose work is being inspected) and others as may be required.

- C. The Quality Assurance and Quality Control Plan shall be created as a Project Specific Quality Plan addressing at a minimum the following components:

- 1. Quality meetings.
 - a. Pre-construction conference.
 - b. Pre-installation review meetings.
 - c. Coordination meetings.
 - 2. Regular Daily Inspections.
 - 3. Building Exterior Envelope Review.
 - 4. First Delivery of Material / Equipment Inspections.
 - 5. Mock-up Inspections.
 - 6. Utility Activation and Start-Up Inspection Procedures for Equipment/Systems Prior to Validation.

D. Quality Meetings:

- 1. Pre-construction Conference:
 - a. A conference held to discuss all aspects of the construction project such as the schedule, payment procedures, change order procedures and much more. This meeting is held immediately after contract award.
 - b. The OWNER Project Manager or Designee, Designer, Design Consultants, Contractor and Subcontractors will attend these meetings.
 - 2. Pre-Installation Review Meetings:
 - a. A review meeting shall be held for certain kinds of work requiring special coordination efforts between the trades, a better understanding of how the work is

- to be performed by one or more trades, sequencing of work between the trades, or a review of special requirements pertaining to the work to be performed. This type of meeting is conducted just prior to starting the actual work. The meeting is scheduled and run by the Contractor on an as needed basis.
- b. The OWNER Project Manager or Designee, Designer, Contractor and all applicable Subcontractors will attend these meetings.
 - c. The Contractor's staff and Subcontractor's actual supervisory people who will be performing the work in the field are to attend these meetings.
 - d. Safety precautions relating to the work to be performed are also to be discussed as part of this meeting.
3. Coordination Meetings:
- a. The Contractor shall conduct project Coordination Meetings at regular intervals. Project Coordination Meetings are in addition to specific meetings held for other purposes, such as regular progress meetings and special pre-installation meetings. An example would be regularly scheduled MEP coordination meetings to monitor the progress of the MEP coordination process.
 - b. Contractor shall request representation by every party currently involved in coordination or planning for the construction activities involved.
 - c. Contractor shall record meeting results and distribute copies to everyone in attendance and others affected by decisions or actions resulting from each meeting. The OWNER Project Manager or Designee and the Designer are to be on the Distribution List.

E. Regular Daily Inspections:

1. The Contractor shall monitor the quality of the in-place construction work daily, to ensure that it complies with the requirements of the Contract Documents, Pre-Construction Meetings, Pre-Installation Meetings and Coordination Meetings.
2. The Contractor shall log, record and distribute daily record of quality monitoring as a component of daily reporting and provide notification on a regular basis during construction of currently observed items requiring corrective action
3. The QA/QC Inspection Team will inspect work periodically based on observations noted in Contractor's reporting to verify completion and compliance.

F. First Delivery of Material/Equipment Inspection:

1. The Contractor shall manage and keep current an anticipated delivery schedule for all materials and equipment to be delivered to the site and provide regular updates or upon request to the OWNER Project Manager or Designee and QA/QC Inspection Team.
2. The Contractor shall log, record and distribute any account on the first delivery of each type of material or equipment as a component of daily reporting and provide notification on a regular basis during construction of currently observed items requiring corrective action
3. First deliveries will be verified against the requirements of the design documents and the approved submittals. Nonconforming materials and/or equipment will not be allowed to be set into place and will be removed from the site.
4. This inspection establishes the basis for judging all future deliveries of like material/equipment.

G. Mock-Up Inspections:

1. The note all Mock-Ups required by the Contract Documents and include the activity in their construction schedule and submit for review and approval of the OWNER Project Manager or Designee, the Designer and the QA/QC Inspection Team.
2. The Contractor shall log, record and distribute any account of Mock-Up(s) as a component of daily reporting and provide notification on a regular basis during construction of currently observed items in process, requiring corrective action, or follow up, and inspection.
3. The Contractor shall benchmark each work type within the Mock-Up for conformance with the requirements and review with the QA/QC Inspection Team.
4. The QA/QC Inspection Team shall review, comment that the work appears in conformance to the requirements. Comments are documented and distributed by the Contractor. Non-conforming work will be corrected at no additional cost to OWNER.
5. The approved Mock-Up establishes a basis for judgment for all later like construction.
6. The Mock-Up process and inspection(s) does not take away from the responsibility of the Contractor and installing Subcontractors to provide a finished and fully functioning product and to maintain the construction schedule.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

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SECTION 015000

TEMPORARY FACILITIES AND CONTROLS

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide temporary facilities and controls, including but not limited to the following:

1. Temporary Water.
2. Weather Protection.
3. Temporary Power. (Not used)
4. Hoisting Equipment and Machinery.
5. Staging.
6. Maintenance of Access.
7. Dust Control.
8. Noise Control.
9. Enclosures.
10. Cleaning During Construction.
11. Field Offices.
12. Telephone Service. (Not used)
13. Sanitary Facilities.
14. Construction Barriers.
15. Parking.
16. Safety Protection.
17. Vehicle and Equipment Protection.
18. Fire Safety During Construction.
19. Shoring.
20. Construction Fence.
21. Project Identification Sign. (Not used)

- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:

1. Section 017419 - CONSTRUCTION WASTE MANAGEMENT:
 - a. Debris control and removal.

1.3 TEMPORARY WATER

- A. Water shall be distributed by means of connections to the permanent service lines that are to be installed at the expense of the Plumbing Subcontractor.

- B. Any temporary hoses and pipe lines and connections from the permanent service lines either outside or within the building, necessary for the use of the Contractor and his Subcontractors shall be installed, protected, and maintained at the expense of the Plumbing Subcontractor.
- C. Temporary hoses and temporary pipe lines used for transporting water shall not be run unattended or unprotected across parking areas, parking area entrance, walkways, plazas, or steps. Temporary hoses and temporary pipelines shall not be permitted to be installed along, through or across corridor and occupied rooms or spaces.
- D. The Contractor shall provide an adequate supply of drinking water from approved sources of acceptable quality, satisfactorily cooled, for his employees and those of his Subcontractors.
- E. Use of the water may be discontinued by the Commonwealth if, in the opinion of the OWNER Project Manager or Designee, it is wastefully used.

1.4 WEATHER PROTECTION

- A. It is the intent of these Specifications to require that the Contractor shall provide temporary enclosures and heat to permit construction work to be carried on during the months of November through March in compliance with M.G.L. Chapter 149, Section 44G(D). Under no circumstances shall the Contractor suspend any work during the months of November through March because of their reluctance to provide and pay for temporary weather protection. These Specifications are not to be construed as requiring enclosures or heat for operations that are not economically feasible to protect in the judgment of OWNER. Included in the preceding category, without limitation, are such items as site work, excavation, steel erection, erection of certain "exterior" wall panels, roofing, and similar operations.
- B. "WEATHER PROTECTION" shall mean the temporary protection of that work adversely affected by moisture, wind, and cold, by covering, enclosing and/or heating. This protection shall provide adequate working areas during the months of November through March as determined by OWNER and consistent with the approved construction schedule to permit the continuous progress of all work necessary to maintain an orderly and efficient sequence of construction operations. The Contractor shall furnish and install all "weather protection" material and be responsible for all costs, including heating required to maintain a minimum temperature of 55 degrees F. at the working surface. This provision does not supersede any specific requirements for methods of construction, curing of materials or the applicable general conditions set forth in the Contract with added regard to performance obligations of the Contractor.
- C. Within 30 calendar days after his award of contract, the Contractor shall submit in writing to the Designer for approval, three copies of his proposed methods for "Weather Protection."
- D. Installation of weather protection and heating devices shall comply with all safety regulations including provisions for adequate ventilation and fire protection devices. Heating devices which may cause damage to finish surfaces shall not be used.

1.5 HOISTING EQUIPMENT AND MACHINERY

- A. All hoisting equipment and machinery required for the proper and expeditious prosecution and progress of the work shall be furnished, installed, operated and maintained in safe condition by the individual subcontractors as applicable to their trade. All costs for hoisting operating services shall be borne by the subcontractors unless specifically excepted in the Contract Documents.
1. A licensed equipment manufacturer's representative shall be present at all times, to witness the erection and dismantling of all hoisting equipment and machinery, whenever such equipment is being erected or dismantled. No such work will be performed without the presence of such representative.
 2. Hoisting equipment and machinery erection and dismantling shall be performed only by trained, certified, and experienced riggers qualified to perform such work.
 3. Copies of such licenses and/or certifications, clearly indicating qualifications, shall be provided to the OWNER Resident Engineer prior to commencement of such erecting and dismantling work.
- B. Review Drawings for hoisting requirements and openness of traffic access routes to installed destinations of specified equipment and furnishings.

1.6 STAGING

- A. All staging, planking and scaffolding, exterior and interior, required for the proper execution of the work, shall be furnished, installed, and maintained by the Contractor.
1. Erection and dismantling of staging shall be performed only by trained, certified, and experienced staging personnel qualified to perform such work.
 2. Copies of such certifications, clearly indicating qualifications, shall be provided to the OWNER Resident Engineer prior to commencement of such erecting and dismantling work.

1.7 MAINTENANCE OF ACCESS

- A. The Contractor shall provide and maintain for the duration of his contract, a means of access to, around and within the site, as indicated on the Contract Drawings, for vehicular traffic and authorized personnel. This means of access shall be construed to sustain the weight of equipment customarily engaged for use in construction projects of this type and magnitude. The Contractor shall, without additional compensation from the Commonwealth, furnish labor and materials as may be required from time to time to maintain this means of access in an acceptable condition as determined by the Designer and OWNER. Pedestrian access shall provide adequate protection against falling debris, slippage, adequate lighting, warning and directional signs, and protection against construction activities.

1.8 DUST CONTROL

- A. The Contractor shall have all Subcontractors provide adequate means for the purpose of preventing dust caused by construction operations from creating a hazard, nuisance, and from entering adjacent occupied areas throughout the period of the construction contract.
- B. This provision does not supersede any specific requirements for methods of construction or applicable general conditions set forth in the Contract Articles with added regard to performance obligations of the Contractor.

1.9 NOISE CONTROL

- A. Comply with requirements of authorities having jurisdiction. Develop and maintain a noise-abatement program and enforce strict discipline over all personnel to keep noise to a minimum.
- B. Execute construction work by methods and by use of equipment which will reduce excess noise.
 - 1. Equip air compressors with silencers, and power equipment with mufflers.
 - 2. Manage vehicular traffic and scheduling to reduce noise.
 - 3. No heavy equipment may be started or idled before 7:00 A.M.

1.10 ENCLOSURES

- A. Provide temporary, insulated, weather tight closures of openings in exterior surfaces for providing acceptable working conditions and protection for materials, allowing for heating during construction, and preventing entry of unauthorized persons. Provide doors with self-closing hardware and locks.
- B. All utilities including electric ducts, conduits, telephone lines, sprinklers, and other utilities shall be protected against damage from construction activity. The Contractor shall be responsible for all damage to the utilities from construction and shall repair all such damage at no additional cost to OWNER.

1.11 CLEANING DURING CONSTRUCTION

- A. Unless otherwise specified within the Specifications, the Contractor shall perform clean-up operations during construction as herein specified.
 - 1. Refer to Section 017419 - CONSTRUCTION WASTE MANAGEMENT for additional requirements.
- B. Control accumulation of waste materials and rubbish; periodically dispose of off-site in a legal manner. The Contractor shall bear all costs, including fees resulting from such disposal.
- C. Clean interior areas prior to start of finish work and maintain areas free of dust and other contaminants during finish operations.

- D. Conduct cleaning and disposal operations to comply with local ordinances and anti- pollution laws.
- E. Maintain project in accordance with all local, Commonwealth of Massachusetts, and Federal Regulatory Requirements.
 - 1. Store volatile wastes in covered metal containers, and remove from premises.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.
- F. Cleaning: Clean interior areas prior to start of finish work and maintain areas free of dust and other contaminants during finish operations.
 - 1. Use only those materials which will not create hazards to health or property and which will not damage surfaces.
 - 2. Use only those cleaning materials and methods recommended by manufacturer of surface materials to be cleaned.
 - 3. Handle material in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.
 - 4. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not damage surrounding surfaces.
- G. Execute cleaning to ensure that the buildings, the sites, and adjacent properties are maintained free from accumulations of waste materials and rubbish and windblown debris, resulting from construction operations.
- H. Provide on-site containers for collection of waste materials, debris, and rubbish.

1.12 FIELD OFFICES

- A. The Contractor shall provide and maintain a temporary field office for Contractor's use.
- B. The Contractor shall provide a suitable field office on site for its own use. The location shall be at the discretion of the OWNER Project Manager.

1.13 SANITARY FACILITIES

- A. The Contractor shall provide suitable toilet facilities for its staff.
- B. Provide chemical toilets where work is in progress and in quantity required by OSHA Code.
- C. Chemical toilets and their maintenance shall meet requirements of state and local health regulations and ordinances.

1.14 CONSTRUCTION BARRIERS

- A. Proper construction barriers shall be provided around the contract work areas as defined by the Contract Drawings or as directed by the Resident Engineer.
- B. Construction barriers shall consist of traffic cones, ribbons, tapes, secure fencing, trench covers, wood barriers, warning signs, directional signs, and other traffic materials to keep traffic and people from area of construction and maintain ongoing operations.
- C. Barriers shall be erected at such approved locations as are necessary, sufficiently cross-braced and supported adequately from floors and ceilings as required.

1.15 PARKING

- A. Only during contract working hours and to the extent available, existing parking facilities located at the construction area will be available for use by the Contractor, subcontractors and their employees. Such parking areas shall be designated by OWNER. The Commonwealth shall not be responsible for cars, trucks, etc. or their contents and the Contractor and subcontractors and material suppliers will use the designated area with this understanding.

1.16 SAFETY PROTECTION

- A. At no time shall the work be left unattended without proper safety protection and shall not be left unprotected to the weather and accessible to the public. It is the responsibility of the Contractor to maintain proper safety protection for the public while work is in progress or unattended.

1.17 VEHICLE AND EQUIPMENT PROTECTION

- A. All construction activities shall be performed in such a manner so as not to dust, stain or damage any building elements, equipment, vehicles, etc. within general vicinity of the construction work area. Any damage to these items shall be cleaned and repaired at the expense of the Contractor.
 - 1. All construction vehicles and equipment on site shall be effectively disabled and secured when not in use.

1.18 FIRE SAFETY DURING CONSTRUCTION

- A. Fire-Safety Program: Comply with requirements of authorities having jurisdiction and NFPA 241 Standard for Safeguarding Construction, Alteration, and Demolition Operations.
 - 1. Submit a copy of NFPA 241 Impairment Plan to local fire department. Indicate Contractor personnel responsible for management of fire-prevention program.

- B. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
2. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

1.19 SHORING

- A. The subcontractors shall provide all temporary shoring and bracing as required for the proposed work. Comply with all applicable codes and standards.

1.20 CONSTRUCTION FENCE

- A. Contractor shall provide a construction fence along the entire perimeter of the contract limit lines, and shall be kept in good repair at all times, and shall be arranged and modified to maintain ongoing operation's access and egress during project.
- B. Construction fences shall be six feet high and of chain link, or approved equal, erected in a substantial manner, straight, plumb and true as approved by the Designer.
- C. Gates shall be built into fence at such approved locations as are necessary, well cross-braced and hung on heavy strap hinges with proper post and hook for double gates. Provide heavy hasps and padlocks for each gate. Provide a set of three keys for each lock to OWNER Project Manager or Designee and Resident Engineer to facilitate emergency access.
- D. Fencing shall be removed by the Contractor at no cost to the Commonwealth at such time before final completion as the Designer directs. Restore site to acceptable condition after removing fence

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 016000

PRODUCT REQUIREMENTS

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 REQUIREMENTS INCLUDED

- A. Products include material, equipment, and systems.
- B. Comply with Specifications and referenced standards as minimum requirements.
- C. Components required to be supplied in quantity within a Specification Section shall be the same, and shall be interchangeable.
- D. Do not use materials and equipment removed from existing structures, except as specifically required, or allowed, by the Contract Documents.
- E. In the case of an inconsistency between Drawings and the Project Manual, or within either document which is not clarified by addendum, the product of greater quality or greater quantity of work shall be provided in accordance with the Designer's interpretation.

1.3 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform work by persons qualified to produce workmanship of specified quality.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.4 MANUFACTURERS' INSTRUCTIONS

- A. When work is specified to comply with manufacturers' instructions, submit copies as specified in Section 013300 - SUBMITTAL REQUIREMENTS, distribute copies to persons involved, and maintain one set in field office.
- B. Perform work in accordance with details of instructions and specified requirements.

1.5 TRANSPORTATION AND HANDLING

- A. Refer to the Contract and General Conditions and Specifications Sections for requirements pertaining to transportation and handling of materials and equipment.
- B. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturers' labeled and unopened containers or packaging, dry
- C. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- D. Promptly inspect shipments to assure that products comply with requirements, that quantities are correct, and products are undamaged.

1.6 STORAGE AND PROTECTION

- A. Refer to the Contract and General Conditions and Specifications Sections for requirements pertaining to storage and protection of materials and equipment.
- B. Store products in accordance with manufacturers' instruction, with seals and labels intact and legible. Store sensitive products in weather tight enclosures; maintain within temperature and humidity ranges required by manufacturers' instructions.
- C. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- D. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- E. Arrange storage to provide access for inspection. Periodically inspect to assure that products are undamaged, and are maintained under required conditions.
- F. Protect masonry and stone products from damage and staining.
- G. Protect finished materials, including window frames and doors, with protection acceptable to the OWNER Project Manager or Designee.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 017419

CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This Section includes requirements for the Contractor's implementation of waste management controls and systems for the duration of the Work.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
 - 1. Section 013543 - ENVIRONMENTAL PROTECTION PROCEDURES:
 - a. Environmental-protection measures during construction.
 - 2. Section 024100 - DEMOLITION:
 - a. Demolition, salvage, and reuse requirements.

1.3 INTENT

- A. OWNER Project Representative or Designee have established that this Project shall generate the least amount of waste practical and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.
 - 1. With regard to these goals the Contractor shall develop, for the OWNER Project Representative or Designee review, a Waste Management Plan (WMP) for this Project.
 - 2. Each Subcontractor shall be responsible for segregating their own waste into different dumpsters as directed by the Contractor.
 - 3. Source Separation, Definition: Source separated construction waste materials that are sorted into separate bins on the project site (aka on-site).
 - a. This waste strategy often isolates waste materials targeted for reuse, donation, or recycling programs.
 - b. Typically, sorted materials on-site include metals, wood, ceiling tiles, furniture, and concrete.

- B. The Contractor shall be responsible for ensuring that debris will be disposed of at appropriately designated licensed solid waste disposal facilities, as defined by local authorities having jurisdiction or Massachusetts General Laws (MGL) Chapter 111, Section 150A.

1.4 SUBMITTALS

- A. Waste Management Plan (WMP): Submit three copies of plan within 30 days of date established for the Notice to Proceed, in a format acceptable to the Owner Project Representative or Designee.
- B. Facility Permitting Information: For disposal and incinerator facilities provide a copy of the facility's current solid waste management facility permit in accordance with 310 CMR 19.000.
- C. Facility Permitting Information: For off-site ABC rubble crushing and/or recycling facilities, provide a statement from the facility that references its specific exemption from the solid waste regulations (per 310 CMR 16.05 (3) (e)) or provide a copy of the facility's current solid waste management facility permit in accordance with 310 CMR 19.000.
- D. Record Keeping for Recycling and Landfill and/or Incinerator Disposal: Documentation to be submitted by the Contractor shall include the following as a condition of each payment:
 - 1. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, and/or receipts.
 - 2. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, and/or receipts.

1.5 WASTE MANAGEMENT PLAN

- A. General: Develop plan consisting of waste identification, and waste reduction, handling, transportation and recycling/disposal procedures. Include separate sections in plan for recycling and disposal of demolition waste. Indicate quantities by weight throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition and site-clearing waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Handling and Transportation Procedures: Include methods that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location(s) on Project site where materials separation will be located.
- D. Waste Management Coordinator: Identify General Contractor employee who will be the Waste Management Coordinator for the project. The Waste Management Coordinator will be responsible for implementing, monitoring, and reporting status of waste management work plan.

PART 2 - PRODUCTS [Not Used]

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement Waste Management Plan as approved by the Owner Project Representative or Designee. Provide containers, storage, signage, transportation, and other items as required to implement WMP for the entire duration of the Contract.
 - 1. Deliver waste directly to construction and demolition handling facilities. Do not deliver to transfer stations.
- B. Commingled Waste: Commingling waste at the job site may be allowed, provided that the following conditions are met:
 - 1. Commingled waste shall be included in the Waste Management Plan (WMP).

3.2 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. Manager: The Contractor shall designate an on-site person responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the Project.
- B. Distribution: The Contractor shall distribute copies of the Waste Management Plan to the Job Site Foreman, each Subcontractor, the OWNER Project Manager or Designee, and the Designer.
- C. Instruction: The Contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.
- D. Separation Facilities: The Contractor shall lay out and label a specific area to facilitate separation of materials for recycling, salvage, reuse, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials. Location shall be acceptable to the OWNER Project Manager or Designee.
 - 1. Commingling: Waste commingling shall be approved prior to jobsite tipping, per requirements of this Section.

END OF SECTION

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SECTION 017700

CONTRACT CLOSEOUT

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 FINAL CLEANING

- A. Unless otherwise specified under the various Sections of the Specifications, the Contractor shall perform final cleaning operations as herein specified prior to final inspection.
- B. Maintain project site free from accumulations of waste, debris, and rubbish, caused by operations. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave project clean and ready for occupancy.
- C. Cleaning shall include all surfaces and areas, interior and exterior which the Contractor has accessed or impacted whether existing or new.
- D. Refer to Sections of the Specifications for cleaning of specific products or work.
- E. Use only those materials which will not create hazards to health or property and which will not damage surfaces or areas.
- F. Use only those cleaning materials and methods that are recommended by the manufacturer of surface material to be cleaned and will maintain the quality of the air and environment.
- G. Employ experienced workmen, or professional cleaners, for final cleaning operations.
- H. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed and all other interior and exterior surfaces.
- I. Clean and polish mirrors and other such surfaces.
- J. All new and existing glass and plastic surfaces throughout the building shall be thoroughly cleaned by qualified window cleaners at the expense of the Contractor just prior to acceptance of the Work.
- K. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces as acceptable to the OWNER Project Manager.
- L. Clean and polish glossy and other surfaces to a clear shine and provide wax where necessary.

- M. Ventilating Systems: Clean permanent filters and replace disposable filters as provided in applicable specifications. Units should not be operated without filters in place at any time. "Throw away" filters should be used when operating units prior to Substantial Completion. A Final Cleaning Report shall be prepared and include a section on all aspects of the ventilation systems' final testing, post testing cleaning and final cleanliness status including ductwork and any other systems as required by the applicable specifications.
- N. Broom clean exterior paved surfaces and rake clean other surfaces of the grounds.
- O. Leave all architectural metals, hardware, and fixtures in undamaged polished conditions.
- P. Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and decayable materials.
- Q. At the end of the project, the Contractor and each Subcontractor shall remove all tools, equipment, machinery, and surplus materials from the job site. The Contractor shall remove all waste materials and rubbish from the project at this time. All temporary structures shall be removed and the project shall be left clean and returned to a usable condition acceptable to OWNER.
- R. Subsequent to installation of User Agency furniture, telephones, and equipment, and prior to issue of Certificate of Use and Occupancy, the Contractor shall provide an additional cleaning to remove any soil resulting from installations of such furniture and equipment at no additional cost to OWNER. Such additional cleaning may include, but not be limited to dusting of horizontal surfaces, vacuuming, and washing of hard or resilient floor surfaces and re-waxing where required.

1.3 AS-BUILT DRAWINGS

- A. As-built Drawings shall be prepared and maintained by the Contractor for each and every Contract Drawing. As-built Drawings shall be kept up-to-date. Information from on-going Work shall be recorded on As-built Drawings within 48 hours of Work being performed.
- B. The Contractor and each Subcontractor shall be required to maintain one set of As-built Drawings, as the work relates to their Sections of the Specifications, at the site.
- C. The As-built Drawings shall be stored and maintained in the Contractor's field office apart from other documents used for construction. The As-built Drawings shall be maintained in a clean, dry, and legible condition..
- D. As-built Drawings, as submitted by the Contractor shall be reviewed in the field by the Designer or its Consultants and shall occur during the construction process and prior to the related work being completed and covered up.
- E. The As-built Drawings shall be available at all times for inspection by the OWNER Project Manager or Designer. All deficiencies noted shall be promptly corrected.
- F. The following information shall be indicated on the As-Built Drawings:

1. Record all changes, including, but not limited to, change orders, in the location, size, number and type both horizontally and vertically of all elements of the Project which deviate from those indicated on all the Contract Drawings.
- G. At the end of each month and before payment for materials installed, the Contractor, each Subcontractor, and agents of the Commonwealth shall review As-built Drawings and at closeout shall also review Closeout Documentation for purpose of payment.
 1. If the changes in location of all installed elements are not shown on the As-Built Drawings and verified in the field, then the material shall not be considered as installed and payment will be withheld.
- H. Prior to the installation of all finish materials, a review of the As-built Drawings shall be made to confirm that all changes have been recorded. All costs to investigate such conditions shall be borne by the applicable party as determined by the Designer.
- I. At the completion of the contract, each Subcontractor shall submit to the Contractor a complete set of its respective As-built Drawings indicating all changes. After checking the above drawings, the Contractor shall certify in writing on the title sheet of the drawings that they are complete and correct and shall submit the As-built Drawings to the Designer.
 1. As-Built Drawings shall be submitted electronically to the Designer, in a format which can be added to the complete plans as constructed.
- J. The Designer shall review the drawings and shall verify by letter to the OWNER Project Manager that the work is accurate. The Designer shall incorporate all changes on the original drawings; thus creating Record Drawings. The Designer shall submit to the OWNER Project Manager, electronic files in the version of Autocad, or BIM compatible with those currently being utilized by OWNER. Inaccuracies in As-built Drawings, as determined by the Designer and the OWNER Project Manager, may be grounds for postponement of the final inspection or delay the processing of final payment until such inaccuracies are corrected by the Contractor.

1.4 OPERATING AND MAINTENANCE REQUIREMENTS

- A. At least two weeks prior to the time of turning over this contract to the Operating Agency for Use and Occupancy, or Final Acceptance, the Contractor shall secure and deliver to the Operating Agency via the Designer, three (3) complete, indexed files and three (3) electronic copies in a format acceptable to OWNER, containing approved operating and maintenance manuals, shop drawings, record of paint colors, floor and ceiling materials and other data as follows.
 1. Operating manuals and operating instructions for each model and type of equipment in each of the various systems. Include operating instructions for systems integrating several pieces of equipment.
 2. Catalog data sheets for each item of mechanical or electrical or equipment actually installed including performance curves, rating data and parts lists.
 3. Catalog sheets, maintenance manuals, and approved shop drawings of all mechanical or electrical equipment controls and fixtures with all details clearly indicated, including size of lamps and other maintenance supplies.

4. Names, addresses and telephone numbers of all Subcontractors and suppliers, together with repair and service companies for each of the major systems installed under this contract.
 5. Provide a steel cabinet for storage of manuals and operating instructions.
- B. Failure to provide operating and maintenance manuals or inaccuracies therein may be grounds for cancellation and postponement of any scheduled final inspection and will delay project closeout and payment.

1.5 CLOSEOUT REQUIREMENTS AND SUBMITTALS

A. Procedural Requirements Prior to Use and Occupancy: Punch List:

1. During the finishing stages of the project, the Contractor shall make frequent inspections with Subcontractors, the Designer, and the OWNER Resident Engineer or Designee, so
2. When the Contractor determines that it is Substantially Complete*, it shall prepare for submission to the Designer a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all work in accordance with Contract Documents. The Contractor's list shall be accompanied with certificates that will be required as prerequisites for applying for a DPS inspection.
 - a. *NOTE: Substantially Complete means that less than one percent (1%) of the adjusted contract price, including change orders, remains to be done, that none of the remaining work will affect health, safety, or function, and meets the requirements of the Contract.
3. Upon receipt of the Contractor's list of items to be completed or corrected, the Designer will promptly make a thorough inspection, together with representatives of OWNER and the Operating Agency, and prepare a "punch list", setting forth in accurate detail any items on the Contractor's list and additional items that are not acceptable. Concurrently, the Contractor will arrange for a DPS inspection.
4. When the punch list has been prepared, and any DPS Inspector comments have been included, the Designer will arrange a meeting with the Contractor and Subcontractors, and the OWNER Project Manager or Designee, to identify and explain all punch list items and answer questions on the Work that must be done before Final Acceptance.
5. The Contractor shall immediately correct all punch list items that affect health, safety or function (as determined by the Designer, completion of which is required before issuance of a OWNER Certificate of Agency Use and Occupancy).

B. Contractor's Prerequisites for Department of Public Safety (DPS) Certificate of Inspection and/or Certificate of Occupancy: Prior to requesting a Department of Public Safety (DPS) inspection, the Contractor shall provide (via transmittal to the OWNER Resident Engineer or Designee) the following "closeout submittals:"

1. Project record documents and as-built marked-up drawings.
2. Approved operating and maintenance (O & M) data.
3. Extended guarantees and warranties.
 - a. Contractor's General Guarantee shall effectively include:
 - 1) A written guarantee, for one (1) year from date of Substantial Completion of the project, against defective workmanship, material, installation and equipment for all work of the project. Repair or replacement of defective

- workmanship, material, installation or equipment that develop within this period shall be accomplished promptly upon notification to the Contractor, to the satisfaction of the Operating Agency, at no cost.
- 2) Replace or repair material or equipment that requires excessive service during the guarantee period.
 - 3) Guarantee shall include 24-hour service of complete system(s) during guarantee period at no additional cost.
 - 4) Provide manufacturer's engineering and technical staff at site promptly to analyze and rectify problems that develop during guarantee period. If problems cannot be rectified promptly, to the satisfaction of the User Agency, advise the Designer in writing; describe efforts to rectify situation and provide analysis of cause of problem.
- b. Manufacturer's Guarantee or Warranty:
- 1) In addition to guarantee requirements above, obtain manufacturers' written installation, equipment, and material warranties for time periods indicated in the various Specification Sections of the Contract Documents. Such manufacturers' warranties contained within the Specification Sections, together with any other warranties offered in manufacturers' published data, are to be transferred to the User Agency.
- c. Spare parts and materials ("attic stock"),

1.6 GUARANTEES AND WARRANTIES

- A. Submit to the Designer all extended guarantees and warranties that have been specified in various, individual Sections of the Specifications. Guarantees shall be assembled by Specification No. and Section in accordance with Specifications Table of Contents.
1. Guarantees and warranties shall be enforceable in the Commonwealth of Massachusetts and subject to interpretation in accordance with the laws of the Commonwealth of Massachusetts.
 2. Guarantees and warranties shall begin at the date of OWNER's Certificate of Agency Use and Occupancy of the Project. Guarantees and warranties which start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable.
- B. Unless more stringent requirements are otherwise specified, guarantee all work against defects of materials, equipment and workmanship for one year from the date of issue of OWNER's Certificate of Agency Use and Occupancy for the building or portion thereof, whichever occurs first.
- C. If, within any guarantee period, repairs or changes are required in connection with guaranteed work, Contractor shall promptly upon receipt of notice from OWNER, and without additional expense to OWNER, within ten business days:
1. Place in satisfactory condition in every particular all guaranteed work and correct all defects.
 2. Make good all damage to building, site equipment, or contents thereof, including redecoration which, in the opinion of the Designer, results from the use of material, equipment or workmanship which are inferior, defective or not in accord with the terms of the Contract.

- D. If Contractor, after such notice, fails to proceed immediately to comply with terms of guarantee, OWNER may correct defects and hold Contractor liable for all expenses incurred.
- E. Promptly after completion of the work, obtain from each Subcontractor where a guarantee is required, a warranty addressed to and in favor of OWNER or the User Agency if directed by OWNER.
- F. Delivery of any warranty required does not relieve the Contractor from any obligation assumed under other provisions of the Contract.
- G. Deliver guarantees and warranties to the Designer before or with the application for Final Payment.
- H. The general warranty set forth in the General Conditions is in addition to, exclusive of, and not in substitution of such guarantees as may be required in the Specifications.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 024100

DEMOLITION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

A. Work Included:

1. Demolition and removal of selected portions of buildings and structures and as required for new work. Refer to the Drawings for additional requirements.
2. Demolition and removal of selected site elements and as required for new work. Refer to the Drawings for additional requirements.
3. Salvage of existing items to be reused or turned over to the facility. Refer to the Drawings for additional requirements.
4. Removal and legal disposal of demolished materials off site. Except those items specifically designated to be relocated, reused, or turned over to the facility, all existing removed materials, items, trash and debris shall become property of the Contractor and shall be completely removed from the site and legally disposed of at her/his expense. Salvage value belongs to the Contractor. On-site sale of materials is not permitted.
5. Demolition and removal work shall properly prepare for alteration work and new construction to be provided under the Contract.

- B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 015000 - TEMPORARY FACILITIES AND CONTROLS:
 - a. Maintenance of access, cleaning during construction, dust and noise control.
2. Section 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL:
 - a. Waste management and recycling.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to the User Agency ready for reuse, at a location designated by the User Agency or the Owner Project

Representative or Designee. Protect from weather until accepted by User Agency or the Owner Project Representative or Designee.

- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated. Protect from weather until reinstallation.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 SUBMITTALS

- A. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with early and late starting and finishing dates for each activity. Ensure User Agency's on-site operations are uninterrupted if applicable.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Locations of proposed dust- and noise-control temporary partitions and means of egress, including for other occupants affected by selective demolition operations.
 - 6. Coordination of User Agency's continuing occupancy of portions of existing building and of User Agency's partial occupancy of completed Work.
 - 7. Means of protection for items to remain and items in path of waste removal from building.
- B. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged, and turned over to the User Agency.
- C. Predemolition Videotapes: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Comply with Division 01. Submit before Work begins.
- D. Landfill Records: Provide trip tickets (receipts) indicating receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
 - 1. Comply with submittal requirements in Section 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

1.5 QUALITY ASSURANCE

- A. Examination of Existing Conditions: The Contractor shall examine the Contract Drawings for demolition and removal requirements and provisions for new work. Verify all existing conditions and dimensions before commencing work. The Contractor shall visit the site and examine the existing conditions as he finds them and shall inform herself/himself of the character, extent and type of demolition and removal work to be performed. Submit any questions regarding the extent and character of the demolition and removal work in the manner and within the time period established for receipt of such questions during the bidding period.

- B. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Standards: Comply with ANSI A10.6 and NFPA 241.
- E. Predemolition Conference: Conduct conference at Project site to comply with requirements in Section 013100 - PROJECT MANAGEMENT AND COORDINATION. Review methods and procedures related to selective demolition including, but not limited to, the following:
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - 5. Review areas where existing construction is to remain and requires protection.

1.6 WARRANTY

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- B. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Designer.
- D. Engage a professional engineer registered in the Commonwealth of Massachusetts to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.

- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction videotapes.
 - 1. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.
- F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off indicated utilities with utility companies and User Agency.
 - 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing. Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.
 - 4. Prior to commencing cutting work in existing surfaces, take all precautionary measures to assure that mechanical and electrical services to the particular area have been made inactive. Coordinate with Fire Protection, Plumbing, HVAC, and Electrical subcontractors. Only licensed tradesmen of that particular trade shall disconnect and cap existing mechanical and electrical items that are to be removed, abandoned and/or relocated.
 - 5. If, during the process of cutting work, existing utility lines are encountered which are not indicated on the Drawings, regardless of their condition, immediately report such items to the Designer. Do not proceed with work in such areas until instructions are issued by the Designer. Continue work in other areas.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with requirements for access and protection specified in Section 015000 - TEMPORARY FACILITIES AND CONTROLS.
 - 2. Maintain adequate passage to and from all exits at all times. Before any work is done which significantly alters access or egress patterns, consult with the Designer and obtain approval of code required egress. Under no condition block or interfere with the free flow of people at legally required exits, or in any way alter the required condition of such exits.

- B. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of selective demolition.
 - 2. Remove temporary shoring, bracing and structural supports when no longer required.
 - 3. Post warning signs and place barricades as applicable during placement and removal of temporary shoring.
- C. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area(s).
 - 1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction. Provide temporary barricades as required to limit access to demolition areas.
 - 2. Protect existing site improvements, appurtenances, and landscaping to remain.
- D. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during and after flame-cutting operations.
 - 5. Maintain adequate ventilation when using cutting torches.
 - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 7. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 8. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
- B. Removed and Salvaged Items:

1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to User Agency.
 4. Transport items to storage area designated by the OWNER Project Manager or Designee.
 5. Protect items from damage during transport and storage.
- C. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Designer, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.
- E. Items for Re-use and Preservation of Existing Surfaces to Remain:
1. The Contractor shall inspect closely each item specifically designated to be relocated, re-used, or turned over to the Owner prior to its removal, and immediately report damages and defects to the Designer and OWNER Project Manager or Designee. The Contractor shall be responsible for any subsequent damage to the same other than latent defects not readily apparent from close inspection, and shall bear responsibility for its repair or same replacement as directed by the Designer, to the satisfaction of the OWNER Project Manager or Designee.
 2. Unless special surface preparation is specified under other Specification Sections, leave existing surfaces that are to remain in a condition suitable to receive new materials and/or finishes.

3.5 PROTECTION OF PUBLIC AND PROPERTY

- A. Provide all measures required by federal, state and municipal laws, regulations, and ordinances for the protection of surrounding property, the public, workmen, and Commonwealth's employees during all demolition and removal operations. Measures are to be taken, but not limited to installation of sidewalks, sheds, barricades, fences, warning lights and signs, trash chutes and temporary lighting.
- B. Protect all walks, roads, streets, curbs, pavements, trees and plantings, on and off premises, and bear all costs for correcting such damage as directed by the Designer, and to the satisfaction of the OWNER Project Manager or Designee.
- C. Demolition shall be performed in such a manner that will insure the safety of adjacent property. Protect adjacent property from damage and protect persons occupying adjacent property from injuries which might occur from falling debris or other cause and so as not to cause interference

with the use of other portions of the building, of adjacent buildings or the free access and safe passage to and from the same.

- D. Every precaution shall be taken to protect against movement or settlement of the building, of adjacent buildings, structures, sidewalks, roads, streets, curbs and pavements. Provide and place at the Contractor's own expense, all necessary bracing and shoring in connection with demolition and removal work.
- E. Remove portions of structures with care by using tools and methods that will not transfer heavy shocks to existing and adjacent building structures, both internal and external of the particular work area.
- F. Provide and maintain in proper condition, suitable fire resistive dust barriers around areas where interior demolition and removal work is in progress. Dust barriers shall prevent the dust migration to adjacent areas. Remove dust barriers upon completion of major demolition and removal in the particular work area.
- G. Protect unaltered portions of existing construction, including finishes, furnishings and equipment
- H. Provide secure weather protection where demolition has removed a portion of the exterior envelope.

3.6 DISCOVERY OF HAZARDOUS MATERIALS

- A. If hazardous materials, such as chemicals, asbestos-containing materials, or other hazardous materials are discovered during the course of the work, cease work in affected area only and immediately notify the Designer and the OWNER Project Manager or Designee of such discovery. Do not proceed with work in such areas until instructions are issued by the Designer. Continue work in other areas.
- B. If unmarked containers are discovered during the course of the work, cease work in the affected area only and immediately notify the Designer and the Owner's Project Representative or Designee of such observation. Do not proceed with work in such areas until instructions are issued by the Designer. Take immediate precautions to prohibit endangering the containers' integrity. Continue work in other areas.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Comply with requirements of Section 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL and the following.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Premises shall be left in a clean condition and ready to accept alteration work and new construction.

END OF SECTION

SECTION 061000

ROUGH CARPENTRY

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Wood blocking, and nailers.
- B. Alternates: Not Applicable.
- C. Items To Be Installed Only: Not Applicable.
- D. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 - 1. Section 073113 Asphalt Shingles (Filed Sub Bid)
 - 2. Section 075323 EPDM Roofing (Filed Sub Bid)

1.3 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials, both before and after exposure to elevated temperatures when tested according to ASTM D 5516 and ASTM D 5664.
 - 3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

4. Include copies of warranties from chemical treatment manufacturers for each type of treatment.
- B. Shop Drawings: Submit Shop Drawings of field erection details, including materials and methods of fastening nailers in conformance with Factory Mutual wind uplift rated systems specified in other Sections of these specifications.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.
- B. Lumber: Mark each piece of framing and board lumber or each bundle of small pieces of lumber with the grade mark of a recognized association or independent inspection agency. Such association or agency shall be certified by the Board of Review, American Lumber Standards Committee, to grade the species used. Surfaces that are to be exposed to view shall not bear grademarks, stamps, or any type of identifying mark.
- C. Plywood: Mark each sheet with the mark of a recognized association or independent inspection agency that maintains continuing control over the quality of the plywood. The mark shall identify the plywood by species group or span rating, exposure durability classification, grade, and compliance with APA L870. Surfaces that are to be exposed to view shall not bear grademarks or other types of identifying marks.
- D. Preservative Treated Lumber and Plywood: The Contractor shall be responsible for the quality of treated wood products. Each treated piece shall be inspected in accordance with AWP A M2 and permanently marked or branded, by the producer, in accordance with AWP A M6. The Contractor shall provide inspection report of an approved independent inspection agency that offered products comply with applicable AWP A Standards. The appropriate Quality Mark on each piece will be accepted, in lieu of inspection reports, as evidence of compliance with applicable AWP A treatment standards.
- E. Fire Retardant Treated Lumber: Mark each piece in accordance with AWP A M6, except pieces that are to be natural or transparent finished. Exterior fire-retardant lumber shall be distinguished by a permanent penetrating blue stain. Labels of a nationally recognized independent testing agency will be accepted as evidence of conformance to the fire-retardant requirements of AWP A M6.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in the manufacturer's original containers, dry, undamaged, and with seals and labels intact.
- B. Stack lumber, plywood, and other panels; place spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings. Store products in a weather-protected environment, clear of ground and moisture.

- C. Protect all existing and new wood stored on site to prevent moisture absorption. Stacked materials should be covered with tarps (top, sides, and bottom) and stacked to provide sufficient slope to shed water.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 3. Provide dressed lumber, S4S, unless otherwise indicated.
 - 4. Provide dry lumber with 15 percent by weight on a dry weight basis maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWWA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
 - 2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete in exterior walls.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: For fire-rated exterior walls and for all interior use materials, provide materials that are fire-retardant treated and comply with performance requirements in AWPAC20 (lumber) and AWPAC27 (plywood). Identify fire-retardant-treated wood with appropriate classification marking of UL, U.S. Testing, Timber Products Inspection, or another testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. Use treatment for which chemical manufacturer publishes physical properties of treated wood after exposure to elevated temperatures, when tested by a qualified independent testing agency according to ASTM D 5664, for lumber and ASTM D 5516, for plywood.
 - 2. Use treatment that does not promote corrosion of metal fasteners.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction, including the following: Rooftop equipment bases and support curbs, blocking, cants, nailers, furring, grounds.
- B. For items of dimension lumber size, provide Construction, Stud, or No. 2 grade lumber with 15 percent maximum moisture content.

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 - 1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.
 - 2. The fasteners shall be of sufficient length to penetrate the receiving member a minimum of 1-1/4 inch minimum for wood or plywood into wood, full depth into plywood, and 5/8 inch minimum for wood into steel deck or metal stud framing.
- B. Nails, Wire, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- D. Wood Screws: ASME B18.6.1.
- E. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- F. Lag Screws and Lag Bolts: ASME B18.2.1.
- G. Bolts: Steel bolts complying with ASTM A 307, Grade A with ASTM A 563 hex nuts and, where indicated, flat washers.

- H. Bolts, Nuts, Studs, and Rivets: ASME B18.2.1, ASME B18.5.2.1M, ASME B18.5.2.2M and ASME B18.2.2.

2.6 MISCELLANEOUS MATERIALS

- A. Adhesive, Including Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement. Stagger joints layer to layer. Prepared surfaces must be clean and dry. Fill, chip, or grind as required to provide a smooth, uniform surface.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- C. Apply field treatment complying with AWWA M4 to cut surfaces of preservative-treated lumber and plywood.
- D. Securely attach carpentry work as indicated and according to applicable codes and the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
 - 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 - 3. ICC-ES evaluation report for fastener.
- E. Countersink fastener heads on exposed carpentry work and fill holes with wood filler.
- F. Use fasteners of appropriate type and length. Predrill members when necessary to avoid splitting wood.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

3.3 REMOVAL OF WOOD BLOCKING

- A. During removal and replacement of woodwork, report any area of deck, existing wood blocking, or other wood components that is designated to remain, but is found to be deteriorated or otherwise unsuitable for use. Provide temporary protection to the materials until such time as the materials can be reviewed.

3.4 FIELD QUALITY CONTROL

- A. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.
- B. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

END OF SECTION

SECTION 070002

ROOFING AND FLASHING

(Filed Sub-Bid Required)

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 1 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

B. Time, Manner and Requirements for Submitting Sub-Bids:

1. Sub-bids for work under this Section shall be for the complete work and shall be filed in a sealed envelope with the Owner at a time and place as stipulated in the "NOTICE TO CONTRACTORS".

The following should appear on the upper left hand corner of the envelope:

NAME OF SUB-BIDDER: (Insert name of sub-bidder)

MASS. STATE PROJECT: ((Insert project number from top of page))

SUB-BID FOR SECTION: 070002 – ROOFING AND FLASHING

2. Each sub-bid submitted for work under this Section shall be on forms required by Section 44F of Chapter 149 of the General Laws, as amended.
3. Sub-bids filed with the Owner shall be accompanied by BID BOND or CASH or CERTIFIED CHECK or TREASURER'S CHECK or CASHIER'S CHECK issued by a responsible bank or trust company payable to the Commonwealth of Massachusetts in the amount of five percent of the sub-bid. A sub-bid accompanied by any other form of bid deposit than those specified will be rejected.

C. Sub Sub-Bid Requirements: (None required under this Section.)

D. Reference Drawings: The Work of this Filed Sub-Bid is shown on the following Contract Drawings: ((always insert accurate list of sheet numbers of applicable Drawings)).

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. All Work of Section 073113 - ASPHALT SHINGLES (FILED SUB-BID)
 - 2. All Work of Section 075323 - EPDM ROOFING (FILED SUB BID)
- B. Alternates: Not Applicable.

END OF SECTION

SECTION 073113

ASPHALT SHINGLES

(Part of Work of Section 070002 - ROOFING AND FLASHING, Filed Sub-Bid Required)

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Asphalt shingles.
2. Underlayment.
3. Hip and Ridge Shingles.
4. Self-adhering ice and water barrier.
5. Associated metal flashing.
6. Rain diverters.

- B. Alternates: Not Applicable.

- C. Items To Be Installed Only: Not Applicable.

- D. Items To Be Furnished Only: Not Applicable.

- E. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 061000 – ROUGH CARPENTRY for wood nailers and cants.
2. Section 075019 – PREPARATION FOR REROOFING
3. Section 076200 – SHEET METAL FLASHING AND TRIM
4. Section 079200 – JOINT SEALANTS
5. Section 062013 – EXTERIOR FINISH CARPENTRY

1.3 DEFINITION

- A. Roofing Terminology: See ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For the following products, of sizes indicated, to verify color selected:
 - 1. Asphalt Shingle: Full size.
 - 2. Ridge and Hip Cap Shingles: Full size.
 - 3. Ridge Vent: 12-inch-long Sample.
 - 4. Exposed Valley Lining: 12 inches square.
 - 5. Self-Adhering Underlayment: 12 inches square.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for asphalt shingles.
- D. Maintenance Data: For each type of asphalt shingle to include in maintenance manuals.
- E. Warranties: Sample of special warranties.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain ridge and hip cap shingles ridge vents from single source from single manufacturer.
- B. Installer Qualifications: Installer shall be licensed or otherwise authorized by all federal, state, and local authorities to install all products specified in this section. Installer shall perform work in accordance with NRCA Roofing and Waterproofing Manual. The work shall be acceptable to the asphalt shingle manufacturer.
 - 1. Installer to meet manufacturer's requirements to qualify for the specified warranty period.
- C. Fire-Resistance Characteristics: Where indicated, provide asphalt shingles and related roofing materials identical to those of assemblies tested for fire resistance per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing agency.
 - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108 or UL 790, for application and roof slopes indicated.
- D. Energy Performance: Provide steep slope roofing system with Solar Reflectance Index (SRI) not less than 29 when calculated according to ASTM E 1980 based on testing identical products by a qualified testing agency.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockups for asphalt shingles including related roofing materials.
 - a. Size: 48 inches long by 48 inches wide.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Designer specifically approves such deviations in writing.
 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- F. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Division 01. Review methods and procedures related to roofing system including, but not limited to, the following:
1. Meet with the Designer, OWNER's Project Manager or Designee, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 5. Review structural loading limitations of roof deck during and after roofing.
 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
 7. Review governing regulations and requirements for insurance and certificates if applicable.
 8. Review temporary protection requirements for roofing system during and after installation.
 9. Review roof observation and repair procedures after roofing installation.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's unopened bundles with labels intact and legible.
- B. Store roofing materials in a dry, well-ventilated, weathertight location according to asphalt shingle manufacturer's written instructions. Store underlayment rolls on end on pallets or other raised surfaces. Do not double stack rolls.
 1. Handle, store, and place roofing materials in a manner to avoid significant or permanent damage to roof deck or structural supporting members.
- C. Protect unused underlayment from weather, sunlight, and moisture when left overnight or when roofing work is not in progress.

1.7 PROJECT CONDITIONS

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

1.8 WARRANTY

- A. Special Warranty: Standard form in which manufacturer agrees to repair or replace asphalt shingles that fail in materials within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Manufacturing defects.
 - b. Structural failures including failure of asphalt shingles to self-seal after a reasonable time.
 - 2. Material Warranty Period: 30 years from the date of Certificate of Agency Use and Occupancy. Guarantees or warranties that start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable..
 - 3. Algae-Discoloration Warranty Period: Asphalt shingles will not discolor ten years from the date of Certificate of Agency Use and Occupancy. Guarantees or warranties that start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable.
- B. Special Project Warranty: Roofing Installer's Warranty, signed by roofing Installer, covering Work of this Section, in which roofing Installer agrees to repair or replace components of roofing that fail in materials or workmanship within the following warranty period:
 - 1. Warranty Period: Two years from the date of Certificate of Agency Use and Occupancy. Guarantees or warranties that start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable.

1.9 EXTRA MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Asphalt Shingles: 200 sq. ft of each type, in unbroken bundles.
 - 2. Asphalt hip and ridge cap shingles: 3 Bundles, (20 linear ft. per bundle) for each building.

PART 2 - PRODUCTS

2.1 GLASS-FIBER-REINFORCED ASPHALT SHINGLES

- A. Laminated-Strip Asphalt Shingles: ASTM D 3462, laminated, multi-ply overlay construction, glass-fiber reinforced, mineral-granule surfaced, and self-sealing.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. CertainTeed Corporation.
 - b. GAF Roofing Products.
 - c. Owens Corning Roofing Products.

2. Type and Color:
 - a. CertainTeed Corporation Landmark series
 - b. GAF Roof Products Timberland series
 - c. Owens Corning Roof Products Duration series
 - d. Color: As selected by Architect from manufacturer's standards.

2.2 UNDERLAYMENT MATERIALS

- A. Self-Adhering Sheet Underlayment, Polyethylene Faced: ASTM D 1970, minimum of 40-mil-thick, slip-resisting, polyethylene-film-reinforced top surface laminated to SBS-modified asphalt adhesive, with release paper backing; cold applied.

2.3 ACCESSORIES

- A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.
- B. Roofing Nails: ASTM F 1667; stainless-steel, copper, wire shingle nails, minimum 0.120-inch-diameter, barbed shank, sharp-pointed, with a minimum 3/8-inch-diameter flat head and of sufficient length to penetrate 1 1/4 inch into solid wood decking or extend at least 1/4 inch through OSB or plywood sheathing.
 1. Fastening patterns to follow manufacturer's recommendations.
 2. Where nails are in contact with metal flashing, use nails made from same metal as flashing.
- C. Felt Underlayment Nails: Aluminum, stainless-steel, or hot-dip galvanized-steel wire with low-profile capped heads or disc caps, 1-inch minimum diameter.

2.4 METAL FLASHING AND TRIM

- A. Sheet Metal: Stainless steel, 26 gauge.
- B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of the item.
 1. Apron Flashings: Fabricate with lower flange a minimum of 4 inches over and 4 inches beyond each side of downslope asphalt shingles and 6 inches up the vertical surface.
 2. Step Flashings: Fabricate with a headlap of 2 inches and a minimum extension of 4 inches over the underlying asphalt shingle and up the vertical surface.
 3. Cricket Flashings: Fabricate with concealed flange extending a minimum of 18 inches beneath upslope asphalt shingles and 6 inches beyond each side of chimney and 6 inches above the roof plane.
 4. Open-Valley Flashings: Fabricate in lengths not exceeding 10 feet with 1-inch-high, inverted-V profile at center of valley and equal flange widths of 10 inches.
 5. Drip Edges: Fabricate in lengths not exceeding 10 feet with 2-inch roof-deck flange and 1-1/2-inch fascia flange with 3/8-inch drip at lower edge.

- C. Vent Pipe Flashings: ASTM B 749, Type L51121, at least 1/16 inch thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof, and extending at least 4 inches from pipe onto roof.
- D. Seams and Joints
 - 1. Fully solder seams and joints.
 - 2. Clean metal to bare metal prior to soldering.
 - 3. Use flux when soldering.

2.5 VENT PIPE FLASHING

- A. Vent Pipe Flashing: Elastomeric neoprene with galvanized metal base set in mastic bed. Galvanized metal base: 27 gauge.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Madison Electric.
 - b. Roof Co.
 - c. Platt
- B. Flash penetration to manufacturer's recommendations and project construction details.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 - 1. Examine roof sheathing to verify that sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.
 - 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored; and that provision has been made for flashings and penetrations through asphalt shingles.
 - 3. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surfaces.
- B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

- A. General: Comply with underlayment manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.

- B. Single-Layer Felt Underlayment: Install on roof deck parallel with and starting at the eaves. Lap sides a minimum of 2 inches over underlying course. Lap ends a minimum of 4 inches. Stagger end laps between succeeding courses at least 72 inches. Fasten with [felt underlayment] [roofing] nails.
1. Install felt underlayment on roof deck not covered by self-adhering sheet underlayment. Lap sides of felt over self-adhering sheet underlayment not less than 3 inches in direction to shed water. Lap ends of felt not less than 6 inches over self-adhering sheet underlayment.
- C. Self-Adhering Sheet Underlayment: Install, wrinkle free, on roof deck. Comply with low-temperature installation restrictions of underlayment manufacturer if applicable. Install at locations indicated below, lapped in direction to shed water. Lap sides not less than 3-1/2 inches. Lap ends not less than 6 inches staggered 24 inches between courses. Roll laps with roller. Cover underlayment within seven days.
1. Eaves: Extend from edges of eaves 36 inches beyond interior face of exterior wall.
 2. Rakes: Extend from edges of rake 36 inches beyond interior face of exterior wall.
 3. Valleys: Extend from lowest to highest point 18 inches on each side.
 4. Hips: Extend 18 inches on each side.
 5. Ridges: Extend 36 inches on each side without obstructing continuous ridge vent slot.
 6. Sidewalls: Extend beyond sidewall 18 inches and return vertically against sidewall not less than 4 inches.
 7. Dormers, Chimneys, Skylights, and Other Roof-Penetrating Elements: Extend beyond penetrating element 18 inches and return vertically against penetrating element not less than 4 inches.
 8. Roof Slope Transitions: Extend 18 inches on each roof slope.

3.3 METAL FLASHING INSTALLATION

- A. General: Install metal flashings according to recommendations in ARMA's "Residential Asphalt Roofing Manual" and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."

3.4 ASPHALT SHINGLE INSTALLATION

- A. General: Install asphalt shingles according to manufacturer's written instructions, recommendations in ARMA's "Residential Asphalt Roofing Manual," and asphalt shingle recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual."
- B. Install starter strip along lowest roof edge, consisting of an asphalt shingle strip with self-sealing strip face up at roof edge.
1. Extend asphalt shingles 3/4 inch over fasciae at eaves and rakes.
 2. Install starter strip along rake edge.
- C. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.

- D. Fasten asphalt shingle strips with a minimum of four roofing nails located according to manufacturer's written instructions.
- E. Closed-Cut Valleys: Extend asphalt shingle strips from one side of valley 12 inches beyond center of valley. Use one-piece shingle strips without joints in valley. Fasten with extra nail in upper end of shingle. Install asphalt shingle courses from other side of valley and cut back to a straight line 2 inches short of valley centerline. Trim upper concealed corners of cut-back shingle strips.
 - 1. Do not nail asphalt shingles within 6 inches of valley center.
 - 2. Set trimmed, concealed-corner asphalt shingles in a 3-inch-wide bed of asphalt roofing cement.
- F. Ridge Vents: Install continuous ridge vents over asphalt shingles according to manufacturer's written instructions. Fasten with roofing nails of sufficient length to penetrate sheathing.
- G. Ridge and Hip Cap Shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.
 - 1. Fasten ridge cap asphalt shingles to cover ridge vent without obstructing airflow.

END OF SECTION

SECTION 075019

PREPARATION FOR REROOFING

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Roof tear-off.
 - 2. Roof re-cover preparation.
 - 3. Removal of base flashings.
- B. Alternates: Not Applicable.
- C. Items To Be Installed Only: Not Applicable.
- D. Items To Be Furnished Only: Not Applicable.
- E. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 - 1. Section 011000 - SUMMARY for use of the premises and phasing requirements.
 - 2. Section 015000 - TEMPORARY FACILITIES AND CONTROLS for temporary construction and environmental-protection measures for reroofing preparation.
 - 3. Section 017419 - CONSTRUCTION WASTE MANAGEMENT for recycling and disposing of demolition waste.
 - 4. Section 061000 - ROUGH CARPENTRY for blocking, cants, nailers and miscellaneous wood materials.
 - 5. Section 073112 - ASPHALT SHINGLES (Filed Sub Bid)
 - 6. Section 075323 - EPDM Roofing (Filed Sub Bid)
 - 7. Section 076200 - SHEET METAL FLASHING AND TRIM for new flashing materials.

1.3 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, reinstalled, or otherwise indicated to remain OWNER's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.4 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.
- B. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.
- C. Existing to Remain: Existing items of construction that are not indicated to be removed.
- D. Remove and Salvage: Detach items from existing construction and deliver them to the User Agency ready for reuse, at a location designated by the User Agency or the Owner Project Representative or Designee. Protect from weather until accepted by User Agency or the Owner Project Representative or Designee.
- E. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated. Protect from weather until reinstallation.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by reroofing operations. Submit before Work begins.
- C. Qualification Data: For Installer.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Installer of new roofing system and acceptable by warrantor of existing roofing system to work on existing roofing as applicable.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning membrane and/or asphalt roofing removal. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Reroofing Conference: Conduct conference at Project site. Comply with requirements in Division 01. Review methods and procedures related to roofing system including, but not limited to, the following:
 - 1. Meet with the OWNER Project Manager or Designee, Designer, the User Agency's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects reroofing including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing system tear-off and replacement, including manufacturer's written instructions.

3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine existing roof drains and roof drainage during each stage of reroofing, and roof drain plugging and plug removal requirements.
5. Examine existing deck substrate conditions and base flashing substrate for reuse.
6. Review existing deck removal procedures and OWNER notifications.
7. Review structural loading limitations of roof deck during reroofing.
8. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect reroofing.
9. Review existing conditions that may require notification of OWNER and Designer before proceeding.
10. Review governing regulations and requirements for insurance and certificates if applicable.
11. Review temporary protection requirements for existing roofing system that is to remain during and after installation.

1.7 PROJECT CONDITIONS

- A. User Agency will occupy portions of building immediately below reroofing area. Conduct reroofing so User Agency's operations will not be disrupted. Provide User Agency with not less than 72 hours' notice of activities that may affect User Agency's operations.
 1. Provide temporary protection, including dust and noise control, of existing buildings affected by reroofing procedures.
 2. Coordinate work activities daily with User Agency so User Agency can place additional protective dust or water leakage covers over sensitive equipment or furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below the work area.
 3. Before working over structurally impaired areas of deck, notify User Agency to evacuate occupants from below the affected area. Verify that occupants below the work area have been evacuated before proceeding with work over the impaired deck area.
- B. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- D. Conditions existing at time of inspection for bidding will be maintained by OWNER as far as practical.
- E. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
- F. Hazardous Materials: It is not expected that hazardous materials such as asbestos-containing materials will be encountered in the Work.
 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify the OWNER Project Manager or Designee and Designer in writing.

PART 2 - PRODUCTS

2.1 MATERIALS

A. New Roofing materials are specified in the following Sections:

1. Section 073113 – ASPHALT SHINGLES (Filed Sub Bid)
2. Section 075323 – EPDM Roofing (Filed Sub Bid)

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate with User Agency to shut down air-intake equipment in the vicinity of the Work. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
1. If necessary to deactivate all or a portion of fire-detection system, provide a fire watch during work and for 2 hours after restart of fire-detection system.
- B. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- C. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
1. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water.
- D. Verify that rooftop utilities and service piping have been shut off before beginning the Work.

3.2 ROOF TEAR-OFF

- A. General: Notify the OWNER Project Manager or Designee each day of extent of roof tear-off proposed for that day and obtain authorization to proceed.
- B. Roof Tear-Off: Remove existing roofing membrane and/or asphalt shingles and other roofing system components down to the deck.

3.3 DECK PREPARATION

- A. Inspect deck after tear-off of existing roofing system.

- B. If deck surface is not suitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify the OWNER Project Manager or Designee and Designer. Do not proceed with installation until directed by the OWNER Project Manager or Designee and Designer.

3.4 EXISTING BASE FLASHINGS

- A. Remove existing base flashings around parapets, curbs, walls, and penetrations.
 - 1. Clean substrates of contaminants such as asphalt, sheet materials, dirt, and debris.

3.5 FIELD QUALITY CONTROL

- A. Independent Testing Agency: Cooperate with the Independent Testing Agency engaged by OWNER for field quality control activities for the Work of this Section.
- B. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.
- C. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

3.6 DISPOSAL

- A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 - 1. Storage or sale of demolished items or materials on-site is not permitted.
- B. Transport and legally dispose of demolished materials off OWNER's property.

END OF SECTION

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SECTION 075323

EPDM ROOFING

(Part of Work of Section 070002 - ROOFING AND FLASHING, Filed Sub-Bid Required)

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Adhered membrane-roofing system.
 - 2. Cover board.
 - 3. Roof insulation.
 - 4. Vapor retarder.
 - 5. Flashing for equipment mounted on roofing and roofing penetrations.
- B. Alternates: Not Applicable.
- C. Items To Be Installed Only: Not Applicable.
- D. Items To Be Furnished Only: Not Applicable.
- E. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 - 1. Section 061000 - ROUGH CARPENTRY for wood nailers, curbs, and blocking.
 - 2. Section 076200 - SHEET METAL FLASHING AND TRIM for metal roof penetration flashings, flashings, and counterflashings.
 - 3. Section 079200 - JOINT SEALANTS for sealants.

1.3 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. Roofing System Design: Roofing system shall be designed to withstand Code required loads and wind speeds.
- D. Flashings: Provide base flashings, perimeter flashings, detail flashings and component materials that comply with requirements and recommendations in FMG 1-49 Loss Prevention Data Sheet for Perimeter Flashings; FMG 1-29 Loss Prevention Data Sheet for Above Deck Roof Components; NRCA Roofing and Waterproofing Manual (Fourth Edition) for Construction Details and SMACNA Architectural Sheet Metal Manual (Fifth Edition) for Construction Details, as applicable.
- E. Energy Performance: Provide roofing system with Solar Reflectance Index (SRI) not less than 78 when calculated according to ASTM E 1980 based on testing identical products by a qualified testing agency.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other Work.
 - 1. Base flashings and membrane terminations.
 - 2. Tapered insulation, including slopes.
 - 3. Insulation fastening patterns.
- C. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- D. Qualification Data: For Installer and manufacturer.
- E. Design Letter: Roofing system manufacturer's Design Acceptance Letter identifying components, warranty and wind speed.
- F. Maintenance Data: For roofing system to include in maintenance manuals.
- G. Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.

1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain components for roofing system from or approved by roofing system manufacturer.
- B. Installer Qualifications: Installer shall be licensed or otherwise authorized by all federal, state, and local authorities to install all products specified in this section. Installer shall perform work in accordance with NRCA Roofing and Waterproofing Manual. The work shall be acceptable to the EPDM manufacturer.
- C. Roofing Signage: At entry points to roof, provide signage-listing type of roofing system, manufacturer, date installed, and holder of the warranty.
- D. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Division 01. Review methods and procedures related to roofing system including, but not limited to, the following:
 - 1. Meet with the Designer, OWNER's Project Manager or Designee, testing and inspecting agency representative; roofing Installer; roofing system manufacturer's representative; deck Installer; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
 - 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
 - 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
 - 5. Review structural loading limitations of roof deck during and after roofing.
 - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
 - 7. Review governing regulations and requirements for insurance and certificates if applicable.
 - 8. Review temporary protection requirements for roofing system during and after installation.
 - 9. Review roof observation and repair procedures after roofing installation.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS

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

1.9 WARRANTY

- A. Roofing Contractor's Warranty: The roofing subcontractor shall supply User Agency with a minimum two-year workmanship warranty for each roof, starting at the date of Substantial Completion of the portion of the Project of which the roof is a part. In the event any work related to the roofing, flashing, or metalwork is found to be defective within two years of substantial completion, the roofing contractor shall remove and replace such at no additional cost to the Commonwealth. The roofing subcontractor's warranty obligation shall run directly to the building owner (User Agency), and a copy the roofing signed warranty shall be sent to the roofing system's manufacturer.
 - 1. The duration of the Roofing Contractor's two-year warranty shall run concurrent with the roofing system's manufacturer's 20-year warranty.
- B. Roofing Systems Manufacturer's Warranty: The roofing manufacturer shall guarantee roof areas to be in a watertight condition, for a period of 20 years, starting at the date of Substantial Completion of the portion of the Project of which the roof is a part. The warranty shall be a 20-year no dollar limit (NDL), non-prorated total system labor and material warranty, for wind speeds up to 72 miles per hour. Total system warranty shall include all roofing materials, related components and accessories including, but not limited to the substrate board, vapor retarder, insulation board, cover board, roofing membrane, membrane flashings, fasteners, adhesives, metal roof copings, metal roof edges and termination metals and roof drain assemblies. The manufacturer shall repair defects in materials and workmanship as promptly after observation as weather and site conditions permit.

PART 2 - PRODUCTS

2.1 EPDM ROOFING MEMBRANE

- A. EPDM Roofing Membrane: ASTM D 4637, Type I, nonreinforced uniform, flexible sheet made from EPDM, and as follows:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

- a. Carlisle Coatings & Waterproofing Inc.
 - b. Firestone Building Products Company.
 - c. Johns Manville International, Inc.
 - d. Mule-Hide Products Co., Inc.
 - e. Versico Inc.
2. Thickness: 60 mils (1.5 mm) nominal.
 3. Exposed Face Color: White.

2.2 AUXILIARY MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
 1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: 60-mil-thick EPDM, partially cured or cured, according to application.
- C. Epichlorohydrin Sheet at Areas Requiring Grease Resistance: 60-mil-thick, unreinforced flexible sheet with the following typical properties as determined per ASTM test method indicated:
 1. Tensile Strength: 1500 psi; ASTM D 412.
 2. Ultimate Elongation: 200 percent; ASTM D 412.
 3. Tear Resistance: 150 lbf/in; ASTM D 412.
 4. Brittleness Temperature: Minus 20 deg F ASTM D 746.
 5. Resistance to Ozone Aging: No cracks after 168 hours' exposure of 50 percent elongated sample at 104 deg F and 100-pphm ozone; ASTM D 1149.
 6. Resistance to Oil Aging: 15 percent maximum mass change after 168 hours' immersion in diesel fuel No. 2 at 158 deg F; ASTM D 471.
- D. Bonding Adhesive: Manufacturer's standard bonding adhesive.
- E. Seaming Material: Manufacturer's standard synthetic-rubber polymer primer and 3-inch-wide minimum with cover strip or 6-inch-wide, butyl splice tape with release film.
- F. Lap Sealant: Manufacturer's standard single-component sealant, color to match roofing membrane.
- G. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
- H. Metal Termination Bars: Manufacturer's standard predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.
- I. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.

- J. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

2.3 VAPOR RETARDER

- A. Self-Adhering Sheet Vapor Retarder: ASTM D 1970, minimum 40-mil- thick film laminated to layer of rubberized asphalt adhesive; maximum permeance rating of 0.1 perm; cold-applied, with slip-resisting surface and release paper backing. Provide primer when recommended by vapor-retarder manufacturer.
- B. Vapor Retarder: Minimum 10 mil polyethylene sheet with maximum permeance rating of 0.10 perm.
 - 1. Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.

2.4 ROOF INSULATION

- A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.
 - 1. For thickness over 3 inches, install in two layers.
- B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Grade 2 (20 psi) or Grade 3 (25 psi) felt or glass-fiber mat facer on both major surfaces.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Atlas Roofing Corporation.
 - b. Carlisle SynTec Incorporated.
 - c. Firestone Building Products Company.
 - d. GAF Materials Corp.
 - e. Johns Manville International Inc.
- C. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/8 inch per 12 inches unless otherwise indicated.
- D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.5 INSULATION ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.

- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- C. Cold Fluid-Applied Adhesive: Manufacturer's standard cold fluid-applied adhesive formulated to adhere roof insulation to substrate.
- D. Cover Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/2 inch thick.

2.6 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway pads or rolls approximately 3/16 inch thick, and acceptable to membrane roofing system manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
 - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Verify that minimum concrete drying period recommended by roofing system manufacturer has passed.
 - 4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 VAPOR-RETARDER INSTALLATION

- A. Self-Adhering Sheet Vapor Retarder: Prime substrate if required by manufacturer. Install self-adhering sheet vapor retarder over area to receive vapor retarder, side, and end lapping each sheet a minimum of 3-1/2 inches and 6 inches, respectively. Seal laps by rolling.
- B. Polyethylene Film Vapor Retarder: Loosely lay polyethylene-film vapor retarder over area to receive vapor retarder, side, and end lapping each sheet a minimum of 2 inches and 6 inches, respectively. Continuously seal side and end laps with tape.
- C. Completely seal vapor retarder at side laps, end laps, terminations, obstructions, and penetrations to prevent air movement into roofing system.

3.4 INSULATION AND COVERBOARD INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated.
- D. Install one or more layers of insulation under area of roofing to achieve required thickness. Install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
 - 1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
- G. Mechanically Fastened Insulation and Coverboard: Install each layer of insulation and coverboard and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 - 1. Fasten insulation according to requirements in FMG's "Approval Guide" for specified Windstorm Resistance Classification.
 - 2. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.

3.5 ADHERED ROOFING MEMBRANE INSTALLATION

- A. Install roofing membrane over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.

- B. Start installation of roofing membrane in presence of membrane roofing system manufacturer's technical personnel.
- C. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Bonding Adhesive: Apply bonding adhesive to substrate and underside of roofing membrane at rate required by manufacturer and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.
- E. Adhesively fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.
- F. Apply roofing membrane with side laps shingled with slope of roof deck where possible.
- G. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping roofing membranes according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing membrane terminations as required by roofing manufacturer.
- H. Repair tears, voids, and lapped seams in roofing that does not meet requirements.
- I. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.
- J. Apply epichlorohydrin sheet over roofing membrane at locations indicated.

3.6 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- E. Terminate and seal top of sheet flashings.

3.7 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products in locations indicated. Adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

- A. Commissioning Authority: Cooperate with the Commissioning Authority for field quality control activities for the Work of this Section.
- B. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.
- C. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.
- D. Final Roof Inspection: Engage roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Designer.
 - 1. Notify Designer and the OWNER's Project Manager or Designee hours in advance of date and time of inspection.
- E. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.

3.9 PROTECTING AND CLEANING

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

END OF SECTION

SECTION 076200

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Sheet metal flashing and trim for the following applications:
 - a. Through-wall flashing.
 - b. Formed wall flashing and trim.
 - c. Formed low-slope roof flashing and trim.
 - d. Drain trough liner
- B. Alternates: Not Applicable.
- C. Items To Be Installed Only: Not Applicable.
- D. Items To Be Furnished Only: Not Applicable.
- E. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 - 1. Section 061000 – ROUGH CARPENTRY for wood nailers, curbs, and blocking.
 - 2. Section 073113 – ASPHALT SHINGLE (Filed Sub Bid)
 - 3. Section 075323 – EPDM ROOFING (Filed Sub Bid)

1.3 PERFORMANCE REQUIREMENTS

- A. General: Install sheet metal flashing and trim to provide a weathertight condition and to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, warping, waving, buckling, fastener distortion, and fastener disengagement.
- B. Fabricate and install roof edge flashing and copings capable of resisting the Wind Zone forces required by Code according to recommendations in FMG Loss Prevention Data Sheet 1-49.

- C. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 degrees F, ambient; 180 degrees F material surfaces.
- D. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior or interior side of flashing.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Show layouts of sheet metal flashing and trim, including plans and elevations. Distinguish between shop- and field-assembled work. Include the following:
 - 1. Identify material, thickness, weight, finish and color for each item and location in Project.
 - 2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
 - 3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachments to adjoining work.
 - 4. Details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction.
- C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:
 - 1. Sheet Metal Flashing: 12 inches long. Include fasteners, cleats, clips, closures, and other attachments.
 - 2. Trim: 12 inches long. Include fasteners and other exposed accessories.
 - 3. Accessories: Full-size Sample.

1.5 QUALITY ASSURANCE

- A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.
- B. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.
 - 1. Meet with the OWNER Project Manager or Designee, Designer, User Agency's insurer if applicable, Installer, and installers whose work interfaces with or affects sheet metal

flashing and trim including installers of roofing materials, roof accessories, unit skylights, and roof-mounted equipment.

2. Review methods and procedures related to sheet metal flashing and trim.
3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
4. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.
- B. Unload and inspect materials for damage, dampness, and wet-storage stains upon delivery to the site. Do not accept materials with any of these defects., Handle, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage of the materials.
- C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering, and sloped to shed water. Do not store sheet metal flashing and trim materials in contact with other materials that might cause corrosion, staining, denting, or other surface damage.

1.7 COORDINATION

- A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation. Coordinate with other trades to allow for timely progress of construction.
- B. The sheet metal mechanic is responsible for cutting, fitting, drilling, and other operations in connection with sheet metal required to accommodate the work of other trades.

PART 2 - PRODUCTS

2.1 SHEET METALS

- A. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, with No. 2D dull, cold rolled finish. Thickness as specified in this Section.

2.2 UNDERLAYMENT MATERIALS

- A. Self-Adhering Sheet Underlayment, Polyethylene Faced: ASTM D 1970, minimum of 40-mil-thick, slip-resisting, polyethylene-film-reinforced top surface laminated to SBS-modified asphalt adhesive, with release paper backing, cold applied.

2.3 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads. Fasteners should be of the same metal or a metal compatible with the item fastened. Use stainless steel fasteners to fasten dissimilar materials.
 - 1. Exposed Fasteners: Heads matching color of sheet metal by means of plastic caps or factory-applied coating.
 - 2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.
 - 3. Blind Fasteners: High-strength aluminum or stainless-steel rivets.
- C. Solder for Stainless Steel: ASTM B 32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.
- D. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
- E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
- G. Isolation Coating: ASTM D 1187, cold-applied asphalt emulsion, VOC compliant, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
- H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.4 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
- B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
- C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

1. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- D. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- E. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.
- F. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.
- G. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
1. Thickness: As recommended by SMACNA's "Architectural Sheet Metal Manual" for application but not less than thickness of metal being secured.

2.5 ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Flashing Fascia Caps: Fabricate in minimum 96-inch-long, but not exceeding 10-foot-long, sections. Furnish with 6-inch-wide joint cover plates.
1. Joint Style: Butt, with 12-inch-wide concealed backup plate.
 2. Fabricate from the following material:
 - a. Stainless Steel type 304 20 gauge
- B. Copings: Fabricate in minimum 96-inch-long, but not exceeding 10-foot-long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, seal, and solder or weld watertight.
1. Joint Style: Butt, with 12-inch-wide concealed backup plate.
 2. Fabricate copings from the following material:
 - a. Stainless Steel type 304 20 gauge
- C. Roof and Roof to Wall Transition Expansion-Joint Cover: Fabricate from the following material:
1. Stainless Steel: 0.0250 inch thick.
- D. Base Flashing: Fabricate from the following material:
1. Stainless Steel: 0.0187 inch thick.
- E. Counterflashing: Fabricate from the following material:

1. Stainless Steel: 0.0187 inch thick.

F. Roof-Penetration Flashing: Fabricate from the following material:

1. Stainless Steel: 0.0187 inch thick.

2.6 WALL SHEET METAL FABRICATIONS

- A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch-long, but not exceeding 12 foot long, sections, under copings, at shelf angles, and where indicated. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings. Form with 2-inch-high end dams. Fabricate from the following material:

1. Stainless Steel: 0.0156 inch thick.

- B. Wall Expansion-Joint Cover: Fabricate from the following material:

1. Stainless Steel: 0.0187 inch thick.

2.7 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.
1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 - 1. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with isolation coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
 - 1. Coat side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip-sheet or install a course of polyethylene underlayment.
 - 3. Bed flanges in thick coat of asphalt roofing cement where required for waterproof performance.
- C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks. Fold back the exposed edges neatly to form a 1/2 inch hem on the concealed side.
- D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant. Seams shall be uniform in width and height.
- E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 - 1. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
- F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.
- G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
 - 1. Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.
 - 2. Aluminum: Use aluminum or stainless steel fasteners.
 - 3. Stainless Steel: Use stainless-steel fasteners.
- H. Seal joints with elastomeric sealant as required for watertight construction.
 - 1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient

temperature at time of installation is moderate, between 40 and 70 degrees F set joint members for 50 percent movement either way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 degrees F.

2. Prepare joints and apply sealants to comply with requirements in Section 079200 - JOINT SEALANTS.

- I. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Prein edges of sheets to be soldered to a width of 1-1/2 inches except where pretinned surface would show in finished Work.

1. Do not solder aluminum sheet.
2. Stainless-Steel Soldering: Prein edges of uncoated sheets to be soldered using solder recommended for stainless steel and phosphoric acid flux. Promptly wash off acid flux residue from metal after soldering.
3. Do not use open-flame torches for soldering. Heat surfaces to receive solder and flow solder into joints. Fill joints completely. Completely remove flux and spatter from exposed surfaces.

- J. Aluminum Flashing: Rivet or weld joints in uncoated aluminum where necessary for strength. Do not allow aluminum surfaces in direct contact with other metals except stainless steel, zinc, or zinc coating. Where aluminum contacts another metal, paint the dissimilar metal with a primer followed by two coats of aluminum paint. Where drainage from a dissimilar metal passes over aluminum, paint the dissimilar metal with a non-lead pigment paint.

3.3 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal roof flashing and trim to comply with performance requirements[, sheet metal manufacturer's written installation instructions,] and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.
- B. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of 4 inches over base flashing. Install stainless steel draw band and tighten.
- C. Counterflashing: Factory form counterflashing to provide spring action against the base flashing. Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Unless indicated otherwise, insert counterflashing in reglets located 9 to 10 inches above the roof surface and secure at least every 18 inches. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints a minimum of 4 inches and bed with elastomeric sealant. Fold the exposed edges of counter flashings 1/2 inch.
 1. Secure in a waterproof manner by means of snap-in installation and sealant.
- D. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Install flashing as follows:

1. Seal with elastomeric sealant and clamp flashing to pipes penetrating roof except for flashing on vent piping.

3.4 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.

3.5 FIELD QUALITY CONTROL

- A. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.
- B. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

3.6 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder and sealants.
- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.
- D. Repair scratches, abrasions, blemishes, variations in color and texture, and minor surface defects in the finish in accordance with the manufacturer's written instructions.
- E. Replace sheet metal flashing and trim that have been damaged or discolored or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

SECTION 079200

JOINT SEALANTS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Joint sealants and fillers.
- B. Alternates: Not Applicable.
- C. Items To Be Installed Only: Not Applicable.
- D. Items To Be Furnished Only: Not Applicable.

1.3 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.
- C. Install sealant joints such that the sealant develops adhesion with the substrate on two sides. The sealant shall not have three-sided adhesion at any joint location.

1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Qualification Data: For Installer.

- D. Preconstruction Field Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on preconstruction testing, and that specified herein below.
- E. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
 - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
 - 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- F. Field Test Report Log: For each elastomeric sealant application.
- G. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.
- C. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
 - 1. Use manufacturer's standard test method to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
 - a. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
 - b. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with joint sealant backing and glazing and gasket materials.
 - 2. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
 - 3. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
 - 4. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on recent previous testing of current sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.
- D. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates as follows:
 - 1. Locate test joints where indicated on Project or, if not indicated, as directed by Designer.
 - 2. Conduct field tests for each application indicated below:

- a. Each type of elastomeric sealant and joint substrate indicated.
 - b. Each type of nonelastomeric sealant and joint substrate indicated.
 3. Notify Designer seven days in advance of dates and times when test joints will be erected.
 - a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193.
 - 1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 4. Report whether sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
 5. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.
- E. Provide joint tolerances in accordance with the manufacturer's written instructions.
- F. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.

1.6 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 degrees F
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Two years from the date of Certificate of Substantial Completion. Guarantees or warranties that start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable.

- B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Five years from from the date of Certificate of Substantial Completion. Guarantees or warranties that start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable.
- C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
 - 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
 - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As indicated by manufacturer's designations.

2.2 JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B. Stain-Test-Response Characteristics: Elastomeric sealants shall be nonstaining to porous substrates. Provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Single-Component Neutral-Curing Silicone Sealant:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dow Corning Corporation; 790.
 - b. GE Silicones; SilPruf LM SCS2700.
 - c. Bondaflex Technologies Sil 290

- d. Pecora Corporation; 864.
 - e. Tremco Inc.; Spectrem 1.
 - f. Or equal.
- 2. Extent of Use: Joints in exterior vertical and soffit surfaces.
 - 3. Extent of Use: Joints in exterior horizontal surfaces.

2.3 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type B (bicellular material with a surface skin) or other type, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at the back or the base of the joint, where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Installer and supervisor shall examine joints and substrate indicated to receive joint sealants for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 2. Remove loose mill scale from steel surfaces by sandblasting, or scraping and wire brushing where sandblasting is impractical. Remove protective coatings from the steel surface and residue on the steel.
 3. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include concrete, masonry and unglazed surfaces of ceramic tile.
 4. Remove laitance and form-release agents from concrete.
 5. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following metal, glass, porcelain enamel and glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of joint primer or sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
1. Do not leave gaps between ends of sealant backings.
 2. Do not stretch, twist, puncture, or tear sealant backings.
 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

- D. Install bond-breaker tape to surfaces not intended to bond with the sealant in accordance with the manufacturer's recommendation.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
 - 4. Provide sealant joints with minimum depth and width of 1/4 inch, and an appropriate depth to width ratio for the given application.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not damage or discolor sealants or adjacent surfaces.
 - 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.4 FIELD QUALITY CONTROL

- A. Cooperate with field quality control personnel. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.
- B. Additional inspections and retesting of materials which fail to comply with specified material and installation requirements shall be performed at Contractor's expense.

3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.
- B. If sealant is accidentally applied to masonry or other porous surfaces in the vicinity of the work, remove with solvent in accordance with the manufacturer's written instructions. For excess sealant installed on masonry and other porous surfaces at the joint, allow sealant to cure for 24 hours and remove by wire brushing or sanding. Remove any debris resulting from this process. For excess sealant installed on metal and other non-porous surfaces, remove the excess sealant with a solvent moistened cloth and remove solvent residue in accordance with the manufacturer's recommendations.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration, damage or discoloration at time of Substantial Completion. If, despite such protection, damage, discoloration or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION