INVITATION FOR BID  
CITY OF NEW BEDFORD  
NEW BEDFORD CITY HALL  
FIRE ALARM SYSTEM, HVAC, &  
FIRE PROTECTION  
New Bedford, Massachusetts  

# 19192005  

Date: May 23, 2018  

Jonathan F. Mitchell  
Mayor  

Department of Facilities and  
Fleet Management  
New Bedford, MA
# SECTION 00 00 01

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* Indicates Filed Sub-Bids

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INVITATION FOR BID
CITY OF NEW BEDFORD
NEW BEDFORD CITY HALL
FIRE ALARM SYSTEM, HVAC, &
FIRE PROTECTION
New Bedford, Massachusetts

# 19192005

Date: May 23, 2018

Jonathan F. Mitchell
Mayor

Department of Facilities and
Fleet Management
New Bedford, MA
INVITATION FOR BIDS
ADVERTISEMENT
BID NUMBER 19192005

The City of New Bedford, Massachusetts, and Department of Facilities and Fleet Management in conjunction with the Purchasing Department (Awarding Authority) invites sealed bids for the New Bedford City Hall: Fire Alarm System, HVAC, & Fire Protection.

The work of this contract is predominately Fire Alarm, HVAC & Fire Protection Renovations at the New Bedford City Hall in New Bedford. Contract Documents, including Drawings, Bidding Requirements, General Conditions, Specifications, and Addenda may be seen or examined, after May 23, 2018 at the following place during normal business hours: Mount Vernon Group Architects, Inc, 47 No. Second Street, New Bedford, MA 02740, Monday through Friday – 7:30 AM - 4:00 PM. Documents are available electronically only, by emailing: jfigueiredo@mvgarchitects.com. There is no fee for plans sent electronically.

Sealed Bids for the following Filed sub-trades:
Section: HVAC, Electrical, Fire Protection will be received by the New Bedford Purchasing Department, 133 William Street, Room 208, New Bedford, Massachusetts, 02740 until 12:00 PM, on June 7, 2018 at which time all bids will be publicly opened and read aloud. Included with Sub-bids shall be an Update Statement, DCAM Certification and 5% bid deposit. Bid deposits may be in the form of Certified Check, Certificate of Deposit, or Bid Bond made payable to the City of New Bedford, MA.

Sealed Bids for the General Contract will be received by the New Bedford Purchasing Department, 133 William Street, Room 208, New Bedford, Massachusetts, 02740 until 11:00 AM on June 14, 2018 at which time all bids will be publicly opened and read aloud. Included with General Bid shall be an Update Statement, DCAMM Certification and 5% bid deposit. Bid deposits may be in the form of Certified Check, Certificate of Deposit, or Bid Bond made payable to the City of New Bedford, Massachusetts

A NON/Mandatory Pre Bid Conference / Site inspection will be conducted for the benefit of all potential bidders on June 1, 2018 at 10:00 AM at the Project Site: 133 William St. New Bedford, MA 02740. Questions regarding the site inspection may be forwarded to Mount Vernon Group Architects, Inc. attention Jorge Figueiredo @ jfigueiredo@mvgarchitects.com or 508-991-7500

The attention of Bidders is called to Massachusetts General Laws Chapter 149 sections 44A through 44H inclusive, qualification will be by the Division of Capital Asset Management (DCAMM). Furthermore, all bidders must submit a Certificate of Eligibility and update statement along with their bid. Any bid submitted without the appropriate certificate shall be invalid. Procedures respecting bids and the selection of contractors shall be in conformance with the provisions of M.G.L. Chapter 149, Sections 44A-44H inclusive.

Attention is directed to the minimum wage rates to be paid on the work as determined by the Commissioner of Labor and Industries under the provisions of M.G.L. Chapter 149, Sections 26 and 27D inclusive. The successful general contractor and all sub-bidders will be required to submit a certified payroll and a statement of compliance on a weekly basis for review by the party designated by the Awarding Authority.

The Awarding Authority reserves the right to waive any and/or all informalities in the bidding. The Awarding Authority also reserves the right to reject any or all bids, or to accept any other than the lowest bidder should it be deemed to be in the best interest of the City of New Bedford, Massachusetts, to do so.

Awarding Authority
City of New Bedford
Susan Bruce, Director of Purchasing
INVITATION FOR BID

The City of New Bedford, the Awarding Authority, invites sealed bids for the **New Bedford City Hall : Fire Alarm System, HVAC, & Fire Protection**, New Bedford, Massachusetts, in accordance with Drawings and Specifications prepared by Mount Vernon Group Architects, Inc. 47 No. Second Street New Bedford, MA. Bidding procedures shall be in accordance with all applicable portions of Massachusetts General Laws, Chapter 149 – Sections 44A to 44J, inclusive, Section 26 to 29 inclusive, and Chapter 30, Section 39F to 39M inclusive, and 39R of the General Laws of the Commonwealth of Massachusetts, as amended to date.

Project Value is estimated to be **$600,000.00**

The Work of this Contract is scheduled to be substantially completed no later than **October 19, 2018** following receipt of the Owner’s Notice to Proceed.

The Work of this Project shall require Minority/Women Owned Business participation pursuant to Chapter 193 of the Acts of 2004, and MGL Chapter 23A, Section 44 and MGL Chapter 7, Section 40N, as amended, and established as a policy by the City of New Bedford.

**Sealed Bids for the following Filed sub-trades, HVAC, Electrical, Fire Protection** will be received by the New Bedford Purchasing Department, 133 William Street, Room 208, New Bedford, Massachusetts, 02740 **until 12:00 PM, on June 7, 2018** at which time all bids will be publicly opened and read aloud. Included with Sub-bids shall be an Update Statement, DCAM Certification and 5% bid deposit.

**Sealed Bids for the General Contract** will be received by the New Bedford Purchasing Department, 133 William Street, New Bedford, Massachusetts, 02740 **until 11:00 AM, on June 14, 2018** at which time all bids will be publicly opened and read aloud. Included with General Bid shall be an Update Statement, DCAMM Certification and 5% bid deposit.

Bidding Documents (Drawings and Project Manual/Specifications, as applicable) may be obtained and/or examined on or after **May 23, 2018** in the office of Mount Vernon Group, 47 North Second Street, New Bedford, MA 02740, Monday thru Friday – 7:30 AM – 4:00 PM. Documents are available electronically by emailing: jfigueiredo@mvgarchitects.com There is no fee for plans sent electronically.

General Bids must be submitted on the Form For General Bid included herein. The General Bids shall be completely filled in, signed, enclosed in an envelope, sealed and plainly marked with the project name. The General Bids shall be filed with the Owner at the location designated above accompanied by a bid deposit in the form of a bid bond or cash or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company payable to the City of New Bedford in the amount of 5% of the bid.
The rate per hour of the wages to be paid to mechanics, teamsters, chauffeurs and laborers in the Work to be performed shall not be less than the rate of wages determined for this Work by the Department of Labor and Standards of the Commonwealth of Massachusetts under the provisions of General Laws, Chapter 149, Section 28, as amended, a schedule of which appears in the Specifications.

Note that two sets of prevailing wages are included (State and Federal). When calculating labor costs, the higher of the two wages rates (state vs federal) must be used.

A Performance Bond and also a Labor and Materials Payment Bond, each of a surety company qualified to do business under the laws of the Commonwealth of Massachusetts, satisfactory to the Owner, and each in the sum of 100% of the Contract Price will be required of the successful general bidder.

The successful bidder will be required to provide insurance for the payment of compensation and the furnishing of other benefits under the Workmen's Compensation Law, General Laws, Chapter 152, to all persons to be employed under the Contract, and sufficient proof of compliance with the forgoing stipulation will be required before commencing performance of this Contract.

All bids shall remain in effect for thirty (30) days, Saturdays, Sundays and legal holidays excluded, after the opening of General Bids.

(NON-MANDATORY) Pre-Bid Conference/Site Inspection: Will be held on June 1, 2018 @ 10:00 AM at the site 133 William St. New Bedford, MA 02740

The Owner reserves the right to waive any informalities and to reject any or all general bids if it be in the public interest to do so.

END OF INVITATION TO BID
BID SUBMISSION CHECKLIST
For the NB City Hall: Fire Alarm System, HVAC & Fire Protection

THE GENERAL BIDDER SHALL SUBMIT ALL THE FOLLOWING FORMS AS A PART OF ITS SEALED BID SUBMISSION, AND SHALL SUBMIT A COPY OF SUCH TO:

THE CITY OF NEW BEDFORD PURCHASING DEPARTMENT
133 WILLIAM STREET ROOM 208
NEW BEDFORD, MA 02740

BY:

CITY OF NEW BEDFORD BID SUBMISSION CERTIFICATIONS:

- Instructions to Bidders – Both General and Sub-Bid
- Statement of Bidders Qualifications – Both General and Sub-Bid
- Form for General Bid – General Bidder
- Form for Sub-Bid – Sub-Bidder
- Certificate of Non Collusion – Both General and Sub-Bid
- Tax Compliance Certification – Both General and Sub-Bid
- Vote of Corporate Authorization – Both General and Sub-Bid
- Contractor Certification – Both General and Sub-Bid
- OSHA Certification Requirement – Both General and Sub-Bid
- Bidders Certification of Understanding – Both General and Sub-Bid
- Bid Deposit (5% of bid amount if $25,000 or over) – Both General and Sub-Bid
- DCAM Certificate of Eligibility (Prime General Contractor) – Both General and Sub-Bid
- Performance Bond (100% if over $100,000 – to be furnished upon award) – Both General and Sub-Bid
- Payment Bond (50% if under $100,000 / 100% if over $100,000 – to be furnished upon award) – Both General and Sub-Bid

A Non-Mandatory Pre-Bid Conference will be conducted for the benefit of all potential bidders on: June 1, 2018 @ 10:00 AM at the project site: 133 William St, New Bedford, MA
INSTRUCTIONS TO BIDDERS

A. **FOREWORD:** The attention of all bidders is called to all applicable provisions of Massachusetts General Laws, Chapter 149 – Sections 44A to 44J, inclusive, Section 26 to 29 inclusive, and Chapter 30, Section 39F to 39M inclusive, and 39R of the General Laws of the Commonwealth of Massachusetts, as amended to date.

B. **GENERAL:** The Awarding Authority invites proposals for the Work described in the Contract Documents attached hereto. Before submitting his/her proposal each bidder shall visit the site, examine its conditions, thoroughly acquaint himself/herself with its obstacles and advantages for performing the Work, and compare the Contract Documents with the conditions found. All proposals submitted shall be subject to all applicable provisions of law, including, without limiting the generality of the foregoing, Chapter 30, Section 39F to 39M inclusive, and 39R, and Chapter 193 of the Acts of 2004, as amended to date.

C. **QUESTIONS:** All questions as to the interpretation of the Contract Documents shall be submitted in writing to Jorge Figueiredo Mount Vernon Group Architects, Inc. jfigueiredo@mvgarchitects.com and answers to such questions will be sent by the email only in the form of an Addendum, to every individual or firm on record as having taken a set of Contract Documents. No questions will be answered unless received at least seven days, Saturdays, Sundays and legal holidays excluded prior to the expiration of the time set for filing sub-bids.

D. **BID FORMS:** The Awarding Authority will furnish to every person applying therefore a Form for General Bid and a Form for Sub-Bid.

E. **CONTRACT DOCUMENTS:** The Awarding Authority will, upon deposit of the amount per set as designated in the Invitation to Bid for the return of same in good condition, furnish one (1) complete set of Contract Documents to each Bidder requesting same. No partial sets of Contract Documents will be issued.

F. **REJECTION OF CERTAIN GENERAL BIDS REQUIRED BY LAW:** The law requires that every general bid, and every sub-bid, which is not accompanied by the prescribed bid deposit or which is not on a form furnished by the Architect or Awarding Authority or otherwise does not conform with Chapter 30, Section 39F to 39M inclusive, and 39R, and Chapter 193 of the Acts of 2004, as amended to date, or which is on a form not completely filled in or which is incomplete, conditional, or obscure, or which contains any addition not called for, shall be rejected by the Awarding Authority.

G. **FURTHER RIGHT TO REJECT GENERAL BIDS:** The Awarding Authority further reserves the right to reject any or all general bids if it be in the public interest so to do and to reject any sub-bid on any sub-trade if it determines that such sub-bid does not represent the sub-bid of a person competent to perform the Work as specified or that less than three such sub-bids were received and that the prices are not reasonable for acceptance without further competition.

H. **GENERAL BIDS AND SUB-BIDS:** General Bids and Sub-Bids must be submitted on the FORM FOR GENERAL BID and FORM FOR SUB-BID, a sample of which is bound into the Contract Documents as Section 00300 and may be removed and used for additional copies. The General Bid shall be completely filled in, signed, enclosed in an envelope, sealed and plainly marked with the Project Name. The bid accompanied by a bid deposit in the amount of five percent (5%) of the bid price shall be filed with the Awarding Authority at the place designated in the Invitation to Bid. The bid shall be filed before the time designated in the Invitation to Bid for the opening of General Bids.

1. General Bids shall be for the complete Work as specified, with no Work to be performed by sub-bidders; and the General Contractor shall be selected on the basis of such General Bids.

2. If the bid is mailed, the General Bidders shall enclose their sealed bid in an outer envelope and address as follows:

   **FROM:** General Bidder’s Name and Business Address

   **TO:** City of New Bedford Purchasing Department 133 William Street New Bedford, MA 02740

3. No telegraphic or facsimile transmission of bid or telegraphic or facsimile transmission modification of a bid will be considered. No bids received after the time fixed for receiving them will be considered. Late bids will be returned to the bidder unopened.
I. REQUIREMENTS FOR FOREIGN CORPORATIONS: The attention of all bidders is called to the provisions of General Laws Chapter 30, Section 39L, which provides that the Awarding Authority may not enter into a contract for construction Work and may not approve as a sub-contractor furnishing labor and materials for a part of any such Work a foreign corporation which has not complied with the requirements of of Chapter 156d Section 151 of the General Laws. The term “foreign corporation” means a corporation not incorporated under the laws of the Commonwealth of Massachusetts.

J. SALES TAX: Purchases of building materials and supplies to be used on this project are entitled to exemption from the Sales and Use Tax if the conditions imposed by Paragraph 6 (f) of Section I of Chapter 14 of the Acts of 1966 are otherwise satisfied. Bidders are instructed to submit proposals on the basis that no Massachusetts Sales and Use Tax will be imposed on purchases of building materials and supplies used in connection with this Project.

K. CONSTRUCTION TIME: The Agreement will include a stipulation that the Work be substantially completed no later than October 19, 2018 following receipt of the Owner's Notice to Proceed. If the Contractor fails to meet the construction deadline, the Contractor is responsible for all Owner and Architect costs associated with the deadline not being met. The Architect is to perform two on-site punch lists. If additional punch lists are needed, the Contractor shall be responsible for all Owner and Architect costs associated with the additional punch list visits.

L. WITHDRAWAL OF BIDS: A bidder may withdraw his bid, either personally or by written request, at any time prior to the scheduled time for opening bids. No bidder may withdraw his bid for a period of thirty calendar days after the date set for the opening thereof, and bids shall be subject to acceptance by the Owner during this period. Failure to submit a completed copy of the required Statement of Bidder Qualifications shall be cause for rejection of a General Bid by the Owner.

M. EXECUTION OF AGREEMENT:

The form of Agreement which the successful bidder will be required to execute is included in the Project Manual. The bidder to whom the Contract is awarded shall, within fifteen calendar days after notice of award and receipt of Agreement forms from the Owner, sign and deliver required copies to the Owner.

At or prior to delivery of the signed Agreement, the bidder to whom the Contract is awarded shall deliver to the Owner those Certificates of Insurance required by the Contract Documents and such Labor and Materials Payment Bonds and Performance Bond as are required by the Owner.

Bonds and Certificates of Insurance shall be approved by the Owner before the successful bidder may proceed with the Work. Failure or refusal to provide Bonds or Certificates of Insurance in a form satisfactory to the Owner shall subject the successful bidder to loss of time from the allowable construction period equal to the time of delay in furnishing the required material.

N. METHOD OF AWARD: The contract will be awarded to the lowest responsible and eligible general bidder on the basis of the proposed contract price if such exists, and if the Awarding Authority, in its sole discretion, decides to award on the basis of such alternate. Special attention is called to the provisions of the General Laws, Chapter 149, Sections 44A to 44H defining the term “lowest responsible and eligible bidder” and giving the Awarding Authority the right to require essential information in regard to qualifications.

O. TAX CERTIFICATION: The successful Bidder will be required to submit a tax certificate as required by chapter 62C, Section 49A of the Massachusetts General Laws, as follows:

CERTIFICATE UNDER M.G.L. c.62C, S49A

I certify under the pains and penalties of perjury that ___________________________________

has/have complied with all laws of the Commonwealth of Massachusetts relating to taxes.

Employer Identification Number ____________________________ Name ____________________________

Date ____________________________ Title of Business Officer (if Applicable)

Submit with Bid

END OF INSTRUCTIONS TO BIDDERS
STATEMENT OF BIDDER’S QUALIFICATIONS

This Statement shall be completed and a copy attached to the Form For General Bid. All questions must be answered. Additional sheets required for answers shall be included with Statement.

1. Name of Company___________________________________________________________________
   Address____________________________________________________________________________
   Tel. No._____________________FAX No.____________________Email ______________________

2. Type Company: ___Partnership ___Corporation___ Other_________ Date Formed: ________________

3. List the like projects your company has performed, giving the information indicated below:

   Name/Address of Owner   Scope of Work   Contract Amount   Completion Date
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

4. Identify the subcontractors for this proposed project:

   Name/Address of Subcontractor   Scope of Work
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

5. Has your present company ever failed to complete any work awarded to it and if so state where, when and why:

   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

   1. Address of bank which has information that would enable them with your approval to advise regarding the financial stability of your company:

   _______________________________________________________________________
   _______________________________________________________________________

Signed: ___________________________ Print Name: _____________________________
Officer: ___________________________ Date: _________________________
FORM FOR GENERAL BID

FROM:
______________________  ____________________  ____________________

TO:  City of New Bedford  
Purchasing Department  
133 William Street  
Room 208  
New Bedford, MA 02740-5194

A. The undersigned proposes to furnish all labor and materials required for implementation of **NB City Hall : Fire alarm System, HVAC, & Fire Protection** in accordance with the accompanying Plans and Specifications prepared by **Mount Vernon Group Architects, Inc** for the Contract Price specified below, subject to additions and deductions in accordance with terms of the Specifications,

B. This bid includes addenda numbered ________________________________.

C. The Proposed Contract Price is: ________________________________DOLLARS ($________). 

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,  
             ________________________________ Dollars ($____________________)

   Item 2: Filed Sub-Bids as follows:

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<th>SUB-TRADE</th>
<th>NAME OF SUB-BIDDER</th>
<th>AMOUNT</th>
<th>BOND REQUIRED</th>
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<td><strong>Section 21 00 00</strong></td>
<td>Fire Suppression</td>
<td>$____________</td>
<td></td>
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<tr>
<td><strong>Section 23 00 00</strong></td>
<td>HVAC</td>
<td>$____________</td>
<td></td>
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<tr>
<td><strong>Section 28 31 00</strong></td>
<td>Electrical</td>
<td>$____________</td>
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<td></td>
<td><em>(Fire Detection &amp; Alarm Systems)</em></td>
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   TOTAL OF ITEM 2  $____________________
E. 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 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 duly 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 amount named in their respective sub-bids and be in every way 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.

F. 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.

Date: ______________________________________________________

Name of General Bidder: _______________________________________

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

________________________________________
  (Business Address)

________________________________________
  (City and State)

Submit with Bid

END OF GENERAL BID FORM
SECTION 03325
FORM FOR SUB-BID

FROM:
____________________________________________________
____________________________________________________
____________________________________________________

TO: City of New Bedford
    Purchasing Department
    133 William Street
    Room 208
    New Bedford, MA 02740

   and

   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 Contract Documents, including Plans, Specifications and Addenda, all the Work specified in Section No. ___________________________ SUB-TRADE ___________________________ of

   B. the Specifications and in any Plans specified in such Section, prepared by Mount Vernon Group Architects, Inc, for

   the NB City Hall: Fire Alarm System, HVAC, & Fire Protection, for the Contract Sum of:

   C. ____________________________________________________________________ DOLLARS ($___________)

   B. This sub-bid includes Addenda numbered ________________

   C. This sub-bid

   ______May be used by all General Bidders except:________________________________________________________

   ______May be used only by the following General Bidders:________________________________________________

   (To exclude General Bidders, insert "X" on one line only and fill in the blank following that line. 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 (5) 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, or if prequalification is required pursuant to Section 44D3/4, 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.

   If prequalification is required pursuant to Section 44D3/4 of MGL Chapter 149, the undersigned sub-bidder further agrees to pay the premiums for the performance and payment bonds furnished by sub-bidders as required therein and that all the cost of all such premiums is included in the amount set forth in Item A of this sub-bid.
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 thereof and the bid price for each such class of Work or part thereof are:

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<thead>
<tr>
<th>Name:</th>
<th>Class of Work:</th>
<th>Bid Price:</th>
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(Do not give bid price for any class or part thereof furnished by the undersigned.)

F. The undersigned agrees that the above list of bids to the undersigned represents bona fide bids based on the Drawings, 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 herein before described Plans, Specifications (including all General Conditions stated therein) and Addenda, and to assume toward the General Contractor by all the obligations and responsibilities that the General Contractor, 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? _________________ (if yes, briefly explain)
3. List one or more recent buildings with name of General Contractor and Architect on which you served as Sub-contractor for Work of similar character as required for this project.

<table>
<thead>
<tr>
<th>BUILDING TYPE</th>
<th>ARCHITECT</th>
<th>GENERAL CONTRACTOR</th>
<th>CONTRACT AMOUNT</th>
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<td>c.</td>
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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 made 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 sections 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.

A bid deposit, in the amount of 5% of the proposed Contract Price, conditioned upon the faithful performance by the bidder of the agreements contained in this bid, shall be attached to this proposal. The undersigned agrees that, if he or she is designated as the successful bidder, but fails to execute a contract in accordance with the agreements contained in this bid, this bid security shall become the property of the Awarding Authority as liquidated damages.

TAXES: As required by MGL Chapter 62c, Section 49A, the undersigned certifies that he or she has complied with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

The undersigned hereby agrees that this bid shall be valid for a period of 30 days, Saturdays, Sundays, and legal holidays excluded, after the date designated for opening of the General Bids.

The undersigned agrees to furnish the following information prior to the time established for execution of the Contract.

1. Certificate of Corporate Vote, or names of Partners in a Partnership.
2. Massachusetts Foreign Corporation Certificate, if applicable.

DATE__________________________

(Name of Sub-Bidder)

By____________________________________

(Title and Name of Person Signing)

(Business Address)

(Business Telephone No.)______________________ (City and State)

Note: If Bidder is a corporation, indicate State of Incorporation under signature; if a partnership, give full names of all partners.

The following information is furnished under the penalties of perjury:

If a corporation:

Incorporated in what State __________________________________________

President _______________________

Treasurer ________________________
Secretary ______________________

If you are a foreign (out of state) corporation, are you registered with the Secretary of the Commonwealth in accordance with the provisions of Chapter 156d Section 15.01 of the General Laws,

Sections 3 and 5 __________________________

If you are selected by the General Contractor and awarded the sub-contract for this Work, you are required under Massachusetts General Laws Chapter 30, Section 39L to obtain from the Secretary of State, Foreign Corporation Section, Room 136 State House, a certificate stating that your corporation is registered, and furnish said certificate to this Awarding Authority.

If a Partnership: (Name all partners.)

Business Address ____________________________________________________________

Name of Partner ____________________________________________________________

Residence __________

Name of Partner ____________________________________________________________

Residence __________

Submit with Bid

END OF FORM FOR SUB-BID
GENERAL CONDITIONS

1.0 ARTICLE 1 - DEFINITION OF TERMS

1.1 DEFINITION OF TERMS

A. Wherever in the Bid or Contract Documents the following terms, or pronouns in place of them, are used, the intent and meaning shall be as follows:

1. **Acceptance**: Formal written acceptance by the City of the completed Work.

2. **Addenda**: Written interpretation of and/or revisions to the Bid Documents issued by the City prior to opening of Bids.

3. **Alteration**: A change or substitution in the form, character, or detail of the Work done or to be done within the original scope of the Contract.

4. **Award**: Award by the City of a Contract

5. **Bid**: Offer of the Bidder for the Work when submitted on the prescribed Bid Form, properly signed, dated, and guaranteed, and which includes the Schedule of Bid Prices.

6. **Bid Bond (Bid Security, Bid Guaranty, Bid Deposit)**: The cash, cashier’s or treasurer’s check, certified check, or Bidder’s Bond accompanying the Bid submitted by the Bidder, as a guaranty that the Bidder will enter into a Contract with the City for the performance of the Work and furnish acceptable bonds and insurance if the Contract is awarded to the Bidder.

7. **Bid Documents**: Documents provided by the City for the purpose of soliciting Bids for the Work. Bid Documents will include, as applicable, Notice to Bidders, Instructions to Bidders, Contract Specifications, Contract Drawings, Geotechnical Data Reports, and Addenda.

8. **Bid Form**: Form(s) issued by the City for the submittal of a Bid for a specific project and includes the Schedule of Bid Prices, certifications, affidavits and other forms.

9. **Bidder**: An individual, firm, partnership, corporation, or combination thereof, submitting a Bid for the Work on the prescribed Bid Form.

10. **Change Order**: A document executed and issued to the Contractor by the City amending the Contract.

11. **City**: The City of New Bedford.

12. **Commonwealth**: Commonwealth of Massachusetts
13. **Contract:** The written agreement executed by the City and the Contractor, setting forth the obligations of the Parties thereunder.

14. **Contract Bonds:**
   a. **Performance Bond:** A bond executed by the Contractor and the Contractor's Sureties in the full amount of the Contract to ensure the faithful performance of the Contract.
   b. **Labor and Materials Payment Bond:** A bond executed by the Contractor and the Contractor's Sureties in the full amount of the Contract to ensure the payment of labor, materials, and rental of equipment.

15. **Contract Documents:** The Contract Specifications and Contract Drawings with revisions made during the Bid period by Addenda and information included in the Bid accepted by the City and all authorized changes to the Contract issued subsequent to the execution of the Contract.

16. **Contract Drawings (Drawings):** Plans, profiles, typical cross sections, general cross sections, elevations, and details referenced in the Contract Documents, or Addenda thereto approved by the Engineer, all of which show locations, character, dimensions, and details of the Work.

17. **Contract Item:** A specifically described unit of work for which a price is provided in the Contract.

18. **Contract Specifications:** A set of documents issued by the City for the intended Work which includes the Bid Form, Contract Forms, Contract Bonds, General Conditions, technical provisions, and other requirements, forms and exhibits identified therein.

19. **Contract Time:** Number of calendar days allowed or specified date(s) for completion of the Contract.

20. **Contractor:** The individual, firm, partnership, corporation, or combination thereof, private, municipal or public, including joint ventures, which, as an independent contractor, has entered into a Contract with the City, as Party or Parties of the Second Part, and who is referred to throughout the Contract Documents by singular number.

21. **Days:** Every day shown on the Calendar, Saturdays, Sundays and holidays included.

22. **Director:** Director of the Department of the City for which the project is being performed.

23. **Engineer:** The City of New Bedford designee acting within the scope of the particular duties entrusted to this person.

24. **Engineer’s Estimate of Quantities:** List of quantities of work estimated to be performed as contained in the Schedule of Bid Prices in the Bid Form.

25. **Extra Work:** Work which is not included in the Contract as awarded, but found to be necessary for the satisfactory completion of the Contract within its intended scope; and bears a reasonable subsidiary relation to the full execution of the Work originally described in the Contract.

26. **Extra Work Order:** An order in writing issued by the Engineer to the Contractor prior to performing the Extra Work, setting forth the Extra Work to be done, the basis of payment and time adjustments, if any. Following the issuance of an Extra Work Order, a Change Order will be executed to amend the Contract Documents.
27. **General Terms:** Wherever the words "required," "determined," "directed," "specified," "authorized," "ordered," "given," "designated," "considered necessary," "deemed necessary," "permitted," "reserved," "suspended," "established," "approval," "approved," "disapproved," "acceptable," "unacceptable," "suitable," "accepted," "satisfactory," "unsatisfactory," "sufficient," "insufficient," "rejected," "condemned," or words like import are used, they shall be understood to imply "by the Engineer" or "to the Engineer," unless the context clearly indicated a different meaning.

28. **Hazardous Environmental Condition:** The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

29. **Indicated:** A term meaning as shown on the Contract Drawings (Drawings), as described in the Specifications, or as required by other Contract Documents.

30. **Instructions to Bidders:** Explanation of procedures to be followed in preparing and submitting Bids.

31. **Notice to Bidders:** Advertisement for Bids for a specific Contract. Notice to Bidders will indicate time and place for submitting and for opening of Bids, location of the Work, a brief description of the Work to be provided, and Bid Guaranty required.

32. **Notice to Proceed:** Written notice from the City to the Contractor to proceed with the Work.

33. **Owner:** The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

34. **Project:** The total activities for which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

35. **Provide:** In reference to Work to be performed by the Contractor, "provide" means furnish, install, and (as applicable) test complete in place.

36. **Reference Utility Standards:** Drawings and specifications, published by municipalities, utility companies, railroads and other responsible agencies/entities which are included or referenced in the Contract Documents.

37. **Specifications:** Directions, provisions, and requirements contained in the Contract Specifications.

38. **Subcontractor:** The individual, firm, partnership, corporation, vendor, supplier, or combination thereof to whom the Contractor, with written approval of the City, sublets any part of the Contract.

39. **Supplementary Conditions:** Supplements and additions to the General Conditions.

40. **Surety:** Corporate body bound with and for the Contractor for the full and complete performance of the Contract and for the payment of all legal debts pertaining to the Work, and who executed the Contract Bonds.

41. **Value Engineering:** The systematic application of recognized techniques which identify the function of a product or service, and provide the necessary function or service reliably at lower overall cost.

42. **Work:** All the construction, materials, equipment, and contractual requirements as specified, shown, or indicated in the Contact Documents, including all alterations, amendments, or extensions thereto made by authorized changes.

END OF ARTICLE I
ARTICLE 2 - SCOPE OF WORK

2.1 INTENT OF THE CONTRACT

A. Intent of the Contract is to provide for the completion in every detail of the Work. The Contractor shall complete the Work to the satisfaction of the Engineer at the prices set forth and agreed upon. Where portions of the Work are described in general terms, but not in complete detail, the best general practice shall be followed. Only materials and workmanship of best standard quality shall be used. The Contractor shall, unless otherwise specified, furnish all labor, superintendence, materials, tools, equipment and incidentals necessary to complete the Work in a proper, thorough, and workmanlike manner.

2.2 CHANGES IN THE WORK

A. The City reserves the right at any time during the progress of the Work to make alterations to, deviations from, additions to, and deletions from the Contract Drawings and Specifications. Such changes shall not invalidate the Contract nor release the Surety. The Contractor agrees to accept the Work as changed, the same as if it had been a part of the original Contract. Such changes will be authorized in writing by the Engineer. The Contractor shall accept as full compensation for Work, except as specified in paragraph "B" and paragraph "C" of this Article, the Contract unit prices stipulated in the Contract for the actual quantity of Work provided in an acceptable manner. Such changes shall not invalidate the Contract, nor any part thereof.

B. Wherever an alteration, deviation, addition, or deletion involves a change in the nature of design or in the type of construction which increases or decreases the cost of performance of the Work or requires the Contractor to furnish materials or provide work of a kind not susceptible of classification for payment under any of the items scheduled in the Bid, the City and the Contractor may enter into Supplementary Agreements covering the Work to be done and the manner and method of payment therefore. If the Contractor and the City disagree on increased or decreased costs, the changes shall be by a Change Order.

C. If the changes, in the opinion of the Engineer, are of sufficient magnitude as to require additional time to complete the Contract, such time adjustment may be made in accordance with the provisions of Article 6.8.

2.3 EXTRA WORK

A. The Contractor shall do any work not herein provided for when and as ordered in writing by the Engineer, such written order to contain particular preference to this Article and to designate the Work to be done as Extra Work.

B. Unless specifically noted in the Change Order, Extra Work will not extend the time of completion of the Contract as stipulated in Article 6.8.A.6.

C. Determination of the Engineer will be final upon all questions concerning the amount and value of Extra Work, except as provided in Article 5.19.

D. Payment for Extra Work will be in accordance with Article 7.4.

2.4 RESERVED

2.5 INCREASED OR DECREASED CONTRACT QUANTITIES

A. The Work is bid on a lump sum basis. The Bid Form does not include quantities and unit rates for which quantity adjustments can be made.

B. The Engineer may order omitted from the Work any items or portions of Work. Such omission shall not operate as a waiver of any conditions of the Contract nor invalidate any of the provisions thereof, nor shall the Contractor have any claim for anticipated profit. Also, see Article 7.5

C. Except as specified herein, no allowance will be made for any increased expenses, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting...
either directly or indirectly from such increased or decreased quantities or from unbalanced allocation, among the Contract Items of overhead expenses on the part of the Contractor and subsequent loss of expected reimbursement therefore, or from any other cause.

2.6 BEFORE STARTING WORK

A. Preliminary Schedules: Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. A preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. A preliminary Schedule of Submittals; and

3. A preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

4. The preliminary schedule shall be consistent with, or based on, the Critical Path Methodology (GPM) discussed in Division 1, Section 01325 Schedule of Operations.

2.7 PRE-WORK CONFERENCE

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.6.A, procedures for handling submittals, processing Applications for Payment, and maintaining required records.

2.8 INITIAL ACCEPTANCE OF SCHEDULES

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with paragraph 2.6.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefore.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

2.9 WARRANTY OF WORK

A. Neither final acceptance, final payment, nor any provision in the Contract Documents nor partial or entire operation or occupancy of the Work by the City shall constitute an acceptance of the Work not done in accordance with the Contract Documents or relieve the Contractor of liability with respect to any express warranties or responsibility for faulty materials or workmanship.
B. Except where longer periods of warranty are specified for certain items, the Contractor warrants all Work done under the Contract to be free from faulty materials and workmanship for a period of 1 year from date of acceptance thereof.

C. Upon receiving notification from the City, the Contractor shall immediately make the required repairs or replacements to any work found defective. If repairs or replacement are not started within 10 days from the date of notification and prosecuted to completion, the City reserves the right to employ others to complete the Work. The Contractor agrees, upon demand, to pay the City all amounts that it expends for such repairs or replacements.

D. All remedied work shall carry the same warranty as the original work starting with the date of acceptable replacement or repair.

2.10 CHANGED CONDITIONS

In accordance with Chapter 30, Section 39N of the General Laws of the Commonwealth, as amended, the following paragraph shall apply to the Contract:

A. If during the progress of the Work, the Contractor or the awarding authority discovers that the actual or latent physical conditions encountered at the site differ substantially or materially from those indicated in the Contract Documents either the Contractor or the City may request an equitable adjustment in the Contract price of the Contract applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a Contractor, or upon its own initiative, the City will make an investigation of such physical conditions, and, if they differ substantially or materially from those indicated in the Contract Documents or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents and are of such a nature as to cause an increase or decrease in the cost of performance of the Work or a change in the construction methods required for the performance of the Work which results in an increase or decrease in the cost of the Work, the City will make an equitable adjustment in the Contract price and the Contract will be modified in writing accordingly.

1. Filing, investigation, and settlement of all claims made under said Chapter and Section shall be as follows:

a. The Contractor shall promptly, and before such conditions are disturbed, notify the Engineer in writing describing in full detail the actual or latent physical conditions at the site where it is maintained, that conditions differ substantially or materially from those conditions indicated in the Contract Documents. The Engineer will promptly investigate the conditions and will promptly submit a written report of its findings and determinations to the City. No claim of the Contractor will be allowed unless the Contractor has given the detailed notice specified, nor shall it be allowed if such conditions are disturbed prior to their investigation by the Engineer.

b. No adjustment or allowance of any kind except as provided in Article 6.8 will be made to the Contractor due to delay or suspension of the Work or any portion thereof where the actual or latent physical conditions encountered at the site differ substantially and materially from those indicated in the Contract Documents.

c. No claim will be approved and no adjustment or allowance made when encountering actual or latent physical conditions at the site that differ substantially and materially from those indicated in the Contract Documents unless such conditions were in existence at the time of the Award of the Contract.
d. Any dispute concerning a question of changed conditions under this Article that is not disposed of by agreement shall be decided by the Consultant. If a Consultant has not been retained by the City for this project, said dispute shall be decided by the Engineer. The decision of the Consultant or Engineer shall be final.

e. If as provided in "a" of this Subsection an equitable adjustment is to be made or contemplated, the Contractor shall submit promptly in writing to the Engineer an itemized statement of the details and amount of work together with his estimated costs for the same and the Engineer shall require the Contractor to keep actual costs and certify the same to the City in writing.

B. If the Contractor and the City fail to agree on an equitable adjustment to be made under this Article, then the Contractor shall accept as full payment for the Work in dispute an amount determined in accordance with Article 7.3.B.

2.11 CONTRACTOR PROPOSED CHANGES

A. Contractor may at any time submit to the Engineer for the Engineer's review and approval or denial, proposed changes to the Contract Documents that will benefit the City. Upon acceptance of the proposed changes, the provisions of Article 2.2 and/or 2.4 (as applicable) shall apply. Denial of a proposed change shall neither provide the Contractor with any basis for claim for damages nor release the Contractor from contractual responsibilities.

2.12 COMMUNITY RELATIONS

A. The Contractor shall establish and maintain a continuing liaison with persons residing or doing business in the vicinity of the Project site, for the purpose of minimizing inconveniences resulting from construction, and shall appoint a representative, acceptable to the Engineer, for community relations. The representative shall have the authority to act directly, or through the Contractor's approved Superintendent, regarding all valid requests or complaints. Information as to their disposition by the Contractor shall be furnished to the Engineer. The name and telephone number of the Contractor's community relations representative shall be furnished to those residents or businessmen in the community who might reasonably be expected to be affected by the construction.

END OF ARTICLE 2
3.0 ARTICLE 3 - CONTROL OF WORK

3.1 AUTHORITY OF THE ENGINEER

A. The Engineer will decide all questions relating to interpretation of the Contract Documents, and may alter, adjust, and approve same when necessary; all questions relating to quality, quantity, value, and acceptability of materials to be furnished and work provided or to be provided; all questions relating to progress of the Work and need for and manner of correcting same, and also the need for and terms of delay and suspensions; all questions relating to the need for and terms of Extra Work; all questions relating to the supervision, control and director of Work on the site and the use thereof; and all questions as to the acceptable fulfillment of the Contract by the Contractor.

B. Attention of the Contractor is directed to the following limitations on the scope of the duties entrusted to the Engineer.

1. Engineer will not supervise, direct, control or have authority over or be responsible for the Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the Contractor to comply with laws and regulations applicable to the furnishing or performance of the Work. Engineer will not be responsible for the Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

3.2 CONTRACT DRAWINGS

A. Contract Drawings showing the general arrangement and such details as necessary to give a comprehensive idea of the construction contemplated will be furnished by the City. As work progresses, the Contract Drawings may be supplemented by the Engineer as required to amplify or control the work. The Contractor shall perform the work required by such supplements without additional compensation, except as provided by the Contract.

3.3 CONFORMITY WITH DRAWINGS AND SPECIFICATIONS

A. Attention is directed to Chapter 30, Section 391 of the General Laws of the Commonwealth that provides that no willful and substantial deviation from Contract Drawings and Specifications shall be made unless directed in writing by the Engineer duly authorized by the City to approve such deviation. Chapter 30, Section 391 further provides that in order to avoid delays in the prosecution of the Work, such deviation may be authorized by a written order of the Engineer authorized to approve such deviation, and that within 30 days thereafter such written order shall be confirmed by a certificate of the City.

B. All work provided and all materials furnished shall be in conformity with the dimensions, details, physical, and chemical characteristics of materials and other specific requirements of the Contract.

C. Where definite tolerances are specified in the Contract, such tolerances shall fix the limits of conformity. Where tolerances are not specified in the Contract, the Engineer will determine the limits of conformity in each individual case and such determination shall be final and conclusive and mutually accepted by all parties.

D. If materials or the finished product in which the materials are used are not within conformity with the Contract Documents, but acceptable work has been produced, the Engineer will make a determination whether the work shall be accepted and remain in place.

E. If the Engineer finds the materials, or the finished product in which the materials are used or the work provided, are not in conformity with the Contract Documents and have resulted in an inferior or unsatisfactory product, the work or materials shall be removed and replaced or otherwise corrected by the Contractor, at no additional cost to the City.
3.4 COORDINATION OF CONTRACT SPECIFICATIONS

A. Contract Specifications and all supplementary documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete Work. In the event of any discrepancy between a Drawing and figures written thereon, the figures, unless obviously incorrect, are to govern over scaled dimensions.

B. The Contractor shall take no advantage of any apparent error or omission in the Contract Documents. If the Contractor discovers such an error or omission, the Engineer shall be notified immediately. The Engineer will then make such corrections and interpretations as may be deemed necessary to fulfill the intent of the Contract.

3.5 COOPERATION BY CONTRACTOR

A. The Contractor will be given 1 copy of the Contract Documents. The Contractor shall have 1 copy of the Contract Documents on the work site and available for reference at all times during the prosecution of the Work.

1. Additional copies of the Contract Documents beyond the stated number may be requested by the Contractor and will be furnished by the City at the expense of the Contractor.

B. Prior to starting Work the Contractor shall designate in writing the name, title, qualifications, and experience of his proposed representative (job superintendent) who, upon approval by the City, shall have complete authority to represent and to act for the Contractor. A facsimile of the authorized representative's signature shall be furnished to the Engineer. The authorized representative or a substitute acceptable to the Engineer shall be present at the work site at all times while work is actually in progress on the Project. Arrangements for responsible supervision acceptable to the Engineer shall be made for emergency work that may be required during periods when Work is suspended. The Contractor shall notify the Engineer, in writing, of any proposed change of his representative, and shall provide identical information for approval of the new representative.

1. The job superintendent shall have the following minimum qualifications and experience:

   a. A minimum of 10 years of related remediation experience.

C. The Contractor shall ascertain that the materials and workmanship are in accordance with the Contract Documents.

D. The Contractor shall carry on his work under the direction of the Engineer such that representatives of municipal departments may enter on the work site without interference to make changes in their facilities which may be affected by the Work. The Contractor shall have no claim for, or because of any delay that may be due to or result from work of utility owners, state or municipal departments. No allowance of any kind will be made except as provided in Article 6.8. Nothing contained herein shall be construed to hold the Contractor responsible for any acts or omissions by such utility owners, state or municipal departments, or their contractors.

E. RESERVED

F. The Contractor shall not unreasonably encumber the project site with his materials. All flammable or combustible materials shall be properly stored to prevent, by effective measures, fire. Waste materials accumulated from the Work shall be accumulated off-site at a location to be designated by the City until ultimate disposal by the Contractor at an appropriately licensed off-site facility.
3.6 ADJACENT CONTRACTS

A. The City reserves the right at any time to contract for and perform other or additional work on or near the Work covered by the Contract. The intent of this Article is to provide for the cooperation of contractors where the City deems it expedient or necessary and in the best interest of the City to let separate contracts for the performance of other work on or near the location of the Work being performed under the Contract, but it is not intended to indicate an intention on the part of the City to let separate contracts for work within the scope of or necessary for the successful completion of the Contract.

B. When separate contracts are let within the limits of any one project (either prior to Award of Contract, as specified in the Bid, or as specified above), each contractor shall conduct their work so as not to interfere with or hinder the progress or completion of the work being performed by other contractors.

1. Contractors working within the same area shall cooperate with each other as directed and shall coordinate work schedules through the Engineer to minimize conflicts.

C. Each contractor involved shall assume all liability, financial or otherwise, in connection with its contract and shall protect and save harmless the City from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced because of the presence and operations of other contractors working within the limits of the same project. No allowance of any kind will be made except as provided in Article 6.8.

1. Work beyond the limits of the project that is reasonably related to or inferred from the Work required by the Contractor that is due to the work of adjacent contractors within the limits of the project shall be performed by the Contractor, at no additional cost to the City.

D. The Contractor shall arrange the work and shall place and dispose of the materials being used so as not to interfere with the operations of other contractors within the limits of the same Project. The Contractor shall join the work with that of others in an acceptable manner and perform the work in proper sequence to that of others.

3.7 RESERVED

3.8 AUTHORITY AND DUTIES OF ENGINEER'S ASSISTANTS

A. The Engineer may appoint assistants and representatives. The assistants and representatives are authorized to inspect work and materials, to give directions pertaining to the Work or to the safety and convenience of the public, to approve or reject materials and to make measurements of quantities.

B. In case of any dispute arising between the Contractor and the Engineer's assistants, as to materials furnished or the manner of providing work, the Engineer's assistants are authorized to reject materials or to suspend work until the dispute is referred to and decided by the Engineer.

C. The Engineer's assistants are not authorized to revoke, alter, enlarge, relax, or release any requirements of these Specifications, nor to issue instructions contrary to the Contract Drawings and Specifications.

D. The Engineer's assistants will not act as foremen or perform other duties for the Contractor.

E. The City will not accept responsibility whatsoever for Extra Work performed for which there is no specific proper written authorization.
3.9 INSPECTION OF WORK

A. All materials and each part or detail of the Work shall be subject to inspection by the Engineer. The Engineer shall at all times have access to the Work and be furnished with information and assistance by the Contractor as required, at no additional cost to the City, to make a complete and detailed inspection.

B. The Contractor, if requested by the Engineer, shall before acceptance of the Work, remove or uncover such portions of the finished work as directed. After examination, the Contractor shall restore said work to the standard required by the Contract Documents. Should work exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as Extra Work. Should work exposed or examined prove unacceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed, will be at no additional cost to the City.

C. Any work done or materials used without authorization by the Engineer may be ordered removed and replaced, at no additional cost to the City.

D. The Contractor shall furnish written information to the Engineer stating the original sources of supply of all materials manufactured away from the Work site. This information shall be furnished at least two weeks (or as otherwise required by the Engineer) in advance of the incorporation in the Work of such materials.

E. When any unit of government or political subdivision is to pay a portion of the cost of the Work, its respective representatives shall have the right to inspect the Work. Such inspection shall in no sense make any unit of government or political subdivision a party to this Contract, and shall in no way interfere with the rights of either party hereunder.

F. Inspection of Work shall not relieve the Contractor of any of his obligations to fulfill the requirements of the Contract Documents.

G. Failure to reject any defective work or materials shall not in any way prevent later rejection when such defect is discovered, nor obligate the City to make final acceptance.

H. The Contractor shall give prior notice to the Engineer when work on the various items is to be performed by him or his subcontractors. If work is suspended on any item, prior notice shall be given to the Engineer before resumption of such work. Except in the case of an unforeseen emergency, neither the Contractor nor any subcontractor shall perform any Work requiring inspection at hours other than during the normal work day without prior approval of the Engineer.

3.10 REMOVAL OF DEFECTIVE OR UNAUTHORIZED WORK

A. Defective work shall be promptly remedied, or removed and replaced, notwithstanding that such work has previously been inspected and approved or estimated for payment. If the work or any part thereof shall be found defective at any time, the Contractor shall, at no additional cost to the City, make good such defect in a satisfactory manner.

B. Work performed and Extra Work done without written authorization will be considered unauthorized work and the Contractor will receive no compensation therefore. If required by the Engineer, unauthorized work shall be remedied, removed, or replaced, at no additional cost to the City.

C. Upon failure of the Contractor to remedy, remove, or replace defective or unauthorized work, or to comply promptly with any requirement of the Engineer made under this Article, the City may cause defective or unauthorized work to be remedied, removed, or replace by others and deduct the costs thereof from any monies due or to become due the Contractor.
3.11 FINAL ACCEPTANCE

A. Upon substantial completion of the Work, the Contractor shall present, in writing, to the City its certification that the Work has been substantially completed. Within 21 days thereafter, the City as a result of its inspection of the Work will present to the Contractor either a written declaration that the Work has been substantially completed or an itemized list of incomplete or unsatisfactory Work items required by the Contract sufficient to demonstrate that the Work has not been substantially completed. The City may include with such list a notice setting forth a reasonable time, which shall not in any event be prior to the Contract completion date, within which the Contractor must achieve substantial completion of the Work. If the City fails to respond, by presentation of a written declaration or itemized list as aforesaid, to the Contractor's certification within the 21 day period, the Contractor's certification shall take effect as the City's declaration that the Work has been substantially completed.

B. If the Work or any part thereof is not acceptable to the Engineer at the time of the inspection, the Contractor will be notified in writing of the particular defects or parts to be remedied before final acceptance. If the Contractor has not arranged within a period of 5 days after the date of transmittal of such notice of non-acceptability, to complete the Work as directed by the Engineer, the City may, without further notice and without in any way affecting the Contract, make such other arrangements as may be considered necessary to insure satisfactory completion of the Contract. The cost of completing such Work will be deducted from any moneys due or which may become due to the Contractor under the Contract.

C. Substantial completion, for the purposes of this Article, shall mean either that the Work required by the Contract has been completed except for Work having a Contract price of less than 1 percent of the then adjusted total Contract price, or substantially all of the Work has been completed and opened to public use, or ready to be used/occupied by the City or an operating contractor except for minor incomplete or unsatisfactory Work items that do not materially impair the usefulness of the Work required by the Contract.

D. Also, see Article 5.24.

E. Also, see Article 7.9.

END OF ARTICLE 3
4.0 ARTICLE 4 - CONTROL OF MATERIALS

4.1 RESERVED 4.2 RESERVED 4.3 RESERVED

4.4 DEFECTIVE MATERIALS

A. Contractor furnished materials rejected by the Engineer shall be removed immediately from the site of the Work unless otherwise permitted by the Engineer. No rejected material, the defects of which have been subsequently corrected, shall be used in the Work unless approved in writing by the Engineer. If the Contractor fails to comply promptly with a request by the Engineer, made under the provisions of this Article, the Engineer may cause the removal and replacement of rejected material and the cost thereof will be deducted from any moneys due or to become due the Contractor.

4.5 ASBESTOS MATERIALS

A. The Contractor shall not furnish or install asbestos or materials containing asbestos under this Contract.

4.6 BANNED MATERIALS A.

Lead Paint

1. The Contractor shall not furnish or apply lead containing paint on surfaces within the limits of the Contract.

A A lead containing paint is defined by the Consumer Product Safety Commission's Lead Containing Paint Poisoning Prevention Act of 1979 as any coating whose dried film contains greater than 0.06 percent by weight of lead.

END OF ARTICLE 4
5.0 ARTICLE 5 - LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

5.1 LAWS TO BE OBSERVED

A. The Contractor shall keep fully informed concerning all requirements of law, including all state and federal laws, county and municipal ordinances, and regulations which in any manner affect those engaged or employed in the Work, or the materials used, in the Work, or such orders and decrees of bodies or tribunals having jurisdiction or authority over the same. The Contractor shall protect, indemnify and hold harmless the City and the Engineer, and all of their officers, agents, and employees against all claims and liabilities arising from or based on the violation of any such requirement of law whether by the Contractor, his employees, agents, or subcontractors. If any discrepancy or inconsistency is discovered in the Contract Documents in relation to any such requirements of law, the Contractor shall immediately report the facts to the Engineer in writing. The Contract shall be governed by the laws of the Commonwealth.

B. The City of New Bedford requires all corporate vendors soliciting business with the City of New Bedford which are not Massachusetts Corporations to be registered as a Foreign Corporation in the Commonwealth of Massachusetts. Therefore, "out of state businesses", in accord with Massachusetts General Laws Chapter 156d, Section 15.01, must register as a foreign corporation doing business in Massachusetts and appoint a Resident Agent for service of process within the State of Massachusetts. The necessary forms may be downloaded from the state web site www.state.ma.us/sec

C. Other out-of-state business organizations, such as individual proprietorship, partnership and joint ventures, shall appoint an agent in this Commonwealth for the service of legal process and furnish a copy of such appointment to the State Secretary prior to the issuance of a contract by the City.

D. Work shall be in accordance with the Massachusetts State Building Code.

1. The Contractor shall protect and indemnify the City and its representatives against any claim or liability arising from or based on the violation of any law, ordinance, safety code, regulation, order or decree whether caused by the Contractor, its employees or its subcontractors employed on the Project.

2. Such laws, ordinances, codes, regulations, orders, or decrees may restrict and limit the Contractor's working hours or use of certain types of equipment on the Project. The Contractor shall become familiar with such restrictions and limitation prior to submitting a Bid.

3. The Contractor shall give all necessary notices, obtain all permits as required and pay all government taxes, fees, and other costs in connection with the Work. The Contractor shall file all necessary drawings, prepare all documents, and obtain all necessary approvals of all governmental departments that have jurisdiction. The Contractor shall obtain all required Certificates of Inspection prior to acceptance and final payment for the Work. Compensation for conforming to all provisions of this Article, except as may be provided otherwise in Supplementary Conditions, shall be considered as included in the prices for the various contract Items of Work and no additional compensation will be allowed therefore.

E. Without limiting the Contractor's responsibility for ascertaining and complying with all applicable laws, ordinances, regulations, orders, and decrees, the Contractor's attention is called particularly to the requirements stated in the Sections of Division 1, General Requirements, specifying the general requirements for furnishing, installing and operating temporary controls during construction.
5.2 PERMITS AND LICENSES

A. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes and give all notice necessary and incidental to the due and lawful prosecution of the Work.

B. Permits and licenses shall be in the name of the City of New Bedford

5.3 MOTOR VEHICLES

A. Motor vehicles (except vehicles used solely for transporting employees to and from the Contract location) used wholly or in part within the Commonwealth by the Contractor or a subcontractor, or by a person directly or indirectly employed by them in the execution of the Contract, shall be appropriately registered in the and bear valid registration plates.

B. Motor vehicles used solely for transporting employees to and from the Contract location shall be registered as required under Chapter 90, Section 3, of the General Laws of the Commonwealth, as amended.

C. A vehicle shall not be driven on any way, as defined in Section 1 of Chapter 90 of the General Laws of the Commonwealth, unless it is constructed or loaded so as to prevent any of its load from dropping, shifting, leaking, or otherwise escaping therefrom. (Chapter 85, Section 30, of the General Laws of the Commonwealth as amended.)

D. All diesel construction equipment shall have emission control devices installed, such as oxidation catalysts or particulate filters on the exhaust system side of the diesel combustion engine equipment.

5.4 INSURANCE REQUIREMENTS

A. The Contractor shall carry Commercial General Liability Insurance for personal injury, bodily injury and property damage with limits not less than $1,000,000 per occurrence, $1,000,000 aggregate covering all work performed under this Contract. The insurance should include the following:

1. All operations.
2. Contractual liability.
3. Coverage for the so-called "X, C, U" hazards, i.e., collapse of building, blasting, and damage to underground property.

Completed operations hazard for a period of at least 2 years following acceptance by the City of the completed Contract.

4. Use of watercraft, aircraft when applicable.

B. Pollution Liability Insurance

1. The Contractor or his designated subcontractor shall carry Pollution Liability in an amount not less than $1,000,000 per occurrence and $5,000,000 aggregate, for sudden and gradual occurrences arising out of the work being performed under this Contract including, but not limited to, all hazardous material identified under this Contract.
2. The Contractor shall designate the disposal site and furnish a Certificate of Insurance from the Disposal Facility for Environmental Impairment Liability insurance covering liability for sudden and accidental occurrences in the amount of not less than $3,000,000 per occurrence and $6,000,000 aggregate and shall also include liability for non-sudden occurrences in the amount of not less than $5,000,000 per occurrence and $10,000,000 aggregate.

3. The Contractor shall designate the hauler and furnish a Certificate of Insurance from the hauler for Automobile Liability insurance with endorsement MCS90 for the liability arising out of the transportation of hazardous material with an amount not less than $5,000,000 annual aggregate.

4. Certificates of Insurance shall clearly state the hazardous materials exposure identified under the Contract.

C. Automobile Liability Insurance

1. Include the use of all vehicles; owned, leased, hired and non-owned, with limits not less than $1,000,000 combined single limit covering all work performed under the Contract.

D. Railroad Protective Insurance (RPI)

1. RPI is not applicable to this Contract.

E. The Contractor shall carry Worker’s Compensation Insurance, including Employers Liability Insurance as provided by Chapter 152, as amended, of the General Laws of the Commonwealth covering all work performed by him under the Contract.

F. The Contractor shall carry Umbrella Liability Coverage with limits of not less than $10,000,000 per occurrence, covering all work performed by him under this Contract.

G. The Contractor shall carry Builder’s Risk Insurance (“All Risks” form) on a 100 percent completed value basis for the full insurable portion of such Work for the benefit of the City, the Contractor and all subcontractors.

The required insurance coverage’s hereinbefore specified shall be placed with insurance companies licensed by the Massachusetts Division of Insurance to do business in the Commonwealth of Massachusetts and having a Best’s rating of B+ or better, shall be taken out before the Contract is commenced and be kept in full force and effect throughout the term of the Contract, shall be primary to and non-contributory to any coverage’s maintained by the City, and shall require that the City be given at least 30 days advance written notice in the event of any cancellation or materially adverse change in coverage. All such required insurance, with the possible exception of Pollution Liability Insurance, shall be written on an occurrence basis form, as opposed to a claims made basis form. The City shall be named as an additional insured under the Commercial General Liability, Automobile Liability, Umbrella, Pollution Liability, and Builder’s Risk Insurance Policies. The Workers’ Compensation and Employers’ Liability Insurance Policies shall include a waiver of subrogation in favor of the City. All such insurance as is required of the Contractor shall be provided by or in behalf of all subcontractors to cover their operations performed. The Contractor shall be held responsible for any modifications, deviations or omissions in the compliance with these requirements by the subcontractors. At the inception date of the Contract and throughout the term of the Contract, the City shall be provided with certificates of insurance evidencing that such insurance policies are in place and provide coverage as required. The following statement affirming that coverage completely complies with contract requirements shall be included in the special items section of the certificate or in an attached special items addendum page:

I. The aforementioned insurance coverage’s completely comply with Article 5.4, Insurance Requirements, paragraphs A through 1, inclusive, City of New Bedford Contract No. 936.
5.5 PATENTED DEVICES, MATERIAL AND PROCESSES

A. The Contractor shall indemnify and save harmless the City and all persons acting for or on behalf of the City from all claims and liability of any nature or kind, and all damages, cost and expenses, including attorney's fees, arising from or occasioned by an infringement or alleged infringement of any patents or patent rights on any invention, process, material, equipment, article, apparatus, or any part thereof, furnished and installed by the Contractor, or arising from or occasioned by the use of manufacture thereof, including their use by the City. In case such materials, equipment, devices, or processes are held to constitute an infringement and their use enjoined, the Contractor, at his expense, shall:

1. Secure for the City the right to continue using said materials, equipment, devices, or processes by suspension of the injunction or by procuring a license or licenses; or

2. Replace such materials, equipment, devices, or processes with non-infringing materials, equipment, devices, or processes; or

3. Modify them so that they become non-infringing, or remove the enjoined materials, equipment, devices, or processes and refund the sums paid therefore without prejudice to any other rights of the City or the Engineer.

B. When Federal funds are involved, patent rights to any patentable result arising out of the Work, as well as all information, designs, specifications, know-how, data, and findings, shall be made available to the Government for public use, unless the Federal Department involved shall, in specific cases where it is legally permissible, determine that it is in the public interest that it not be so made available.

5.6 RESERVED

5.7 RESERVED

5.8 RESERVED

5.9 RESERVED

5.10 PROTECTION AND RESTORATION OF PROPERTY

A. Compensation for conforming to all provisions of this Article, unless compensation is authorized in writing by the Engineer, as specified in Article 2.3, or as may be provided otherwise in the Supplementary Conditions, shall be considered as included in the prices for the various Contract items of Work and no additional compensation will be allowed therefore.

B. RESERVED

C. The Contractor shall confine his movements and operations insofar as possible to the area within the limits of the Work, and the area outside the limits of the Work shall not be disturbed except as directed.

D. The Contractor shall, at no additional cost to the City, preserve and protect from injury all property along and adjacent to the proposed Work. The Contractor shall be responsible for and shall repair, at no additional cost to the City, any and all damage and injury thereto, arising out of or in consequence of any act or omission, neglect or misconduct in the execution of the Work, or in consequence of the non-execution thereof by the Contractor or his employees or subcontractors in the performance of the Work covered by the Contract prior to completion and acceptance thereof.
E. Although the Contract Drawings may indicate the approximate location of existing items in the vicinity of the Work, accuracy and completeness of the information is not guaranteed by the City. Before commencing any work or operations that may endanger or damage structures, the Contractor shall carefully locate all such structures and conduct his operations in such manner as to avoid damage thereto. When necessary, the Contractor shall cooperate with representatives of the City in order to avoid damage to their structures by furnishing and erecting suitable supports, props, shoring, or other means of protection.

5.11 PROTECTION OF PUBLIC LANDS

A. In the execution of any Work within or adjacent to any state or national forest, park, or other public or private lands, the Contractor shall comply with all of the regulations of the appropriate authorities having jurisdiction over such forest, park, or lands. The Contractor shall keep the areas in his construction operations in an orderly condition and properly dispose of all refuse and discarded materials.

B. The Contractor shall obtain construction permits that may be required for Contract operations, not a part of the Contract, in accordance with the requirements of the regulations of the appropriate authorities.

5.12 HAZARDOUS ENVIRONMENTAL CONDITION AT SITE

A. Reference is made to the Division 13 General Specification for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Division 13 General Specifications. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their related entities with respect to:

1. The completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. Other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. Any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. The Contractor shall take all necessary steps not to disturb or exacerbate Hazardous Environmental Conditions.

E. If Contractor encounters hazardous environmental condition or if Contractor or anyone for whom, Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected there (except in an emergency as required by Article 5.13 and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.
F. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefore as provided in Article 5.17.

G. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract times as a result of deleting such portion of the work, then either party may make a Claim therefore as provided in Article 5.17. Owner may have such deleted portion of the work performed by Owner's own forces or others at the Owner's discretion.

H. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (1) was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

5.13 EMERGENCIES

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

5.14 DISPOSAL OF MATERIALS OUTSIDE THE WORK SITE

A. Unless otherwise specified in the Contract Specifications, the Contractor shall make his own arrangement for disposing of waste and excess materials outside the work site, at no additional cost to the City.

B. RESERVED

C. Unless otherwise provided in the Contract Specifications, full compensation for all costs involved in disposing of materials as above specified, including all costs of hauling, shall be considered as included in the price paid for the Contract Item involving such materials and no additional compensation will be allowed therefore.
D. In the disposal of excavated material, and other waste and excess materials, the Contractor shall adhere to all applicable laws of the Commonwealth of Massachusetts and to municipal and local ordinances and regulations.

5.15 SAFETY AND FIRST AID REQUIREMENTS

A. The Contractor shall adhere to all precautions necessary to the safety and health of the workmen in accordance with provision of Federal Regulation 29 CFR Parts 1926.58 and 1910.1001, and Massachusetts Regulations 453 CMR 6.00.

B. The Contractor's safety program shall be submitted in writing to the Engineer for review within 5 days after receipt of a Notice of Award. The proposed safety program shall include the name, experience, and qualifications of the Contractor's proposed safety representative. No work at the job site shall begin until the Engineer has reviewed the Contractor's safety program and safety representative. Implementation and enforcement of the safety program for the forces of the Contractor and all subcontractors shall be the responsibility of the Contractor.

C. The Contractor's safety representative shall have a thorough knowledge of safety and OSHA regulations. If, in the opinion of the Engineer, the Contractor's safety representative is not effective in carrying out the duties assigned and as described below, the Engineer may request, in writing, that the Contractor replace the safety representative.

D. The duties of the safety representative shall include maintenance of the Contractor's safety program, enforcement of safe practices, and the use of safety equipment and personal protection equipment, and other such activities as may be required by OSHA to maintain job safety and accident prevention. The safety representative shall not be changed, terminated, nor reassigned without the written approval of the Engineer.

E. Attention of the Contractor is specifically directed to the General and Supplemental Conditions of this Contract, which shall be made a condition of each subcontract entered into pursuant to the Contract. Further, that the Contractor and any subcontractor shall not require any laborer or mechanic employed in performance of the Contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to health or safety, as determined under construction safety and health standards (Title 29, Code of Federal Regulations, Part 1518, Published in the Federal Register on April 17, 1971) promulgated by the United States Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (83 Stat. 96).

F. The City may stop any work that it considers to be unsafe. 5.16

RESPONSIBILITY FOR DAMAGE CLAIMS

A. The Contractor shall indemnify, defend, and save harmless the City and all its officers, agents, and employees against all suits, claims, or liability of every name and nature, for or due to any injuries to persons or damage to property arising out of or in consequence of the acts of the Contractor in the performance of the Work covered by the Contract or failure comply with the terms and conditions of said Contract, whether by the Contractor or the Contractor's employees or subcontractors.

B. The Contractor shall be held responsible for any and all claims for damage to structures and utilities due to Contractor's operations or to the operations of any of the Contractor's subcontractors.

C. The provisions of this Article shall in no way relieve the Contractor from any liability for damage to property of others caused by the Contractor's negligence or that of the Contractor's employees nor shall they be construed to require the City to indemnify the Contractor against any loss resulting from such acts of negligence.
5.17 CLAIMS AGAINST CONTRACTOR FOR PAYMENT OF LABOR AND MATERIALS

A. The Contractor shall be responsible for prompt payment for all services, labor, equipment and materials furnished by or through the Contractor for purposes of the Contract.

B. Forthwith after the Contractor receives payments, the Contractor shall pay to each subcontractor the amount paid for the labor performed and the materials furnished by that subcontractor, less any amount specified in an court proceedings barring such payment and also less any amount claimed due from the subcontractor by the Contractor.

C. Not later than 65 days after each subcontractor substantially completes its work in accordance with the Contract Documents, the entire balance due under the subcontract less amounts retained by the City as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the subcontractor, and the City will pay that amount to the Contractor. The Contractor shall forthwith pay to the subcontractor the full amount received from the City less any amount specified in any court proceeding barring such payment and also less any amount claimed due from the subcontractor by the Contractor.

D. Each payment made by the City to the Contractor pursuant to subparagraphs “1” and “2” of this Article for the labor performed and the materials furnished by a subcontractor shall be made to the Contractor for the account of that subcontractor: and the City will take reasonable steps to compel the Contractor to make each such payment to each such subcontractor. If the City has received a demand for direct payment from a subcontractor for any amount which has already been included in a payment to the Contractor or which is to be included in a payment to the Contractor for payment to the subcontractor as provided in subparagraphs “1” and “2” the City shall act upon the demand as provided in this Article.

E. If within 70 days after the subcontractor has substantially completed the subcontract work, the subcontractor has not received from the Contractor the balance due under the subcontract, including any amount due for extra labor and materials furnished to the Contractor, less any amount retained by the City as the estimated cost of completing the incomplete and unsatisfactory items of work, the subcontractor may demand direct payment of that balance from the City. The demand shall be by a sworn statement delivered to or sent by certified mail to the City, and a copy shall be delivered to or sent by certified mail to the City, and a copy shall be delivered to or sent by certified mail to the Contractor at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the seventeenth day after the subcontractor has substantially completed the subcontract work. Within 10 days after the subcontractor has delivered or so mailed the demand to the City and delivered or so mailed a copy to the Contractor, the Contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the City and a copy shall be delivered to or sent by certified mail to the subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the Contractor and of the amount due for each claim made by the Contractor against the subcontractor.

F. Within 15 days after receipt of the demand by the City, but in no event prior to 70 days after substantial completion of the subcontract work, the City will make direct payment to the subcontractor of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the Contractor, less any amount (1) retained by the City as the estimated cost of completing the incomplete or unsatisfactory items of work, (2) specified in any court proceedings barring such payment, or (3) disputed by the Contractor in the sworn reply; provided, that the City will not deduct from a direct payment any amount as provided in part (3) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by subparagraph "4". The City will make further direct payment to the subcontractor forthwith after the removal of the basis for the deductions from direct payments made as provided in parts (1) and (2) of this subparagraph.
G. Within 15 days after receipt of the demand by the City, but in no event prior to 70 days after substantial completion of the subcontract work, the City will make direct payment to the subcontractor of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the Contractor, less any amount (1) retained by the City as the estimated cost of completing the incomplete or unsatisfactory items of work, (2) specified in any court proceedings barring such payment, or (3) disputed by the Contractor in the sworn reply; provided, that the City will not deduct from a direct payment any amount as provided in part (3) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by subparagraph "4". The City will make further direct payment to the subcontractor forthwith after the removal of the basis for the deductions from direct payments made as provided in parts (1) and (2) of this subparagraph.

H. The City will forthwith deposit the amount deducted from a direct payment as provided in part (3) of subparagraph "5" in an interest bearing joint account in the names of the Contractor and the subcontractor in a bank in Massachusetts selected by the City or agreed upon by the Contractor and the subcontractor and shall notify the Contractor and the subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the Contractor and the subcontractor or as determined by decree of a court of competent jurisdiction.

I. All direct payments and all deductions from demands for direct payments deposited in an interest bearing account or accounts in a bank pursuant to subparagraph "6" shall be made out of amounts payable to the Contractor at the time of receipt of a demand for direct payment from a subcontractor and out of amounts which later became payable to the Contractor and in the order of receipt of such demands from subcontractors. All direct payments will discharge the obligation of the City to the Contractor to the extent of such payment.

J. The City will deduct from payments to the Contractor amounts which, together with the deposits in interest bearing accounts pursuant to subparagraph "6", are sufficient to satisfy all unpaid balances of demands for direct payment received from subcontractors. All such amounts shall be earmarked for such direct payments, and the subcontractors shall be a right in such deductions prior to any claims against such amounts by creditors of the Contractor. Subcontractor, for contracts awarded as provided in paragraph (a) of Section 39M, Chapter 30 of the General Laws of the Commonwealth shall mean a person approved by the in writing as a person performing labor and furnishing materials pursuant to a contract with the Contractor.

5.18 PAYMENT OF TAXES

A. Contract prices paid for the Work shall include full compensation for all taxes which the Contractor is required to pay whether imposed by federal, state, or local government, including, without being limited to, federal excise tax.

1. Fines and penalties, including interest, are the responsibility of the Contractor and all costs associated therewith shall be borne by the Contractor, at no additional cost to the City.

B. The Massachusetts Sales Tax, Chapter 64H, Section 6 and the Massachusetts Use Tax, Chapter 641, Section 7, states that these taxes are not applicable to the sales of construction materials and supplies incorporated, consumed, employed or expended in construction projects of the City. This exemption is also applicable to rental charges for construction vehicles, equipment, and machinery rented, specifically for use on the site of the City's construction projects. Bidders are directed to exclude any allowance for Sales or Use Tax from their Bid Form as said tax would relate to the foregoing specific categories.

CLAIMS OF CONTRACTOR FOR COMPENSATION

A. No person or corporation, other than the signer of the Contract as Contractor, now has any interest Hereunder, and no claim shall be made or be valid, and neither the City nor any member, agent, or Employee thereof, shall be liable for, or be held to pay, any money except as provided in Articles 2.2, 2.3, 2.4, 2.5, 2.7.2 of the Agreement.
B. All claims of the Contractor for compensation other than as provided for in the Contract due to any act or omission or commission by the City or its agents must be made in writing to the Engineer within 10 days after the beginning of any work or the sustaining of any damage due to such act. Such written statement shall contain a description of the nature of the Work provided or damage sustained, and the Contractor, shall on or before the 15th day of the month succeeding that in which such Work is performed or damage sustained file with the Engineer an itemized statement of the details and amount of such work or damage. Unless such statement shall be required, the claim for compensation shall be forfeited and invalidated, and the Contractor shall not be entitled to payment due to any such work or damage. Such notice by the Contractor and the keeping of costs by the Engineer shall not in any way be construed as proving the validity of the claim.

C. The provisions of this paragraph shall not apply to changes in quantities as provided under Article C. The provisions of this paragraph shall not apply to changes in quantities as provided under Article 2.5 or to Extra Work ordered by the Engineer in writing.

D. On the basis of information provided in writing by the Contractor's own employees, servants, or agents, the Contractor shall certify, in writing, that the Work for which he is claiming payment, other than as provided for in the Contract, is work actually performed, and the costs as shown are the amounts legally due for providing such Work for which payment is claimed.

E. The Engineer will determine all questions as to the amount and value of such Work, and the fact and extent of such damage and will notify the Contractor in writing of this determination.

F. Acceptance by the Contractor of the final payment made under the provisions of Article 7.9 shall operate as and shall be a release to the City and every member, agent, and employee thereof, from all claim and liability to the Contractor for anything done or furnished for, or relating to, the Work, or for any act or neglect of the City or of any person relating to or affecting the Work except the claim against the City for the remainder, if any there be, of the amounts kept or retained as provided in Article 5.17. For claims for extensions of time, see Article 6.8.

5.20 OPENING PORTIONS OF CONTRACT FOR OPERATION OR OCCUPANCY

A. Any portion of the Work which is in acceptable condition for operation or occupancy may be opened for operation or occupancy as directed in writing by the City, but such operation or occupancy shall not be construed as an acceptance of the Work or part thereof, nor shall it act as a waiver of any of the provisions of the Contract Specifications or of the Contract; provided, however, that on such portions of the Work as are opened for such use, the Contractor shall not be required to assume any expense entitled in maintaining that portion of the Work opened for operation or occupancy. The City will be responsible for maintenance and any damage to the Work caused solely by the operation or occupancy of any portion of the Contract which has been opened to operations or occupancy as stipulated above, and it may order the Contractor to repair or replace such damage, whereupon the Contractor shall make such repairs at Contract unit prices so far as the same are applicable, or as Extra Work under the provisions of Article 2.3, if there are no applicable items in the Contract.
B. If the Contractor is dilatory in completing items of the Work, the Engineer may order all or a portion of the Work open to occupancy, but in such event the Contractor shall not be relieved of his liability and responsibility during the period the Work is so opened prior to final acceptance. The Contractor shall conduct the remainder of his operations so as to cause the least interference to occupancy. Additional costs incurred by the Contractor in conducting the remainder of his operations due to his being dilatory with parts of the Work shall be assumed by the Contractor, at no additional cost to the City.

5.21 CONTRACTOR'S RESPONSIBILITY FOR THE WORK

A. Until final written acceptance of the Work, the Contractor shall have the charge and care of the Work. The Contractor shall take every necessary precaution against injury or damage to the Work by action of the elements, or from any other cause, whether arising from the execution of the non-execution of the Work.

B. Except as provided in Article 2.9, the Contractor shall bear all losses resulting from or due to the amount or the character of the Work or because the nature of the environment in or on which the Work is done is different from that which was estimated or expected, or due to bad weather or other causes.

C. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the Work occasioned by any cause before its completion and final acceptance, and shall bear the expense thereof, except damage to the Work due to war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or condition incident to any of the foregoing, to "Acts of God" (limited to hurricane, tornado, cyclone and earthquake as classified by the United States Weather Bureau for the particular locality and for the particular season of the year, and in addition thereto, damages resulting directly from flooding from any of the aforementioned "Acts of God"). The repair of such damages shall be done by the Contractor and paid for at the respective Contract unit prices for the quantity and items of Work involved. In any case in which the estimate for replacing such Work or repairing such damage caused by war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or condition incident to the foregoing, or an "Act of God" combined with any previously authorized Extra Work results in a change of such magnitude as to be incompatible with competitive bid status, the City reserves the right to terminate the Contract and to call for new bids and award a new Contract for such Work. In the event a Contract is terminated for such reason, the City will pay the Contractor such sum as may be due for Work performed up to the date of the "Act of God," or of damage directly due to war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or condition incident to any of the foregoing and will also take over and pay for any material stored at the site of the Work provided said material was intended to be and could have been incorporated into the Work; the City will also take over and pay for any material which was being especially fabricated for incorporation into the Work, provided, however, that as a condition precedent to the City's liability for such material, the Contractor is legally liable therefor and the material was intended to be and could have been incorporated in the Work.

D. Issuance of an estimate of any part of the Work done will not be construed as final acceptance of any Work completed up to that time.

E. Should the Contractor fail to take prompt action whenever conditions make it necessary, the City will make emergency repairs or cause the same to be made, with the stipulation that the costs for such repairs shall be charged against the Contractor and deducted from moneys due the Contractor.
F.  In case of suspension of Work from any cause whatever, the Contractor shall be responsible for the Contract and shall take such precautions as may be necessary to prevent damage to the Work, and shall erect any necessary temporary structures, signs, or other facilities, at no additional cost to the City.

5.22 CONFLICT OF INTEREST

A.  It is understood and agreed that no gift, loan, or other thing of value has been or shall be given to any employee, agent, or officer of the City in connection with the award or performance of the Contract. Also no employment shall be given to and no renting, leasing, or purchasing of equipment, supplies, or materials shall be arranged or made with or through any employee, agent, or office of the City by the Contractor.

B.  No board member, officer or employee of the City, officer or employee of any independent authority, political subdivision of the Commonwealth of Massachusetts, officer, employee or elected official or any city, county, or town authority within the Commonwealth of Massachusetts, during his/her tenure and for 1 year thereafter shall have any interest, direct or indirect, in this Contract or the proceeds thereof.

C.  No member of or delegate to the Congress of the United States shall be admitted to any share or part of this Contract or to any benefit arising therefrom.

5.23 PERSONAL LIABILITY OF CITY OFFICIALS

A.  In carrying out any of the provisions of the Contract Documents, or in exercising any power or authority granted to them by or within the scope of the Contract, there shall be no liability upon the Director, Engineer, or their authorized representatives, either personally or as officials of the City, it being understood that in all such matters they act solely as agents and representatives of the City.

5.24 NO WAIVER OF LEGAL RIGHTS

A.  The City shall not be precluded or stopped by any measurement, estimate, or certificate made either before or after the completion and acceptance of the Work and payment therefore, from showing the true amount and character of the Work provided and materials furnished by the Contractor, nor from showing that any such measurement, estimate, or certificate is untrue or is incorrectly made, nor that the Work or materials do not in fact conform to the Contract. The City shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor or the Contractor’s Sureties, or both, such damage as it may sustain by reason of the Contractor’s failure to comply with the terms of the Contract. Neither the acceptance by the City, or any representative of the City, nor any payment for or acceptance of the whole or any part of the Work, nor any extension of time, nor any possession taken by the City, shall operate as a waiver of any portion of the Contract or of any power herein reserved, or of any right to damages. A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach. Any remedy provided in the Contract shall be taken and construed as cumulative, that is, in addition to each and every other remedy herein provided; and the City shall also be entitled as of right to writ of injunction against any breach of any of the provisions of the Contract.

5.25 LABOR, LODGING, BOARD, MAXIMUM HOURS OF EMPLOYMENT, KEEPING OF PAYROLL RECORDS

A.  Every employee in public work shall lodge, board, and trade where and with whom the employee elects; and no person or person’s agents or employees under contract with the City for the doing of public work, shall directly or indirectly require as a condition of employment therein, that the employee shall lodge, board, or trade at a particular place or with a particular person (Chapter 149, Section 25 of the General Laws of the Commonwealth).
B. No laborer, workman, mechanic, foreman, or inspector working within this Commonwealth, in the employ of the Contractor, subcontractor, or other person doing or contracting to do the whole or a part of the Work contemplated by the Contract, shall be required or permitted to work more than 8 hours in any one day or more than 48 hours in any one week, or more than six days in any one week, except in cases of emergency. The City or the Contractor or any subcontractor may employ laborers, workmen, mechanics, foremen, and inspectors for more than 8 hours in any day in the work to be done or under the Contract when, in the opinion of the Director of the Department of Labor and Workforce Development, public necessity so requires. (Chapter 149, Section 34 of the General Laws of the Commonwealth, as amended.)

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

D. In case the Work covered by the Contract is financed from federal funds, the above provisions relative to the hours of employment shall be subject to such revision and amendment as are required by the rules and regulations controlling the expenditures of such federal funds.

5.26 EQUAL OPPORTUNITY CLAUSE

During the performance of the Contract, the Contractor agrees as follows:

A. The Contractor shall not discriminate against any employee or applicant for employment because of race, creed, color, religion, sex, or national origin. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

C. The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants shall receive consideration for employment, without regard to race, creed, color, religion, sex, or national origin. The Contractor shall send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

D. The Contractor shall comply with all provisions of Executive Order 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

E. The Contractor shall furnish all information and reports required by Executive Order 11246 of September 24, 1965, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts of investigation to ascertain compliance with such rules, regulations, and orders.
F. In the event of the Contractor's noncompliance with the nondiscrimination clauses of the Contract or with any of the said rules, regulations, or orders, the Contract may be cancelled, terminated, or suspended in whole or in part; and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, as amended, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, as amended, or by rules, regulations, or orders of the Secretary of Labor, or as otherwise provided by law.

G. The Contractor shall include the portion of the sentence immediately preceding paragraph "A" and the provisions of paragraphs "A" through "G" in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, as amended, so that such provision shall be binding upon each subcontractor or vendor. The Contractor shall take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

H. Applicable Massachusetts and Federal Anti-Discrimination Requirements are contained in the Supplementary Conditions.

5.27 REQUIREMENTS OF CHAPTER 30, SECTION 39R OF THE GENERAL LAWS OF THE COMMONWEALTH OF MASSACHUSETTS

A. The words defined below shall have the meaning stated whenever they appear in this subsection:

1. "Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a contract pursuant to Section 39M of Chapter 30 of the General Laws of the Commonwealth.

2. "Contract" means any contract awarded or executed pursuant to Section 39M of Chapter 30 of the General Laws of the Commonwealth.

3. "Records" means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.

4. "Independent Certified Public Accountant" means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of this person's residence or principal office and who is in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant's independence shall not be confined to the relationships existing in connection with the filing of reports with the awarding authority.

5. "Audit", when used in regard to financial statements, means an examination of records by an independent certified public accountant in accordance with generally accepted accounting principles and auditing standards for the purpose of expressing a certified opinion thereon, or, in the alternative, a qualified opinion or a declination to express an opinion for stated reasons.

6. "Accountant's Report", when used in regard to financial statements, means a document in which an independent certified public accountant indicates the scope of the audit which he/she has made and sets forth his/her opinion regarding the financial statements taken as a whole with a listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed.
When an overall opinion cannot be expressed the reason therefore shall be stated. An accountant's report shall include as a part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the audited financial statement is a true and complete statement of the financial condition of the Contractor.

7. "Management", when used herein, means the chief executive officers, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the Contractor.

8. Accounting terms, unless otherwise defined herein, shall have a meaning in accordance with generally accepted accounting principles and auditing standards.

B. Subsection A.2 hereof notwithstanding, every agreement or contract awarded or executed pursuant to Section 39M of Chapter 30 of the General Laws of the Commonwealth shall provide that:

1. The Contractor shall make, and keep for at least 6 years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the Contractor, and

2. Until the expiration of 6 years after final payment, the awarding authority, office of inspector general, and the deputy commissioner of capital planning and operations shall have the right to examine any books, documents, papers or records of the Contractor or his/her subcontractors that directly pertain to, and involve transactions relating to, the Contractor or his/her subcontractors, and

3. If the agreement is a contract as defined herein, the Contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the awarding authority, including in his/her description the date of the change and reasons therefore, and shall accompany said description with a letter from the Contractor's independent certified public accounting approving or otherwise commenting on the changes, and

4. If the agreement is a contract as defined herein, the Contractor has filed a statement of management on internal accounting controls as set forth in paragraph "C" below prior to the execution of the contract, and

5. If the agreement is a contract as defined herein, the Contractor has filed prior to the execution of the contracts and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in paragraph "D" below.

C. Every Contractor awarded a contract shall file with the awarding authority a statement of management as to whether the system of internal accounting controls of the Contractor and its subsidiaries reasonably assures that:

1. Transactions are executed in accordance with management's general and specific authorization.

2. Transactions are recorded as necessary:

   a. To permit preparation of financial statements in conformity with generally accepted accounting principles, and

   b. To maintain accountability for assets;

3. Access to assets is permitted only in accordance with management's general or specific authorization; and
4. The recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

   Every Contractor awarded a contract shall also file with the awarding authority a statement prepared and signed by an independent certified public accountant, stating that he/she has examined the statement of management on internal accounting controls, and expressing an opinion as to:

5. Whether the representation of management in response to this paragraph and paragraph "B" above are consistent with the result of management's evaluation of the system of internal accounting controls; and

6. Whether such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

D. Every Contractor awarded a contract by the Commonwealth or by any political subdivision thereof shall annually file with the awarding authority during the term of the contract a financial statement prepared by an independent certified public accountant on the basis of an audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report.

The office of inspector general, the deputy commission for capital planning and operations and any other awarding authority shall enforce the provisions of this section. The deputy commissioner of capital planning and operations may after providing an opportunity for the inspector general and other interested parties to commend, promulgate pursuant to the provisions of Chapter 30A of the General Laws of the Commonwealth such rules, regulations and guidelines may be applicable to all awarding authorities. A Contractor's failure to satisfy any of the requirements of this section may be grounds for disqualification pursuant to Section 44C of Chapter 149 of the General Laws of the Commonwealth.

Note: The record retention aspects of this subsection apply to all contracts awarded by the City regardless of value. The requirements relative to the internal auditing and management controls, including the filing of an annual statement, apply to contracts awarded with a value greater than $100,000.

END OF ARTICLE 5
6.0 ARTICLE 6 - PROSECUTION AND PROGRESS

6.1 SUBLETTING OR ASSIGNMENT OF CONTRACT

A. The Contractor shall give personal attention to the fulfillment of the Contract and shall keep the Work under control.

The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the Contract or any portion thereof, or of the Contractor’s right, title, or interest therein, without written consent of the City. If consent is given, the Contractor shall be permitted to sublet a portion thereof, but shall provide with the Contractor's own organization, Work amounting to not less than 10 percent of the original total Contract amount, except that any items designated in the Contract as Filed Sub-Bid Classes of Work shall be provided by Filed Sub-Bid Subcontractors and the amount of any such Filed Sub-Bid Classes of Work provided byFiled Sub-Bid Subcontractors may be deducted from the total amount in computing the amount of Work required to be provided by the Contractor's own organization. No subcontracts, or transfer of contract, shall in any case release the Contractor from liability under the Contract and bonds.

1. The provisions of Chapter 149, Section 44A through Section 441, inclusive, of the General Laws of the Commonwealth of Massachusetts with respect to sub-bidders on buildings will apply when so indicated in the Notice to Bidders.

C. Consent to sublet any part of the Work shall not be construed to be an approval of the said subcontract or of any of its terms, but shall operate only as an approval of the making of a subcontract between the Contractor and subcontractor.

D. A subcontractor (vendor, or supplier) will be recognized only in the capacity of an employee or agent of the Contractor, and the subcontractor's removal may be required as in the case of an employee.

E. As soon as practicable after execution of the Contract, the Contractor shall submit to the City applications for approval of subcontractors for any part of the Work it is proposed to sublet. In addition to stating the name and address of the proposed subcontractor, each application shall give the items, or any portions thereof, proposed to be sublet by item number and description, and the total value of the Work proposed to be sublet based on the primary contract unit prices where established, or, where not established, on the approved breakdown estimate of a lump sum price required under Article 7.6 and not on the amount of the subcontract. The application shall also show pertinent information in order to enable the City to ascertain whether the proposed subcontractor is reliable and able to perform the work.

The Contractor shall direct the attention of subcontractors to the requirements of:

Article 5.4 regarding insurance requirements, the prevailing wage rates as determined by the Division of Occupational Safety of the Department of Labor and Workforce Development, and the provisions of Articles 525 and 5.26. Chapter 30, Section 39L, of the General Laws of the Commonwealth, requires under "1" above that the Commonwealth and every county, city, town, district, board, commission shall not enter into a contract for such Work with, and shall not approve as a subcontractor furnishing labor and materials for a part of any such Work, a foreign corporation which has not filed with the City a certificate of the State Secretary stating that such corporation has complied with Sections 3 and 5 of Chapter 181 and the date of such compliance. Chapter 156d Section 15.01, requires foreign corporations to appoint the Secretary of the Commonwealth as an attorney for service of process,

G. The Contractor shall direct the attention of subcontractors and all suppliers of material to the requirements of Article 3.9.
6.2 PROSECUTION OF WORK

A. The Contractor shall commence Work within 15 calendar days from the date of the mailing of the executed Contract by the City to the Contractor, unless otherwise directed in writing by the City. The Contractor shall complete the Work within the days specified.

B. Should the prosecution of the Work for any reason be discontinued, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

C. If in the City's judgment it is necessary at any time, the Contractor shall when directed, employ such forces and equipment for one or more additional shifts as will be required to insure the proper and timely completion of the Work.

D. The Contractor shall not provide work at any time when conditions are unsuitable for its execution, safety, and permanence. This provision shall not be interpreted as constituting any waiver, release or lessening of the Contractor's obligation to bring the Work to entire completion within the Contract time stipulated therefore.

E. The Contractor shall not receive any additional compensation for the requirements of this Article.

6.3 RESERVED

6.4 LIMITATIONS OF OPERATIONS

A. The Contractor shall conduct the Work at all times in such a manner and in such sequence as will assure the least interference with vehicular, marine, and pedestrian traffic, operations of railroads, and occupant and consumer entrance to and exit from adjacent buildings and property.

6.5 CHARACTER OF WORKMEN, METHODS AND EQUIPMENT

A. The Contractor shall at all times employ sufficient labor and equipment to prosecute the several classes of work to full completion in the manner and time required by the Contract Documents.

B. The Contractor shall provide all cutting, fitting, and patching of the work that may be required to make its several parts fit together properly, and shall not endanger any work by cutting, excavating, or otherwise altering the work in any part thereof.

C. The Contractor shall employ only competent persons and subcontractors to do the Work. In addition, the Contractor shall hire persons, who, in the opinion of the Engineer are well qualified to direct, advise or perform certain specialized types of work as described in the Specifications.

D. All workmen shall have sufficient skill and experience to perform the Work assigned to them. Workmen engaged in special work or skilled work shall have sufficient experience in such work and in the operations of the equipment required to perform all work properly and satisfactorily.

E. Any person employed by the Contractor or by any subcontractor who, in the Engineer's judgment, does not perform the work in a proper and skilled manner or is intemperate or disorderly or otherwise unsatisfactory or not employed in accordance with the provisions of Article 5.25, shall at the written request of the Engineer, be removed by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the Work without the approval of the Engineer.
F. Should the Contractor fail to take the necessary action to remove such person or persons as required above, or fail to furnish suitable and sufficient personnel for the proper prosecution of the Work, the Engineer may suspend the Work by written notice until such orders are complied with.

G. The Contractor shall employ engineers registered in the Commonwealth of Massachusetts, qualified superintendents, foremen, and other supervisory employees to plan all Work operations and to represent the Contractor at all of the several parts of the Work and they shall be present at all times while the Work entrusted to them is in progress and shall be informed thoroughly regarding the Work.

H. All equipment used on the Work shall be of sufficient size and in such mechanical condition as to meet the requirements of the Work and to produce a satisfactory quality of work. Equipment used on any portion of the Work shall be such that no injury to private or public property will result from its use.

I. When methods and equipment to be used by the Contractor in accomplishing the construction are not prescribed in the Contract, the Contractor may use any methods or equipment that demonstrate to the satisfaction of the Engineer the ability to accomplish the Work in conformity with the requirements of the Contract.

J. When the Contract Documents specify the methods and equipment by which the construction shall be performed, such methods and equipment shall be used unless otherwise authorized in writing by the Engineer. If the Contractor desires to use a method or type of equipment other than that specified, such approval should be requested in writing from the Engineer. The request shall include a full description of the methods and equipment proposed to be used as an explanation of the reasons for desiring to make the change. If written approval is given, it will be on the condition that the Contractor shall be fully responsible for producing construction work in conformity with the Contract requirements. If after trial use of the substituted methods or equipment, the Engineer determines that the Work produced does not meet Contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining construction with the specified methods and equipment. The Contractor shall remove the deficient Work and replace it with Work of specified quality, or take such other corrective action as the Engineer may direct. No changes will be made in basis of payment for the construction items involved nor in Contract time as a result of authorizing a change in methods or equipment under these provisions.

6.6 DELAY AND SUSPENSION OF WORK

A. The Engineer has the authority to delay the commencement of the Work and delay or suspend any portion thereof, for such period or periods as it may be deemed necessary, because of conditions beyond the control of the City or the Contractor, for the failure of the Contractor to correct conditions unsafe for the general public; for failure to carry out provisions of the Contract; for failure to carry out orders; for causes and conditions considered unsuitable for the prosecution of the Work; for acts of third persons not a party to the Contract; or for any other cause, condition, or reason deemed to be in the public interest.

B. Upon receipt of written order of the Engineer, the Contractor shall immediately delay the commencement of the Work or delay or suspend any portion thereof in accordance with said order. Work shall not be suspended or delayed without prior written approval or order of the Engineer. The work shall be resumed when conditions warrant or deficiencies have been corrected and the conditions of the Contract satisfied as ordered or approved in writing by the Engineer. The Contractor's attention is also directed to the requirements of Article 5.21 and the public safety and convenience requirements of Sections of Division 1, General Requirements, that shall govern during any period of temporary or partial suspension of work.

6.7 CLAIM FOR DELAY OR SUSPENSION OF WORK

A. The Contractor shall have no claim for damages of any kind due to any delay in commencement of the Work or any delay or suspension of any portion thereof, except as hereinafter provided.

1. Attention is directed to Section 390 of Chapter 30 of the General Laws of the Commonwealth which requires that every contract subject to the provisions of Section 39M of Chapter 30 contain the following provisions
"a" and "b" in their entirety and, in the event of suspension, delay, interruption, or failure to act by the City increases the cost of performance to any subcontractor, that subcontractor shall have the same rights against the Contractor for payment for an increase in the cost of his performance as provisions "a" and "b" give the Contractor against the City, but nothing in provisions "a" and "b" shall in any change, modify, or alter any other rights which the Contractor or the subcontractor may have against each other.

a. The City may order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as it may determine to be appropriate for the convenience of the City; provided, however, that if there is a suspension, delay, or interruption for 15 days or more or due to a failure of the City to act within the time specified in the Contract, the City will make an adjustment in the Contract price for any increase in the cost of the Contract but shall not include any profit to the Contractor on such increases; and provided further, that the City will not make any adjustment in the Contract price under this provision for any suspension, delay, interruption, or failure to act to the extent that such is due to any cause for which this Contract provides for an equitable adjustment of the Contract price under any other Contract provision.

b. The Contractor shall submit the amount of a claim under provision "a" to the City in writing as soon as practicable after the end of the suspension, delay, interruption, or failure to act and, in any event, not later than the date of final payment under the Contract and, except for costs due to a suspension order, the City shall not approve any costs in the claim incurred more than 20 days before the Contractor notified the City in writing of the act or failure to act involved in the claim.

6.8 DETERMINATION AND EXTENSION OF CONTRACT TIME FOR COMPLETION

A. The Contractor shall complete, entirely, and in an acceptable manner, the Work required under the Contract within the time stated in the Bid Form, except that the Contract time for completion shall be adjusted as follows:

1. If the Contract is not awarded as contemplated by the Instructions to Bidders, then the number of days allowed for the completion of the Work will be computed from the date of mailing of the executed Contract to the Contractor or the date on which the Contractor was directed to commence Work whichever is later. If the Contract specifies a specific calendar date for completion and the Contract is not awarded as contemplated by the Instructions to Bidders, then the Contractor will be entitled to an extension of time equivalent to the number of days elapsed from 60 days (45 days if Federal funds are involved) after the opening of bids up to and including the day of mailing of the executed Contract by the City or the date on which the Contractor was directed to commence Work whichever is later.

2. In case commencement of Work is delayed or any part thereof is delayed or suspended by the City (except for unsuitable weather, winter months, or reasons caused by the fault or neglect of the Contractor), the Contractor will be granted an extension of time in which to complete the Work or any portion of the Work required under the Contract equivalent to the duration of the delay less a reasonable period of time within which the Contractor could have done necessary preliminary work.
3. When delay occurs due to reasonable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to "Acts of God," to war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or condition incident to any of the foregoing, acts of the Government, acts of the state or any political subdivision thereof, acts of other contracting parties over whose acts the Contractor has no control, fires, floods, epidemics, abnormal tides, (not including spring tides), severe coastal storms accompanied by high winds or abnormal tides, freezing of streams and harbors, abnormal time of winter freezing or spring thawing, interference from recreational boat traffic, use of beaches and recreational facilities for recreational purposes during the summer season, abnormal ship docking and berthing, unanticipated use of wharves and storage sheds, strikes except those caused by improper acts or omissions of the Contractor, extraordinary delays in delivery of materials caused by strikes, lockouts, wrecks, freight embargoes, the time for completion of the Work shall be extended as determined by the Engineer to be equitable.

4. An "Act of God" as used in this Article is understood to imply an earthquake, flood, cyclone, or other cataclysmic phenomenon of nature beyond the power of the Contractor to foresee or make preparation in defense of. A rain, windstorm or other natural phenomenon of normal intensity, based on United States Weather Bureau reports, for the particular locality and for the particular season of the year in which the Work is being prosecuted, shall not be construed as an "Act of God" and no extension of time will be granted for delays resulting therefrom. Within the scope of acts of the Government, consideration will be given to properly documented evidence that the Contractor has been delayed in obtaining any material or class of labor because of any assignment of preference ratings by the Federal Government or its agencies to other contracts.

5. In case the Work is delayed by public or private utility owners or municipal departments, see Article 3.5.

6. Each Extra Work Order or Change Order issued will include a statement of additional time, if any, that is agreed upon by the Contractor and the Engineer required for the completion of the Contract by reason of this Extra Work Order or Change Order, and no other time allowance due to the performance of the Work covered by such Extra Work Order or Change Order will be allowed.

B. An extension of time will not be granted for any delay or any suspension of the Work due to the fault of the Contractor, nor if a written request for an extension of time on account of delay due to any of the aforesaid causes is not filed within 15 days of the date of the commencement of the delay nor if the request is based on any claim that the Contract period as originally established was inadequate.

C. Contract period has been carefully considered and has been established for reasons of importance to the City. This time limit will be enforced.

D. The probable slow-down or curtailment of Work during inclement weather and winter months has been taken into consideration in determining the total time required to complete the Contract; hence no extension of time will be allowed due to this reason.

1. No extension of time will be allowed for winter conditions and weather conditions, except as described in Article 6.8.A.3.
6.9 FAILURE TO COMPLETE WORK ON TIME

A. On or before the expiration of the calendar days stated in Article 6.2 appearing herein before completion, or the date to which the time of completion will have been extended under the provisions of Article 6.8, the Work shall have been performed in accordance with the terms of the Contract. The time in which the various portions and whole of the Contract are to be provided and the Work is to be completed is an essential part of the Contract. The Contractor shall be responsible for and shall compensate the City in full for all costs incurred by the City due to the failure of the Contractor to complete all the work specified within the period of time as specified in Article 6.2; and for the case of the failure of the Contractor to complete the entire work within the time fixed in the Contract or any extension thereof.

B. In case the Work has not been substantially and physically completed by the time stipulated in the Contract Specification (or by the date in which the completion time may have been extended in accordance with Article 6.8), the Contractor shall pay to the City a designated sum per day for the entire period of overrun in accordance with the following Schedule of deductions unless a different amount is stated in the Supplementary Conditions.
SCHEDULE OF DEDUCTIONS

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C. Whatever the sum of money may become due and payable to the City by the Contractor under this Article may be retained out of money belonging to the Contractor in the hands and possession of the City. This Article shall be construed and treated by the parties to the Contract not as imposing a penalty upon the Contractor for failing fully to complete the Work as agreed on or before the time specified in the Contract Specification (as it may have been extended in accordance with Article 6.8), but as liquidated damages to compensate the City for all additional costs incurred by the City because of the failure of the Contractor fully to complete said Work on or before the date of completion specified in the Contract Specification (as it may have been extended).

D. Permitting the Contractor to continue and finish the Work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, shall not operate as a waiver on the part of the City of any of its rights under the Contract.

6.10 TERMINATION OF CONTRACT

A. If the Contractor shall be adjudged bankrupt, or make a general assignment for the benefit of creditors, or if a receiver shall be appointed of the Contractor's property, or if the work to be done under the Contract shall be abandoned, or if the Contract or any part thereof shall be sublet without the previous written consent of the City, or if the Contract or any claim thereunder shall be assigned by the Contractor otherwise than as herein specified, or at any time the Engineer certifies in writing to the City that the Work, or any part thereof, is unnecessarily or unreasonably delayed, or that the Contractor has violated any of the provisions of the Contract, the City may, by written notice, instruct the Contractor to discontinue the Work, or any part thereof, and thereupon the Contractor shall discontinue such Work or such part thereof, as the City may designate, and the City will require the Surety or Sureties to complete the Contract.
B. If the Engineer determines that the rate of progress as reflected by the Contractor's CPM submitted and approved in accordance with the requirements specified in the Sections of Division 1, General Requirements, is not satisfactory, the City, instead of notifying the Contractor to discontinue the Work or any part thereof, may notify the Contractor from time to time to increase the force, equipment, and plant, or any of them, employed on the whole or any part of the Work, stating the amount of increase required; and unless the Contractor shall, within 5 working days after such notice, increase such force, equipment, and plant to the extent required therein, and maintain and employ the same from day to day until the completion of the Work or such part thereof or until the conditions as to the rate of progress shall, in the Engineer's judgment, be fulfilled; or unless the Contractor submits and receives approval of a revised CPM indicating the Work being completed on time, the City may employ and direct the labors of such additional force, equipment, and plant as may, in the Engineer's judgment, be necessary to insure the completion of the Work or such part thereof within the time specified, or at the earliest possible date thereafter, and charge the expense thereof to the Contractor. Neither the notice from the City to the Contractor, to increase the force, equipment, or plant, nor the employment of additional force, equipment, or plant by the City shall be held to prevent a subsequent notice from the City to the Contractor to discontinue Work under the provisions of the preceding portion of this Article.

C. The Engineer may exercise the rights under this paragraph to rectify adverse conditions described in Article 3.10 and Article 4.4, and/or notify the Contractor's bonding company to take the necessary appropriate action to remedy the situation. It shall be understood that when the City exercises its rights hereinbefore described, the breach of Contract by the Contractor does not itself constitute termination unless stipulated by the City. The Contractor shall, as directed by the Engineer, continue other works of the Contract.

D. All expenses charged under this Article will be deducted and paid by the City out of any moneys then due or to become due the Contractor under the Contract, or any part thereof, and in such accounting, the City will not be held to obtain the lowest figures for the Work of completing the Contract or any part thereof, or for insuring its proper completion, but all sums actually paid therefore shall be charged to the Contractor. In case the expenses so charged are less than the sum which would have been payable under the Contract if the same had been completed by the Contractor, the Contractor will be entitled to receive the difference; and in case such expenses shall exceed the said sum, the Contractor shall pay the amount of the excess to the City upon completion of the Work without further demand being made therefore.

6.11 TERMINATION FOR CONVENIENCE

A. If the City determines that it is in the public interest to do so, the City may notify the Contractor to discontinue all work, or any part thereof. Such notice shall be given to the Contractor in writing and thereupon the Contractor shall discontinue such work, or such part thereof, as the City may designate.

B. If the City notifies the Contractor to discontinue all work, or any part thereof, the City shall pay and the Contractor shall accept, as full payment for all work done and materials provided, the following sums:

1. For all completed items of work for which there are unit prices provided in the Contract.
   a. The original contract unit prices.

2. For all work on partially completed items.
   a. A sum agreed to by the Contractor and the Engineer; or
   b. The sum of items i through vi.
i. The actual cost for direct labor, materials (less salvage value, if any) and use of equipment plus 10 percent of this total for overhead; and

The actual cost for Worker's Compensation and Employer's Liability Insurance, Health, Welfare and Pension Benefits, Social Security Deduction, and Employment Security Benefits; and

iii. Six percent of the total of i and ii for profit; and

iv. The estimated proportionate cost of surety bonds; and

v. The actual cost to the Contractor for work performed by a subcontractor plus 10 percent of such cost.

vi. No allowance will be made for general superintendence and the use of small tools and manual equipment.

3. For costs of settlement as:

a. Reasonable and necessary accounting, legal, clerical and other costs of work discontinuance; and reasonable and necessary storage, transportation and other costs incurred for the preservation, protection or disposition of the discontinued work.

b. When requested by the City, the Contractor shall furnish itemized statements of the cost of the work performed and shall give the City access to all accounts, bills and vouchers relating thereto and unless the Contractor, when requested, shall furnish such itemized statements and access to all accounts, bills and vouchers, he shall not be entitled to payment for the work for which such information is sought by the City.

c. The Contractor shall not be paid and the Contractor shall not have any claims for loss of anticipated profits, for loss of expected reimbursement or for any increased expenses resulting directly or indirectly from the discontinuance of any or all work or from unbalanced allocations, among the Contract items, of overhead expense on the part of the Bidder and subsequent loss of expected reimbursement therefore or for any other cause.

d. The Contractor shall incorporate the provisions of this Article and provisions in its Contracts with each of its subcontractors.

6.12 CLAIM FOR INEFFICIENCIES

A. Contractor shall have no claim for inefficiencies of any kind due to items including, but not limited to, the work, operations or schedule of this Contract or adjacent contracts, except as hereinafter provided.

1. The cost of the work as related to inefficiencies shall be included with all other costs as associated with the Extra Work as authorized by the Extra Work Order and included in the Change Order.

2. Additional claims for inefficiencies shall be brought by the Contractor within 30 days of the start of the work as authorized by the Extra Work Order.

a. Inefficiency claims brought by the Contractor after the 30 day period will be rejected by the City and the Engineer.
7.0 ARTICLE 7 - MEASUREMENT AND PAYMENT

7.1 MEASUREMENT OF QUANTITIES

A. Quantities of various items of work shall be determined, for purposes of payment, by the Engineer and by the Contractor. Measurements will be made according to United States standard units of measurement.

B. Method of measurement and computations to be used in determination of quantities of material furnished and of work provided under the Contract will be those methods generally recognized as conforming to good engineering practice.

C. The Contractor shall provide assistance to the Engineer, as requested by the Engineer, for the purpose of the measurement of quantities, at no additional cost to the City.

7.2 SCOPE OF PAYMENTS

A. The City will pay and the Contractor shall receive and accept the compensation as provided in the Schedule of Bid Items, in full payment for furnishing all materials, labor, tools and equipment, and for performing all work contemplated and embraced under the Contract; also for all loss or damage arising out of the nature of the Work, or from the action of the elements (except as specified in Article 5.21), or from any unforeseen difficulties or obstructions which may arise or be encountered during the prosecution of the Work (except as set forth in Article 2.9) until its final approval by the City, and for all risks of every description connected with the prosecution of the Work; also for all expenses incurred by or in consequence of the suspension or discontinuance of the said prosecution of the Work (except as provided in Article 6.7), and for any infringement of patent, trademark or copyright, and for completing the Work in an acceptable manner according to the Contract Documents.

B. Payment of any current estimate or any retainage percentage shall in no way constitute an acknowledgement of the acceptance of the Work or in no way or degree prejudice or affect the obligation of the Contractor, at his own cost and expense, to repair, correct, renew or replace any defects and imperfections in the construction of, or in the strength of, or quality of materials used in or about the construction of the Work under Contract and its appurtenances, as well as damages due or attributable to such defects; which defects, imperfections or damages shall have been discovered on or before the expiration of the guaranty period specified in Article 2.8. The Engineer shall be the sole judge of such defects, imperfections, or damages and the Contractor shall be liable to the City for failure to correct the same as provided herein. Also, see Article 5.24.

C. If the requirements of the Measurement and Payment Part or Article in the Contract Specifications relating to any price in the Schedule of Bid Items requires that said price cover and be considered compensation for certain work or material essential to the item, this same work or material will not also be measured or paid for under any other pay item which may appear elsewhere in the Contract Specifications.

D. Except as specifically provided otherwise, no separate payment will be made for any work in fulfillment of the requirements specified in the Sections of Division 1, General Requirements, and all costs thereof shall be included in the various prices bid or the pay items shown in the Schedule of Bid Items.

7.3 COMPENSATION FOR ALTERED QUANTITIES

A. When the accepted quantities of Work vary from the estimated quantities set forth in the Contract, and whether or not there have been any changes to the Contract Drawings, the Contractor shall accept as payment in full, so far as Contract items are concern, payment at the original Contract prices for the accepted quantities of work done. No allowance or other adjustment except as provided in Article 2.5 shall be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation among the Contract items of overhead expense on the part of the Contractor and subsequent loss of expected reimbursements therefore or from any other cause except the said payment for the actual quantity done at the original Contract unit price.

B. Alteration of the Contract Drawings or of the character of work involving Supplemental Agreements or Extra Work Orders as provided in Article 2.2 and 2.3 will be paid for at the prices for such items set forth therein. If prices cannot be agreed upon, the Contractor shall proceed with the performance of the work on a force account basis in accordance with the Article 7.4.B.
7.4 RESERVED

7.5 OMITTED ITEMS

A. Should any item or items of Contract Work be determined unnecessary for the proper completion of the Work, the City may, upon written notice to the Contractor, eliminate such item or items from the Contract and allowance will not be made for such items so eliminated in making final payment to the Contractor, except for such actual work as shall be done and materials purchased, including the cost of moving in and out the special equipment necessary for work on the eliminated item or items, prior to notification of the elimination of such item or items.

7.6 PARTIAL PAYMENTS

A. Monthly, the Engineer will make an estimate in writing of the total amount of the work done to the date of such estimate and the value thereof, including advance payments on products/materials stored or on hand but not yet incorporated in the Work which may be made as provided in Article 7.7. The City will retain the following from these payments:

1. Five percent of the approved amount of the payment to secure satisfactory performance of the Contract Work.

2. An amount sufficient to cover claims it has against the Contractor.

3. An amount sufficient to cover all demands for direct payment filed by subcontractors under Section 39F of Chapter 30 of the General Laws of the Commonwealth.

4. Five percent of the value of all items to be planted in the ground.

The City will pay monthly to the Contractor while carrying on the Work the balance not retained as hereinbefore provided. No such estimates or payment shall be required to be made when, in the Engineer's judgment, the Work is not proceeding in accordance with the provisions of the Contract, or when in the Engineer's judgment the total value of the Work done since the last estimate amounts to less than $500.00.

B. The City may, at its option, after 50 percent of the Work has been completed and (1) if the Work is proceeding in accordance with the approved CPM Construction Plan submitted under the requirements specified in the Sections of Division 1, General Requirements, and (2) is being performed in accordance with the Contract Documents, not retain the 5 percent to secure satisfactory performance of the Contract Work as provided in Article 7.6.A on any subsequent payments. However, if the City does not retain these monies, it will reimpose this 5 percent retainage on all subsequent payments should the Contractor fail to maintain progress in accordance with the Contract and approved schedule or fail to execute the Work as required by the Contract Documents. Retainages withheld under Articles 7.6.A.2 and 7.6.A.3 will remain in effect throughout the Contract Work period as detailed therein. Retainage withheld under Article 7.6.A.4 for plantings will be retained until Final Acceptance (see Article 7.9).

C. Partial payments will be made on lump sum contracts and on lump sum items of a contract if the Contractor requests partial payment of such an item, in accordance with a schedule of the quantities and unit prices for the major components of a lump sum contract or of the lump sum items of a contract to be submitted by the Contractor and approved by the Engineer prior to making partial payments for such contract or for such items.

1. For lump sum contracts, this schedule of major components shall approximate the activities shown on the CPM Construction Plan required under the Sections of Division 1, General Requirements.

2. Each component part shall be considered as including all its concomitance so that the total cost listed for the components is the contract cost for the item.

3. Approval of the schedule by the Engineer shall not be considered as a guarantee to the Contractor that the quantities shown on the schedule are the approximate quantities actually included in the lump sum item.

4. The schedule is only for the purpose of estimating partial payments and it shall not affect the Contract terms in any way.

D. The Contractor shall certify in writing by means of a Certification of Work that the work for which payment is included in the estimate in question has in fact been done. The Certification of Work form shall be developed by the Contractor and approved by the
Engineer. The Certification of Work form shall be completed and signed by an authorized representative of the Contractor and it shall be submitted to the City with each payment request.

E. Whenever the Work is substantially complete, the City may, if it considers the amount retained to be in excess of the amount adequate for its protection, at its discretion, release to the Contractor all or a portion of such excess amount and may cause the Contractor to be paid such portion of the retainage as it deems prudent.

F. When the first partial payment estimate is prepared, the Contractor shall submit to the Engineer a cash drawdown forecast indicating the estimated amount of each partial payment by month, projected through completion of the project. The Contractor shall, with each succeeding partial payment estimate, submit updated cash drawdown forecasts to the Engineer. The forecast is for the purpose of estimating cash requirements.

G. The Contractor shall develop a Statement of Payment to Subcontractor Form and the Engineer shall approve the form. The Statement of Payment to Subcontractor Form shall be completed and signed by an authorized representative of the Contractor and it shall be submitted to the City with each payment request.

7.7 RESERVED

7.8 SEMI-FINAL ESTIMATE

A. A semi-final estimate may be made, at the discretion of the City, under the following conditions:

1. If, after final inspection has been made, there are any payments or Extra Work items that are still in dispute between the Contractor and the City, either as to the quantity or value of work provided thereunder, such items or claims may be excluded from the final estimate, and payment for such disputed items may be deferred until such time as agreement has been reached between the Contractor and the City or until such claim has been adjudicated. In such case, a semi-final estimate shall be prepared within a period of 65 days after substantial completion of the Contract Work covering the value of Work provided and retained percentage on items of the Contract that are not in dispute and with disputed items or claims excluded but subject to deduction and retention of a sum sufficient to satisfy any and all outstanding claims or liens that have been duly filed by subcontractors and material men against the Contractor, or to cover amount of such claims or liens that may have been paid by the City directly to others for the Contractor’s account (see Article 5.17), and subject to deduction and retention from such payment any other amounts to be deducted and retained in accordance with the terms of the Contract. The existence of a dispute between the Contractor and the City as to any payment item or items shall not be considered a valid reason for delaying preparation of a semi-final estimate as provided herein.

3. In the event the Contract has been substantially completed and the Contract has been opened for operation or occupancy as directed in writing by the City, but final acceptance of the Work is subject to delay because of minor uncompleted items which do not impair the usefulness of the Contract, a semi-final estimate shall also be prepared within a like period of 65 days after the Contract has been substantially completed and opened for operation or occupancy. Such semi-final estimate shall include an estimate of the value of all Work provided in accordance with the terms of the Contract, including the amount of retained percentage withheld by the City from previous periodic payments, but excluding (a) the same deductions and retainage sufficient to cover subcontractors’ and materialmen’s claims and other amounts to be deducted and retained in accordance with the terms of the Contract as provided by the first paragraph of this Article; (b) an amount equal to the estimated value of the work remaining to be performed; and (c) any items or claims for Extra Work, or parts thereof, that may be in dispute; and payment for such excluded items or portions thereof, may be deferred until such remaining work has been satisfactorily completed, or in the case of disputed items or claims until such time as agreement has been reached thereon or such claims have been adjudicated.
A. When all of the physical work covered by the Contract has been substantially completed (see Article 3.11), the City will inform the Contractor in writing of the date of such final acceptance. Upon said date the Contractor's responsibility shall cease except as provided in his Bond(s) and as provided in Articles 2.8 and 5.24.

B. The Engineer shall, as soon as practicable after the satisfactory completion of the Contract, make a final estimate of the amount of Work done thereunder and the value of such Work. Within 65 days from and after the date the Work has been accepted by the Engineer, the City will forward to the Contractor a copy of the final estimate or semi-final estimate, as stipulated in Section 39G of Chapter 30 of the General Laws of the Commonwealth, which will include an agreement form for the Contractor's acceptance. After such acceptance has been filed with the Engineer, payments of the entire sum will be made, so found to be due thereunder after deducting therefrom all previous payments and all amounts to be kept and all amounts to be retained under the provisions of the Contract. All prior partial estimates and payments will be subject to correction in the final estimate and payment. If within 6 months from the date the final estimate is forwarded to the Contractor, the Contractor has not filed a valid, as determined by the Engineer, written reason(s) for not accepting the final estimate, the final estimate will be considered acceptable to the Contractor and payment of final estimate made.

C. Acceptance by the Contractor of the final payment shall operate as and will be a release to the City and every member, agent and employee thereof, from all claims and liability to the Contractor for anything done or furnished for, or relating to, the Work, or for any act or neglect of the City or of any person relating to or affecting the Work, except the claim against the City for the remainder if any there be, of the amounts kept or retained to satisfy liens or claims pending against the Contractor.

END OF ARTICLE 7
END OF GENERAL CONDITION
NOTICE REGARDING RESPONSIBLE EMPLOYER ORDINANCE (REO)
CITY OF NEW BEDFORD

DATE: April 21, 2016
TO: ALL POTENTIAL BIDDERS
FROM: OFFICE OF PROCUREMENT


The City is temporarily suspending the enforcement of these sections because of the above referenced legal precedent. However, the City believes that the ultimate goals reflected in the REO are important and the City encourages voluntary compliance with the spirit of these provisions. Moreover, the City will monitor all contractors who are awarded contracts to determine whether they are making a good faith effort to abide by the spirit of these provisions. Moving forward, the City is particularly interested in ensuring that the hiring and training of the local workforce is a top priority on all City projects. The City is willing to work closely with all successful bidders by assisting them in identifying viable well-trained workers who are residents of the City of New Bedford.

The sections listed below will not be enforced at this time. All other sections of the City Ordinance will be strictly enforced.

Section 10-76:

In order to assist to the unemployment rate, to assist the problem of businesses leaving the region, to decrease the number of businesses filing bankruptcy, to combat the recession in the region, to assist the problem caused by the reduction of local aid from the commonwealth and to assist in preventing the depletion of the tax base, all general and subcontractors constructing or rehabilitating public works projects which have a projected cost of more than one hundred thousand dollars ($100,000.00) and are funded in full or in part with federal, state, or city funds, shall have the worker hours on a craft by craft basis performed by residents of the City of New Bedford, who shall comprise at least fifty (50) percent of the total employee man-hours in each trade, excluding the employer's foreman or supervisor and two (2) other key employees.

Section 10-76 (4):

Any person who provides false information regarding his or her residence shall be penalized three hundred dollars ($300.00); Any contractor or subcontractor who violates the provisions of this section shall be penalized three hundred dollars ($300.00) per day for each and every day the ordinance is in violation. Said penalty shall be levied and withheld from payments due the contractor or subcontractor.
Section 10-77 (a)(3):

The bidder and all subcontractors under the bidder must maintain or participate in a bona fide apprentice training program, as defined by M.G.L.A. c. 23, §§ 11H and 11I, for each apprenticeable trade or occupation represented in their workforce that is approved by the division of apprentice training of the department of labor and industries and must abide by the apprentice to journeyman ratio for each trade prescribed therein in the performance of the contract.

Section 10-77 (a)(4)

The bidder and all subcontractors under the bidder must furnish, at their expense, hospitalization and medical benefits for all their employees employed on the project and/or coverage at least comparable in value to the hospitalization and medical benefits provided by the health and welfare plans in the applicable craft recognized by M.G.L.A c. 149 § 26, in establishing minimum wage rates.
CERTIFICATE OF NON-COLLUSION

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

____________________________________
Signature of individual submitting bid

____________________________________
Name of business/organization

Submit with Bid
TAX COMPLIANCE CERTIFICATION

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

________________________________________
Signature of person submitting bid

________________________________________
Name of business

Submit with Bid
CITY OF NEW BEDFORD
MASSACHUSETTS

VOTE OF CORPORATION AUTHORIZING
EXECUTION OF CORPORATE AGREEMENTS

At a meeting of the Board of Directors of _________________ duly called and held on _____________, 20____ at which a quorum was present and acting throughout, the following vote was duly adopted.

VOTED: That ____________________________, the_________________________ of the corporation, be and hereby is authorized to affix the Corporate Seal, sign and deliver in the name and behalf of the corporation contract documents with the City of New Bedford, the above mentioned documents to include but not be limited to Bids, Proposals, Deeds, Purchase and Sales Agreements, Agreements, Contracts, Leases, Licenses, Releases and Indemnifications; and also to seal and execute, as above, surety company bonds to secure bids and proposals and the performance of said contract and payment for labor and materials, all in such form and on such terms and conditions as he/she, by the execution thereof, shall deem proper. A true copy

ATTEST:

______________________________
Name (printed)

______________________________ (Affix Corporate Seal)
Signature

______________________________  ________________
Title       Date

Submit with Bid
CONTRACTOR CERTIFICATION

As evidenced by the signature of the Contractor’s Authorized signatory below, the Contractor certifies under the pains and penalties of perjury that the Contractor shall not knowingly use undocumented workers in connection with the performance of any City contract; that pursuant to federal and state requirements, the Contractor shall verify the immigration status of all workers assigned to such contracts without engaging in unlawful discrimination; and that the Contractor shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker(s). The Contractor understands and agrees that breach of any of these terms during the period of each contract may be regarded as a material breach, subjecting the Contractor to sanctions, including but not limited to monetary penalties, withholding of payments, contract suspension or termination.

_____________________________
Contractor Authorized Signature

___________________________
Printed Name

___________________________
Date

Title_______________________Telephone:_____________________

Fax:____________________Email:____________________

Submit with Bid
OSHA CERTIFICATION REQUIREMENT

Effective July 1, 2006, all employees of a contractor to be employed on public building and public works worksites must have successfully completed at least a 10 hour course in construction safety and health approved by OSHA at the time the employee begins work.

I, __________________________, as ______________________________, of the
(Print Name) (Position with the entity submitting bid)

joint venture/corporation/partnership or other legal entity submitting this bid for a public works project falling under §39M of Chapter 30 of the Massachusetts General Laws and Chapter 149 of the same, do hereby certify that any and all employees found on my worksite for this project have, or will have by the start of their work on the project, successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that was at least 10 hours in duration.

A copy of the OSHA completion cards for each employee must be submitted to the City of New Bedford before work on this project is to begin and must be supplemented as new employees are hired or contracted to work on this project.

___________________________________, as
Signature

___________________________________, of
Position

___________________________________, on
Company/Corporation/Joint Venture/Partnership/Etc.

Date

Submit with Bid
OWNER - CONTRACTOR AGREEMENT

This agreement ("Contract") is made as of the _____ day of_________________, 20___, by and between the City of New Bedford acting by and through its ______________(Department)_____________ with a principal place of business at 133 William Street, New Bedford, MA 02740 and _____________________________, a ____________________________, with a principal place of business at ____________________________, hereinafter called the “Contractor.”

Terms used in this Owner - Contractor Agreement which are defined in the General Conditions of the Contract shall have the meanings designated therein.

The Awarding Authority and the Contractor agree as follows:

Article 1. Scope of Work. The Work under this Contract is defined as all work required by the Contract Documents for the construction of ________________________________, City of New Bedford Contract No. _______________________, in accordance with and as described in the Plans and Specifications dated _____, 20______, prepared by _______________________________________("Designer"), as modified by Addenda Nos. _____,dated ___20___.

Article 2. Time for Completion. The Contractor shall commence the Work under this Contract on the date specified in the written “Notice to Proceed,” and shall, within ___ days after such date, bring the Work to Substantial Completion and to the point at which a Certificate of Agency Use and Occupancy may be issued, and shall bring the Work to Final Acceptance within 45 days after the date specified for Substantial Completion.

Article 3. Contract Price. The Awarding Authority shall pay the Contractor, in current funds, for the performance of the Work, subject to additions and deductions by Approved Change Order(s), the Contract Price of ________________________ Dollars ($______________________________). The Unit Prices, if any, approved by the Awarding Authority are those included in the Contractor’s General Bid. The following Alternates have been accepted and their costs are included in the Contract Price:

Alternate No(s):

Article 4. Approved Subcontractors. The filed Subcontractors listed in the Contractor’s General Bid submitted by the Contractor have been approved for the performance of the specified portions of the Work. No other filed Subcontractors and no non-filed Subcontractors shall be used for these or any other portions of the Work without the prior written approval of the Awarding Authority.
**Article 5. Certifications.** Pursuant to M.G.L. c. 62(c), s.49 (a), the individual signing this Contract on behalf of the Contractor hereby certifies, under the penalties of perjury, that to the best of his or her knowledge and belief the Contractor has complied with any and all applicable state and federal tax laws. The individual signing this Contract on behalf of the Contractor further certifies under penalties of perjury that the Contractor is not presently debarred from doing public construction work in the Commonwealth under the provisions of M.G.L. c. 29, s. 29F, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder and is not presently debarred from doing public construction work by any agency of the United States.

**Article 6. The Contract Documents:** The following documents form the Contract, are incorporated by reference herein, and are referred to as the “Contract Documents:”
- The Instructions to Bidders
- The General Bid submitted by the Contractor
- This Owner — Contractor Agreement
- The General Conditions of the Contract
- The Supplementary General Conditions
- The Plans and Specifications, including Addenda identified in Article 1 above
- All Approved Change Orders issued after execution of this Owner - Contractor Agreement

**Article 7. Minority Business Enterprise and Women Business Enterprise Participation Goals and Minority/Women Workforce Utilization Percentages:** The applicable goals, if any, for minority business enterprise and woman business enterprise participation established for this Contract are as follows:


The applicable minority workforce utilization percentage, if any, is ____________.

The applicable women workforce utilization percentage, if any, is ____________.

**Article 8. Liquidated Damages.** For the purposes of Article VI of the General Conditions of the Contract, liquidated damages for delay shall be as follows:

$______________________________ Per day
IN WITNESS WHEREOF: The City of New Bedford has caused its corporate seal to be hereto affixed and the parties have executed this Agreement, signed this the twenty-sixth day of April 2016.

THE CITY OF NEW BEDFORD –

BY: __________________________   BY: __________________________
    Jonathan F. Mitchell           Ari Sky
    Mayor                          Chief Financial Officer

Certified that funds are available

Approved as to form and Legality

BY: __________________________   BY: __________________________
    Robert Eckstrom               Shannon C. Shreve
    City Auditor                   Counsel II

BY: __________________________
    Susan Bruce, Purchasing Agent
EQUAL EMPLOYMENT OPPORTUNITY (EEO)

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS
(EXECUTIVE ORDER NO. 11246)

1. As used in these specifications:
   a. "Covered Area" means the geographical area described in the solicitation from which this Contract resulted;
   b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
   c. Employer Identification Number" means the Federal Social Security Number used on the employer's quarterly Federal tax return, US Treasury Department Form 941;
   d. "Minority" includes:
      (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
      (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
      (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
      (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

4. If the Contractor is participating (pursuant to 41 CFR § 60-4.5) in a hometown plan approved by the US Department of Labor in the covered area, either individually or through an association, its affirmative action obligations on all work in the plan area (including goals and timetables) shall be in accordance with that plan for those trades which have unions participating in the plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such hometown plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO Clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved plan does not excuse any covered contractor's or subcontractor's failure to make good faith efforts to achieve the plan goals and timetables.
3. The Contractor shall implement the specific affirmative action standards provided in paragraphs (7)(a) through (p) of these specifications. The goals set forth in the solicitation from which this Contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should be reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs Office or from Federal Procurement Contracting Officers. The Contractor is expected to make substantially uniform progress toward its goal in each craft during the period specified.

4. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order No. 11246, or the regulation promulgated pursuant thereto.

5. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

6. The Contractor shall take specific affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

   a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

   b. Establish and maintain a current list of minority and female recruitment sources, provide written notice to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

   c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

   d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other
information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under (7)(b) above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the Company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the Company's EEO policy and affirmative action obligations under these specifications with all employees having responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as superintendents, general foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.

i. Direct recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notice to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of the Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors’ adherence to and performance under the Contractor’s EEO policies and affirmative action obligations.

7. Contractors are encouraged to participate in voluntary associations that assist in fulfilling one or more of their affirmative action obligations set forth in paragraphs (7)(a) through (p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under paragraphs (7)(a) through (p) of these specifications, provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor’s minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor’s and failure of such a group to fulfill an obligation shall not be a defense for the Contractor’s noncompliance.

8. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (even though the Contractor has achieved its goal for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

9. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

10. The Contractor shall not enter into any subcontract with any person or firm debarred from government contracts pursuant to Executive Order No. 11246.

11. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the equal opportunity clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order No. 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order No. 11246, as amended.

12. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph (7) of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR § 60-4.8.
13. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the Company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the extent that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

14. Nothing herein provided shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).
NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(EXECUTIVE ORDER NO. 11246)

(1) The Offeror’s or Bidder’s attention is called to the “equal opportunity clause” and the “standard federal equal employment specifications” set forth herein.

(2)(a) The goals and the timetables for minority and female participation, expressed in percentage terms for the Contractor’s aggregate work force in each trade on all construction work in the covered area, are as follows:

<table>
<thead>
<tr>
<th>Timetables and Goals for Minority Participation in Each Trade</th>
<th>Goals for Female Participation in Each Trade</th>
<th>Goals for Minority Participation in Each Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>See the following:</td>
<td>6.9%</td>
<td>18%</td>
</tr>
<tr>
<td>The Commonwealth of Massachusetts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplemental Equal Employment Opportunity</td>
<td></td>
<td></td>
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<tr>
<td>Anti-Discrimination and Affirmative Action Program</td>
<td></td>
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<tr>
<td>See the following:</td>
<td></td>
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<tr>
<td>The Commonwealth of Massachusetts</td>
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</tr>
<tr>
<td>Anti-Discrimination and Affirmative Action Program</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(2)(b) These goals are applicable to all the Contractor’s construction work (whether or not it is federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non federally involved construction.

(2)(c) The Contractor’s compliance with the Executive Order and the regulations at 41 CFR § 60-4 shall be based on its implementation of the equal opportunity clause, specific affirmative action obligations required by the specifications set forth at 41 CFR § 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the Contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employee or trainees from contractor to contractor or from project to project for the sole purpose of meeting the Contractor’s goals shall be a violation of the Contract, the Executive Order, and the regulations at 41 CFR § 60-4. Compliance with the goals will be measured against the total work hours performed.

(3) The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the Contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

(4) As used in this Notice, and in the Contract resulting from this solicitation, the “covered area” is *** FILL IN *** *** (see Notice to Bidders)(See also, Definition in EEO) ***.
THE COMMONWEALTH OF MASSACHUSETTS

SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY
ANTI-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM


II. During the performance of this Contract, the Contractor and all of (his) subcontractors (hereinafter collectively referred to as the Contractor), for himself, his assignees, and successors in interest, agree as follows:

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

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

III. 1. As part of his obligation of remedial action under the foregoing section, the Contractor shall maintain on this project a not less than *** FILL IN *** percent ratio of minority employee man hours to total man hours in each job category, including but not limited to bricklayers, carpenters, cement masons, electricians, ironworkers, operating engineers, and those classes of work enumerated in Section 44F of Chapter 149 of the General Laws of the Commonwealth.

2. In the hiring of minority journeymen, apprentices, trainees and advanced trainees, the Contractor shall rely on referrals from a multi employer affirmative action program approved by the Commission, traditional referral methods utilized by the construction industry, and referrals from agencies, not more than three in number at any one time, designated by the Liaison Committee or the Commission.
IV.  1. At the discretion of the Commission there may be established for the life of this Contract a body to be known as the Liaison Committee. The Liaison Committee shall be composed of one representative each from the agency or agencies administering this project, herein after called the administrating agency, the Commission and such other representatives as may be designated by the Commission in conjunction with the administrating agency.

2. The Contractor (or his agent, if any, designated by him the on-site equal opportunity officer) shall recognize the Liaison Committee as an affirmative action body, and shall establish a continuing working relationship with the Liaison Committee, consulting with the Liaison Committee on all matters related to minority recruitment, referral, employment and training.

3. The Contractor shall prepare projected manning tables on a quarterly basis. These shall be broken down into projections, by week, of workers required in each trade. Copies shall be furnished one week in advance of the commencement of the period covered, and also when updated, to the Commission and Liaison Committee.

4. Records of employment referral orders, prepared by the Contractor, shall be made available to the Commission and to the Liaison Committee on request.

5. The Contractor shall prepare weekly reports in a form approved by the Commission of hours worked in each trade by each employee, identified as minority or non-minority. Copies of these shall be provided at the end of each such week to the Commission and to the Liaison Committee.

V. If the Contractor shall use any subcontractor on any work performed under this Contract, he shall take affirmative action to negotiate with qualified minority subcontractors. This affirmative shall cover both pre-bid and post-bid periods. It shall include notification to the Office of Minority Business Assistance (within the Executive Office of Communities and Development) or its designee, when bids are in preparation, of all products, work or services for which the Contractor intends to negotiate bids.

VI. In the employment of journeymen, apprentices, trainees and advances trainees, the Contractor shall give preference, first, to citizens of the Commonwealth who have served in the Armed Forces of the United States in time of war and have been honorably discharged therefrom or released from active duty therein, and who are qualified to perform the work to which the employment relates, and, secondly, to citizens of the Commonwealth generally, and, if such cannot be obtained in sufficient numbers, then to citizens of the United States.

VII. A designee of the Commission and a designee of the Liaison Committee shall each have right of access to the construction site.

VIII. Compliance with Requirements

The Contractor shall comply with the provisions of Executive Order No. 74, as amended by Executive Order No. 116 dated May 1, 1975, and of Chapter 151B as amended, of the Massachusetts General Laws, both of which are herein incorporated by reference and made a part of this Contract.
IX. Non-Discrimination

The Contractor, in the performance of all work after award, and prior to completion of the contract work, will not discriminate on grounds of race, color, religious creed, national origin, age or sex in employment practices, in the selection or retention of subcontractors, or in the procurement of materials and rentals of equipment.

X. Solicitation for Sub-Contracts, and for the Procurement of Materials and Equipment

In all solicitation either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of materials or equipment each potential subcontractor or supplier shall be notified in writing by the Contractor of the Contractor’s obligations under this Contract relative to non-discrimination and affirmative action.

XI. Bidders Certification Requirement

For Bidders certification requirements, please refer to the Form for Bid included in the Proposal Form for this Contract.

XII. Contractor’s Certifications

The Contractor’s Certification Form must be signed by all successful low Bidder(s) prior to award by the contracting agency.

XIII. Compliance – Information, Reports and Sanctions

1. The Contractor will provide all information and reports required by the administering agency or the Commission on instructions issued by either of them and will permit access to its facilities and any books, records, accounts and other sources of information which may be determined by the Commission to affect the employment of personnel. This provision shall apply only to information pertinent to the Commonwealth’s supplementary affirmative action contract requirements. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the administering agency or the Commission as appropriate and shall set forth what efforts he has made to obtain the information.

2. Whenever the administering agency, the Commission, or the Liaison Committee believes the General Contractor or any subcontractor may not be operating in compliance with the terms of this Section, the Commission directly, or through its designated agent, shall conduct an appropriate investigation, and may confer with the parties, to determine if such Contractor is operating in compliance with the terms of this Section. If the Commission or its agent finds the General Contractor or any subcontractor not in compliance, it shall make a preliminary report on non-compliance, and notify such Contractor in writing of such steps as will in the judgment of the Commission or its agent bring such Contractor into compliance. In the event that such Contractor fails or refuses to fully perform such steps, the Commission shall make a final report of non-compliance, and recommend to the administering agency the imposition of one or more of the sanctions listed below. If, however, the Commission believes the General Contractor or any subcontractor has taken or is taking every possible measure to achieve compliance, it shall not make a final report of non-compliance. Within fourteen days of the receipt of the recommendations of the Commission, the administering agency shall move to impose one or more of the following sanctions, as it may deem appropriate to attain full and effective enforcement:
(a) The recovery by the administering agency from the General Contractor of 1/100 of 1% of the Contract award price or $1000 whichever sum is greater, in the nature of liquidated damages or, if a subcontractor is in non-compliance, the recovery by the administering agency from the General Contractor to be assessed by the General Contractor as a back charge against the subcontractor, of 1/10 of 1% of the subcontract price, or $400 whichever sum is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply;

(b) The suspension of any payment or part thereof due under the Contract until such time as the General Contractor or any subcontractor is able to demonstrate his compliance with the terms of the Contract;

(c) The termination, or cancellation, of the Contract, in whole or in part, unless the General Contractor or any subcontractor is able to demonstrate within a specified time his compliance with the terms of the Contract;

(d) The denial to the General Contractor or any subcontractor of the right to participate in any future contracts awarded by the administering agency for a period of up to three years.

3. If at any time after the imposition of one or more of the above sanctions a Contractor is able to demonstrate that he is in compliance with this Section, he may request the administering agency, in consultation with the Commission to suspend sanctions conditionally, pending a final determination by the Commission as to whether the Contractor is in compliance. Upon final determination of the Commission, the administering agency, based on the recommendation of the Commission, shall either lift the sanctions or reimpose them.

4. Sanctions enumerated under Section XIII-2 shall not be imposed by the administering agency except after an adjudicatory proceeding, as that term is used M.G.L. c. 30A, has been conducted. No investigation by the Commission or its agent shall be initiated without prior notice to the Contractor.

XIV. Severability

The provisions of this section are severable, and if any of those provisions shall be held unconstitutional by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions.

XV. Goals

Minority Manpower Utilization (MMU) percent is *** FILL IN *** for participation in each trade for each year.

*** COORDINATE WITH THE COMMISSION. ***

XVI. Contractor’s Certification

A Contractor will not be eligible for award of a Contract unless such Contractor has submitted the following certification, which is deemed a part of the resulting Contract:
CONTRACTOR’S CERTIFICATION

_____________________________________________
(Name of Contractor)

Certifies that:

1. It intends to use the following listed construction trades in the Work under the Contract

______________________________________
______________________________________
______________________________________

and

2. will comply with the minority manpower ratio and specific affirmative action steps contained herein; and

3. will obtain from each of its subcontractors and submit to the contracting or administering agency prior to the award of any subcontract under this Contract the subcontractor certification required by these Bid considerations.

________________________________________________
(Signature of Authorized Representative of the Contractor)

Submit with Bid
XVII. Subcontractor’s Certification

Prior to the award of any subcontract, regardless of tier, the prospective subcontractor must execute and submit to the Prime Contractor the following certification, which will be deemed a part of the resulting subcontract:

**SUBCONTRACTOR’S CERTIFICATION**

________________________________________________________
(Name of Subcontractor)

Certifies that:

1. It intends to use the following listed construction trades in the work under the subcontract _______
   ___________________________________________________
   ___________________________________________________ and

2. will comply with the minority manpower ratio and specific affirmative action steps contained herein; and

3. will obtain from each of the subcontractors prior to the award of any subcontract under this subcontract the subcontractor certification required by these Bid considerations.

________________________________________________________
(Signature of Authorized Representative of the Subcontractor)

In order to ensure that the said Subcontractor’s Certification becomes a part of all subcontracts under the Prime Contract, no subcontract shall be executed until an authorized representative of the state agency (agencies) administering this project has determined, in writing, that the said certification has been incorporated in such subcontract, regardless of tier. Any subcontract executed without such written approval shall be void.
INSTRUCTIONS TO BIDDERS
For
AFFIRMATIVE ACTION ISSUES
for Public Works and Construction Projects

Office of Equal Opportunity & Contract Compliance
133 William Street, Room 208
New Bedford, Massachusetts 02740
ph: 508-979-1446 / fax: 508-991-6148
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**AA.01: Definitions**

*relevant to the requirements set forth in this bidding document*

**Construction Bidding Statutes***

**Public Works Projects**
Governed under Massachusetts General Laws, ch. 30, sec. 39M.
Includes all municipal contracts for construction, reconstruction, alteration, remodeling, and/or repair/s estimated to cost more than $5,000 which does not include work on a building. Includes the construction and repair of roads, bridges, water mains, sewers, and the like, as well as improvement to public land (i.e.: operation of a municipal landfill, removal of waste materials, grading, erosion control, and other forms of improvement and maintenance.

Also governs contracts of $5,000 - $25,000 for construction, reconstruction, installation, demolition, maintenance, or repair work on a building.

**Building Projects**
Governed under Massachusetts General Laws, Ch. 149, sec. 44.
Includes all contracts for the construction, reconstruction, installation, demolition, maintenance, or repair of a building at an estimated cost of more then $25,000.

**Lowest Eligible & Responsible Bidder***
Massachusetts G.L. c. 30, sec. 39M; c. 149, sec. 44A state that the contract be awarded to the lowest eligible and responsible bidder.

**Eligible** means the bidder meets all the requirement set forth in the bidding documents.

**Responsible** means the bidder possesses the skill, ability, and integrity to complete the job.

**Reasonable Accommodations**
Any change in work environment or the way job duties are customarily performed that enables individuals with disabilities to perform the essential functions of the job in issue, or that ensures equal opportunity for individuals with disabilities with respect to the application process or the enjoyment of benefits and privileges of employment.

**Administering Agency**
The agency that administers the state, state-assisted, or federally assisted contract awarded by the contracting agency

**Contracting Agency**
The agency that directly awards the contract

**Contractor**
Any general contractor and all subcontractors

* This information is taken directly from *Designing and Constructing Municipal Facilities: Legal Requirements; Recommended Practices; Sources of Assistance* Published by, William Francis Galvin, Secretary of the Commonwealth, Office of the Inspector General, Oct. 1989.
AA.01: continued

Minority / Women Business Enterprise
As defined by the Massachusetts State Office of Minority/Women Business Assistance (SOMWBA). In summary, an MBE/WBE is a business at least fifty-one percent (51%) owned or controlled by minority/women group members, or an individual contractor or professional who is a minority/women group member (as defined by SOMWBA).

Minority refers to:

**Native American**
A person having origin in any of the original people of North America, who is recognized as American Indian by a tribe or tribal organization or is recognized as such within his/her community

**Asian**
A person having origin in any of the original people of the Far East, Southeast Asia, Indian Subcontinent, Korea, Philippines, and Samoa

**Black**
A person having origin in any of the black racial groups of Africa

**Cape Verdean**
A person having origin in any of the original people of the Cape Verde Islands

**Eskimo / Aleut**
A person having origin in any of the original people of Northern Canada, Greenland, Alaska, and East Siberia

**Hispanic**
A person of Spanish descent and culture having origin in Mexico, the Island of the Caribbean, Central America or South America
AA.02: Statement of Policy

MINORITY/WOMAN BUSINESS ENTERPRISE PROGRAM

It is the policy of the government of the United States of America, the Commonwealth of Massachusetts and the City of New Bedford, that no person shall be discriminated against in any manner whatsoever, on the grounds of race, color, age, national origin, disability, religion, or sex.

Under this policy, the minority and woman business enterprises shall have the maximum practicable opportunity to participate in federally assisted projects, and shall not be excluded from such participation, nor denied the benefits of or be subjected to discrimination under any program or activity receiving federal assistance.

The City of New Bedford unequivocally ascribes to said policies as the recipient of Federal and state financial assistance, in connection with its activities, and may receive further Federal and State financial assistance in the future.

The City of New Bedford strongly affirms that it will not discriminate in any contractual procedure against any person because of race, color, age, national origin, disability, religion, or sex, or any other condition that is a bona fide qualification. This policy shall be administered at all levels with a positive, aggressive and supportive attitude by all department heads.

It is the responsibility of all department heads and employees to take affirmative steps to implement this policy to ensure equality of opportunity in conducting the affairs of the City of New Bedford, including notifying those persons and businesses doing business with the City of New Bedford, that contracts for goods and services and construction, shall be made without, reference to race, color, age, national origin, disability, religion or sex.

This Minority/Woman Business Enterprise Program sets forth the administrative standards for the further implementation of the City of New Bedford’s policy for the utilization of minority and female contractor, subcontractors, and suppliers.

Each department shall ensure that all solicitation in advertisements includes a statement of the City’s affirmation action policy, in an approved format.

The city’s Equal Opportunity Officer shall be responsible for ensuring that all aspects of the MBE/WBE program are initiated and undertaken. By virtue of the delegation of this responsibility and authority to direct the program, the Contract Compliance Officer will report directly to the Mayor on equal opportunity matters. The Equal Opportunity Officer shall be responsible for the development, administration, and monitoring of all activities necessary to ensure the accomplishment and success of this program.

NOW, THEREFORE IT IS HEREBY RESOLVED that the following Minority/Woman Business Enterprise Program is instituted for and in behalf of the City of New Bedford.

Mayor Jonathan F. Mitchell

Date 2/15/12

Revised 2007
NOTICE REGARDING RESPONSIBLE EMPLOYER ORDINANCE (REO)
CITY OF NEW BEDFORD

DATE: October 21, 2016
TO: ALL POTENTIAL BIDDERS
FROM: OFFICE OF PROCUREMENT


The City is temporarily suspending the enforcement of these sections because of the above referenced legal precedent. However, the City believes that the ultimate goals reflected in the REO are important and the City encourages voluntary compliance with the spirit of these provisions. Moreover, the City will monitor all contractors who are awarded contracts to determine whether they are making a good faith effort to abide by the spirit of these provisions. Moving forward, the City is particularly interested in ensuring that the hiring and training of the local workforce is a top priority on all City projects. The City is willing to work closely with all successful bidders by assisting them in identifying viable well-trained workers who are residents of the City of New Bedford.

The sections listed below will not be enforced at this time. All other sections of the City Ordinance will be strictly enforced.

Section 10-76:

In order to assist to the unemployment rate, to assist the problem of businesses leaving the region, to decrease the number of businesses filing bankruptcy, to combat the recession in the region, to assist the problem caused by the reduction of local aid from the commonwealth and to assist in preventing the depletion of the tax base, all general and subcontractors constructing or rehabilitating public works projects which have a projected cost of more than one hundred thousand dollars ($100,000.00) and are funded in full or in part with federal, state, or city funds, shall have the worker hours on a craft by craft basis performed by residents of the City of New Bedford, who shall comprise at least fifty (50) percent of the total employee man-hours in each trade, excluding the employer's foreman or supervisor and two (2) other key employees.

Section 10-76 (4):

Any person who provides false information regarding his or her residence shall be penalized three hundred dollars ($300.00): Any contractor or subcontractor who violates the provisions of this section shall be penalized three hundred dollars ($300.00) per day for each and every day the ordinance is in violation. Said penalty shall be levied and withheld from payments due the contractor or subcontractor.

Section 10-77 (a)(3):

The bidder and all subcontractors under the bidder must maintain or participate in a bona fide apprentice training program, as defined by M.G.L.A. c. 23, §§ 11H and 11I, for each apprenticeable trade or occupation represented in their workforce that is approved by the division of apprentice training of the department of labor and industries and must abide by the apprentice to journeyman ratio for each trade prescribed therein in the performance of the contract.
Section 10-77 (a)(4)

The bidder and all subcontractors under the bidder must furnish, at their expense, hospitalization and medical benefits for all their employees employed on the project and/or coverage at least comparable in value to the hospitalization and medical benefits provided by the health and welfare plans in the applicable craft recognized by M.G.L.A c. 149 § 26, in establishing minimum wage rates.
City of New Bedford
133 William Street
New Bedford, MA 02740

EEO/AA POLICY STATEMENT

City of New Bedford has a statutory mandate under law to guarantee equal treatment for all who seek access to its services or opportunities for employment and advancement. No discrimination will be tolerated on the basis of race, creed, political affiliation, color, sex, national origin, age, or handicap. The ultimate goal is for personnel of this organization to reflect the proportions of minority, female, and handicapped persons in the populations they serve.

City of New Bedford will meet its legal, moral, social, and economic responsibilities for Equal Employment Opportunity/Affirmative Action as authorized and required by all pertinent state and federal legislation, executive orders and rules and regulations, including the following:

1. Title II of the Civil Rights Act of 1964 (42 USC s2000e et seq), which prohibits discrimination in employment on the basis of race, color, religion, sex, or national origin; and

2. The Age Discrimination in Employment Act of 1967 (29 USC s621 et seq.), which prohibits discrimination in employment on the basis of age with regard to those individuals who are at least 40 years of age, but less than 65 years of age; and

3. Section 504 of the Rehabilitation Act of 1973 (29 USC s794), and the regulations promulgated pursuant thereto (45 CFR Part 84), which prohibit discrimination against qualified handicapped individuals on the basis of handicap and requires employers to make reasonable accommodations to known physical or mental limitations of otherwise qualified handicapped applications and employees; and

4. M.G.L. c. 151B s4 (1), as amended by Chapter 533, 1983, which prohibits discrimination in employment on the basis of race, color, sex, religious creed, national origin, ancestry, age or handicap,

In addition, the Provider agrees to be familiar with and abide by:

+ Massachusetts Executive Order S24
+ Massachusetts Executive Order S26
+ Equal Pay Act of 1963
+ Massachusetts Architectural Barriers Board Act
+ Federal Executive Orders 11246 and 11375 as amended.
All employees, unions, sub contractors and vendors must make genuine and consistent efforts:

1. To ensure equal employment opportunities for present and future employees, and
2. To implement affirmative action, as legally required, to remedy the effects of past employment discrimination and social inequalities.

The responsibility for implementing and monitoring this policy has been delegated to:

__________________________
EEO Contract Compliance Officer

Name and Title of Employee

Furthermore, ________________
City of New Bedford
prohibits that any employee, or applicant, be subjected to coercion, intimidation, interference or discrimination for filing a complaint or assisting in an investigation under this program. No portion of this Equal Employment Opportunity/Affirmative Action Policy shall be construed as conflicting with any existing or future judicial or legislative mandate where a constriction consistent with that mandate is reasonable.

__________________________
Signature of Chief Executive

__________________________
Mayor

__________________________
Title of Chief Executive

__________________________
Date
**AA.03: City of New Bedford Ordinances - Synopsis**

*See Appendix A for complete City Ordinances relevant to this bid document*

1. Residency Requirements for Certain City-Supported Construction Projects, Chap. 10, Article II.
   
   (a) shall apply to all general and subcontractors of public works projects which have a projected cost of more than $100,000.00
   
   (b) fifty (50) percent of the total employee man-hours in each trade must be performed by residents of the City of New Bedford (excluding the employer’s foreman or supervisor and two other key employees.)*
   
   * Contact the N.B. EEO Dept. for further assistance in this matter.
   
   (c) resident is defined as someone having his/her true, fixed, and permanent home and principal establishment in the City of New Bedford, for a minimum of six (6) months prior to the contract bid opening date.


   (a) shall apply to all bidders and subcontractors for projects subject to MGL c. 149
   
   (b) not applicable to construction projects where the low general bid was less than $100,000; to subcontracts bid for less than $25,000; or to re-bids for which the City receives fewer than three (3) qualified bidders in the original bid
   
   (c) must pay appropriate lawful prevailing wage rates to employees
   
   (d) must maintain or participate in a bona fide apprentice training program for each apprenticeable trade represented in the workforce
   
   (e) must furnish hospitalization and medical benefits and maintain appropriate accident insurance coverage
   
   (f) must classify all employees as employees rather than independent contractors, and treat accordingly regarding workers' compensation, unemployment taxes, social security taxes and income tax withholding.

**AA.04: Contractors Agreements under Executive Order 11246, as Amended by Executive Order 11375**

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment of compensation; and selection of training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers’ representative of the contractor’s commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The contractor will furnish all information and reports required by Executive Order No. 11246 of Sept. 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the contractor’s noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

(7) The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order, unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of Sept. 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

**AA.05: Dept. of Labor, 41 Code of Federal Regulations Parts 60-1, 60-6 - Government Contractors, Affirmative Action Requirements, Executive Order 11246**

(1) **Segregated Facilities.** The contractor hereby certifies that it does not and will not maintain or provide any facilities for its employees in a segregated manner, or permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. Further, the contractor shall obtain a similar certification of nonsegregated facilities prior to the award of any contract or subcontract, which is subject to Executive Order 11246, and shall provide a copy thereof to the Association. This clause prohibits segregation on the basis of race, color, religion, national origin, or sex, and applies to all contracts regardless of the amount thereof. The term “facilities” includes, but is not limited to, waiting rooms, work areas, restaurants and other eating areas, time clock, parking lots, drinking fountains, recreation or entertainment areas, transportation, employer-provided housing, washrooms, locker rooms or other storage or dressing areas.

(2) **Affirmative Action Compliance Program.** The contractor certifies that it has developed a written
affirmative action compliance program for each of its establishments consistent with the rules and regulations published by the Department of Labor in 41 CFR Chapter 60, and agrees to require a similar certification from each of its nonexempt subcontractors. Such an affirmative action program shall contain a set of specific and result-oriented procedures, the objective of which shall be the achievement of equal employment opportunity. An acceptable affirmative action program must include an analysis of areas within which the contractor is deficient in the utilization of minority groups and women and further, goals and timetables to which the contractor’s good faith efforts must be directed to correct any deficiencies and, thus, to achieve prompt and full utilization of minorities and women, at all levels and in all segments of his work force where deficiencies exist.

The contractor’s affirmative action plan shall be summarized and updated annually and the program summary shall be submitted to the Office of Federal Contract Compliance Programs (OFCCP) on the anniversary date of the contractor’s affirmative action program.

(3) Contractor’s Compliance with Exec. Order and 41 CFR Par 60-4. The contractor’s compliance with E.O. 11246 and 41 C.F.R. Part 60-4, shall be based on its implementation of the Equal Opportunity clause, specific affirmative action obligations required by the specifications set forth in 41 C.F.R. 60-4.3, and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed.

AA.06: Section 503 of the Rehabilitation Act of 1973


Parties holding a Government contract or subcontract in excess of $10,000 must take affirmative action to employ and advance in employment-qualified individuals with disabilities. Contractors are required to use effective practices to recruit qualified individuals with disabilities.

Applicants with disabilities must be provided a reasonable accommodation if they are qualified with respect to the application process (e.g.: if they present themselves at the correct location and time to fill out an application).

AA.07: MBE / WBE Policy (for the life of the project)

(1) Eleven (11) percent of the work on this project shall be performed by Minority Business Enterprises (MBEs) and five (5) percent of the work shall be performed by Women Business Enterprises (WBEs) for a total of 16% overall. Four (4%) percent of all Airport projects shall be performed by Disadvantaged Business Enterprises (DBE). Proven documentation of nonavailability of either one of these entities provides that the available businesses may be awarded no less than 16% of the total contract dollar value for most City projects and 4% of Airport projects.

(2) The Bidder must submit with the bid the necessary certification setting forth the bidder’s compliance with the MBE/WBE contractors or the DBE contractors when required. FAILURE TO SUBMIT THESE CERTIFICATIONS AT THE TIME OF THE BID MAY RESULT IN THE BID BEING CONSIDERED NONRESPONSIVE.

(3) If it is determined that one or more of the MBE/WBE or DBE contractors, as submitted by the Contractor on the EEO forms, is not SOMWBA certified or certified by the Local Government Unit, in accordance with the provision of Executive Order 237, the bidder shall have five (5) working days following notification to either find a certified MBE/WBE/DBE contractor to perform work equal to or greater than that of the uncertified contractor, or to submit a waiver request.

(4) The contractor shall not enter into any subcontract with any person or firm debarred from government contracts, pursuant to Executive Order 11246.
AA.08: Workforce Utilization (for the life of the project)

(1) Minimum percentages for employment (workforce utilization) on the project are at 18% minority and 6.9% female participation. The employment percentages shall apply to the contractor and to all subcontractors, regardless of tier, for all on-site work.

A single goal for minorities and a separate goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally, the contractor may be in violation of the Exec. Order if a specific minority group of women is under-utilized.)

(3) The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

AA.09: Contractor’s EEO / Records Monitor

The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof, as may be required by the Government, and to keep records which shall at least include, for each employee, the name, address, telephone numbers, social security number, race, sex, status, (e.g.: mechanic, apprentice, trainee, helper, or laborer) dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents.

AA.10: Bidder’s Eligibility

The lowest responsible and eligible bidder shall mean the General Bidder whose bid is the lowest of those bidders demonstrating possession of the skill, ability and integrity necessary for the faithful performance of the work, and (a) who shall certify that he/she is able to furnish labor that can work in harmony with other labor employed on the work; (b) who shall certify that he/she will comply with the minority workforce goal (18%) the woman workforce goal (6.9%) and, for projects $100,000+, NB residency goal of 50%; the insurance that all subcontractors and/or sub-subcontractors are also in compliance with workforce utilization goals; including compliance with the minority business goal (11%) and woman business goal (5%), for a total of 16% (or 4.0% for Airport projects) of the total dollar amount of the contract, and will certify that it will meet all applicable City Ordinances in accordance with this contract provision.

AA.11: Bid Submission Requirements

(1) Required bid forms that must be completed, signed, and submitted with the bid at the time of the bid opening, are as follows:
   (a) Certificate of Understanding; Certification of Compliance w/ Exec. Order 11246
   (b) Schedule of Participation for MBE/WBE or DBE as required
   (c ) Letter of Intent (for each MBE/WBE/DBE participation)
   (d) MBE/WBE/DBE Contractor Identification Statement (for each MBE/WBE/DBE)
   (e) Bidder’s Certification (to be completed by both the General Contractor and each MBE/WBE/DBE)
(f) If applicable, a completed and signed MBE/WBE/DBE Unavailability Certification in the event that the work listed on the Schedule is not sufficient to fulfill the requirement for MBE/WBE/DBE Participation. This certification must include a statement by the bidder of the reasons why it believes it is in compliance with this provision, and a list of the names, addresses, telephone numbers and reason given for unavailability of the Minority/Women Contractor contacted by the bidder with respect to the performance of work under the contract.

(2) The successful bidder will also be required to submit, prior to award, its estimates of labor (permanent and trainee) and material required to carry out its work under the contract, for review by the City, so as to establish maximum feasible goals for the utilization of City residents and business concerns. These goals, and the basis for monitoring and reporting progress toward meeting them, will be established by mutual agreement, with the assistance of the City’s Contract Compliance Officer, and discussed in the Pre-Construction or Pre-Award Conference.

AA.12: Bid Approval or Disapproval

(1) Failure to submit any of the required MBE/WBE/DBE forms and percentages at the time of the bid, will have the Bid/Proposal eliminated. Failure to meet the required percentages, or to fully complete any of the submitted paperwork, at the time of the bid opening, the bidder will have five (5) days, from the date of the bid opening, to comply with the requirements. Failure to meet these requirements within the five days will have the Bid/Proposal disapproved by the Office of Equal Opportunity.

(2) Each bidder, as part of its bid submission, must agree to contract with minority and woman owned businesses, as defined by the State Office of Minority and Woman Business Assistance (SOMWBA) and the City of New Bedford’s affirmative action policies. The amount of participation reserved for such enterprises shall not be less than 16% of the total bid amount, of which at least 11% of the total bid amount applies to minority businesses. The balance 5% is applied to women-owned businesses. Proven documentation of non-availability of either one of these entities provides that the available business may be awarded no less than 16% of the total contract dollar value.

(3) If the general bidder is either an MBE or WBE and is responsible for 100% of the project work, the 16% is fulfilled. If said MBE/WBE contractor is a joint venture, the MBE/WBE must be responsible for at least 51% of the project.

(4) The general contractor must submit, as part of its bid and as a condition of contract approval, signed Letters of Intent with all subcontractors and material suppliers listed on the participation schedule. Sub-bidders must submit the participation schedule with their bid and a participation schedule if they intend to sub-sub work.

AA.13: Steps to Ensure a Responsive Bid

The total price for work to be performed by Minority/Woman or Disadvantaged Contractors, as indicated in each bidder’s bid submission, is required to be sufficient to fulfill the MBE/WBE/DBE requirements, unless the bidder shall demonstrate to the satisfaction of the Awarding Authority that:

(1) it has made every possible effort to contact and negotiate with Minority/Women or Disadvantaged Contractors in an attempt to subcontract work, including every possible effort to select the portions of the work proposed to be subcontracted in order to meet the requirements;
(2) it was unable, notwithstanding such efforts, to achieve the stated requirement because Minority/Woman or Disadvantaged Contractors were not qualified or were unavailable.

(any proven nonavailability of MBE/WBE/DBE must make up the difference to still fulfill the 16% goals with the available MBE or WBE or 4.0% DBE. If neither category is available to fulfill the goal, it must have a SOMWBA statement as to no business listed);

(3) it included in its Schedule of Participation such proposed agreements as could be made with such efforts;

(4) the general contractor is an MBE or WBE and said contractor is performing 16% of work or the general contractor is a DBE and is performing 4.0% of the work and therefore, will be deemed as fulfilling the affirmative action bidding requirements;

(5) for contractors under $50,000, that can demonstrate all work will be completed under the contractor’s own workforce, the contractor must be able to demonstrate how this will be accomplished and submit, at the time of the bid a statement requesting a waiver of the 16% MBE/WBE or 4.0% DBE participation goal. Employment percentages must still be met.

AA.14: Bid Award or Rejection

(1) The Awarding Authority will responsible for awarding or rejecting any bid, with the approval/disapproval of the Office of Equal Opportunity & Contract Compliance in its decision. The Awarding Authority also reserves the right to reject any or all bids, or to accept any other than the lowest bidder, should it be deemed to be in the best interest of the City of New Bedford, Massachusetts, to do so.

(2) The Awarding Authority shall reject, as non-responsive, any bid, which it determines, fails to comply with the applicable requirements of this contract provision. Nothing, herein, shall relieve any bidder or any contractor performing any work under the contract, from any of the terms, conditions, or requirements of the contract.

AA.15: Awarded Contractor’s Obligations

(1) The Contractor shall specifically ensure that the company’s EEO policy and affirmative action obligations under this contract provision, is reviewed with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decision, including specific review of these terms with on-site supervisory personnel, prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(2) Minority/Woman Work Hours must be maintained for the life of this project (at a minimum ratio of 18% minority work hours and 6.9% woman work hours to total work hours in each job category, including, but not limited to bricklayers, carpenters, cement masons, electricians, ironworkers, operating engineers, and those classes of work identified in Section 44C of M.G.L. ch. 149). (Please note the City of New Bedford’s Residency Ordinance requiring 50% City of New Bedford residents on projects of $100,000+)

(3) Apprentices and Trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the
completion of their training, subject to the availability, in order for the apprentices and trainees to be counted toward the minority/woman work hour percentage goals.

(4) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women, shall excuse the contractor’s obligation under these specifications, Exec. Order 11246, or the regulations promulgated pursuant thereto.

(5) In the employment of journeymen, apprentices, teamsters and laborers, the Contractor shall give preference first, to citizens of the Commonwealth who have served in the armed forces of the United States in time of war and have been honorably discharged therefrom or released from active duty therein, and who are qualified to perform the work which the employment relates, and secondly, to citizens of the City of New Bedford, and if such cannot be obtained in sufficient numbers, the Commonwealth generally, then to citizens of the United States.

(6) Reports to Be Submitted to the Office of Equal Opportunity & Contract Compliance include:

(a) Licensing Statutes: Every contractor and subcontractor must submit, before starting work, a plan by which he/she will satisfy the requirements of licensing statutes, including the following, where applicable: MGL Ch. 149, Sec. 6 (painters); Ch. 146, Sec. 53 (hoisting engineers); Ch. 149, Sections 6B-6F (asbestos abatement workers, supervisors & contractors); Ch. 146, Sec. 3 & 3B (plumbers & gas fitters); Ch. 141, Sec. 1 (electricians); Ch. 14, Sec. 84 (pipefitters & sprinkler fitters); and Ch. 143, Sec. 94 (construction supervisor).

(b) Work Hour Reports: The contractor and each subcontractor shall prepare weekly reports in an approved form, of the hours worked in each trade by each employee, identified as minority or non-minority, and/or female, and/or resident. Copies of these shall be provided at the end of each such week to the City’s Office of Equal Opportunity & Contract Compliance.

(c) Projected Manning Tables: The contractor shall prepare projected manning tables on a quarterly basis. These shall be broken down into projections, by week, of workers required in each trade. Copies shall be furnished one week in advance of the commencement of the period covered, and also when updated, to the City. A copy of the certified payroll will be submitted with these reports.

(d) Billing Reports: The contractor shall prepare and submit monthly billing reports of amounts paid to MBEs, WBEs and/or DBEs each monthly billing period, as well as the record of final payment accompanied by canceled checks.

(e) Payroll Reports: Every contractor and subcontractor shall submit weekly payroll reports to the City, indicating the following information for each employee and/or independent contractor employed on the project; name, address, hours worked, occupational classification, wages, and fringe benefit payments, if any. Said reports shall be signed by the employer or his authorized agent under the penalties of perjury (see MGL Ch. 149, Section 27B).
AA.16 Recruitment/Referral Responsibilities

1. In the hiring of minority/woman journeymen, apprentices, teamsters, and laborers, the contractor shall rely on referrals from a multi-employer affirmative action program approved by the City, traditional referral method utilized by the construction industry, and referrals from agencies, not more than three in number at any one time, designated by the City’s Equal Opportunity Officer.

2. Records of employment referral orders, prepared by the contractor, shall be made available to the awarding authority.

3. The contractor will maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization, and of what action was taken with respect to each such individual.

4. If such individual was sent to the union hiring hall for referral, and was not referred back to the contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the contractor may have taken.

5. The contractor will document and maintain a record of all solicitations of offers for subcontractors from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractors associations and groups.

6. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin, and maintain a record thereof.

AA.17: Subcontracts

1. The Contractor receiving the award of the contract shall be required to obtain from each of its subcontractors (filed or non-filed) and submit to the Authority prior to the performance of any work under said subcontract, a certification by said subcontractor, regardless of tier, that it will comply with the minority and women work hours/employee ratio and specific affirmative action steps, and to submit this information to the Office of Equal Opportunity, prior to the subcontractor’s performance on the project.

2. In order to ensure that the said subcontractor’s certification becomes a part of all subcontracts under the prime contract, no subcontract shall be executed until an authorized representative of the Authority administering this project has determined, in writing, that the said certification has been incorporated in such subcontract, regardless of tier. Any subcontract executed without such written approval shall be void.

3. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000, the contract provisions listed in this Instructions to Bidders for Affirmative Action Issues, and the applicable goals for minority and female participation and which is set forth in the solicitation form which the contract resulted.
(4) Noncompliance of a subcontractor in compliance with these provisions, will result in the contractor taking such action, with respect to any subcontract or purchase order, as the administering agency may direct, as a means of enforcing such equal opportunity provisions; provided that, in the event a contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor, as a result of such direction, the contractor may request the United States, the State of Massachusetts or the City of New Bedford, to enter into such litigation to protect the interests of the U.S., the State or the City.

AA.18: Wage Rates

(1) Attention is called to Labor Standards provisions regarding conditions of employment, including State and Federal Wage Rates, the Davis-Bacon Act, the Copeland Anti-Kickback Act, and the Contract Work Hours and Safety Standards Act. Where Federal and State wage rates differ, the higher rates shall be used as a minimum.

(2) The rate per hour of the wages to be paid to mechanics, apprentices, teamsters, chauffeurs, and laborers employed on the work shall be not less than the rate of wages in Minimum Wage Rates as determined by the Commissioner of Labor and Industries, as required by M.G.L. Chapter 149, Sections 26 & 27-27h. This schedule shall be in place for said employees during the life of this contract.

(3) Contractor shall keep posted on the site, a legible copy of said schedule. Keep on file wage rates and classifications of labor employed on this work, in order that they may be available for inspection by the Administrator, the Office of Equal Opportunity, or the Architect.

(4) Apprentices employed pursuant to this determination of wage rates must be registered and approved by the State Apprenticeship Council, wherever rates for journeymen or apprentices are not listed.

(5) Pay reserve police officers employed on this work the prevailing rate of wages paid to regular police officers, as required by M.G.L. Chap. 149, Sec. 34B, as amended. Such police officers shall be covered by Workmen’s Compensation Insurance and Employer’s Liability Insurance by the Contractor.

(6) Noncompliance by the contractor or any subcontractor will result in the City’s Contract Compliance Office and/or Legal Office, to consult with the Department of Labor and Industries, and will result in the contractor or subcontractor receiving notification of such, and subsequently must respond to the City of New Bedford within five (5) business days.

AA.19: Access to Compliance Information & Reports

(1) The contractor will provide all information and reports, required by the administering agency or the City of instructions issued by either of them, and will permit access to its facilities and any books, records, accounts, and other sources of information pertinent to the City’s affirmative action contract requirements.

(2) Where the information required is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the administering agency or the City, and shall set forth what efforts he/she has made to obtain the information.
AA.20: Noncompliance

(1) Investigation
Whenever the administering agency or the City believe the general contractor or any subcontract may not be operating in compliance with the terms of this provision, the City directly or through it designated agent, shall conduct an appropriate investigation, and may confer with the parties, to determine if such contractor is operating in compliance with the terms of this contract provision. If noncompliance is found, then a preliminary report on noncompliance will be made, and the City or its agent will notify such contractor, in writing, of such steps as will, in the judgment of the city or its agent, bring such contractor into compliance.

(2) Report of Noncompliance
In the event that such contractor fails or refuses to fully perform such affirmative action steps, the City shall make a final report of non-compliance, and recommend to the administering agency, the imposition of one or more of the sanctions identified in these provisions. Within fourteen (14) days of the receipt of the recommendations of the City, the administering agency shall move to impose one or more of the following sanctions as it may deem appropriate to attain full and effective enforcement.

(3) Any disagreement between the City and a contractor or subcontractor shall be submitted for a hearing pursuant to the provisions of Chapter 30A. The City shall impose one or more of the following sanctions, as it may deem appropriate, to attain full and effective enforcement.

AA.21: Sanctions

(1) The recovery by the administering agency from the general contractor of 1/100 of 1% of the contract award price, or $1,000.00, whichever sum is greater, in the nature of liquidated damages, or if a subcontractor is in non-compliance, the recovery by the administering agency from the general contractor, a back charge against the subcontractor, of 1/10 of 1% of the subcontract price or $400.00, whichever sum is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply.

(2) The suspension of any payment or part thereof, due under the contract, until such as the general contractor or any subcontractor is able to demonstrate his/her compliance with the terms of the preceding sections of the contract.

(3) The termination of employment of the contractor and taking possession of the site and finishing the work by whatever method he/she may deem expedient, upon giving the contractor and his/her surety, if any, seven days written notice.

(4) The termination or cancellation of the contract, in whole or in part.

(5) The denial to the general contractor and any subcontractor of the right to participate in any future contract awarded by the administering agency for a period of up to three years.

(6) Other sanctions to be applied, as stipulated in the City of New Bedford Ordinances (Residency and Responsible Employer Plan ordinances) and other local, state, and federal laws and regulations, as applicable.
**AA.22: Appeal of Sanctions**

If, at any time after imposition of one or more of the sanctions listed in these provisions, the contractor or subcontractor is able to demonstrate that it is in compliance with the EEO/AA program, the contractor or subcontractor may request the administering or contracting agency, in consultation with the City’s Office of Equal Opportunity, to conditionally suspend the sanction, pending final determination by the investigating officer, whether the contractor is in compliance. Upon final determination by the investigating office, the administering or contracting agency, based on the investigating officer’s recommendation, shall either lift the sanctions or impose them.

Sanctions shall not be imposed by the contracting agency or administering agency except after an adjudicatory proceeding, as defined by M.G.L. Chapter 30A, has been conducted. No investigation by the Office of Equal Opportunity shall be initiated without prior notice to the contractor or the subcontractor.

**AA.23: Severability**

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

BIDDERS CERTIFICATE OF UNDERSTANDING


Contractor _________________________________________________________ Project _________________________

Address __________________________________________________Tel. # _____ Project # ______

________________________________________________ Fax # _____________________

I, the undersigned, understand that:

A. Minority Business Enterprises are to be awarded at least 11% of the total contract amount for construction/public works projects.

B. Woman Business Enterprises are to be awarded at least 5% of the total contract amount for construction/public works projects.

C. Disadvantaged Business Enterprises are to be awarded at least 4% of the total contract amount for airport projects.

D. All required MBE/WBE/DBE forms included in Instructions to Bidders are to be completed and submitted with the bid.

E. Prior to award of the contract, a pre-construction conference must be held (to be attended by the general contractor and all subcontractors, regardless of tier) at which time the following requirements will be discussed:
   1. Weekly Workforce Utilization Reports (Form CAD85) are to be submitted weekly with payroll reports within five (5) days of last payroll;
   2. Quarterly Manpower Projection Tables (Form CAD85-1) are to be submitted with the Start of Construction notification;
   3. Any project in the amount of $100,000+ is subject to the New Bedford Resident Hiring and the Responsible Employer Plan ordinances;
   4. A minimum goal of 18% minority manpower utilization, in terms of total work hours in the aggregate workforce, in each trade or craft, on each project, will be maintained. The goal for female manpower utilization will be maintained at 6.9% according to regulations;
   5. Minority and female work hours are to be uniform in each trade, and minorities and females are to be employed evenly on each project;
   6. Minority or female employees are not be transferred from project to project for the purpose of meeting goals;
   7. A roster of all minority and/or female applicants for employment must be maintained at each project site (Federal & Non-Federal) in the New Bedford Hometown Plan Area.

E. The submission of the above reports and adherence to hiring practices and equal opportunity performance of subcontractors is the responsibility of the prime contractor.

The bidder hereby certifies that he/she shall comply with the minority manpower ratio and specific affirmative action steps contained in the EEO above, including compliance with the minority contractor compliance specifications. The Contractor receiving the award of the contract shall be required to obtain from each of its subcontractors, and submit to the contracting or administering agency prior to the performance of any work under said contract, a certification by said sub-contractor, regardless of tier, that it will comply with the minority manpower ratio and specific affirmative action steps contained in this appendix.

Authorized Signature ____________________________ Date ____________

Name (Please Print or Type) ___________________ Title ___________________
SCHEDULE OF PARTICIPATION
DISADVANTAGED/MINORITY / WOMAN BUSINESS ENTERPRISES
to be completed by the Bidder

Item I - Minority Or Disadvantaged Business Enterprise Participation
1. Name: ____________________________________________________________
   Address: ______________________________________________________________________________________
   Nature of Participation: __________________________________________________________________________
   Dollar Value / % of Bid: ____________________________________________

2. Name: ____________________________________________________________
   Address: ______________________________________________________________________________________
   Nature of Participation: __________________________________________________________________________
   Dollar Value / % of Bid: ____________________________________________

   TOTAL BID PRICE   TOTAL DBE or MBE COMMITMENT
   $_________________ $_________________ ___________%

Item II - Woman Or Disadvantaged Business Enterprise Participation
1. Name: ____________________________________________________________
   Address: ______________________________________________________________________________________
   Nature of Participation: __________________________________________________________________________
   Dollar Value / % of Bid: ____________________________________________

2. Name: ____________________________________________________________
   Address: ______________________________________________________________________________________
   Nature of Participation: __________________________________________________________________________
   Dollar Value / % of Bid: ____________________________________________

   TOTAL BID PRICE   TOTAL WBE or DBE COMMITMENT
   $_________________ $_________________ ___________%

The bidder agrees to furnish implementation reports, as required by the awarding authority, to indicate the MBE/WBE or DBE which it has used or intends to use. Breach of this commitment constitutes a breach of the contract.

General Bidder: __________________________________________________________________________________
Signature: ___________________________ Date: ___________________________
LETTER OF INTENT

to be completed by the DBE/MBE/WBE

This form is to be completed by the DBE or MBE and WBE and must be submitted by the General Bidder as part of the Bid Proposal. A separate form must be completed for each MBE, WBE or DBE involved in the project.

Project Title: ____________________________________________________

Project Location: ______________________

To: _________________________________________________________
    (Name of Bidder)

From: _________________________________________________________________
    (Name of DBE/MBE/WBE) Indicate DBE/MBE/WBE status

I / we intend to perform work in connection with the above project as (Check One)

{    } an individual {    } a partnership
{    } a corporation {    } a joint venture with: _____________________________
{    } other (explain): ___________________________________________________________________

It is understood that if you are awarded the contract, you intend to enter into an agreement to perform the activity described below for the prices indicated.

DBE/MBE/WBE PARTICIPATION:

<table>
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<tr>
<th>Description of Activity</th>
<th>Project Start Date</th>
<th>$ Amount</th>
<th>% of Bid Price</th>
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</table>

The undersigned certify that they will enter into a formal agreement upon execution of the contract for the above-referenced Project

BIDDER


DBE/MBE / WBE


Authorized Signature                          Date                         Authorized Signature                          Date

Address                                       Address

Telephone / Fax                                Telephone / Fax
MINORITY / WOMAN BUSINESS ENTERPRISE PROGRAM

CONTRACTOR IDENTIFICATION STATEMENT

Project Name: _________________________________________________________ Project #:_________________

Total Bid Price: $__________________________________ Bid Date: ________________

In accordance with the New Bedford Minority Business Enterprise Program, the undersigned bidder certifies that he/she:

1. is a bona fide Minority/Woman/Disadvantaged Business Enterprise currently certified by the State Office of Minority/Woman Business Assistance (SOMWBA); and such SOMWBA certification has not changed; and in the event of said status changing, it will immediately forward written notification to the City of New Bedford and SOMWBA; and

2. intends to perform certain work (specified by formal bid proposal) under a contract in connection with the above-named project, and that work will not be sublet to any company at any tier; and

3. will comply with the minority/woman workforce ratio and specific affirmative action steps contained in the EEO/AA Contract Provisions and shall obtain from each of its subcontractors a copy of the bidder’s certification and submit to the administering agency, prior to the award of such subcontract, regardless of tier, that he/she will comply with the minority/woman workforce ratio and specific affirmative action steps contained in these and the EEO/AA Contract Provisions.

SOMWBA CERTIFICATION CATEGORY: ____________________________________________________

CONTRACTORS NAME: ___________________________________________________________________
{   } MBE    {   }WBE   {   }DBE
ADDRESS: ___________________________________________________________________________
_________________________________________________________________________________

TELEPHONE #: ___________________________ FAX #: ___________________________

REPRESENTATIVE NAME & TITLE: ________________________________________________________

AUTHORIZED SIGNATURE: ______________________________________________________________

GENERAL BIDDERS NAME: _____________________________________________________________
BIDDERS CERTIFICATION

to be completed by General Contractor & each of its Subcontractors (MBE/WBE/DBE and non-MBE/WBE/DBE)

The undersigned bidder hereby certifies that he/she will comply with the Minority/Woman Workforce Ratio and Specific Affirmative Action Steps contained in the EEO/AA Provisions of this contract, including compliance with the Minority/Woman/Disadvantaged Business Enterprise as required under these contract provisions.

The contractor receiving the award of the contract shall be required to obtain, from each of its subcontractors, regardless of tier, a copy of this Bidder’s Certification indicating that it will comply with the Minority/Woman Workforce Ratio and Specific Affirmative Action Steps contained in these EEO/AA Contract Provisions, and submit it to the contracting agency prior to the award of such contract and subcontract.

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<tr>
<th>Name of General Contractor</th>
<th>Name of Subcontractor</th>
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<tr>
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<td>{ } MBE   { } WBE    { } DBE    { } Non-MBE/WBE</td>
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<th>Signature of Authorized Representative</th>
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MINORITY / WOMAN BUSINESS ENTERPRISES
UNAVAILABILITY CERTIFICATIONS

_to be completed by General Contractor_

_(the Bidder shall prepare additional copies of this information form in the quantity necessary to comply with the bidding requirements)_

I, _____________________________________________________, _____________________________________________
Name Title

of ___________________________________________________
Contractor Name

certify that on ____________________________________, I contacted the below listed MBE/WBE/DBE
Date of Contact
requesting a bid for
Project __________________________ as an {    }MBE, {   }WBE or {  }DBE for the provision of

{   }Goods & Services or {   } Labor to accomplish ________________________________________

Subcontract Work Offered to this MBE/WBE/DBE Company

____________________________________
Name of Prospective Sub-Contractor

______________________________  _____________________  ____________________
Address          City and State     Telephone #

Contact was made by {   } Telephone    {   } In Person

Said sub-contractor was unavailable for work on this project or unable to prepare a bid for the following reason(s): (check appropriate answer):

{   }   MBE/WBE/DBE Firm Declined Job

{   }   MBE/WBE/DBE Firm offered to do a job at the price of $________________________, which was not acceptable
because:______________________________________________________

{   }   Other _____________________________________________________________________

The above information is accurate and complete, to the best of my knowledge and belief. Signed under the pains and penalties of perjury.

____________________________________  _____________________
Signature of Authorized Representative, General Contractor     Date
MINORITY / WOMAN/DISADVANTAGED BUSINESS ENTERPRISES

REQUEST FOR WAIVER

Upon exhausting all known sources and making every possible effort to meet the minimum requirements for MBE/WBE/DBE participation, the Contractor may seek relief from these requirements by filing this form (completed) NO LATER THAN FIVE (5) working days following the bid opening. Failure to comply with this process shall cause the bidder to be rejected, thereby rendering the contractor not eligible for award of the contract.

General Information

Project Title: __________________________ Location: __________________________

Bid Opening (time/date): __________________________ Location: __________________________

Bidder: __________________________

Mailing Address:
____________________________________________________________________________
____________________________________________________________________________

Contact Person: __________________________
____________________________________________________________________________

Telephone No.: ( ) __________________________ Ext.

Minimum Requirements

The contractor must show that good faith efforts were undertaken to comply with the percentage goals, as specified. The bidder seeking relief must show that such efforts were taken appropriately, in advance of the time set for opening bid proposals, to allow adequate time for response(s) by submitting the following:
(please check all that apply and attach applicable documentation)

A. A detailed record of the effort made to contact and negotiate with minority, woman or disadvantaged business enterprises, to include:

( ) 1. Names, addresses and telephone numbers of all such companies contacted;
( ) 2. Copies of written notice(s) which were sent to MBE/WBE/DBE potential subcontractors prior to bid opening;
( ) 3. Copies of advertisements prior to bid opening, as appearing in general publications, trade-oriented publications, and applicable minority/women focused media detailing the opportunities for participation;
4. A detailed statement as to why each subcontractor contacted (a) was not willing to do the job or (b) was not qualified to perform the work as solicited; and

5. In the case(s) where a negotiated price could not be reached, the bidder should detail what efforts were made to reach an agreement on a competitive price.

6. Contractor certifies that 100% of the project is to be carried out with his/her own workforce. No subcontractors are to be utilized.

B. The Agency may require the contractor to produce such additional information, as it deems appropriate and may obtain whatever other information it deems necessary to reach a conclusion from any source.

C. No later than fifteen (15) days after receipt of all necessary information and documentation, a decision will be made in writing to the bidder. If the waiver request is denied, the facts upon which a denial is based will be set forth. A contractor who is dissatisfied with the decision may then appeal that decision to the Equal Opportunity Employment Agency.

Certification

The undersigned herewith certified that the above information and appropriate attachments are true and accurate to the best of my ability, and that I have been authorized to act on behalf of the bidder in this matter.

__________________________________________________

(authorized original signature) Date

Submit to: Equal Employment Opportunity Compliance Officer
133 William Street, Room 208
New Bedford, MA 02740

To be completed by the City of New Bedford’s EEO

_______________________________

Bid Date

__________________________  _______________

Date Received by EEO          Initials
ARTICLE 1 - EMPLOYMENT, HOURS AND WAGES

1.1. The Contractor and any Subcontractor shall conform to any Labor Laws of the Commonwealth, and, without limiting the generality of the foregoing, shall conform to the provisions of Sections 25, 26, 27B, 30, 34, 34A and 34B of Chapter 149 of the General Laws, as amended, which Sections are incorporated herein by reference and made a part hereof.

1.2. Every employee in the work to be performed under this Contract shall lodge, board and trade where and with whom he elects, and the Contractor and any Subcontractor shall not directly or indirectly require, as a condition of employment in said work, that an employee shall lodge, board or trade at a particular place or with a particular person.

1.3. The Contractor and any Subcontractor shall give preference in the employment of mechanics, teamsters, chauffeurs and laborers first to citizens of the Commonwealth who have been residents of the Commonwealth for at least six months at the commencement of their employment who are veterans as defined in clause Forty-three of Section Seven of Chapter Four, and who are qualified to perform the work to which the employment relates; and secondly, to citizens of the Commonwealth generally who have been residents of the Commonwealth for at least six months at the commencement of their employment, and if they cannot be obtained in sufficient numbers, then to citizens of the United States.

1.4. No laborer, workman, mechanic, foreman, or inspector working in the employment of the Contractor, Subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by this Contract, shall be required or permitted to work any more than eight hours in any one day, or more than forty-eight hours in any one week, except in cases of emergency.

1.5. The rate per hour of the wages to be paid to mechanics, teamsters, chauffeurs, and laborers in the work to be performed under this Contract shall not be less than the rate of wages in the schedule annexed hereto and made a part hereof as determined by the Commissioner of Labor and Industries of the Commonwealth. This schedule shall continue to be the minimum rate of wages for said employees during the life of this Contract.

1.6. The Contractor shall pay to any reserve police officer employed by him in any City or Town the prevailing rate of wages paid to regular police officers in such City or Town as required by General Laws, Chapter 149, Section 24B, as amended.

1.7. Claims and disputes pertaining to the classification of labor or wage determinations made by the Commission of Labor and Industries must be presented by appeal filed with the Department of Labor and Industries within three days from the date of the first advertisement of call for bids; in one manner provided by General Laws, Chapter 14, Section 27A.

1.8. The Contractor shall include with the Form For General Bid, signed and certified copies of Owner’s Instructions To Bidders For Affirmative Action Issues, Non-Collusion and State Tax Compliance Certificate, OSHA Training Certificate, and Undocumented Worker Certificate, included at the end of this Section, as set forth in the contract, Article XII, and hereby made a part of the Contract Documents.

ARTICLE 2 - MINIMUM WAGE RATES

2.1. The Contractor shall keep posted on the site of the Work a legible copy of the schedule of "Minimum Wage Rates and Health and Welfare Fund Contributions" attached thereto.

2.2. The rates listed are straight hourly rates. Apprentices employed pursuant to this determination of wage rates must be registered and approved by the State Apprenticeship Council. Wherever rates for journeymen or apprentices are not listed, and if any other labor is not included in this list, the Contractor shall insert the rates of all those employed on the work.

2.3. The Contractor must keep on file the wage rates and qualifications of all labor employed on this Project in order that they may be available for inspection by the Awarding Authority or the Architect.
ARTICLE 3 – CITY OF NEW BEDFORD REQUIREMENTS

3.1 The Contractor shall complete and include with Section 00 30 00 – Form For General Bid the following documents included as part of Division 00 of the Contract Documents:

- City of New Bedford Instructions To Bidders For Affirmative Action Issues
- City of New Bedford Non-Collusion and State Tax Compliance Certificate
- City of New Bedford OSHA Compliance Certificate
- City of New Bedford Undocumented Worker Certificate

(MINIMUM WAGE RATES AND HEALTH AND WELFARE AND PENSION CONTRIBUTIONS FOLLOW)

END OF SECTION
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

Executive Office of Labor and Workforce Development
Prevailing Wage Rates

Charles D. Baker
Governor

Rosalin Acosta
Secretary

William D. McKinney
Director

Awarding Authority: City of New Bedford
Contract Number: 19192005
City/Town: NEW BEDFORD
Description of Work: New Bedford City Hall Fire Alarm System Fire Protection and De-Humidification for (4) Vaults

Job Location: 133 Williams Street New Bedford MA. 02740

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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

| AIR TRACK OPERATOR LABORERS - ZONE 2 | 12/01/2017 | $33.58 | $7.70 | $13.60 | $0.00 | $54.88 |
| | 06/01/2018 | $34.42 | $7.70 | $13.60 | $0.00 | $55.72 |
| | 12/01/2018 | $35.26 | $7.70 | $13.60 | $0.00 | $56.66 |
| | 06/01/2019 | $36.13 | $7.70 | $13.60 | $0.00 | $57.43 |
| | 12/01/2019 | $36.99 | $7.70 | $13.60 | $0.00 | $58.29 |
| | 06/01/2020 | $37.88 | $7.70 | $13.60 | $0.00 | $59.18 |
| | 12/01/2020 | $38.77 | $7.70 | $13.60 | $0.00 | $60.07 |
| | 06/01/2021 | $39.69 | $7.70 | $13.60 | $0.00 | $60.99 |
| | 12/01/2021 | $40.60 | $7.70 | $13.60 | $0.00 | $61.90 |

For apprentice rates see "Apprentice- LABORER"

| ASBESTOS WORKER (PIPES & TANKS) HEAT & FROST INSULATORS LOCAL 6 (SOUTHERN MASS) | 12/01/2017 | $35.90 | $11.50 | $7.10 | $0.00 | $54.50 |
| | 06/01/2018 | $36.90 | $11.50 | $7.10 | $0.00 | $55.50 |
| | 12/01/2018 | $37.90 | $11.50 | $7.10 | $0.00 | $56.50 |
| | 06/01/2019 | $38.90 | $11.50 | $7.10 | $0.00 | $57.50 |
| | 12/01/2019 | $39.90 | $11.50 | $7.10 | $0.00 | $58.50 |
| | 06/01/2020 | $40.90 | $11.50 | $7.10 | $0.00 | $59.50 |
| | 12/01/2020 | $41.90 | $11.50 | $7.10 | $0.00 | $60.50 |

| ASPHALT RAKER LABORERS - ZONE 2 | 12/01/2017 | $33.08 | $7.70 | $13.60 | $0.00 | $54.38 |
| | 06/01/2018 | $33.92 | $7.70 | $13.60 | $0.00 | $55.22 |
| | 12/01/2018 | $34.76 | $7.70 | $13.60 | $0.00 | $56.06 |
| | 06/01/2019 | $35.63 | $7.70 | $13.60 | $0.00 | $56.93 |
| | 12/01/2019 | $36.49 | $7.70 | $13.60 | $0.00 | $57.79 |
| | 06/01/2020 | $37.38 | $7.70 | $13.60 | $0.00 | $58.68 |
| | 12/01/2020 | $38.27 | $7.70 | $13.60 | $0.00 | $59.57 |
| | 06/01/2021 | $39.19 | $7.70 | $13.60 | $0.00 | $60.49 |
| | 12/01/2021 | $40.10 | $7.70 | $13.60 | $0.00 | $61.40 |

For apprentice rates see "Apprentice- LABORER"

| ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE OPERATING ENGINEERS LOCAL 4 | 12/01/2017 | $46.63 | $10.50 | $15.50 | $0.00 | $72.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| BACKHOE/FRONT-END LOADER OPERATING ENGINEERS LOCAL 4 | 12/01/2017 | $46.63 | $10.50 | $15.50 | $0.00 | $72.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"
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For apprentice rates see "Apprentice- LABORER"

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For apprentice rates see "Apprentice- LABORER"

| BOILER MAKER  BOILERMAKERS LOCAL 29                | 01/01/2017 | $42.92 | $6.97 | $16.21 | $0.00 | $66.10 |

### Apprentice - BOILERMAKER - Local 29

#### Effective Date - 01/01/2017

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Notes:

Apprentice to Journeyworker Ratio:1:5
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**Apprentice** - **BRICK/PLASTER/CEMENT MASON** - Local 3 New Bedford

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**Effective Date** - 02/01/2018

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**Effective Date** - 08/01/2018

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**Notes:**

Apprentice to Journeyworker Ratio: 1:5

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**Notes:**

- % Indentured After 10/1/17; 45/45/55/55/70/70/80/80
- Step 1&2 $29.76/ 3&4 $35.45/ 5&6 $52.14/ 7&8 $57.89

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

**CARPENTER WOOD FRAME**

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As of 9/1/09 Carpentry work on wood-frame WEATHERIZATION projects shall be paid the WOOD FRAME CARPENTER rate.
## Carpenter (Wood Frame) - Zone 2

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**Notes:**
- % Indentured After 10/1/17; 45/45/55/55/70/70/80/80
- Step 1&2 $19.07/ 3&4 $26.49/ 5&6 $33.60/ 7&8 $36.27

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### Carpenter Wood Frame (All Other Work)

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### Cement Masonry/Plastering

**Bricklayers Local 3 (New Bedford)**

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## Classification

### Total Rate Base Wage Health Pension Supplemental Unemployment

### Effective Date

#### CEMENT MASONRY/PLASTERING - Eastern Mass (New Bedford)

**Apprentice**

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#### CHAIN SAW OPERATOR

**LABORERS - ZONE 2**

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For apprentice rates see "Apprentice- LABORER"

#### CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

#### COMpressor OPERATOR

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"
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**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

**Effective Date - 01/01/2018**

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**Notes:**

Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

**DEMO: ADZEMAN**

**LABORERS - ZONE 2**

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For apprentice rates see "Apprentice- LABORER"

**DEMO: BACKHOE/LOADER/HAMMER OPERATOR**

**LABORERS - ZONE 2**

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**Issue Date:** 05/23/2018  **Wage Request Number:** 20180521-070  **Page 9 of 38**
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**Notes:**
- Steps are 750 hours

**Apprentice to Journeyworker Ratio: 2:3**

### ELEVATOR CONSTRUCTOR

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**Notes:**

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

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

**ELEVATOR CONSTRUCTOR HELPER**

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**FENCE & GUARD RAIL ERECTOR**

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**FIELD ENG, INST, PERSON-BLDG, SITE, HVY/HWY**

**OPERATING ENGINEERS LOCAL 4**

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**FIELD ENG, PARTY CHIEF-BLDG, SITE, HVY/HWY**

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**FIELD ENG, ROD PERSON-BLDG, SITE, HVY/HWY**

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For apprentice rates see "Apprentice- ELECTRICIAN"

| FIRE ALARM REPAIR / MAINTENANCE                      | 03/01/2018     | $34.27    | $9.40  | $10.46  | $0.00                     | $54.13     |
|                                                     | 09/01/2018     | $34.76    | $9.65  | $10.81  | $0.00                     | $55.22     |
|                                                     | 03/01/2019     | $35.25    | $9.90  | $11.14  | $0.00                     | $56.29     |
|                                                     | 09/01/2019     | $35.78    | $10.15 | $11.45  | $0.00                     | $57.38     |
|                                                     | 03/01/2020     | $36.27    | $10.40 | $11.78  | $0.00                     | $58.45     |

For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"

| FIREMAN (ASST. ENGINEER)                            | 12/01/2017     | $38.57    | $10.50 | $15.50  | $0.00                     | $64.57     |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| FLAGGER & SIGNALER                                  | 12/01/2017     | $21.50    | $7.70  | $13.60  | $0.00                     | $42.80     |
|                                                     | 06/01/2018     | $21.50    | $7.70  | $13.60  | $0.00                     | $42.80     |
|                                                     | 12/01/2018     | $22.50    | $7.70  | $13.60  | $0.00                     | $43.80     |
|                                                     | 06/01/2019     | $22.50    | $7.70  | $13.60  | $0.00                     | $43.80     |
|                                                     | 12/01/2019     | $23.50    | $7.70  | $13.60  | $0.00                     | $44.80     |
|                                                     | 06/01/2020     | $23.50    | $7.70  | $13.60  | $0.00                     | $44.80     |
|                                                     | 12/01/2020     | $24.50    | $7.70  | $13.60  | $0.00                     | $45.80     |
|                                                     | 06/01/2021     | $24.50    | $7.70  | $13.60  | $0.00                     | $45.80     |
|                                                     | 12/01/2021     | $24.50    | $7.70  | $13.60  | $0.00                     | $45.80     |

For apprentice rates see "Apprentice- LABORER"

| FLOORCOVERER                                        | 03/01/2016     | $42.13    | $9.80  | $17.62  | $0.00                     | $69.55     |

**FLOORCOVERER - Local 2168 Zone I**

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**Notes:** Steps are 750 hrs.
- % After 09/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
- Step 1&2 $30.55/ 3&4 $36.49/ 5&6 $53.33/ 7&8 $59.33

Apprentice to Journeyworker Ratio: 1:1

| FORK LIFT/CHERRY PICKER                              | 12/01/2017     | $46.63    | $10.50 | $15.50  | $0.00                     | $72.63     |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"
### Classification

**GENERATOR/LIGHTING PLANT/HEATERS**

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

### GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)

**GLAZIERS LOCAL 1333**

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### Apprentice - **GLAZIER - Local 1333**

### Effective Date - 06/01/2017

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### Effective Date - 06/01/2018

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### Notes:

Apprentice to Journeyworker Ratio: 1:3

### HOISTING ENGINEER/CRANES/GRADALLS

**OPERATING ENGINEERS LOCAL 4**

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**Notes:**

Apprentice to Journeyworker Ratio: 1:6

HVAC (DUCTWORK)

*SHEETMETAL WORKERS LOCAL 17 - B*

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For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS)

*ELECTRICIANS LOCAL 223*

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For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR)

*SHEETMETAL WORKERS LOCAL 17 - B*

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For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (TESTING AND BALANCING -WATER)

*PLUMBERS & PIPEFITTERS LOCAL 51*

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

HVAC MECHANIC

*PLUMBERS & PIPEFITTERS LOCAL 51*

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

HYDRAULIC DRILLS

*LABORERS - ZONE 2*

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For apprentice rates see "Apprentice- LABORER"
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**Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Southern MA**

**Effective Date - 09/01/2017**

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**Effective Date - 09/01/2018**

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**Notes:**
- Steps are 1 year
- Apprentice to Journeyworker Ratio: 1:4

**Apprentice - IRONWORKER/WELDER - Local 37**

**Effective Date - 03/16/2016**

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**Notes:**
- Apprentice to Journeyworker Ratio: 1:4
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For apprentice rates see "Apprentice- LABORER"

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<th>Health</th>
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### Apprentice - LABORER - Zone 2

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Notes:

Apprentice to Journeyworker Ratio: 1:5
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For apprentice rates see "Apprentice- LABORER"

| LABORER: CEMENT FINISHER TENDER | 12/01/2017     | $32.83    | $7.70  | $13.60  | $0.00                     | $54.13     |
| LABORERS - ZONE 2              | 06/01/2018     | $33.67    | $7.70  | $13.60  | $0.00                     | $54.97     |
|                                | 12/01/2018     | $34.51    | $7.70  | $13.60  | $0.00                     | $55.81     |
|                                | 06/01/2019     | $35.38    | $7.70  | $13.60  | $0.00                     | $56.68     |
|                                | 12/01/2019     | $36.24    | $7.70  | $13.60  | $0.00                     | $57.54     |
|                                | 06/01/2020     | $37.13    | $7.70  | $13.60  | $0.00                     | $58.43     |
|                                | 12/01/2020     | $38.02    | $7.70  | $13.60  | $0.00                     | $59.32     |
|                                | 06/01/2021     | $38.94    | $7.70  | $13.60  | $0.00                     | $60.24     |
|                                | 12/01/2021     | $39.85    | $7.70  | $13.60  | $0.00                     | $61.15     |

For apprentice rates see "Apprentice- LABORER"

| LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER | 12/01/2017     | $33.03    | $7.70  | $13.55  | $0.00                     | $54.28     |
| LABORERS - ZONE 2                  | 06/01/2018     | $33.87    | $7.70  | $13.55  | $0.00                     | $55.12     |
|                                   | 12/01/2018     | $34.71    | $7.70  | $13.55  | $0.00                     | $55.96     |
|                                   | 06/01/2019     | $35.58    | $7.70  | $13.55  | $0.00                     | $56.83     |
|                                   | 12/01/2019     | $36.44    | $7.70  | $13.55  | $0.00                     | $57.69     |

For apprentice rates see "Apprentice- LABORER"

| LABORER: MASON TENDER           | 12/01/2017     | $33.08    | $7.70  | $13.60  | $0.00                     | $54.38     |
| LABORERS - ZONE 2               | 06/01/2018     | $33.92    | $7.70  | $13.60  | $0.00                     | $55.22     |
|                                 | 12/01/2018     | $34.76    | $7.70  | $13.60  | $0.00                     | $56.06     |
|                                 | 06/01/2019     | $35.63    | $7.70  | $13.60  | $0.00                     | $56.93     |
|                                 | 12/01/2019     | $36.49    | $7.70  | $13.60  | $0.00                     | $57.79     |
|                                 | 06/01/2020     | $37.38    | $7.70  | $13.60  | $0.00                     | $58.68     |
|                                 | 12/01/2020     | $38.27    | $7.70  | $13.60  | $0.00                     | $59.57     |
|                                 | 06/01/2021     | $39.19    | $7.70  | $13.60  | $0.00                     | $60.49     |
|                                 | 12/01/2021     | $40.10    | $7.70  | $13.60  | $0.00                     | $61.40     |

For apprentice rates see "Apprentice- LABORER"

| LABORER: MULTI-TRADE TENDER     | 12/01/2017     | $32.83    | $7.70  | $13.60  | $0.00                     | $54.13     |
| LABORERS - ZONE 2               | 06/01/2018     | $33.67    | $7.70  | $13.60  | $0.00                     | $54.97     |
|                                 | 12/01/2018     | $34.51    | $7.70  | $13.60  | $0.00                     | $55.81     |
|                                 | 06/01/2019     | $35.38    | $7.70  | $13.60  | $0.00                     | $56.68     |
|                                 | 12/01/2019     | $36.24    | $7.70  | $13.60  | $0.00                     | $57.54     |
|                                 | 06/01/2020     | $37.13    | $7.70  | $13.60  | $0.00                     | $58.43     |
|                                 | 12/01/2020     | $38.02    | $7.70  | $13.60  | $0.00                     | $59.32     |
|                                 | 06/01/2021     | $38.94    | $7.70  | $13.60  | $0.00                     | $60.24     |
|                                 | 12/01/2021     | $39.85    | $7.70  | $13.60  | $0.00                     | $61.15     |

For apprentice rates see "Apprentice- LABORER"
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This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"

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For apprentice rates see "Apprentice- LABORER"

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### Notes:

Apprentice to Journeyworker Ratio: 1:3

### MARBLE MASONs, TILELAYERS & TERRAZZO MECH

#### BRICKLAYERS LOCAL 3 - MARBLE & TILE

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

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

**Effective Date -** 02/01/2018

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**Notes:**

- Apprentice to Journeyworker Ratio: 1:5

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### MECH. SWEeper OPERator (ON CONSt. SITES)

**Apprentice -** MECH. SWEeper OPERator (ON CONSt. SITES)

**Effective Date -** 12/01/2017

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

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### OPERATING ENGINEERS LOCAL 4

**Apprentice -** OPERATING ENGINEERS LOCAL 4

**Effective Date -** 12/01/2017

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For apprentice rates see "Apprentice- OPERATING ENGINEERS"

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### MILLWRIGHT (Zone 2)

**Apprentice -** MILLWRIGHT (Zone 2)

**Effective Date -** 04/01/2018

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**Notes:**

- Steps are 2,000 hours

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### MILLWRIGHT - Local 1121 Zone 2

**Apprentice -** MILLWRIGHT - Local 1121 Zone 2

**Effective Date -** 04/01/2018

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**Notes:**

- Apprentice to Journeyworker Ratio: 1:5
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## Apprentices - PAINTER Local 35 - BRIDGES/TANKS

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**Notes:**

- Steps are 750 hrs.

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

PAINTER (SPRAY OR SANDBLAST, NEW) *

* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. *PAINTER LOCAL 35 - ZONE 2
### Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

**Effective Date** - 01/01/2018

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**Effective Date** - 07/01/2018

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**Notes:**
Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)

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Notes:
- Steps are 750 hrs.
- Apprentice to Journeyworker Ratio: 1:1

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LABORERS - ZONE 2

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For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) *
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2

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**Effective Date** - 01/01/2018

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**Notes:**

Steps are 750 hrs.

*Apprentice to Journeyworker Ratio: 1:1*

**PAINTER / TAPER (BRUSH, REPAINT)**

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**Issue Date:** 05/23/2018  **Wage Request Number:** 20180521-070  **Page 26 of 38**
## Classification

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### Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio: 1:1

### PANEL & PICKUP TRUCKS DRIVER
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B

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For apprentice rates see "Apprentice- PILE DRIVER"

### PILE DRIVER
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### Pile Driver - Local 56 Zone 2

**Apprentice -**

- **Effective Date:** 08/01/2017

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**Notes:** Apprentice wages shall be no less than the following Steps;
(Same as set in Zone 1)
- $53.19/2
- $57.61/3
- $62.04/4
- $64.25/5
- $66.47/6
- $66.47/7
- $70.89/8
- $70.89

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

### Plumber & Pipefitter - Local 51

**Apprentice -**

- **Effective Date:** 09/01/2017

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

**Apprentice to Journeyworker Ratio:** 1:3

---

### Plumber & Pipefitter - Local 51

**PLUMBERS & PIPEFITTERS LOCAL 51**

**Plumber & Pipefitter - Local 51**

- **Issue Date:** 05/23/2018
- **Wage Request Number:** 20180521-070

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Page 28 of 38
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**Apprentice - ROOFER - Local 33**

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**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

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**For apprentice rates see "Apprentice- ROOFER***

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**Apprentice -**

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**Effective Date - 10/01/2018**

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**Notes:**

Apprentice to Journeyworker Ratio: 1:3

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**SIGN ERECTOR**  
**PAYERS LOCAL 35 - ZONE 2**

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**Notes:**
- Steps are 4 mos.

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

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**SPECIALIZED EARTH MOVING EQUIP < 35 TONS**

TEAMSTERS JOINT COUNCIL NO. 10 ZONE B

- **Effective Date:** 12/01/2016
- **Apprentice Base Wage:** $32.44
- **Health:** $10.91
- **Pension:** $10.89
- **Total Rate:** $54.24

---

**SPECIALIZED EARTH MOVING EQUIP > 35 TONS**

TEAMSTERS JOINT COUNCIL NO. 10 ZONE B

- **Effective Date:** 12/01/2016
- **Apprentice Base Wage:** $32.73
- **Health:** $10.91
- **Pension:** $10.89
- **Total Rate:** $54.53

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**SPRINKLER FITTER**

SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2

- **Effective Date:** 03/01/2018
- **Apprentice Base Wage:** $52.00
- **Health:** $9.12
- **Pension:** $18.15
- **Total Rate:** $79.27

- **Effective Date:** 10/01/2018
- **Apprentice Base Wage:** $53.35
- **Health:** $9.12
- **Pension:** $18.15
- **Total Rate:** $80.62

- **Effective Date:** 01/01/2019
- **Apprentice Base Wage:** $53.35
- **Health:** $9.47
- **Pension:** $18.35
- **Total Rate:** $81.17

- **Effective Date:** 03/01/2019
- **Apprentice Base Wage:** $54.70
- **Health:** $9.47
- **Pension:** $18.35
- **Total Rate:** $82.52

- **Effective Date:** 10/01/2019
- **Apprentice Base Wage:** $56.05
- **Health:** $9.47
- **Pension:** $18.35
- **Total Rate:** $83.87

- **Effective Date:** 03/01/2020
- **Apprentice Base Wage:** $57.40
- **Health:** $9.47
- **Pension:** $18.35
- **Total Rate:** $85.22

- **Effective Date:** 10/01/2020
- **Apprentice Base Wage:** $58.75
- **Health:** $9.47
- **Pension:** $18.35
- **Total Rate:** $86.57

- **Effective Date:** 03/01/2021
- **Apprentice Base Wage:** $60.10
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**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
**OPERATING ENGINEERS LOCAL 4**

12/01/2017 $46.17 $10.50 $15.50 $0.00 $72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

### TAMPER, SELF-PROPELLED OR TRACTOR DRAWN
**OPERATING ENGINEERS LOCAL 4**

12/01/2017 $46.17 $10.50 $15.50 $0.00 $72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

### TELECOMMUNICATION TECHNICIAN
**ELECTRICIANS LOCAL 223**

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**Issue Date:** 05/23/2018  **Wage Request Number:** 20180521-070  **Page 33 of 38**
## Effective Date - TELECOMMUNICATION TECHNICIAN - Local 223

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**Notes:**
- See Electrician Apprentice Wages
- Telecom Apprentice Wages shall be the same as the Electrician Apprentice Wages
- Apprentice to Journeyworker Ratio: 2:3**

## Effective Date - TERRAZZO FINISHERS

### TERRAZZO FINISHERS

**BRICKLAYERS LOCAL 3 - MARBLE & TILE**

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**Notes:**
- Apprentice to Journeyworker Ratio: 1:3

## Effective Date - TEST BORING DRILLER

### TEST BORING DRILLER

**LABORERS - FOUNDATION AND MARINE**

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For apprentice rates see "Apprentice- LABORER"

| TUNNEL WORK - FREE AIR (HAZ. WASTE) LABORERS (FREE AIR TUNNEL) | 12/01/2017 | $43.80 | $7.70 | $15.35 | $0.00 | $66.85 |
| | 06/01/2018 | $44.75 | $7.70 | $15.35 | $0.00 | $67.80 |
| | 12/01/2018 | $45.70 | $7.70 | $15.35 | $0.00 | $68.75 |
| | 06/01/2019 | $46.69 | $7.70 | $15.35 | $0.00 | $69.75 |
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| | 06/01/2021 | $50.69 | $7.70 | $15.35 | $0.00 | $73.74 |
| | 12/01/2021 | $51.70 | $7.70 | $15.35 | $0.00 | $74.75 |

For apprentice rates see "Apprentice- LABORER"

| VAC-HAUL | 12/01/2016 | $32.44 | $10.91 | $10.89 | $0.00 | $54.24 |

TEAMSTERS JOINT COUNCIL NO. 10 ZONE B

| WAGON DRILL OPERATOR LABORERS - ZONE 2 | 12/01/2017 | $33.08 | $7.70 | $13.60 | $0.00 | $54.38 |
| | 06/01/2018 | $33.92 | $7.70 | $13.60 | $0.00 | $55.22 |
| | 12/01/2018 | $34.76 | $7.70 | $13.60 | $0.00 | $56.06 |
| | 06/01/2019 | $35.63 | $7.70 | $13.60 | $0.00 | $56.93 |
| | 12/01/2019 | $36.49 | $7.70 | $13.60 | $0.00 | $57.79 |
| | 06/01/2020 | $37.38 | $7.70 | $13.60 | $0.00 | $58.68 |
| | 12/01/2020 | $38.27 | $7.70 | $13.60 | $0.00 | $59.57 |
| | 06/01/2021 | $39.19 | $7.70 | $13.60 | $0.00 | $60.49 |
| | 12/01/2021 | $40.10 | $7.70 | $13.60 | $0.00 | $61.40 |

For apprentice rates see "Apprentice- LABORER"

| WASTE WATER PUMP OPERATOR OPERATING ENGINEERS LOCAL 4 | 12/01/2017 | $46.63 | $10.50 | $15.50 | $0.00 | $72.63 |

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

| WATER METER INSTALLER PLUMBERS & PIPEFITTERS LOCAL 51 | 09/01/2017 | $40.69 | $10.00 | $17.60 | $0.00 | $68.29 |
| | 09/01/2018 | $42.69 | $10.00 | $17.60 | $0.00 | $70.29 |

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

**Outside Electrical - East**

| CABLE TECHNICIAN (Power Zone) OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $27.14 | $7.75 | $1.81 | $0.00 | $36.70 |

For apprentice rates see "Apprentice- LINEMAN"

| CABLEMAN (Underground Ducts & Cables) OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $38.45 | $7.75 | $9.53 | $0.00 | $55.73 |

For apprentice rates see "Apprentice- LINEMAN"

| DRIVER / GROUNDMAN CDL OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104 | 09/03/2017 | $31.66 | $7.75 | $9.44 | $0.00 | $48.85 |

For apprentice rates see "Apprentice- LINEMAN"
### Issue Date: 05/23/2018  
### Wage Request Number: 20180521-070  
### Page: 37 of 38

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### Apprentice - LINEMAN (Outside Electrical) - East Local 104

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### Notes:

Apprentice to Journeyworker Ratio: 1:2

- **TELEDATA CABLE SPICLER**
  - OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104
  - 02/05/2018 | $29.98 | $4.70 | $3.15 | $0.00 | $37.83 |
  - 02/04/2019 | $30.73 | $4.70 | $3.17 | $0.00 | $38.60 |

- **TELEDATA LINEMAN/EQUIPMENT OPERATOR**
  - OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104
  - 05/05/2018 | $28.22 | $4.70 | $3.10 | $0.00 | $36.02 |
  - 02/04/2019 | $28.93 | $4.70 | $3.14 | $0.00 | $36.77 |

- **TELEDATA WIREMAN/INSTALLER/TECHNICIAN**
  - OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104
  - 02/05/2018 | $28.22 | $4.70 | $3.10 | $0.00 | $36.02 |
  - 02/04/2019 | $28.93 | $4.70 | $3.14 | $0.00 | $36.77 |

- **TREE TRIMMER**
  - OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104
  - 01/31/2016 | $18.51 | $3.55 | $0.00 | $0.00 | $22.06 |

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company’s equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.

- **TREE TRIMMER GROUNDMAN**
  - OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104
  - 01/31/2016 | $16.32 | $3.55 | $0.00 | $0.00 | $19.87 |

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company’s equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.
Additional Apprentice Information:

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

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

All steps are six months (1000 hours.)
Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.

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

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

1.01 RELATED DOCUMENTS
A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 1- General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
A. The Work of this Section applies to all Work performed under the Contract.
B. Any discrepancies found in the Contract Documents after signing of the Owner-Contractor agreement must be brought to the attention of the Architect for resolution. The Architect will determine which document entry governs and his decision will be final. The Contractor will not be entitled to a change in the Contract Time or Contract Sum based on discrepancies found after signing of the Owner-Contractor agreement.
C. Should conflict be evident between Contract Documents or within any Contract Document, the Contractor is deemed to have estimated the more expensive method of doing the Work unless he shall have asked for, and obtained, a written decision prior to submittal of bid or price quote, as to which method or materials will be required. Should the Work proceed after the discovery of errors, conflict, or omission by the Contractor and clarification has not been received from the Architect, the Contractor will be held fully responsible for replacement or correction, as directed by the Architect, at the Contractor's expense.

1.03 RELATED WORK SPECIFIED ELSEWHERE
A. Carefully examine all the Contract Documents for requirements which effect the Work of this Section.
B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
   1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
   2. Section 02 41 13 – Selective Demolition
   3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
   4. Section 07 92 00 – Joint Sealants
   5. Section 08 90 00 – Louvers and Accessories
   6. Section 09 91 13 - Painting
   7. Section 21 00 00 – Fire Suppression
   8. Section 23 00 00 – HVAC
   9. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 PROJECT IDENTIFICATION AND DESCRIPTION OF WORK
A. Project Identification: The name of the Project is “NEW BEDFORD CITY HALL – FIRE ALARM SYSTEM, HVAC & FIRE PROTECTION”. The Project site is located in New Bedford, Massachusetts.
B. Abbreviated Written Summary: The Work of the Contract can be summarized by reference to the Contract Documents. Work of this Contract includes the coordination of the entire Work indicated by the Contract Documents. Work of this Contract includes architectural and demolition Work which together provide a fully functioning facility in accordance with requirements of the Contract Documents. All items shown, indicated, or inferable from the Contract Documents are to be included such that there are no omissions which would prevent full use in all respects. Materials shown or indicated in any one Contract Document are to be inferred as if required by all. Work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions, and other forces outside the Contract Documents. Briefly, without limitation the Work can be summarized as follows:
1. The Project consists of fire alarm system, HVAC, and fire protection upgrade to New Bedford City Hall in New Bedford, MA.

C. Examination of Site and Documents:
1. All Bidders are required to visit the school site and examine all Contract Documents before submitting a bid. Inspect and be thoroughly familiar with the same and conditions under which the Work will be carried out. Neither the Owner nor the Architect will be responsible for errors, omissions and/or charges for extra Work arising from Contractor's failure to familiarize themselves with the Contract Documents or existing site and school conditions. By submitting a Bid, the Bidder agrees and warrants that he had the opportunity to examine the building site and the Contract Documents, that he is familiar with the conditions and requirements of both and where they require, in any part of the Work, a given result to be produced, that the Contract Documents are adequate and that he will produce the required result.
2. The building site will be available for inspection as set forth in City of New Bedford Front End, Pre-Bid Conference/Site Inspection

1.05 SPECIFICATION INFORMATION
A. These specifications are a special form of technical writing edited from master specifications and contain deviations from traditional writing formats. Capitalization, underlining and bold print is only used to assist reader in finding information and no other meaning will be implied.

B. Except where specifically indicated otherwise, the subject of all imperative statements is the Contractor.

C. Sections are generally numbered in conformance with Construction Specifications Institute Master Format System. Numbering sequence is not consecutive. Refer to Index of Specification Sections for names and numbers of Sections included in this Project.

D. Pages are numbered separately for each Section. Each Section is noted with "End of Section" to indicate when Section is complete.

1.06 DEFINITIONS
A. Owner: City of New Bedford, New Bedford, Massachusetts.

B. Provide: means furnish and install, complete with all necessary components and accessories, ready for intended use.

C. Indicated: is a reference to other portions of the Contract Documents.

D. Approved: Except where specifically stated otherwise, the words "approved", "directed", "requested", "selected", "accepted" mean "approved by the Architect", "directed by the Architect" and so on. The words "approved" and "accepted" shall be held to the limitations stated in the General Conditions. In no case, shall "approval" or "acceptance" by the Architect be interpreted as a release of Contractor of his responsibilities to fulfill all the requirements of the Contract Documents. Where the Contract Documents require Contractor approval, approval must be submitted in writing using the word "approved" Contractor "review" only is not an acceptable substitute for Contractor approval.

E. Observe/Observation: Except as otherwise defined in greater detail, the Architect's observation of the Work will be held to the limitations stated in the General Conditions and the Owner/Architect agreement. In no case, shall observation by the Architect be interpreted as a release of Contractor of his responsibilities to fulfill all the requirements of the Contract Documents. Observe shall be defined in accordance with the General Conditions of the Contract to include only visiting the site periodically, observing the condition and progress of the Work, and reporting to the Owner.

F. Furnish: Except as otherwise defined in greater detail, furnish means supply, including shop fabrication if applicable, and deliver to project site, ready for unloading, unpacking, assembly, installation and the like as applicable in each instance.

G. Install: Except as otherwise defined in greater detail, install means operations at project site including, but not limited to, unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, placing in service and similar operations as applicable in each instance.
H. Installer: The person or firm engaged by Contractor or Subcontractor for performance of a specific unit of installation Work at the project site. It is a general requirement that Installers be expert and experienced in the Work they are engaged to perform.

I. Day: Except as otherwise defined in Owner-Contractor Agreement, day means calendar day.

J. Public: Any person in the building other than those attending to central mechanical, electrical, and plumbing services.

K. Public Areas: All areas other than rooms dedicated solely to central mechanical, electrical, and plumbing equipment.

L. Back-of-House Areas: Rooms not designated as part of a public area.

M. Continuation of Material: Where a given material is indicated on any of the Drawings, it is intended that such material be used throughout the length and height of walls, partitions, spandrels, panels, windows, lights, areas, etc., or in the assembly detail in which it occurs, for other similar locations throughout the building, unless a different material is specifically indicated.

1.07 INDUSTRY STANDARDS

A. Referenced standards are part of the Contract Documents and have the same force and effect as if bound with these specifications.

B. Except where specifically indicated otherwise, comply with the current standard in effect as of the date of the Owner/Contractor Agreement.

C. Obtain copies of industry standards directly from publisher.

D. The titles of industry standard organizations are commonly abbreviated; full titles may be found in Encyclopedia of Associations or consult Architect.

E. Where Workmanship is governed by a referenced standard, submit one copy to Architect and additional copies to fabricators, installers, and others involved in the performance of the Work.

1.08 CONTRACTOR USE OF PREMISES

A. The Contractor may be allowed to use a limited portion of the existing building for field offices and/or storage areas at the discretion of the Owner. Temporary office and storage space shall be provided by the Contractor in accordance with requirements of Section 01 50 00 - Temporary Facilities and Controls. Owner approval will be required for all temporary office facilities and storage areas, including their size and location.

B. The Contractor shall submit a Site Utilization Plan for approval prior to commencing the Work of this Contract. The plan shall include, but not be limited to, proposed locations for Contractor and Subcontractor laydown and/or material storage areas, field offices, and site access.

1.09 USER OCCUPANCY

A. The existing site will be occupied during the Work of this Contract. Work required to be performed in areas occupied for summer programs, as indicated on the Drawings, shall be performed before or after program hours, or on weekends, at no additional cost to the Owner.

1.10 PERMITS, INSPECTION AND TESTING REQUIRED BY GOVERNING AUTHORITIES

A. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any portion of the Work to be inspected, tested or approved, the Contractor shall give the Architect and such Authority timely notice of its readiness so that the Architect may observe such inspection and testing.

B. Prior to the start of construction, the Contractor shall complete application to the applicable Building Code enforcement authority for the building permits. Such Permits shall be displayed in a conspicuous location at the project sites. Fees for Building, Electrical, Plumbing, Fire Protection, and Mechanical Permits will be paid in accordance with the City of New Bedford Building Department Permit Fee Schedule included as Appendix A at the end of this Section.

1. Application for Building Permit shall include the following Documents:
b. Narrative Report for compliance with 780 CMR, 1301.8.4
C. Submit copies of all permits, licenses, certifications, inspection reports, releases, notices, judgements, and communications from authorities having jurisdiction.

1.11 CONSTRUCTION SCHEDULES
A. Within 14 days after signing the Owner/Contractor Agreement, provide the following for the Project:
1. A comprehensive bar chart schedule showing all major and critical minor portions of the Work, sequence of Work and duration of each activity. Update and reissue regularly.
2. Progress schedule indicating Substantial Completion within the specified Contract Time
3. Critical path chart indicating the interrelationships of critical and non-critical events required to complete the Project on the dates established. The Contractor will be required to use “Primvera/P-3” CPM scheduling software.
4. Update all schedules and distribute monthly.
5. Other required schedules, including but not limited to, Submittals and Testing.
B. Provide all schedules in accordance with requirements of Section 01 51 11 – Progress Schedule.

1.12 SCHEDULE OF VALUES
A. Prepare Schedule of Values to coordinate with application for payment breakdown. The Schedule of Values shall be broken down into labor and materials for each Work activity with increments no greater than $50,000.00. Submit at least 10 days before first payment application. Update and reissue regularly. The CPM shall be tied into and reflect the Schedule of Values.

1.13 PAYMENT REQUESTS
A. Provide three copies of each request in a complete filled out copies of AIA G702 and continuation sheet G703. Substantiate requests with complete documentation; include change orders to date. Provide partial lien waivers for Work in progress and full lien waivers for completed Work. Contractor shall be required by Law to submit payroll records substantiating payment of wage rates to employees on a weekly basis.
B. Before first payment application, provide the following:
1. List of Subcontractors, suppliers and fabricators
2. Schedule of Values
3. Progress Schedule
4. Submittal Schedule keyed to project schedule
5. List of Contractor’s key project personnel
6. Copies of permits and other communications from authorities
7. Contractor’s Certificate of Insurance
8. Performance and Payment Bonds
9. Unit Price Schedule
10. Contractor’s complete submittal log
11. Contractor’s complete submittal schedule
C. Before final payment application, provide and complete the following:
1. Complete closeout requirements
2. Complete punch list items
3. Settle all claims
4. Transmit Record Documents to Architect
5. Prove that all taxes, fees and similar obligations have been paid
6. Remove of temporary facilities and surplus materials
7. Change lock cylinders or cores
8. Clean the Work
9. Submit Consent of Surety for final payment.
1.14 PROCEDURES & CONTROLS

A. Preconstruction Conference: Require representatives of all major Subcontractors and suppliers to attend; notify Owner and Architect at least 72 hours in advance.

B. Progress Meetings: Hold regular weekly meetings with Owner and Architect, and meetings before preparation of payment requests. The Contractor shall be represented by a principal, project manager, general superintendent or other authorized main office representative, as well as by his own superintendent. An authorized representative of any Subcontractor or Subcontractors shall attend such meetings if his presence is requested by the Architect. Such representatives shall be empowered to make binding commitments on all matters to be discussed at such meetings, including costs, payments, change orders, time schedules and manpower. Any notices required under the Contract may be served on such representatives.

  1. As a prerequisite for monthly payments, ordering schedules, shop drawing schedule, and coordination meeting schedules shall be prepared and maintained by the Contractor and shall be reviewed and updated in a monthly basis, and a copy shall be submitted to the Owner's Representative and Architect.

  2. 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.

  3. Scheduling shall be discussed with all concerned parties, and methods shall be presented by the Contractor which shall reflect construction completion not being deferred, at no additional expense to the Owner.

  4. Project meetings shall be chaired by the Architect.

  5. Project Meeting Notes: The Contractor shall be responsible for recording meeting minutes at each project meeting. The minutes shall incorporate the substance of all issues discussed, noting date of entry of each issue, the resolution, the party responsible for issue resolution, and the date of resolution. The meeting minutes will be distributed to all attendees and responsible parties at the next scheduled project meeting.

C. Daily Reports: Prepare daily reports recording all important information concerning events at the site for each project site. Submit to Architect weekly. Minimum required information contained in the daily report will be:

  1. Manpower by trade
  2. Work activity by trade
  3. Equipment by trade
  4. Material deliveries by trade
  5. Weather conditions
  6. All safety violations and accidents
  7. Inspections if any

D. Layout: Layout Work and be responsible for all lines, elevations, and measurements of the building, grading, utilities and other Work executed under the Contract.

E. Project Limit Line: The boundaries of the site do not limit the responsibility of the Contractor to perform the Work in its entirety. Make utility connections as indicated. The Contractor's superintendent must be present at each of the sites whenever any Work is being performed.

F. Matching: Where matching is indicated, the Architect shall be the sole and final judge of what is an acceptable match.

G. Observation: Notify the Architect and authorities having jurisdiction at least thirty-six hours in advance of concealing any Work.

H. Utilities: Prior to interrupting utilities, services or facilities, notify the utility owners and obtain their written approval.

I. Furnishings, Fixtures, and Equipment: Cooperate and permit the Owner to install his furnishings and equipment during the progress of the Work. Owner's installation of furnishings or equipment does not signify Owner's acceptance of any portion of the Work.

J. Clean-Up: Clean-up all waste at least once a week, remove from site regularly, and legally dispose of off-site.
K. Installer’s Acceptance of Conditions: All installers shall inspect substrates and conditions under which Work is to be executed and shall report in writing to the Contractor all conditions detrimental to the proper execution and completion of the Work. Do not proceed with Work until unsatisfactory conditions are corrected. Beginning Work means installer accepts previous Work and conditions.

L. Documentation: The Contractor shall be responsible for providing and maintaining filing, reporting, Submittals, RFI’s, Payment Requisitions, Schedules, Change Proposals, Change Orders, and the like for the project.

M. Management and Financial Records: Management and financial records shall be maintained by the Contractor pursuant to M.G.L. c 30 § 39 R.

N. Provide noise and dust control procedures in accordance with requirements of Section 01 50 00 – Temporary Facilities and Controls.

1.15 SPECIAL PROJECT CONDITIONS

A. The Contractor shall undertake every possible measure to prevent damage of any kind to any portion of existing surrounding properties or areas.

B. The Contractor is required to exercise all possible care in the conduct of any Work which would affect surrounding properties and occupied areas and to be aware of the potential for damage. The Contractor shall be prepared to stop any Work immediately which is deemed to cause deleterious affects to adjacent areas.

C. The Contractor shall be held responsible for any damage to surrounding properties and occupied areas resulting from his failure to exercise care during the course of construction.

1.16 PROTECTION OF EXISTING UTILITIES

A. The Contractor shall schedule, execute and pay all costs associated with implementation of all requirements related to disconnection or interruption of existing public or private utility services in accordance with requirements of local authorities having jurisdiction, including but not limited to the following:

1. City of New Bedford Police Department
2. City of New Bedford Fire Department
3. City of New Bedford Department of Public Works
4. City of New Bedford Water Department
5. Local Telephone Provider
6. Local Natural Gas Provider
7. Local Cable TV Provider
8. Dig Safe

B. Protect existing utilities which remain from damage due to construction operations. Identify locations of utilities with temporary markers.

C. The Contractor shall be responsible for determining locations of underground structures and utilities, including but not limited to: water, sewer, gas, electric, telephone, and cable TV. Utility services to adjacent buildings shall be maintained without interruption, unless otherwise authorized in writing by the Architect. Utilities located in public ways surrounding the Project site shall be protected from damage related to the Work of this Section. All costs related to repair or replacement of damage to existing utilities not called for to be altered under the Work of this Contract shall be paid by the Contractor. No excavation in a public street or way, or in any public or private place, shall take place prior to verification of the location of all underground utilities by DIG SAFE.

D. Place markers to indicate locations of disconnected services and identify service lines and capping locations on Project Record Documents.
1.17 WARRANTIES
A. The Work of this Contract, including Substantial Completion, will be completed in two (2) Phases. The Contractor shall be responsible for providing full manufacturer warranties in accordance with requirements of individual trade Sections for specific product warranty requirements. Because of overlapping nature of the required construction Phases, the Contractor shall be responsible for providing manufacturer warranties, the Effective Starting Date of which, shall commence upon Substantial Completion of the respective Phase of the Work of the Contract, as described in the Contract Documents, and shall run for the warranty period indicated in the respective trade Section.
B. Procurement: Where a warranty is required, do not purchase or subcontract for materials or Work until it has been determined that parties required to countersign warranties are willing to do so.
C. Warranty Forms: Submit written warranty to Owner through Architect for approval prior to execution. Furnish 2 copies of executed warranty to Owner for his records; furnish 2 additional conformed copies where required for maintenance manual.
D. Work Covered: Contractor shall remove and replace other Work of project which has been damaged as a result of failure of warranted Work or equipment, or which must be removed and replaced to provide access to Work under warranty. Unless otherwise specified, warranty shall cover full cost of replacement or repair, and shall not be pro-rated on basis of useful service life.
E. Warranty Extensions: Work repaired or replaced under warranty shall be warranted until the original warranty expiration date or for ninety days whichever is later in time.

1.18 DELIVERY, STORAGE, HANDLING, & INSTALLATION CONDITIONS
A. Manufacturer's Instructions: Strictly comply with manufacturer's instructions and recommendations and prevent damage, deterioration and loss, including theft.
B. Minimize long-term storage of products at the site. Maintain environmental conditions, temperature, ventilation, and humidity within range permitted by manufacturers of materials and products used.

1.19 LABELS
A. Labels, Trademarks, & Trade Names: Locate required labels on inconspicuous surfaces (not typically visible to the public). No manufacturer labels, nameplates, trademarks, or other identifying markings shall be located on surfaces visible to the public. Any such markings shall be removed and damage repaired, or item replaced, at the discretion of the Architect. Provide permanent data plate on each item of mechanical equipment stating manufacturer, model, serial number, capacity, ratings and all other essential data.

1.20 MUNICIPAL POLICE SERVICES
A. The Contractor shall make all necessary arrangements with the City of New Bedford Police Department in advance of times when regular off-duty, or reserve, police officers will be needed for traffic control protection, due to operations performed under this Contract. Officers shall be compensated, by the Contractor, in accordance with City of New Bedford wage rates for such services. Extend the Workman’s compensation Insurance and Employer’s Liability Insurance, required under the General Contract, to cover police used on the project.

1.21 WELDING, CUTTING, AND BURNING PROCEDURES
A. PURPOSE
1. The purpose of this procedure is to provide minimum standards to prevent loss of life and property from fire during welding, cutting or burning processes involving the use of oxygen-fuel gas and electric arc cutting and welding equipment.
B. GENERAL REQUIREMENTS
1. In the performance of welding, cutting and burning operations, only approved equipment shall be used and the equipment shall be installed and operated in accordance with OSHA standards, the manufacturer's instructions, and nationally recognized good practice.
2. A "Hot Work" permit for welding, cutting, burning or spark producing operations shall not be issued unless the individual in charge of performing such operations is deemed capable of doing such work in a safe manner by the Contractor's Safety Representative. Demonstration of knowledge of fire safety requirements and this welding and cutting procedure in addition to the equipment manufacturer's operational instructions shall constitute acceptable evidence of compliance.

3. A fire watch shall be provided by the Contractor or the Filed-Subcontractor's for their respective work to safeguard against the ignition of any material by the welding, cutting or burning operation, to make use of portable fire extinguishers or fire hose and to perform similar fire prevention and fire protection duties. The fire watch shall remain on the job at least 30 minutes after the "hot-work" including but not limited to welding or cutting operations have been completed to ensure that no fire exists. A signed inspection report attesting to that fact shall be filed and available for inspection by the local Fire Department.

4. A record shall be maintained by the responsible Contractor and Filed-Subcontractor Safety Representative of all locations where welding or cutting operations are performed. The record shall state the name of the assigned fire watch or watches and the length of time for which the fire watch standby was continued after work was completed (a minimum of 30 minutes). It shall include the date, time, and specific location at which work was done and describe the work, fire protection provided, and special precautions taken. Individual job authorizations shall be kept available always for inspection by the local Fire Department or the Owner's Representative. The assigned fire watch or fire watches shall sign the work authorization attesting to the fact that no fire existed after the work ceased and the standby period had passed.

5. Where welding, cutting or burning is done near walls, partitions, ceiling or roof of combustible construction, fire resistant shields or guards shall be provided to prevent ignition. When welding, cutting or burning is to be done on a metal wall, partition, ceiling, or roof, precautions shall be taken to prevent ignition of combustibles on the other side due to conduction of radiation. A fire watch shall be required on the other side of the exposed wall, partition, ceiling or roof if there is any danger of the welding, cutting or burning on one side to result in ignition of materials or structure on the unexposed side. Welding, cutting or burning shall not be attempted on a metal partition wall or on partitions of combustible sandwich-type panel construction.

C. FIRE SAFETY REQUIREMENTS

1. Cutting or welding operations shall be performed only in areas that have been protected against the ignition and spread of fire.

2. Within the confines of a Contractor and Filed-Subcontractor’s work area welding, cutting or burning shall be done in specific areas designed and approved for such work as a maintenance shop, an outside location or a detached structure which shall be of noncombustible or fire resistive construction.

3. When work cannot be moved as in most construction or structural modification activity, the area shall be made fire safe by removing all combustible material within distance of 35 feet and all combustible material from beneath the location where welding, cutting or burning is to be performed.

4. When work cannot be relocated and combustible material cannot be feasibly relocated, all combustible material exposed within 35 feet horizontally or beneath the welding, cutting or burning operation or within 35 feet of exposed floor, ceiling or wall openings shall meet the following requirements:
   a. Such combustible construction or material shall be protected from possible sparks, hot metal or oxidized by fire resistive shields or noncombustible covers as required by the Massport Fire Rescue Department.
   b. Such floor, ceiling or wall openings shall be protected by fire resistive shields and openings or cracks in walls, floors or ducts shall be tightly covered to prevent the passage of sparks or slag to adjacent areas.

5. At least one portable fire extinguisher having a rating of not less than 4-A:60-B:C shall be kept at the location where welding, cutting or burning is done and at least one portable fire extinguisher having a rating of not less than 2-A:10-B:C shall be attached to all portable welding carts.

6. Welding, cutting or burning shall not be done in or near rooms or locations where flammable gases, liquids or vapors, lint dust or loose combustible stocks are present when sparks or hot metal from the welding, cutting or burning operations may cause ignition or explosion of such materials.

7. Welding, cutting or burning shall not be performed in the presence of explosive atmospheres or on containers, equipment or in hollow spaces or cavities which contain or have contained flammable fluids, gases or solids until these containers or equipment have been thoroughly cleaned, inverted or purged.
8. Sprinkler protection shall not be shut off while welding, cutting or burning work is being performed. When welding, cutting or burning work is being done close to automatic sprinkler heads, noncombustible board products or damp cloth guards shall be used to shield the individual heads, but shall be removed when the work is completed.

9. Where a sprinkler system will be impaired or rendered inoperative for any reason, this shall be noted in the application for permit so that all necessary precautions may be taken as required by the local Fire Department.

10. Hot tapping of other welding, cutting or burning on a flammable gas or liquid transmission or distribution utility pipe line shall be qualified to perform such work.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION
PART I - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 1 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
   A. The Work of this Section shall include, but not be limited to, the following:
      1. Administrative and procedural requirements for handling and processing Contract modifications.

1.03 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
   B. Other Specifications Sections which directly relate to the Work of this Section include, but are not limited to, the following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 02 41 13 – Selective Demolition
      3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      4. Section 07 92 00 – Joint Sealants
      5. Section 08 90 00 – Louvers and Accessories
      6. Section 09 91 13 - Painting
      7. Section 21 00 00 – Fire Suppression
      8. Section 23 00 00 – HVAC
      9. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 MINOR CHANGES IN THE WORK
   A. Supplemental instructions authorizing minor changes the Work, not involving an adjustment to the Contract Sum or Contract Time, will be issued by the Architect on AIA form G710, Architects Supplemental Instructions.

1.05 CHANGE ORDER PROPOSAL REQUESTS
   A. Prior to issuing instructions for changes in the Work which the Architect judges will require adjustment to the Contract Sum or Contract Time, the Architect may, at its discretion, request the Contractor to prepare an estimate of the amount of the adjustment.
   B. Owner-Initiated Proposal Requests: The Architect will issue a detailed description of the proposed change and supplemental or revised Drawings and Specifications.
      1. Respond to the request by submitting a proposal to the Architect for the Owner’s review within 21 calendar days of receipt of the proposal request, unless a shorter period for response is indicated in the proposal request.
      2. Include in the proposal, an estimate of cost necessary to execute the proposed change and a statement indicating the effect the proposed change, in the Work will have on the Contract time. Include the supporting data listed in paragraph F, below.
      3. Proposal requests are not an instruction either to stop Work in progress, or to execute the proposed change. Continue with Work in progress that is not affected by the proposed change.
   C. Contractor-Initiated Change Order Requests: When latent or other unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Architect.
1. Notify the Architect in writing of proposed changes within 21 calendar days after the occurrence of the event of observance of the condition giving rise to the change proposal request.

2. Submit the change-order proposal request within 21 calendar days after delivering such notification to the Architect.

3. Include a statement outlining the masons for the charge and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time. Include the supporting data listed in paragraph F, below.

4. Comply with requirements in Section “Product Substitutions” if the proposed change in the Work requires the substitution of one product or system for a product or system specified.

D. No extensions of Contract Time nor increase in the Contract Sum will be considered if the additional time or additional cost is a consequence of the Contractor's failure to submit an estimate within the time stipulated, regardless of whether the proposal request or change order request was initiated by the Owner or the Contractor.


1.06 CHANGE ORDERS

A. The following requirements shall apply to both Owner-initiated proposal requests and Contractor-initiated Change Order request.

1. Submit a complete and accurate Price to the Architect for review. Incomplete proposals will be returned to the Contractor without review, and shall be completed by the Contractor and returned to the Architect within the same time period specified above for submittal of proposals; there shall be no extension of time for such resubmittals.

2. The Architect will review and act on the Contractor's Proposal within 21 days of receipt. The Architect's review, at the Architect's discretion, may include consideration of Costs listed in Means "Construction Cost Data" or a similar data base, and/or on conversations with local manufacturers and suppliers.

3. Include applicable taxes, delivery charges, equipment rental, and amounts of trade, discounts.

4. Itemize Work which is to be performed by employees of the Contractor.

5. For Work which is not to be performed by employees of the Contractor, submit pricing on the letterhead of the proposed Subcontractor, fabricator or supplier.

6. Itemize General Conditions Work included in the proposed cost of the change; a lump sum or percentage of the cost will not be accepted.

7. Prices shall remain valid for a minimum of 90 days from the date of the initial pricing approval to execution of the Change Order by the Owner.

B. Consideration and Acceptance of Price Proposal: The following procedures shall apply to both Owner-Initiated proposal requests and Contractor-initiated Change Order requests:

1. Submit a complete and accurate Price to the Architect for review. Incomplete proposals will be returned to the Contractor without review, and shall be completed by the Contractor and returned to the Architect within the same time period specified above for submittal of proposals; there shall be no extension of time for such resubmittals.

2. The Architect will review and act on the Contractor's Proposal within 21 days of receipt. The Architect's review, at the Architects discretion, may include consideration of Costs listed in Means "Construction Cost Data" or a similar database, and/or on conversations with local manufacturers and suppliers.

3. Within 10 calendar days after receipt of the Architect's comments, make changes to the cost proposal in response to the Architects comments and resubmit for approval.

4. The Architect will promptly notify the Contractor whether the pricing is accepted or will direct the Contractor to make additional changes.

5. When the Contractor's proposal is approved by the Architect the Architect will prepare a Change Order for execution by the Owner, the Architect and the Contractor.
1.07 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: When the Owner and Contractor are not in total agreement on the terms of a Change Order Proposal, the Architect may issue a Construction Change Directive on AIA Form G714, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. The Construction Change Directive will contain a description of the change in the Work and designate the method to be followed to determine change in the Contract Sum or Contract Time, in accordance with Article 7.3 of the General Conditions.

B. Documentation: If the Construction Change Directive is for Work which is to be compensated on the basis of Time and Materials, the Contractor shall maintain detailed daily records, verified with the Architect, on a time and material basis of Work required by the Construction Change Directive.

1. After completion of the change, the Contractor shall submit an itemized account, including supporting data, as may be required by the Architect, to substantiate cost and time adjustments to the Contract.

1.08 CHANGE ORDER PROCEDURES

A. Upon the Owner's approval of a Change Order Proposal Request, the Architect will issue a Change Order for signatures of the Owner and Contractor on AIA Form G701, as provided in the Conditions of the Contract.

B. The Contractor shall promptly execute the Change Order.

C. The Architect will present the Change Order to the Owner for review and approval. Upon Owner approval, the Change Order will then be forwarded by the Architect to the City of New Bedford DFFM Dept. for approval during its next regularly scheduled meeting subsequent to the date of the Change Order. A copy of the fully approved and executed Change Order will then be forwarded to all parties for the record.

END OF SECTION
SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART I - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 1 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
   A. The Work of this Section includes, but is not limited to, the following:
      1. Administrative and supervisory requirements necessary for Project coordination
      2. Request for Information (RFIs)
      3. Coordination of the work and coordination among separate contractors
      4. Administrative and Supervisory personnel
      5. Project meetings
      6. Field measurements

1.03 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all the Contract Documents for requirements which effect the Work of this Section.
   B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 02 41 13 – Selective Demolition
      3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      4. Section 07 92 00 – Joint Sealants
      5. Section 08 90 00 – Louvers and Accessories
      6. Section 09 91 13 - Painting
      7. Section 21 00 00 – Fire Suppression
      8. Section 23 00 00 – HVAC
      9. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 REQUESTS FOR INFORMATION
   A. Contractor’s responsibility for review of Contract Documents is set forth in the General and Supplementary Conditions.
   B. Study the Contract Documents applicable to each component of the Work sufficiently in advance of the time such Work will be ordered, fabricated or installed, so that if additional information or instructions are needed, the Architect will have sufficient time to respond such requests before the information is needed by the Contractor; allow at least 15 calendar days for the Architect to respond.
   C. When requesting additional Drawings, Specifications, or instructions, submit the request in writing and clearly state what information is required. Include a reference to the drawing sheet and detail number, and/or the specification Section and paragraph number requiring clarification, or give other similar precise information to direct the Architect’s attention to the matter and to show that the Contractor has made a conscientious effort to locate the information and understand the information presented in the Contract Documents. Requests for information not accompanied by a precise, detailed reference to the Contract Documents will be returned to the Contractor unanswered for revision. Requests for information regarding information which is clearly shown or stated in the Contract Documents, will be returned to the Contractor unanswered. By submitting Requests for Information, the Contractor represents that the Contractor has determined and verified materials, field measurements, and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within each Request for Information with the
requirements of the Work and of the Contract Documents. By submitting Requests for Information, the Contractor
further represents that the Contractor has reviewed each Request for Information as it relates to the rest of the Work
and Contract Documents. The Architect’s responses to the Contractor’s Requests for Information shall not relieve the
Contractor of the obligations of Paragraphs 3.3, 3.5, 3.12, and 4.2 of the General & Supplementary General
Instructions.

1.05 COORDINATION
A. Coordination: Coordinate construction activities included under various Sections; of these Specifications to assure
efficient and orderly installation of each part of the Work.
   1. Schedule construction activities in the sequence required to obtain the best results. When best sequence cannot
   be achieved, make provisions to accommodate items scheduled for later installation.
   2. Where space is tight, coordinate installation of different components to provide maximum accessibility for required
      maintenance, service and repair.
   3. Coordinate construction activities under this Contract with separate contractors performing related work.
B. Where necessary, prepare memoranda outlining special procedures required for coordination. Include such items as
   required notices, reports, and attendance at meetings. Transmit to the Architect and distribute to all other parties
   involved.
   1. Prepare similar memoranda for the Owner and separate Contractors where coordination of their Work is required.
C. Coordinate administrative activities with construction activities to avoid conflicts and ensure - orderly progress of the
   Work. Examples of administrative activities which must be carried out in a timely fashion to facilitate timely progress of
   the work include, but without limitation: preparation of schedules, delivery and processing of submittals, scheduling
   meetings.
D. Provide Coordination Drawings in accordance with requirements of Section 01 33 00 – Submittal Procedures. The
   Contractor shall provide the services of a designated on-site representative to oversee implementation of Work related
to completion of information contained in the Coordination Drawings, in accordance with requirements of the Contract
Documents.

1.06 ADMINISTRATIVE AND SUPERVISORY PERSONNEL
A. Employ a competent superintendent, reasonably acceptable to the Owner, and necessary assistants. Require these
   supervisory personnel to be in-attendance at the project site full time during the progress of the work from the
   beginning of the Work, until the date of Substantial Completion, and for such additional time thereafter as the Architect
   may determine to be necessary for the expeditious completion of the Work.
   1. "From the beginning of the Work" means before any temporary construction or sitework begins, including staking
      out the site, placing of erosion control devices, site clearing, or cutting of trees.
   2. Provide the superintendent with a cellular phone or paging device, so that he or she can be reached at all times.
   3. The Owner reserves the right to request replacement of the Contractor’s Superintendent for just cause, in
      accordance with requirements of the Contract Documents.
B. Agency: The Contractor's superintendent shall attend the regularly scheduled project meetings and special project
   meetings as the Contractors agent, and shall be empowered to make: binding commitments on all matters to be
discussed, including costs, payments, change orders, time schedules, and manpower. Notices required under the
   Contract may be served on the Contractor's superintendent.

1.07 PROJECT MEETINGS
A. Project Meetings: Project meetings are specified in Section 01 00 00 – General Requirements.
B. Subcontractor Progress Meetings: In addition to meetings called by the Owner or Architect, schedule and administer
   weekly subcontractor progress meetings.
1. Special Meetings; Schedule and attend additional informational and problem solving meetings as required by progress of the work or requested by the Owner or the Architect to discuss non-routine issues. The Architect will prepare and distribute agenda, record and distribute the minutes.

1.08 REVIEW OF WORK BY SUBCONTRACTORS
   A. Before permitting any subcontractor to begin work on the project site, meet with the subcontractor to review the work ahead. As a minimum, review the Contract Documents for work pertaining to that subcontractor; review the subcontractor's shop drawings, examine existing conditions affecting the work of the subcontractor, and review environmental and other project conditions for conformance to specified requirements.

1.09 FIELD MEASUREMENTS
   A. Before beginning the Work, check and compare critical dimensions at the site with those shown on the Drawings, and immediately bring discrepancies to the attention of the Architect and request resolution.
   B. As the work progresses, continue to chock and compare dimensions at the site with those shown on the Drawings before ordering materials, in preparation for producing shop drawings, before beginning fabrication, before ordering materials, and before cutting and fitting materials at the site, and at other times as frequently as required to ensure that the work will be fabricated to the right size(s) and will fit together correctly in the field. If discrepancies between site dimensions and Drawings are detected, immediately notify the Architect in writing, describing the nature and extent of the discrepancy, and attaching sketches or annotated copies of the plans if necessary to make the observation clear.
   C. Mark on shop drawings, prior to submission to the Architect relevant field dimensions and note conflicts with the submitted material.

1.10 SUBMITTALS
   A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, or as otherwise required for completion and transmittal of all documents in accordance with requirements of the Contract Documents.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION
SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 1 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
   A. The Work of this Section includes, but is not limited to, the following:
      1. Administrative and procedural requirements for submittal of Shop Drawings, Product Data, Samples, and other required submittals as called for in the Contract Documents.

1.03 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
   B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 02 41 13 – Selective Demolition
      3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      4. Section 07 92 00 – Joint Sealants
      5. Section 08 90 00 – Louvers and Accessories
      6. Section 09 91 13 - Painting
      7. Section 21 00 00 – Fire Suppression
      8. Section 23 00 00 – HVAC
      9. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 GENERAL REQUIREMENTS
   A. Electronic Submittal Procedures
      1. General Requirements
         a. Shop Drawings and Product Data submittals shall be transmitted to the Architect in electronic (PDF) format.
         b. The intent of electronic submittals is to expedite the construction process by reducing paperwork, improving information flow, and decreasing turnaround time.
         c. The electronic submittal process is not intended for submittal of color samples, color charts, or physical material samples.
      2. Submittal Procedures
         a. The Contractor may use any or all of the following options for submittal preparation:
            1) Subcontractors and suppliers provide PDF submittals to the Contractor.
            2) Subcontractors and suppliers provide paper submittals to the Contractor who electronically scans and converts to PDF format.
            3) Subcontractors and suppliers provide paper submittals converted to PDF format.
         b. The Contractor shall review and apply electronic stamp certifying that the submittal complies with requirements of the Contract Documents, including verification of manufacturer and product, dimensions, and coordination of information required for integration into all related components of the Work.
         c. The Architect/Engineer will notify the Contractor by e-mail of completed review and will make review comments available.
d. The Contractor is responsible for distribution of reviewed submittals to all subcontractors and suppliers.  
e. The Contractor shall submit paper copies of reviewed submittals at Project closeout in accordance with requirements of Section 01 77 00 – Contract Closeout Procedures, Section 01 78 39 – Project Record Documents.  

B. Prior to submittal of any shop drawings, product data or samples the Contractor shall submit to the Architect for approval, within 15 business days after being awarded the Contract, a complete submittal log and a schedule of submissions of shop drawings and miscellaneous Work-related submittals which corresponds to the requirements of the CPM schedule and the General Contract. No Submittals will be processed prior to the receipt of such schedule for the project. The schedules shall indicate, by trade, the date by which final approval of each item must be obtained, and shall be revised as required by the conditions of the Work, subject to the Architect’s approval. The Architect’s review period, including those of his consultants, will not exceed 30 days from the established date of each submission of shop drawings, product data, and samples, plus the additional time, if any, for distribution by the Contractor and receipt of submissions by the Architect. The Contractor shall be required to strictly adhere to the dates established in the schedule. The information in this submittal schedule shall also be included in the Contractor’s CPM schedule for the project submitted in accordance with Section 01 51 11 - Progress Schedule.  

C. Following approval of submittal log and schedule, submit to the Architect, shop drawings, product data and samples required by each specification Section.  

D. When the phrase “By Others” (or similar expression) appears on a submittal and refers to any of the Contract Work, it shall be interpreted to mean “by the General Contractor or another Subcontractor”. The Architect’s review of any submittal containing such phrase shall not be considered permission to delete any Work from the Contract.  

E. Review and approval of shop drawings by the Architect does not indicate approval of changes in the Contract, Time or Cost  

1.05 SHOP DRAWINGS  
A. Original drawings, prepared by The Contractor, Subcontractor, Supplier or distributor which illustrate some portion of the Work; showing fabrication, layout, setting or erection details.  
   1. Prepare drawings in a clear and thorough manner.  
   2. Identify details by reference to sheet and detail numbers shown on Contract Drawings  

1.06 PRODUCT DATA  
A. Manufacturer’s standard schematic drawings:  
   1. Modify drawings to delete information which is not applicable to project.  
   2. Supplement standard information to provide additional information applicable to project.  
B. Manufacturer’s catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.  
   1. Clearly mark each copy to identify pertinent materials, products or models.  
   2. Show dimensions and clearances required.  
   3. Show performance characteristics and capacities.  
   4. Show wiring diagrams and controls.  

1.07 SAMPLES  
A. Physical examples to illustrate materials, products, units of Work, equipment or Workmanship, and to establish standards by which completed Work is to be judged.  
   1. Office samples: Of sufficient size and quality to clearly illustrate:  
      a. Functional characteristics of product or material, with integrally related parts and attachment devices.  
      b. Full range of color.
1.08 CONTRACTOR RESPONSIBILITIES

A. Review Shop Drawings, Project Data and Samples prior to submission.

B. Verify:
   1. Field measurements
   2. Field construction criteria
   3. Catalog numbers and similar data

C. Coordinate each submittal with requirements of Work and of Contract Documents.

D. Contractor's responsibility for errors and omissions in submittals is not relieved by Architect review of submittals.

E. Contractor's responsibility for deviation in submittals is not relieved by Architect review of submittals, unless the Architect gives written acceptance of specific deviations.

F. Notify Architect/Engineer, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.

G. Furnish miscellaneous submittals (non-administrative) including, but not limited to warranties, maintenance agreements, Workmanship bonds, project photographs, survey data and reports, physical Work records, quality testing and certifying reports, copies of industry standards, record Documents, field measurement data, operating and maintenance materials, overrun stock, and similar information, devices and materials applicable to the Work.

1.09 SUBMISSION REQUIREMENTS

A. Schedule submissions to permit time for review and resubmission.

B. Submit number of Samples specified in each of specification Sections.

C. Accompany submittals with transmittal letter, in duplicate, containing:
   1. Date
   2. Project title and number
   3. Contractor's name and address
   4. Specification Section number, paragraph and item number
   5. The number of each Shop Drawing, Product Datum and Sample submitted
   6. Notification of deviations from Contract Documents
   7. Manufacturer's name or source of supply
   8. Trade name
   9. Catalog number
   10. Contractor's certification that he has checked all samples for compliance with Contract requirements and availability of material
   11. Name and address of Architect, Subcontractor, and supplier
   12. Other pertinent data

D. Submittals shall include:
   1. Date and revision dates
   2. Project title and number
   3. The names of:
      a. Architect
      b. Contractor
      c. Subcontractor
      d. Supplier
      e. Manufacturer
      f. Separate detailer when permitted
   4. Identification of product or material.
   5. Relation to adjacent structure or materials.
   6. Field Dimensions, clearly identified as such.
Submittal Procedures
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7. Specification Section number, paragraph and item number.
8. Applicable standards, such as ASTM number or Federal Specification.
9. A blank space, 3 in. x 6 in., for Architect/Engineer’s stamp.
11. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of field measurements and compliance with Contract Documents.

E. The Architect will complete the review and return the record sepia and product data to the Contractor.

F. The Contractor shall be fully responsible for delay in the delivery of materials or progress of Work caused by late review of shop drawings due to failure of the Contractor to submit, revise, or resubmit shop drawings in adequate time to allow the Architect reasonable time (up to 10 calendar days) for normal checking and processing of each submission or resubmission.

G. 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 drawings and product data is withheld due to failure of the Contractor to submit, revise, or resubmit items in adequate time to allow the Architect reasonable time, not to exceed thirty (30) calendar days, for normal checking and processing of each submission or resubmission.

1.10 ARCHITECTS REVIEW ACTIONS

A. Submittals Marked “Reviewed as Required by Construction Contract Documents And Approved”:
1. Submittals which require no corrections by the Architect will be marked “Reviewed as Required by Contract Documents and Approved”. Reviewed as required by Contract Documents and approved, but only for conformance to the design concept of the Work, and subject to further limitations and requirements contained in the Construction Documents.

B. Submittals Marked “Furnish as Corrected”:
1. Submittals which require only a minor amount of correcting will be marked “Furnish as Corrected”. This mark means that checking is complete and all corrections are obvious without ambiguity. Fabrication will be allowed on Work “Furnish as Corrected”, provided such action will expedite construction and noted corrections are adhered to. If fabrication is not made strictly in accordance with corrections noted, the item shall be rejected in the field and the Contractor will be required to replace such Work and that of other Contractor's, in accordance with corrected submittals, at his own expense.

C. Submittals Marked “Revise and Resubmit”:
1. When submittals are marked “Revise and Resubmit” details of items noted by Architect shall be further clarified before full approval can be given and noted items must not be fabricated until corrected and approved.

D. Submittals Marked “Rejected”:
1. When submittals are contrary to Contract requirements or too many corrections are required, they shall be marked “Rejected”. No Work shall be fabricated under this mark. The Architect shall list his reasons for non-approval on the submittal or in a transmittal letter accompanying their return. The submittals must be corrected and resubmitted for approval.

E. Submittals Marked “Review”:
1. Submittals sent for information only will be marked “Reviewed”. No approval or disapproval is given unless requested by Contractor.

F. Return of Submittals To Contractor Unchecked:
1. The Architect may return submittals to the Contractor unchecked for any of the following reasons, in which case the submission will not be considered official:
   a. Submittal in violation of specified procedure or product
   b. Inadequately checked by Contractor
   c. Inaccurate and in substantial error
1.11 RESUBMISSION REQUIREMENTS
A. Shop Drawings:
   1. Revise initial drawings as required and resubmit as specified for initial submittal.
   2. Indicate on drawings any changes which have been made other than those requested by Architect/Engineer.
B. Product Data and Samples: Submit new data and samples as required for initial submittal.

1.12 DISTRIBUTION OF SUBMITTALS AFTER REVIEW
A. Distribute copies of Shop Drawings and Product Data which carry Architect/Engineer's stamp, to:
   1. Contractor's Job site file
   2. Record Documents file
   3. Subcontractors and/or suppliers
   4. Owner
   5. Testing Agency (where applicable)
B. Distribute samples as directed.

1.13 ARCHITECT/ENGINEER'S DUTIES
A. Review submittals with reasonable promptness.
B. Review for:
   1. Design concept of project
   2. Information given in Contract Documents
C. Review of separate item does not constitute review of an assembly in which item functions.
D. Affix stamp and initials or signature certifying to review of submittal.
E. Return submittals to Contractor for distribution.

1.14 DAILY CONSTRUCTION REPORTS
A. Prepare daily construction reports, recording the following information concerning events at the site and submit copies to the Architect at weekly intervals.
   1. List of Subcontractors at the site
   2. Approximate count of personnel at the site
   3. High/low temperatures, general weather conditions
   4. Accidents and unusual events
   5. Meeting and significant events
   6. Stoppages and delays, shortages, losses
   7. Meter readings and similar recordings
   8. Emergency procedures
   9. Orders and requests of governing authorities
   10. Job modifications received and implemented
   11. Services connected, disconnected
   12. Equipment or system tests and start-ups
   13. Partial completion, occupancies
   14. Substantial completion authorization

1.15 EMERGENCY ADDRESSES
A. Within 15 days of Notice to Proceed, submit to the Owner and the Architect, in writing, the name, addresses and telephone numbers of key members of their organization including Superintendent and personnel at the site, to be contacted in the event of emergencies at the building site, which may occur during non-Working hours.
PART 2 - PRODUCTS

2.01 SUBSTITUTIONS

A. Contractor's request for changes in products, materials and methods of construction required by Contract Documents are considered requests for "substitutions" and are subject to requirements specified under Section 01 60 00 – Product Requirements.

PART 3 - EXECUTION NOT USED

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, and all Sections of Division 1- General Requirements, apply to the Work of this Section.

1.02 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
   B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 02 41 13 – Selective Demolition
      3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      4. Section 07 92 00 – Joint Sealants
      5. Section 08 90 00 – Louvers and Accessories
      6. Section 09 91 13 - Painting
      7. Section 21 00 00 – Fire Suppression
      8. Section 23 00 00 – HVAC
      9. Section 28 31 00 – Fire Detection and Alarm Systems

1.03 HAZARDOUS MATERIALS PROCEDURE
   A. Asbestos:
      1. Asbestos Materials Exist On-Site: There are accessible and inaccessible asbestos containing materials (ACM) in the existing building. ACM affected by the Renovation and Demolition project are included under this contract. The General Contractor and/or the Demolition Contractor shall refer to items 2, 3, 4, 5, 6, 7 below for proper procedures regarding removal and disposal of ceiling mounted chemical type fire extinguisher. The General Contractor shall formally notify each subcontractor that there are ACM existing in the building. At the completion of the asbestos abatement project a letter will be issued by the project monitor indicating that accessible and known ACM has been removed from the building. Hidden ACM may only be found during Demolition.
      2. Unknown and inaccessible ACM: During the General Contractor and/or the Demolition work of the Contract, it is possible that previously unknown asbestos materials may be discovered in currently concealed locations.
      3. Notification: If the General Contractor and/or the Demolition Contractor discover or encounter any ACM during the performance of the work, the General Contractor and/or the Demolition Contractor shall immediately:
         a. Stop work, notify the Owner and Clerk of the Works about the presence of suspect ACM and request instructions for proper action, and
         b. Take whatever steps and measures are necessary to reduce, control or eliminate the risk of exposure of workers and the public to the ACM.
      4. Responsible Person On-Site: The General Contractor and/or the Demolition Contractor shall designate one of its senior on-site employees to be in-charge of coordination between the Architect, the General Contractor, and all subcontractors with respect to hazardous materials issues.
      5. Responsibility for Hazardous Material Discovery: It is the sole responsibility of the General Contractor and its Subcontractors to undertake whatever measures, methods of procedures are necessary, required or otherwise appropriate to safeguard the health and safety of all workers and members of the public with respect to identification and discovery of previously unknown hazardous materials during the work of the Project.
6. The Demolition Contractor shall prepare a NTWP to be submitted to the DEP for review and approval for all related work at no additional cost to the Contractor.

7. Indemnification: To the fullest extent permitted by law, the General Contractor and/or the Demolition Contractor shall indemnify and hold harmless the Owner and the Architect and their agents and employees from and against all claims, damages, losses and expenses including, but not limited to, attorneys’ fees arising out of or relating to the performance of the Work, including the discovery or identification of any hazardous materials, provided that any such claim, damage, loss or expense if attributable to bodily injury, sickness, disease or death, or to damage to or destruction of tangible property (other than the Work itself) including the lose of use resulting therefrom; and is caused in whole or in part by any negligent act or omission of the General Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable regardless of whether or not it is caused in part by a party indemnified hereunder.

B. Other Hazardous Materials:

1. The General Contractor and/or the Demolition Contractor shall be made aware that other hazardous materials may be found inside the building.

2. The General Contractor and/or the Demolition Contractor shall be responsible for quantifying, removal and proper disposal of all remaining hazardous materials in the building, including but not limited to batteries and related electrolytic material, PCB’s and mercury inside transformers and switches and Freon inside air conditioners, etc.

C. PCB’s:

1. The General Contractor and Demolition Subcontractors shall be made aware that building materials (Material) including but not limited to painted surfaces, caulking, glue, coatings and other building materials are likely to contain >1 ppm of Polychlorinated Biphenyls PCB’s.

2. Due to the difficulty associated with exhaustive testing of all surfaces, caulking, glue, and coatings within the building, the Owner has elected to direct the General Contractor and Demolition Subcontractors to assume that these surfaces do, in fact, contain PCB’s and to take all necessary steps for their compliant removal and disposal. It is the General Contractor or Demolition Subcontractors option to test these surfaces to determine the level of PCB’s which exists in these surfaces and to conform to all applicable Federal, State, and Local laws, regulations, ordinances, and guidelines in their removal and disposal. All costs associated with testing, removal, and disposal shall be the responsibility of the General Contractor or Demolition Subcontractors at no additional cost to the Owner.

3. All the work of this Contract shall conform to the standard set by all applicable Federal, State and Local laws, regulations, ordinance and guidelines.

4. The General Contractor or Demolition Subcontractors is solely responsible for means and methods, and techniques used for demolition and control. The General Contractor or Demolition Subcontractors shall collect and control PCB’s contaminated debris and soil.

5. The General Contractor or Demolition Subcontractors shall at his own cost and expense comply with all laws, ordinance, rules and regulations of Federal, State, Regional and Local authorities during prepping, sanding, cutting, burning, scraping, painting over, grinding and regarding handling, storing and disposing of contaminated waste material and during demolition of the building.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS
A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01- General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
A. The Work of this Section includes, but is not limited to, the following:
   1. Administrative and procedural requirements for quality assurance and quality control.
   2. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with requirements of the Contract Document.
      a. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
      b. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with requirements of the Contract Documents.
      c. Requirements for Contractor to provide quality assurance and control services required by the Owner, Architect, or authorities having jurisdiction are not limited by provisions of this Section.
      d. Specific test and inspection requirements are not specified in this Section.

1.03 RELATED WORK SPECIFIED ELSEWHERE
A. Carefully examine all the Contract Documents for requirements which effect the Work of this Section.
B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
   1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
   2. Section 02 41 13 – Selective Demolition
   3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
   4. Section 07 92 00 – Joint Sealants
   5. Section 08 90 00 – Louvers and Accessories
   6. Section 09 91 13 - Painting
   7. Section 21 00 00 – Fire Suppression
   8. Section 23 00 00 – HVAC
   9. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 DEFINITIONS
A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
B. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
C. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
D. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

E. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

F. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

G. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trades.

1.05 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.06 REPORTS AND DOCUMENTS

A. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
   1. Name, address, and telephone number of technical representative making report.
   2. Statement on condition of substrates and their acceptability for installation of product.
   3. Statement that products at Project site comply with requirements.
   4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
   5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
   6. Statement whether conditions, products, and installation will affect warranty.
   7. Other required items indicated in individual Specification Sections.

B. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.07 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Manufacturer’s Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer’s products that are similar in material, design, and extent to those indicated for this Project.

G. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer’s products that are similar in material, design, and extent to those indicated for this Project.

1.08 QUALITY CONTROL

A. Manufacturer’s Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 33 00 “Submittal Procedures.”

B. Manufacturer’s Technical Services: Where indicated, engage a manufacturer’s technical representative to observe and inspect the Work. Manufacturer’s technical representative’s services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor’s responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

1. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

   a. Access to the Work.
   b. Incidental labor and facilities necessary to facilitate tests and inspections
   c. Adequate quantities of representative samples of materials that require testing and inspecting.
   d. Assist agency in obtaining samples.
   e. Facilities for storage and field curing of test samples.
   f. Delivery of samples to testing agencies as required
   g. Preliminary design mix proposed for use for material mixes that require control by testing agency. Security and protection for samples and for testing and inspecting equipment at Project site.
   h. Security and protection for samples and for testing and inspecting equipment at Project site.

2. Coordination: Coordinate sequence of activities to accommodate required quality assurance and control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

   a. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.09 SUBMITTALS

A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, or as otherwise required for completion and transmittal of all documents required in accordance with requirements of the Contract Documents.

PART 2 - PRODUCTS NOT USED
PART 3 - EXECUTION

3.01 TEST AND INSPECTION LOG
   A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
      1. Date test or inspection was conducted.
      2. Description of the Work tested or inspected.
      3. Date test or inspection results were transmitted to Architect.
      4. Identification of testing agency or special inspector conducting test or inspection.
   B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.02 REPAIR AND PROTECTION
   A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
      1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 01 51 00 – Cutting and Patching.
      2. Protect construction exposed by or for quality-control service activities.
      3. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION
TEMPORARY FACILITIES AND CONTROLS

PART I - GENERAL

1.01 RELATED DOCUMENTS
A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
A. Provide, maintain, remove, and pay all costs related thereto, all temporary facilities included under the Work of this Section, or as otherwise required for progress and completion of the Work in accordance with requirements of the Contract Documents.
B. Coordinating and scheduling among all trades and Subcontractors, the furnishing and use of all temporary facilities for the Work in accordance with all Federal, State, and local governing rules and regulations.

1.03 RELATED WORK SPECIFIED ELSEWHERE
A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
   1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
   2. Section 02 41 13 – Selective Demolition
   3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
   4. Section 07 92 00 – Joint Sealants
   5. Section 08 90 00 – Louvers and Accessories
   6. Section 09 91 13 - Painting
   7. Section 21 00 00 – Fire Suppression
   8. Section 23 00 00 – HVAC
   9. Section 28 31 00 – Fire Detection and Alarm Systems
C. Nothing in this Section is intended to limit types and amounts of temporary Work required, and no omission from this Section shall be recognized as an indication by the Architect that such temporary activity is not required for successful completion of the Work or compliance with requirements of the Contract Documents.

1.04 REQUIREMENTS OF REGULATORY AGENCIES
A. Provide and maintain all temporary facilities in compliance with governing rules, regulations, codes, ordinances and laws of agencies and utility companies having jurisdiction over Work involved in the project.
B. Be responsible for all temporary Work provided, and obtain any necessary permits and inspections for such Work.
C. Do not interfere with normal use of streets in vicinity of project site accept as indicated on drawings and/or as necessary to execute required Work, and then only after proper arrangement has been made with applicable authorities, including traffic control.

1.05 FIELD OFFICES AND STORAGE SHEDS
A. Owner will provide the use of an on-site Field Office that will include a Restroom and Electricity /Water.
B. The Contractor shall provide per the Contract. Storage of construction materials in the building shall be permitted, depending on the type of materials and the duration of expected storage, as determined by the Architect and Owner. All temporary structures shall be removed at Substantial Completion.
1.06 TEMPORARY SERVICES
A. Temporary Electricity and Lighting:
   1. The Contractor shall provide temporary wiring of a special nature, and power required to complete the Work in accordance with requirements of the Contract Documents.
B. Temporary Heat and Ventilation:
   1. The Contractor shall provide adequate ventilation of enclosed areas as required to disperse humidity and to prevent hazardous accumulation of dust, fumes, vapors or gasses.
C. Removal:
   1. Completely remove temporary materials and equipment when their use is no longer required.
   2. Clean and repair damage caused by temporary installations or used for temporary facilities.
   3. Restore permanent facilities used for temporary services to specified condition.
      a. 14 days prior to Substantial Completion, remove temporary lamps and install new lamps in all permanent light fixtures.

1.07 VEHICLE AND CONTRACTOR ACCESS AND TRAFFIC CONTROL
A. The Contractor shall be responsible for all traffic control, including municipal police services, at streets adjacent to the Project site, as may be required to provide safe access and egress for Owner and construction related vehicles. Provide and maintain a suitable means of access to the Contract Work areas as necessary for vehicles and equipment of all trades requiring such access. Contractor and Subcontractor deliveries.

1.08 TEMPORARY PARKING
A. Parking for vehicles belonging to the Contractor, Subcontractors, or other personnel providing services included under the Work of this Contract shall be the responsibility of the GC and Sub-contractor. Vehicle parking for all personnel providing services included under the Work of this Contract.

1.09 SCAFFOLDING, LADDERS AND HOISTING FACILITIES
A. The Contractor shall provide and maintain all temporary stairs, ramps, runways, chutes, ladders, staging, and hoists as required for proper execution of the Work in accordance with applicable requirements of Federal, State and Local Codes, except as otherwise indicated below. Provide means to safely enable access to all parts of Work by Architect, Owner or other such person authorized to inspect Work. Construction, installation, and maintenance of such equipment shall be Work in accordance with applicable requirements of Federal, State and Local Codes.

1.10 TEMPORARY BARRICADES AND ENCLOSURES
A. Provide temporary enclosure where indicated and where reasonably required to ensure adequate Workmanship and protection from weather, personnel, visitors, and unsatisfactory ambient conditions for the Work.
   1. Provide barricades as required for traffic control at streets adjacent to the Project site, as required to provide safe access and egress for Owner and construction related vehicles.

1.11 SECURITY AND PROTECTION PROVISIONS
A. Provide temporary security and protection provisions including, but not be limited to, guard rails, fire protection, barricades, warning signs/lights, and similar provisions intended to minimize property loses, personal injuries and claims for damages at project site.
   1. Provide types, sizes, numbers and locations of fire extinguishers, as would be reasonably effective in extinguishing fires during early stages, by personnel at project site (minimum 2 per floor of each building). Provide type A extinguishers at locations of low-potential for either electrical or grease-oil-flammable liquids fires; provide Type ABC dry chemical extinguishers at other locations; comply with recommendations of NFPA No. 10 “Standard for Portable Fire Extinguishers” and NFPA 241 “Standard for Safeguarding Construction, Alterations
and Demolition Operations. Post warning and quick-instructions at each extinguisher location, and instruct all personnel at project site, at time of their first arrival, on proper use of extinguishers and other available facilities at project site. Post local fire department call number at project site.

a. Perform torch cutting and welding operations only when approved by the Contractor. Provide chemical extinguishers at all locations where such Work is in progress.

b. Maintain a fire watch of the interior and exterior of the facility for at least one hour after the Project’s daily quitting time when the following activities have been done: torching, welding or other activities capable of starting combustion.

1.12 HAZARDOUS MATERIALS

A. The Contractor is solely responsible for all matters relating to hazardous or toxic materials and lawful removal of same from the site. If hazardous or toxic materials are indicated or discovered, properly inform governing authorities and abide by their requirements.

1.13 DUST AND NOISE CONTROL

A. The Contractor shall use every effort and every means possible to minimize noise caused by his operations, which the Architect, the Owner’s Representative, Owner, or governing authorities may consider objectionable. The noise levels on the construction site will be controlled so that at no time will the noise level measured at the Limit of Work line shall exceed 70dB. The Contractor shall provide Working machinery and equipment equipped with suitable mufflers and sound-deadening panels in accordance with the latest edition of the OSHA regulations. Compressors shall be equipped with silencers or mufflers on intake and exhaust lines. Wherever practical electricity shall be used for power to reduce noise. Dumping bins, hoppers and trucks used for disposal shall be lined with wood or other sound deadening material if required. Where required agencies have jurisdiction, certain noise-producing Work may have to be performed during specified periods only, further; the Contractor and Subcontractors are required to comply with all applicable regulations.

1. Prior to the start of construction, the Contractor shall submit to the Architect, a Noise Control Program for review where Work with high level of noise is anticipated to Work out plans to mitigate the noise impact, especially for Work anticipated to be done during normal work hours.

1.14 RUBBISH REMOVAL

A. All waste and debris caused by the Work of this Contract shall be removed and legally disposed of off-site, daily, or as otherwise required to avoid large accumulations. The Contractor shall be responsible for providing all labor, materials, and equipment, including dumpsters, required for removal from all parts of the building, site, and other Contract areas, all waste and debris caused by the Work of this Contract.

B. Burning or on site disposal of waste and debris caused by the Work of this Contract shall not be allowed.

1.15 SAFETY AND COOPERATION

A. This project is subject to compliance with Public Law 91-596, “Occupied Safety and Health Act of 1970” (OSHA) and all amendments thereto, with respect to all rules and regulations pertinent to construction.

1. The Work of this Contract shall be performed between the hours of 7:00 AM and 5:00 PM, Monday through Friday, and 9:00 AM and 4:00 PM on Saturday. Performance of the Work of this Contract shall not be allowed on Sunday or Holidays. Exceptions to the specified hours of Work shall be allowed in the event of an emergency, in coordination with the Owner.

B. The Contractor shall coordinate all Work and extend full cooperation to School District personnel and the Work of other trades.

C. The following rules and regulations will be required of all personnel providing services included under the Work of this Contract. No deviation or exception will be permitted without the express written approval of the Owner. The Contractor shall take responsibility for ensuring all construction personnel adhere to and cooperate with the Owner in enforcing these responsibilities.
1. All Workers must be properly, permanently and visually identified.
2. All Workers shall maintain their actions in a professional and workmanlike manner while at the Project site. Failure to comply with the following restrictions shall be grounds for permanent removal from the list of authorized workers, as described above. Worker restrictions include, but are not limited to, the following:
   a. No abusive language
   b. No littering
   c. No lewd behavior
   d. No conduct otherwise deemed unacceptable by the Owner or Architect
   e. No smoking on School District property, in accordance with State of Massachusetts law
   f. Consumption of alcoholic beverages on the job, or coming to Work in an intoxicated condition
   g. Possessing or consuming illegal drugs or any other illegal substance while working on the Project
   h. Using or removing Owner's or Subcontractors' possessions from the property without prior written authorization
   i. Violating any state, federal or city statutes, rules, regulations, and the like while working on the Project
   j. Possessing firearms or explosives while Working on the Project
   k. Using Project facilities for jobs other than specific assignments directly related to the Work of this Project
   l. Physically abusing or harming an individual who Works at or visits the Project
   m. Duplication of any keys used in the existing or new building without prior written authorization by the Owner
   n. Providing building access at any time to anyone not directly working for the Contractor
   o. Abusing, defacing, or destroying existing or new property of the Owner
   p. Preventing access to all areas of the Project by the Owner, Architect and the Owner's Consultants.

1.16 PRE-INSTALLATION MEETING

A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 1 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
   A. The Work of this Section includes, but is not limited to, the following:
      1. All cutting, fitting and patching, including attendant excavation and backfill, as required to complete the Work of this Contract.
      2. Making all parts of the Work fit together properly
      3. Uncovering portions of the Work to provide for installation of ill-timed Work
      4. Removal and replacement of defective Work
      5. Removal and replacement of Work not conforming to requirements of Contract Documents
      6. Removal of samples of installed Work as specified for testing
      7. Providing routine penetrations of non-structural surfaces for installation of ductwork, piping and electrical conduit
      8. Section 21 00 00 – Fire Protection, Section 23 00 00 – HVAC, and Section 28 31 00 – Fire Detection and Alarm Systems are responsible for cutting and patching of new openings in existing walls as required to complete their respective Work.

1.03 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
   B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 02 41 13 – Selective Demolition
      3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      4. Section 07 92 00 – Joint Sealants
      5. Section 08 90 00 – Louvers and Accessories
      6. Section 09 91 13 - Painting
      7. Section 21 00 00 – Fire Suppression
      8. Section 23 00 00 – HVAC
      9. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 SUBMITTALS
   A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, or as otherwise required for completion and transmittal of all documents required in accordance with requirements of the Contract Documents.
   B. Submit a written request for approval to Architect well in advance of executing any cutting or alteration which effects:
      1. The structural value or integrity of any element of the Project;
      2. The integrity or effectiveness of weather-exposed or moisture resistant elements or systems.
      3. The efficiency, operational life, maintenance or safety of operational elements;
      4. The visual qualities of sight-exposed elements.
C. The request shall include the following:

1. Description of the effected Work, its' proposed extent, and the reason it cannot be avoided.
2. The necessity for cutting, alteration or excavation.
3. The effect on the structural or weatherproof integrity of the Project.
4. Description of the proposed Work:
   a. The scope of cutting, patching, alteration, or excavation.
   b. The trades who will execute the Work.
   c. Products proposed to be used.
   d. The extent of refinishing to be done.
5. Alternates to cutting and patching
6. Cost proposal, when applicable
7. List utilities that will be disturbed or affected, including those that will be relocated and this that will be temporarily out of service. Indicate how long service will be disrupted.
8. Indicate dates when cutting and patching are to be performed.

D. Should conditions of the Work or the schedule indicate a change of products from the original installation, Contractor shall submit a request substitution as specified in Supplementary Conditions.

E. Submit a written notice to Architect designating the date and time the Work will be uncovered.

1.05 QUALITY ASSURANCE

A. Requirements for Structural Work:

1. Do not cut and patch structural elements in a manner that would reduce their load carrying capacity or load deflecting ratio.
2. Obtain Architect and Engineer approval prior to cutting and patching of the following:
   a. Foundation construction
   b. Bearing and retaining walls
   c. Structural concrete
   d. Structural steel
   e. Lintels
   f. Structural deck
   g. Stair systems
   h. Miscellaneous structural metals
   i. Equipment supports
   j. Piping, ductwork, vessels and equipment.

1.06 PRE-INSTALLATION MEETING

A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Use materials which are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials whose installed performance will equal or surpass that of the existing materials. Comply with specifications and standards for each specific product involved.
PART 3 - EXECUTION

3.01 INSPECTION
   A. Inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching.
   B. After uncovering Work, inspect the conditions effecting the installation of Products, or performance of the Work.
   C. Report unsatisfactory or questionable conditions to the Architect in writing; do not proceed with the Work until the Architect has provided further instructions.

3.02 PREPARATION
   A. Provide adequate temporary support as necessary to assure the structural value or integrity of the effected portion of the Work.
   B. Provide devices and methods to protect other portions of the Project from damage.
   C. Provide protection from the elements for that portion of the Project which may be exposed by cutting and patching Work and maintain excavations free from water.

3.03 PERFORMANCE
   A. Wall and floor openings required for installation of new mechanical, and Electrical Work, which measure 4” or less in any dimension, shall be saw cut by the respective Subcontractor. Wall and floor openings required for installation of new mechanical, and electrical Work, which measure 4” or more in any dimension, shall be saw cut by the Contractor. Determination of locations of wall and floor openings required for installation of new mechanical, plumbing, and electrical Work shall be completed prior to submittal of Coordination Drawings, in accordance with requirements of the Contract Documents.
   B. Execute cutting and demolition by methods which will prevent damage to other Work, and will provide proper surfaces to receive installation of repairs and new finishes.
   C. Employ the Original Installer or Fabricator to perform cutting and patching for:
      1. Weather-exposed or moisture-resistant elements.
      2. Sight-exposed finished surfaces.
   D. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
   E. Restore Work which has been cut or removed; install new products to provide completed Work in accord with requirements of Contract Documents.
   F. Fit Work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
   G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
      1. For continuous surfaces, refinish to nearest intersection.
      2. For an assembly, refinish the entire unit.
   H. Thoroughly clean areas and spaces where cutting and patching Work has been performed. Leave areas free of debris and in condition to accept final finishes.

3.04 CLEAN UP
   A. All waste and debris caused by the Work of this Section shall be removed and legally disposed of daily, in accordance with requirements of Section 01 50 00 - Temporary Facilities and Controls.

END OF SECTION
PART I - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of
      Division 1 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
   A. The Work of this Section shall include, but not be limited to, the following:
      1. Administrative and procedural requirements for the Contractor’s Progress Schedule, which is required to be in a
         Critical Path Method (CPM) format.

1.03 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
   B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the
      following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 02 41 13 – Selective Demolition
      3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      4. Section 07 92 00 – Joint Sealants
      5. Section 08 90 00 – Louvers and Accessories
      6. Section 09 91 13 - Painting
      7. Section 21 00 00 – Fire Suppression
      8. Section 23 00 00 – HVAC
      9. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 PRELIMINARY SCHEDULE
   A. Preliminary Submittal: Submit, within 10 calendar days following receipt of the Notice to Proceed, a detailed Project
      Schedule, in bar chart format.

1.05 PROGRESS SCHEDULE (CPM), SUBMITTALS
   A. Prepare the Progress Schedule required by the General Conditions in the form of a Critical Path Method network, to
      control work of this Contract and to provide a definitive basis for determining job progress. Require each principal
      subcontractor to provide detailed information about their own portion of the Work; include this information in the CPM
      Progress Schedule.
   B. Use commercially available CPM scheduling software to develop and maintain the schedule and to prepare and print
      spreadsheets, schedules, Gantt charts, and reports for the Project. The Contractor shall coordinate the required
      scheduling software with the Owner’s designated representative. Prepare a spreadsheet listing activities, a network
      schedule showing the connections between activities, and Gantt Charts (bar charts) as required by this Section.
   C. Within 10 business days following receipt of the Notice to Proceed, submit the following to the Architect for review:
      1. An illustration of a feasible CPM schedule for completion of the Work of the Contract within the time limits
         specified
      2. Sample format to be utilized for the detailed CPM in accordance with requirements of the Contract Documents
      3. Milestone dates

Progress Schedule
01 51 11 - 1
D. Upon approval of the draft submittal, prepare and submit the CPM network; prepare the schedule with spreadsheet information.
   1. Correlate the Progress Schedule with the Schedule of Values required under Section 01 00 00 – General Requirements, so that the value of the Work in place at any time can be definitively determined. Each activity on the CPM schedule shall appear on the Schedule of Values.
   2. Submit the full detailed schedule to the Architect and Owner for review and approval within 10 days following receipt of the Notice to Proceed, and at least 25 working days before the first Application for Payment is submitted. The Architect will not review any Application for Payment until the CPM schedule has been submitted and approved.

E. Submit 3 copies, and electronic file in format acceptable to the Architect, of the schedule for review by Architect and Owner. Make changes as directed by the Architect and resubmit within 10 calendar days.
   1. Acceptance and approval of the Construction Schedule by the Owner and Architect is a prerequisite to certification of the first Application for Payment.
   2. The Architect’s approval of the Construction Schedule shall not relieve the Contractor of responsibility for timing, planning and scheduling of the Work, nor impose any duty on the Architect or Owner with respect to the timing, planning or scheduling of the Work.

F. After the initial schedule has been approved, print, and distribute colored copies of the approved schedule to the Architect, Owner, subcontractors, and other parties required to comply with scheduled dates. Place one copy in the job site file and post copies in the Project meeting room and temporary field office.
   1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

1.06 PROGRESS SCHEDULE, CONTENT AND FORMAT

A. The Start Date for the CPM Progress Schedule shall be the date of the Notice to Proceed. The date for Final Completion, shall be 10 days after the date scheduled for Substantial Completion.

B. Classes of Work: List as separate classes of work on the spreadsheet and schedules:
   1. Each category of work listed in the Schedule of Values
   2. Activities by others that have to be coordinated with Contractor’s work, such as:
      a. Inspections by the Owner’s Testing and Inspection Agency
      b. Work by separate contractors
      c. Architect’s inspection at the time of Partial Completions and at the time of Substantial Completion
      d. Additional subdivisions of work as the Contractor deems necessary to control the progress of the Work, or as requested by the Owner or Architect.

C. Input from Subcontractors: Require each Principal subcontractor to provide detailed information about their own Portion of the Work; include this information in the Progress Schedule.

D. Spreadsheet: On the spreadsheet for the Project, for each activity included in the spreadsheet, as a minimum the following information:
   1. A code number for the activity.
   2. Description of the activity
   3. Early and late start dates. These dates may not be changed after the activity has commenced and the actual start date has been inserted (see item 10).
   4. Duration
   5. Early and late finish dates. These dates may not be changed after the activity has bow completed, and the actual finish date has been inserted (see item 10).
   6. Activity float
   7. Percentage completion
   8. Remaining duration
   9. Predecessor activities and successor activities, including start constraints for activities with no predecessor.
10. Blank columns for Actual Start and Actual Finish dates, to be filled in with each monthly submission.
11. Dollar amount for the activity.
12. Number of tradesmen and laborers required for each activity ("manpower loading")
13. Print in red activities on the critical path.

E. CPM Schedule: On the CPM Schedule for the Project, show the order and interdependence of activities and the sequence in which work is to be accomplished, as planned by the Contractor. Show predecessor and successor activities; show the start of a given activity is dependent on completion of preceding activities and how its completion is necessary for the start of following activities.
1. Provide a path for each trade or significant type of work. Use the same breakdown of units of the Work as indicated for the spreadsheet.
2. Arrange schedule to show graphically major sequences for Coordinating work; lead times required; float time allowed; all major categories of work and critical minor work units affecting overall work sequences. Show phased completion dates. Show dates when Owner will be moving in equipment, furniture, and fixtures.
3. Break each trade or class of Work into specific activities, each of duration no longer than 20 calendar days, and structured by Work area, i.e., floors, wings, etc. Selection and number of activities shall be subject to Architect's approval. Non-construction activities (such as procurement and delivery) and such other activities which the Architect may approve, may be of longer duration. At a minimum, break out the following as separate activities, where they apply to a type of Work.
   a. Construction activities
   b. Fabrication
   c. Delivery
   d. Installation
   e. Testing
   f. Start-up
   g. Instruction of Owner's Personnel
4. Critical Path: Clearly define the Critical Path beginning with the Notice to Proceed and ending at Substantial Completion. Activities on the Critical Path shall have no (zero) float time indicated. Print in red activities which are on the critical path.

F. Utilization of Float Time: It is intended by the Awarding Authority that the Work should progress as expeditiously as possible. To this end, the Contractor shall proceed with the start of each activity promptly upon the completion of the previous activity or activities on which it depends. If the Contractor completes an activity on the scheduled "early finish date" or sooner, the Contractor shall not expend the "float time" for that activity (if any) but rather reserve it as a safeguard against possible impediments or delays which may occur later in the progress of the Work. Float time is to be expended judiciously, for the benefit of the Project as a whole, and not for the convenience of the Contractor or the Owner. Neither the Contractor nor the Owner "owns" the project float time: the float time belongs to the Project.

1.07 MONTHLY REPORTS
A. Report progress for the Project on a bi-weekly basis. Evaluate the status of the work as of the 25th of each month to show actual progress and identify, problem areas. Include Change Orders and Construction Change Directives within the updated schedule. With each Contractor Application for Payment, submit one (1) electronic copy, and three (3) colored copies of the complete update schedule, accompanied by a written narrative.

1.08 SUBMITTALS
A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, or as otherwise required for completion and transmittal of all documents required in accordance with requirements of the Contract Documents.

1.09 PRE-INSTALLATION MEETING
A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.
PART 2 – PRODUCTS  NOT USED

PART 3 - EXECUTION  NOT USED

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS
A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
A. Products, which include materials, equipment, and systems of assemblies of materials and equipment, shall conform to the requirements listed in each of Section of the Specifications. Provide connections, fasteners, accessory materials, trim, finish and other accessories needed for proper use, function and appearance.
   1. Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar applications.
   2. Where additional amounts of a product, by nature of its application, are likely to be needed by Owner at a later date for maintenance and repair or replacement Work, provide a standard, domestically produced product which is likely to be available to Owner at such later date.
B. Nameplates: Except as otherwise indicated for required approval labels, and operating data, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which shall be exposed in occupied spaces or on exterior of the Work.
   1. Labels: Locate required labels and stamps on a concealed surface, or where required for observation after installation, on an accessible surface which, in occupied spaces, is not conspicuous.
   2. Equipment Nameplates: Provide permanent nameplate on each item of service-connected or power operated equipment. Indicate manufacturer, product name, model number, serial number, capacity, speed, ratings, and similar essential operating data. Locate nameplates on an easily accessed surface which in occupied spaces, is not conspicuous.
C. Products are specified by:
   1. The descriptive method: Listing qualities that they must possess
   2. The reference standard method: Listing published product standards
   3. The proprietary method: Listing one or more source names, which may include such information as name of manufacturer or fabricator, trade name, or catalog number
   4. A combination of the above three.
D. Where a reference standard is specified, the edition of the standard in the current governing building code shall be followed. Where the standard is not listed in the building code, follow the edition current with the issue date of these Specifications.

1.03 RELATED WORK SPECIFIED ELSEWHERE
A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
   1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
   2. Section 02 41 13 – Selective Demolition
   3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
   4. Section 07 92 00 – Joint Sealants
   5. Section 08 90 00 – Louvers and Accessories
   6. Section 09 91 13 - Painting
1.04 PRECEDENCE: QUALITY, REFERENCE STANDARD, AND SOURCE

A. Qualities:
1. For the products specified by stated qualities or by the description, as well as by the reference standard or by the source, the specified qualities or description shall take precedence.
2. For a product specified only by stated qualities or by the description, provide materials, equipment or fabrications conforming to those qualities and description, suitable for the uses shown on the Drawings.

B. Reference Standards:
1. For product specified by reference to a published standard, as well as buy the source, the reference standard shall take precedence over the source.
2. For a product described only by reference standard, provide material, equipment or fabrications conforming to that reference standard, suitable for the use shown on the Drawings.

C. Procedures for Selecting Products: Contractor's options for selecting products are limited to Contract document requirements and governing regulations and are not controlled by industry traditions or procedures experienced by Contractor on previous construction projects. Required procedures include, but are not limited to, the following for various methods of specifying:
1. For a product described by manufacturer, manufacturer's brand name, or origin, with or without catalog number or model number, provide a product that conforms to the specified qualities and reference standards.
2. For a product specified by source and "no substitution", provide only that product specified. No request for substitution shall be considered.
3. For a product specified by one or more names, provide any one of the products specified. Where two or more sources are named, the choice is the Contractor's. Any other product shall be considered only if requested as substitution.
4. For a product specified by one or more source names and "or approved substitute", provide one of the specified products, or, submit a request for substitution for a product not named which the Contractor can demonstrate to be of equal or higher quality.
5. Performance Requirements: Provide products which comply with specific performances indicated, and which are recommended by manufacturer for overall application indicated. Overall performance of a product is implied where product is specified with only certain specific performance requirements.
6. Prescriptive Requirements: Provide products which have been produced in accordance with prescriptive requirements, using specified ingredients and components, and complying with specified requirements for mixing, fabricating, curing, finishing, testing and similar operations in manufacturing process.
7. Visual Matching: Where matching with an existing product or established sample is required, final judgement of whether a product proposed by the Contractor matches sample satisfactorily is the Architect's judgement. Where no product within specified cost category is available, which matches sample satisfactorily and complies with requirements, comply with Contract document provisions concerning, "Substitutions" and "Change Orders" for selection of a matching product outside established cost category or a product not complying with requirements.

1.05 CONTRACTOR'S OPTION

A. Where an option (or choice) is specified, provide one or the other of the options. The choice of an option is the Contractor's. Where submittals are required, he shall state which option has been chosen by him.

B. For economy of drawing, only one option is usually shown on the Drawings. If another option is elected by the Contractor, he shall adjust details, dimensions and physical settings to conform. The Contractor shall review adjustments and details with the Architect before implementation.
1.06 SPECIAL WARRANTIES AND SERVICE
A. In addition to the warranty and correction Work provisions of the General Conditions, provide the following as specified:
   1. Special Warranties: A warranty or guarantee provide by the manufacturer, fabricator, supplier or installer and the Contractor providing specific representation of quality and fitness for a specific period. When also specified, a special warranty lists the actions the Contractor, his installer, supplier or manufacturer shall take to correct defective Work.
   2. Service: Specific programs of service that a manufacturer, fabricator, supplier or installer and the Contractor shall provide for a specific period of time. Service programs shall, as specified, provide such Work as inspections, reports, parts, materials, and other products or Work needed to render the services.
B. The Architect and Owner reserve the right to not accept unrequested warranties and guarantees offered by the Contractor, his installers or suppliers.
C. Special warranties shall not be required to cover failure from:
   1. Hurricane, floods or acts of God;
   2. Misuse or improper maintenance by the Owner;
   3. Vandalism or misuse by the public after time of Substantial Completion.
D. When defective Work is corrected under the special warranty provisions, the warranty period shall be extended by the period of time between Substantial Completion and the correction of the Work.

1.07 CERTIFICATION BY MANUFACTURERS OR INSTALLERS
A. Provide where specified, as a submittal, certification by the manufacturer or installer that the product and its method of installation are suitable for:
   1. The type of construction and use of this product
   2. For the New England climate
   3. For the design intent expressed in the Contract Documents

1.08 PRODUCT DELIVERY, STORAGE AND HANDLING
A. Deliver handle and store products in accordance with manufacturer's recommendations and by methods which prevent damage, deterioration and loss, including theft.
B. Control delivery schedule to minimize long term storage of products at site and overcrowding of construction spaces. Provide delivery/installation coordination to ensure minimum holding or storage times for products that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other sources of loss.

1.09 SUBMITTALS
A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures

1.10 SUBSTITUTION REQUEST PROCEDURE
A. For a period of 60 days after the start of Contract Time, the Architect will review written requests from the Contractor for changes in products, materials and methods of construction required by Contract Documents. These changes are considered request for "substitutions", and are subject to requirements hereof. Substitutions received after the 60-day commencement of Work may be considered rejected at the discretion of the Architect.
   1. Work not defined as Substitutions: The requirements for substitutions do not apply to the following:
      a. Specified Contractor options on products and construction methods.
      b. Revisions to Contract Documents requested by Owner or Architect are "changes" not "substitutions".
      c. Requested substitutions during bidding period, which have been accepted prior to Contract Date and included in Contract Documents.
d. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities do not constitute "substitutions" and do not constitute a basis for change orders, except as provided for in Contract Documents.

B. Requests for Substitutions: Submit 3 copies of substitution request form provided herein, fully identified for product or method being replaced by substitution, including related specification Section and drawing number(s), and fully documented to show compliance with requirements for substitutions. Include product data/drawings, description of methods, samples where applicable, Contractor's detailed comparison of significant qualities between specified item and proposed substitution, statement of effect on construction time and coordination with other affected Work, cost information or proposal, fabrication and installation procedures and Contractor's statement to the overall Work as a substitute to or -better-than Work originally indicated.

C. Conditions: Contractor's request for substitution shall be received and considered when extensive revisions to Contract Documents are not required and changes are in keeping with the general intent of Contract Documents; when timely, fully documented and properly submitted; and when one or more of the following conditions is satisfied, all as judged by the Architect. The review of substitution requests is an extra service of the Architect, limited by the Owner's authorization of the Architect to perform such services. The Owner will charge the Contractor for the Architect's processing of substitution requests, except when the Contractor can demonstrate that one of the following cases applies. Otherwise, requests shall be returned without action except to record non-compliance with these requirements.

1. When the indicated product or method cannot be provided within the approved progress schedule, but not as the result of the Contractor's failure to Contract, order, purchase, fabricate, prepare other Work, or coordinate the Work well in advance of need.
2. When the indicated product or method is not compatible with other products or Work, cannot be coordinated or fit into Work, or shall demonstrably have adverse effect on permanence, function or use of the Work.
3. When the indicated product or method is not approved by public authorities.
4. When the substitute request is made in response to a source specified as "Architect approved substitute".

1.11 PRE-INSTALLATION MEETING

A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.
NEW BEDFORD CITY HALL – FIRE ALARM SYSTEM, HVAC & FIRE PROTECTION  May 23, 2018
NEW BEDFOR, MASSACHUSETTS
Mount Vernon Group Architects, Inc., Project No. 02014.35

SUBSTITUTION REQUEST

Project: New Bedford City Hall – Fire Alarm System, HVAC & Fire Protection   Project No.: 02014.35
Owner: City of New Bedford

To: Mount Vernon Group Architects, Inc. From: Architects:

47 N. Second Street
New Bedford, MA 02740

Attn: Mr. Jorge Fiqueiredo

CONTRACTOR'S REQUEST, WITH SUPPORTING DATA

1. Section of Specifications to which this request applies: ________________
   6 Digit Section number
   ___ Product data for proposed substitution is attached (description of product, reference standards, performance and test data).
   ___ Sample is attached
   ___ Sample shall be sent if requested by Architect

2. Itemized comparison of proposed substitution with product specified.

   ORIGINAL PRODUCT                 SUBSTITUTION

   Name, brand:
   Catalog No.:
   Manufacturer:

   Significant Variation:

3. Unit cost of original product and proposed substitution. State whether cost is for _____ material only, or _____ material installed.

   Original Product: $ _________ per ________ Substitution: $_________ per _________

4. Proposed change in Contract Sum:
   Credit to Owner: ____________________Additional cost to Owner:

5. Proposed change in Contract Time:
   Reduce/Increase Contract time by: ___________ days.

6. Effect of the proposed substitute on other parts of the Work, or on other Contracts:

7. Reason for requesting substitution:

Product Requirements
01 60 00 - 5
CONTRACTOR’S STATEMENT OF CONFORMANCE OF PROPOSED SUBSTITUTION TO CONTRACT REQUIREMENTS:

I/we have investigated the proposed substitution. I/we

1. believe that it is equal or superior in all respects to the originally specified product, except as stated in 2. above;
2. shall provide the same warranty in accordance with General Conditions 4.1.5.;
3. shall provide the same special warranty or guaranty as specified;
4. have included all cost data and cost implications of the proposed substitution;
5. shall pay redesign and special inspection costs caused by the use of this product;
6. shall pay additional costs to other Contractors caused by substitution;
7. shall coordinate the incorporation of the proposed substitution in the Work;
8. shall modify other parts of the Work as needed, to make all parts of the Work complete and functioning.
9. waive further claims for added cost to Contractor caused by the proposed substitution.

Contractor: ___________________________ Date: ____________________

ARCHITECT REVIEW AND ACTION

A. Provide more information in the following categories. Resubmit.

B. Sign Contractor’s Statement of Conformance. Resubmit.

C. The proposed substitution is approved, with the following conditions:

___________________________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________

D. The following changes shall be made by change order:

1. Addition/Deduction from the Contract Sum:

2. Addition/Deduction from Contract Time:

Mount Vernon Group Architects, Inc.: _____________________________

Date: _____________________________
SECTION 01 71 00
CLEANING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 1 - General Requirements, apply to the work of this Section.

1.02 DESCRIPTION OF WORK
   A. The Work of this Section shall include, but not be limited to, the following:
      1. Cleaning of the Project site and building interior during progress of the Work, and at completion of the Work, in accordance with requirements of the Contract Documents.
      2. Re-cleaning of areas affected by the new construction following completion of the Work.

1.03 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
   B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 02 41 13 – Selective Demolition
      3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      4. Section 07 92 00 – Joint Sealants
      5. Section 08 90 00 – Louvers and Accessories
      6. Section 09 91 13 - Painting
      7. Section 21 00 00 – Fire Suppression
      8. Section 23 00 00 – HVAC
      9. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 PRE-INSTALLATION MEETING
   A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.

PART 2 - PRODUCTS

2.01 MATERIALS
   A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
   B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.
   C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.
PART 3 - EXECUTION

3.01 DURING CONSTRUCTION
   A. Execute periodic cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.
   B. Provide on-site containers for the collection of waste materials, debris and rubbish.
   C. Remove waste materials, debris and rubbish from the site periodically and dispose of at a legal disposal areas away from the site.

3.02 DUST CONTROL
   A. Clean interior and exterior spaces and surfaces upon completion of work.

3.03 FINAL CLEANING
   A. Employ skilled Workmen for final cleaning.
   B. Just prior to inspection for Final Completion, perform a complete cleaning of the project area including, without limitation the following:
      1. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
      2. Sweep resilient flooring
      3. Vacuum carpet.
      4. Remove protective covers from, clean and polish exposed to view equipment, Mechanical and electrical fixtures, windows, hardware etc.
      5. Remove debris and dirt from concealed spaces such as ceiling plenums, chases, pipe and duct spaces.
      6. Clean electric light fixtures to allow for full efficiency.
   C. Owner will assume responsibility for cleaning as of the date designated on Certificate of Substantial Completion for the Owner’s acceptance of project, or portion thereof.
   D. All waste and debris caused by the Work of this Section shall be removed and legally disposed of daily, in accordance with requirements of Section 01 50 00 - Temporary Facilities and Controls.

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 1 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
   A. The Work of this Section shall include, but not be limited to, maintaining at the site for the Building Superintendent one record copy of the following:
      1. Drawings
      2. Specifications
      3. Addenda
      4. Change Orders and other Modifications to the Contract
      5. Architect’s Field Orders or written instructions
      6. Approved Shop Drawings, Product Data and Samples
      7. Field Test Records

1.03 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all the Contract Documents for requirements which effect the Work of this Section.
   B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 02 41 13 – Selective Demolition
      3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      4. Section 07 92 00 – Joint Sealants
      5. Section 08 90 00 – Louvers and Accessories
      6. Section 09 91 13 - Painting
      7. Section 21 00 00 – Fire Suppression
      8. Section 23 00 00 – HVAC
      9. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 GENERAL REQUIREMENTS
   A. Provide all necessary equipment, including but not limited to, lockable files, racks, and secure storage as required to maintain storage of documents and samples in a clean, dry, legible condition and in good order.
   B. Documents and samples shall be filed in accordance with data Filing Format of the Uniform Construction Index.
   C. Record Documents shall not be used for construction purposes.
   D. Make Documents and samples available at all times for inspection by Architect/Engineer.
   E. Provide felt tip marking pens for recording information in the color code designated by the Architect.

1.05 RECORDING
   A. Label each document “PROJECT RECORD” in neat large printed letters located in the bottom right hand corner.
   B. Record information concurrently with construction progress.
      1. Do not conceal any Work until required information is recorded.
C. Drawings shall be legibly mark daily to record actual construction, as follows:
   1. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   2. Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the structure.
   3. Field changes of dimensions and detail.
   4. Changes made by Field Order or by Change Order.
   5. Details not on original Contract drawings.
   6. Record Drawings shall be updated each Working day. Monthly pay requisitions shall not be processed if record drawings are not up to date.

D. Individual Specification Sections and Contract Document Addenda shall be legibly marked to record the following.
   1. Manufacturer, trade name, catalogue number, and supplier of each product and item of installed equipment.
   2. Changes made by Field Order or by Change Order.

1.06 SUBMITTALS
A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures in accordance with requirements of the Contract Documents.

B. Prior to Contractor claim of Substantial Completion for specified phases of the Work and the entire Work, the Contractor shall deliver Record Documents to the Architect for review and approval.

C. Upon receipt of approval of Record Documents from the Architect, the Contractor and Subcontractors shall transfer the as-built information shown on the Record Drawings onto compact disc, in a format compatible with equipment and programs provided under the Work of Section 01 50 00 – Temporary Facilities and Controls, or as otherwise required by the Owner.

D. Submission of accurate record drawings and their approval shall be a condition precedent to final payment.

E. Submittals of Record Documents shall be accompanied with transmittal letter in duplicate, containing the following information:
   1. Date
   2. Title and number of each Record Document
   3. Signature of the Contractor or his authorized representative

1.07 OPERATIONS AND MAINTENANCE MANUALS
A. Prior to Contractor claim of Substantial Completion for specified phases of the Work and the entire Work, submit Operation and Maintenance (O&M) manuals to the Architect for review. Generally, include operation and maintenance information for all items of equipment, and maintenance information for all products which may require special care, such as carpet and special finishes, whether or not a submittal is specifically required by the technical Sections of these specifications.
   1. Include complete schematic, electrical and connection diagrams for each item of equipment.
   2. Include instructions for installation, start-up. Operation, inspections, maintenance, parts lists and data sheets.
   3. On manufacturer's printed literature, where the literature covers more than one model, indicate by check mark or circle in ink the correct model number and data for the model number.

B. Arrange manuals, instruction books, diagrams, etc. in the order and manner prescribed by the Owner. In the absence of other instructions from the Owner, organize the operation and maintenance manuals as described in this Article.

C. Bind instruction books in hard durable covers supplied by the manufacturer, or in 3-ring binders with vinyl covers.
   1. Identify each volume on front and spine with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS," title of Projects, identity of subject matter covered in each volume.
   2. Inside cover and Title Page shall repeat information on the cover and identify the General Contractor, name of responsible principal, address and telephone number.
3. Provide Table of Contents for each volume, arranged in systematic order, neatly typewritten. Organize information by systems, following the sequence of the Table of Contents of the Project Manual.

4. Separate products and systems within the binder by tabbed and labeled dividers.

5. For each item or system, include the name, address, and phone number of the Subcontractor who furnished and/or installed the equipment, the name(s) and telephone numbers of the Subcontractor's representative to be contacted in the event of an emergency, and the name, address, and phone number of the nearest service facility authorized by the manufacturer.

D. Require each manufacturer to prepare/provide information on its own products. In those instances where equipment or controls are job-assembled by a Subcontractor, then require that the Subcontractor prepare maintenance instructions.

E. Information for complex systems, such as elevators and handicap lifts, may be separately bound. Include a tabbed divider for the system and insert a page directing the reader to the separate volume, or include a clear cross reference in the Table of Contents.

F. Submit one review copy of the fully compiled data in final form. The Architect will review the copy and return it with comments. Upon receipt of approval of O&M Manuals from the Architect and OPM, the Contractor and Subcontractors shall resubmit one (1) corrected and bound hard copies, and three (3) electronic disk copies in a format compatible with equipment and programs provided under the Work of Section 01 50 00 – Temporary Facilities and Controls.

1.08 WARRANTIES AND GUARANTEES

A. Prior to Contractor claim of Substantial Completion for specified phases of the Work and the entire Work, assemble two (2) executed copies of each warranty, bond, and service and maintenance Contract required for the project. Warranties are specified in the respective trade Sections of the specifications.

B. Bind these in 3-ring loose leaf binders with vinyl covers
   1. Identify each volume on front and spine with typed or printed title "WARRANTIES," title of Projects, identity of subject matter covered in each particular volume.
   2. Inside cover and Title Page shall repeat information on the cover and identify the General Contractor, name of responsible principal, address and telephone number.
   3. Table of contents: For each volume, arrange in systematic order, neatly typewritten.

C. For items of Work delayed beyond Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

1.09 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.

B. Deliver to Project site and place in location directed. Obtain receipt prior to final payment.

1.10 PRE-INSTALLATION MEETING

A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

END OF SECTION

Project Record Documents
01 78 39 - 3
SECTION 01 91 15

GENERAL TESTING REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 1 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
   A. The Work of this Section includes, but is not limited to, the following:
      1. General testing requirements and procedures
      2. Acceptance testing in accordance with provisions of 780 CMR 120 of all HVAC, and electric power distribution systems, including operational features and controls
      3. Responsibilities of the Contractor
      4. Responsibilities of the Owner

1.03 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all the Contract Documents for requirements which effect the Work of this Section.
   B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 02 41 13 – Selective Demolition
      3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      4. Section 07 92 00 – Joint Sealants
      5. Section 08 90 00 – Louvers and Accessories
      6. Section 09 91 13 - Painting
      7. Section 21 00 00 – Fire Suppression
      8. Section 23 00 00 – HVAC
      9. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 SUBMITTALS
   A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, or as otherwise required for completion and transmittal of all documents required in accordance with requirements of the Contract Documents.

1.05 REQUIRED TESTING
   A. The Owner will employ independent testing agencies to perform field and lab tests unless otherwise specified or indicated in other Sections of these Specifications. This testing will be paid for by the Contractor, unless otherwise specified or indicated. Employment of Testing Laboratory shall in no way relieve Contractor of his obligation to perform Work in accordance with the Contract. The Contractor shall provide standard factory testing, certification of compliance with specified requirements, testing for fire performance, and other tests as specified or indicated. Contractor employed testing agencies must be approved by the Architect.
   B. Electrical Power System Testing: At least the following tests will be performed. Where noted with an asterisk*, the test shall be performed and paid for by the installing Contractor and witnessed by the Owner's Representative.
      1. Polarity tests*
      2. Operation of all circuits*
      3. Ground megger tests*
4. Megger tests of all circuits
5. Hi Pot and Dielectric tests of all high voltage cables, connections, oil-filled equipment, and the like
6. Lab tests to verify quality of all materials and components

C. Electrical Lighting System Testing: At least the following tests shall be performed, paid for by the installing Contractor and witnessed by the Owner's Representative.
1. Operation of every component of entire system

D. Fire Alarm System Testing: At least the following tests will be performed. The tests shall be performed and paid for by the installing Contractor and witnessed by the Owner's on-site representative.
1. All smoke and heat detectors.
2. Proper operation as required by authorities having jurisdiction

1.06 TESTING REQUIREMENTS AND PROCEDURES

A. The Contractor shall fully cooperate with testing agencies and permit free access to all areas at all times. The Contractor shall permit taking samples at any time during construction, either before or after installation. The Contractor shall furnish casual labor and facilities to provide access to Work being tested, to obtain and handle samples at the site to facilitate inspections and tests and provide for Laboratory's exclusive use storage and curing for test samples. Prior to notice to proceed with construction, the Contractor shall submit a Testing Log of planned tests and scheduled test dates. Tests shall be numbered based on type of Work, type of test, and sequence. The Testing Log shall be maintained by the Contractor and updated weekly. The Contractor shall notify the Owner's Representative in writing at least fourteen calendar days prior to any Work requiring testing. The Contractor shall coordinate, arrange and fully administer to all testing, whether paid by or employed by the Owner or the Contractor.

B. The Contractor shall distribute test results as follows:
1. Contractor (2 copies)
2. Architect (2 copies)

C. The final Testing Log, including final acceptable tests, shall be turned over to the Owner, with four copies delivered to the Architect.

D. The Contractor and the Owner will note the test record on the Testing Log to acknowledge test procedures and results. If follow-up or corrective action is needed, the Contractor shall submit to the Owner two written copies of proposed follow-up or corrective plans and obtain the Owner's written approval before proceeding. Costs for additional inspections, sampling and testing required when initial tests indicate Work does not comply with Contract Documents will be deducted from Contractor's monthly payments.

E. FUNCTIONAL PERFORMANCE TESTS
1. Functional testing is to be performed by the Contractor's testing agency and witnessed by the Commissioning Agent. Testing should be witnessed by the installer and manufacturer, if possible, as referenced in the procedures listed below. The testing procedures are the same as long as the products are all newly installed, and there are no other procedures or methods identified in the Spec by the Architect. In some situations the Installer will perform their own field testing to ensure that their means and methods are suitable to meet the Performance requirements outlined in the Project Specs. This should never replace testing performed by a Contractor retained Independent Testing agency, unless deemed appropriate by the Architect.

2. As a minimum, tests shall be performed on a mock-up installation and at least on one more occasion after 50% completion during production work. Field Testing should be performed for Air Leakage Resistance and Water Penetration Resistance as soon as possible after installation of a mock-up assembly begins and the selected fenestration product is determined to be ready for testing by the installer. If failure occurs, additional testing should be performed to determine the source of the failure and no additional installation should occur until the mock-up assembly meets the Project Requirements.

3. Tests should be performed on a representative type and number of fenestration products at the discretion of the Architect. It is best if testing occurs prior to installation of interior finishes so that all areas around the product being tested may be observed for water leakage, and it makes setting up the test chamber easier and more effective.
1.07 PRE-INSTALLATION MEETING

A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
   A. The Work of this Section includes, but is not limited to, Labor and Materials as required to complete the following:
      1. Removal of existing brick wall to accommodate new ductwork.
      2. Removal of existing window and all attachments.
      3. Removal and legal disposal of demolished materials off site. Except those items specifically designated to be relocated, reused, or turned over to the Owner, 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.
      4. Demolition and removal work shall properly prepare for alteration work and new construction to be provided under the Contract.
      5. Scheduling and sequencing operations without interrupt utilities serving occupied areas. If interruption is required, obtain written permission from the utility company and the Owner. Provide temporary services as necessary to serve occupied and usable facilities when permanent utilities must be interrupted, or schedule interruption when the least amount of inconvenience will result.
      6. Section 21 00 00 – Fire Protection, Section 23 00 00 – HVAC, and Section 28 31 00 – Fire Detection and Alarm System are responsible for removing and properly disposing of existing equipment as required to complete their respective Work.

1.03 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
   B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      3. Section 07 92 00 – Joint Sealants
      4. Section 08 90 00 – Louvers and Accessories
      5. Section 09 91 13 - Painting
      6. Section 21 00 00 – Fire Protection
      7. Section 23 00 00 – HVAC
      8. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 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 Owner, ready for reuse, at a location designated by the Owner. Protect from weather until accepted by Owner.
   C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated. Protect from weather until reinstallation.

Selective Demolition
02 41 13 - 1
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.

1.05 MATERIALS OWNERSHIP
A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques, antiques, and other items of interest or value to the Owner that may be encountered during selective demolition remain property of the Owner. Carefully remove each item or object in a manner to prevent damage and deliver promptly to a location acceptable to the Owner.

1.06 SUBMITTALS
A. Provide submittals in accordance with requirements of Section 01 30 00 of the Contract Documents.
B. Provide qualification data for demolition firm, professional engineer, and refrigerant recovery technician.
C. Provide schedule of demolition activities, including but not limited to, the following:
   1. Detailed sequence of demolition and removal work, with starting and ending dates for each activity. Schedule shall ensure that the Owner's building and on-site operations are uninterrupted.
   2. Interruption of utility services, including dates and duration of interruption.
   3. Coordination for shutoff, capping, and continuation of utility services.
   4. Means of protection for items to remain.
D. Provide an inventory list of items that have been removed and salvaged following completion of the Work of this Section.
E. Provide photographs and videotapes showing existing conditions of adjoining construction and site improvements, prior to commencement of the Work of this Section that may be misconstrued as damage caused by the Work of this Section.

1.07 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. Pre-demolition Conference: 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.
1.08 PROJECT CONDITIONS
   A. Owner Occupancy:
      1. The existing New Bedford Police Station Headquarters will be occupied during the Work of this Contract. Insure any impact or disruption to these occupants is kept to a minimum. The Contractor shall employ all measures necessary to protect the existing buildings and adjacent property from damage caused by the Work of this Contract.

1.09 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.

1.10 PRE-INSTALLATION MEETING
   A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.

PART 2 - PRODUCTS

2.01 GENERAL
   A. All Repair materials shall be compatible with existing materials to remain and shall be as approved by the Architect.

PART 3 - EXECUTION

3.01 EXAMINATION
   A. Verify that utilities have been disconnected and capped.
   B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
   C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
   D. 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.
   E. Engage the services of 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.
      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.
   G. Utility Services:
      1. Existing utility services shall be maintained to existing facilities. Provide a minimum three (3) day notice of service shutdown to the Owner.
      2. Shut-off all utilities shall be conducted by the Contractor in compliance with requirements of authorities having jurisdiction.
H. Site Access and Temporary Controls:
   1. Existing streets and walks shall remain open at all times. Maintain all existing building access and egress capabilities as required by local authorities having jurisdiction.
   2. Provide and maintain temporary protection, including chain link fencing as necessary.
   3. Provide and maintain protection around existing trees and plantings located on adjacent property.

I. Temporary Facilities:
   1. Provide and maintain temporary barricades to prevent injury to people.
   2. Provide and maintain temporary weather protection as required.
   3. Provide and maintain protection of existing finish work to remain.
   4. Provide and maintain protection of existing interior furnishings and equipment.
   5. Provide and maintain protection of exterior site improvements to remain, including on adjacent property.

J. Provide and maintain temporary weather-tight enclosure for building exterior as required.

K. Provide and maintain temporary shoring of existing structural building components to remain, including but not limited to, structural steel, brick masonry walls, and concrete floors and wood roof framing.

L. Items to be removed and salvaged shall be cleaned, stored, and transported to the Owner's designated storage area.

M. Items to be removed and reinstalled shall be cleaned, repaired, stored, and reinstalled as required.

N. Existing items to remain shall be protected against damage during construction.

O. Cleaning and Disposal: All waste and debris caused by the Work of this Section shall be legally disposed of off site, daily, at a facility licensed to receive and process building demolition debris. Burning shall not be permitted. Provide original Bills of Lading to the Owner in accordance with requirements of the Owner.

3.02 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 in accordance with requirements of Division 01.
   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.

3.03 SELECTIVE DEMOLITION

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 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. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.

8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

9. All waste and debris caused by the Work of this Section shall be removed and legally disposed of daily, in accordance with requirements of Section 01 50 00 - Temporary Facilities and Controls.

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 Owner.
   4. Transport items to storage area designated by the Owner.
   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. 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.

F. 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.
3.04 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, and workmen 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.

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, 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.

3.05 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 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 of such discovery. 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.

3.06 CUTTING

A. Perform all cutting of existing surfaces in a manner which will ensure a minimal difference between the cut area and new materials when patched. Use extreme care when cutting existing surfaces containing concealed utility lines which are indicated to remain and bear full responsibility for repairing or replacement of all such utilities that are accidentally damaged.

B. Provide a flush saw cut edge where pavement, curb and concrete removals abut new construction work or existing surfaces to remain undisturbed.

3.07 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Comply with requirements of Division 1, 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.
3.08 CLEANING
   
   A. Clean adjacent structures and improvements of dust, dirt, and debris caused by the Work of this Section. Premises shall be left in a clean condition and ready to accept alteration work and new construction.
   
   B. All waste and debris caused by the Work of this Section shall be removed and legally disposed of daily by the Contractor, in accordance with requirements of Section 01 50 00 – Temporary Facilities and Controls.

END OF SECTION
SECTION 04 01 20.91

CONCRETE MASONRY UNIT (CMU) WALL RESTORATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS
A. All the Contract Documents, including Drawings, General Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
A. The Work of this Section shall include, but not be limited to, furnishing and installation of the following:
   1. Repair brick wall
   2. Repoint joints

1.03 RELATED WORK SPECIFIED ELSEWHERE
A. Carefully examine all the Contract Documents for requirements which affect the Work of this Section.
B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
   1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
   2. Section 02 41 13 – Selective Demolition
   3. Section 07 92 00 – Joint Sealants
   4. Section 08 90 00 – Louvers and Accessories
   5. Section 09 91 13 - Painting
   6. Section 21 00 00 – Fire Suppression
   7. Section 23 00 00 – HVAC
   8. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 DEFINITIONS
A. Low-Pressure Spray: 100 to 400 psi.

1.05 ACTION SUBMITTALS
A. Product Data: For each type of product indicated.
B. Samples: For each exposed Product and for each color and texture specified.

1.06 INFORMATIONAL SUBMITTALS
A. Preconstruction Test Reports.

1.07 QUALITY ASSURANCE
A. Restoration Specialist Qualifications: Engage an experienced CMU wall restoration and cleaning firm to perform work of this Section. Firm shall have completed work in a similar material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience installing standard unit masonry is not sufficient experience for masonry restoration work.
   1. A Contractor's option, work may be divided between two specialist firms: one for cleaning work and one for repair work.
   2. Field Supervision: Restoration specialist firms shall maintain experienced full-time supervisors on Project site during times that clay masonry restoration and cleaning work is in progress.

Concrete Masonry Unit (CMU) Wall Restoration
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3. Restoration Worker Qualifications: Persons who are experienced in restoration work of types they will be performing.

1.08 PRE-INSTALLATION MEETING
   A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.

PART 2 - PRODUCTS

2.01 MASONRY MATERIALS
   A. Provide CMU where required to complete masonry restoration work.
      1. Provide CMU with physical properties, colors, color variations within units, surface texture, size and shape to match existing masonry.

2.02 MORTAR MATERIALS
   A. Portland Cement: ASTM C150, Type I or Type II, white or gray or both where required for color matching of exposed mortar.
      1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114
   B. Hydrated Lime: ASTM C 207, Type S.
   C. Mortar Sand: ASTM C144 unless otherwise indicated.
      1. Color: Provide natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
      2. For pointing mortar, provide sand with rounded edges.
      3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
   D. Mortar Pigments: Natural and synthetic iron oxides compounded for mortar mixes. Use only pigments with record of satisfactory performance in masonry mortars.
   E. Water: Potable.

2.03 MANUFACTURED REPAIR MATERIALS
   A. Masonry Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching masonry.
      1. Products: Subject to compliance with requirements, provide one of the following:
         a. Cathedral Stone Products, Inc; Jahn M100 Terra Cotta and CMU Repair Mortar
         b. Conproco Corporation: Mimic
         c. Edison Coatings, Inc: Custom System 45
      2. Use formulation that is vapor – and water permeable (equal to or more than the masonry unit), exhibits low shrinkage, has lower modulus of elasticity than the masonry units being repaired, and develops high bond strength to all types of masonry.
      3. Formulate patching compound used for patching CMU in colors and textures to match each masonry unit being patched.

2.04 ACCESSORY MATERIALS
   A. Setting Buttons: Resilient plastic buttons, non-staining to masonry, sized to suit joint thicknesses and bed depths of masonry units without intruding into required depths of pointing materials.
2.05 MORTAR MIXES
   A. Measurement and Mixing Measure cementitious materials and sane in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
      1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sane together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not re-temper or use partially hardened material.
   B. Colored Mortar: Product mortar of color required by using specified ingredients. Do not alter specified proportions without Architects approval.
      1. Mortar pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.
   C. Do not use admixtures in mortar unless otherwise indicated.
   D. Mortar Proportions: Mix mortar in the following proportions.
      1. Pointing and rebuilding (Setting) Mortar: Comply with ASTM C270, Proportion Specification, Type N unless otherwise indicated; with cementitious material limited to Portland cement and lime.

PART 3 - EXECUTION

3.01 PROTECTION
   A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.

3.02 CMU REMOVAL AND REPLACEMENT
   A. At locations indicated, remove CMU that are damaged, spalled, or deteriorated or are to be reused for rebuilding. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
   B. Support and protect remaining CMU wall that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
   C. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.
   D. Remove in an undamaged condition as many whole CMU as possible.
      1. Remove mortar, loose particles, and soil from CMU by cleaning with hand chisels, brushes and water.
      2. Remove sealants by cutting close to CMU with utility knife and cleaning solvents.
   E. Clean CMU wall surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.
   F. Replace removed damaged CMU units with other removed units in good quality, where possible, or with new CMU matching existing masonry, including size. Do not use broken units unless they can be cut to usable size.
   G. Install replacement CMU into bonding and coursing pattern of existing masonry wall. If cutting is required, use a mortar-driven saw designed to cut masonry with clean, sharp, unchipped edges.
      1. Maintain joint width for replacement units to match existing joints.
      2. Use Setting Buttons or shims to set units accurately spaced with uniform joints.
H. Lay replacement CMU with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to full head joints and shove into place. Wet both replacement and surrounding masonry that have ASTM C67 initial rates of absorption (suction) of more than 30 g/30 sq. in per min. Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.

   1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing masonry work.
   2. Rake out mortar used for laying CMU before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing masonry, and at same time as repointing of surrounding area.
   3. When mortar is sufficiently hard to support units, remove shims and other devices interfering with pointing of joints.

3.03 CMU WALL PATCHING

A. Patching CMU Wall:

   1. Remove loose materials from masonry surface. Carefully remove additional material so patch will not have feathered edges but will have square or slightly undercut edges on area to be patched and will be at least ¼ inch thick, but not less than recommended by patching compound manufacturer.
   2. Mask adjacent mortar joint or rake out for repointing if patch will extend to edge of CMU.
   3. Mix patching compound in individual batches to match each unit being patched.
   4. Rinse surface to be patched and leave damp, but without standing water.
   5. Brush-coat surfaces with slurry coat of patching compound according to manufacturer’s written instructions.
   6. Place patching compound in layers as recommended by patching compound manufacturer, but not less than ¼ inch or more than 2 inches thick. Roughen surfaces of each layer to provide a key for next layer
   7. Trowel, scrape, or carve surface of patch to match texture and surrounding surface plane or contour of the masonry unit. Shape and finish surface before or after curing, as determined by testing, to best match existing masonry unit.
   8. Keep each layer damp for 72 hours or until patching compound has set.

3.04 PRELIMINARY CLEANING

A. Removing Plant Growth: Completely remove visible plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing to dry as long as possible before removal. Remove loose soil and debris from open masonry joints whatever depth they occur.

B. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances including paint, caulking, asphalt, and tar.

   1. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or chip masonry surface.
   2. Remove paint and caulking with alkaline paint remover.
      a. Comply with requirements in “Paint Removal” article
      b. Repeat application up to two times if needed
   3. Remove asphalt and tar with solvent-type paint remover.
      a. Comply with requirements in “Paint Removal” article
      b. Apply paint remover only to asphalt and tar by brush without pre-wetting
      c. Allow paint remover to remain on surface for 10 to 30 minutes
      d. Repeat application if needed

3.05 REPOINTING MASONRY WALL

A. Rake out and repoint joints to the following extent:

   1. All joints in areas indicated.
   2. Joints where mortar is missing or where they contain holes.
   3. Cracked joints where cracks can be penetrated at least 1/4 inch by a knife blade 0.027 inch thick.
4. Cracked joints where cracks are 1/8 inch or more in width and of any depth
5. Joints where they sound hollow when tapped by metal object
6. Joints where they are worn back ¼ inch or more from surface
7. Joints where they are deteriorated to the point that mortar can be easily removed by hand, without tools
8. Joints where they have been filled with substances other than mortar
9. Joints indicated as sealant-filled joints

B. Do not rake out and repoint joints where not required.

C. Rake out joints as follows:
   1. Remove mortar from joints to depth of 2-1/2 times joint width but not less than ½ inch or not less than that required to expose sound, un-weathered mortar.
   2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
   3. Do not spall edges of masonry units or widen joints. Replace or patch damaged masonry units as directed by Architect.
      a. Cut out mortar by hand with chisel and resilient mallet. Do not use power-operated grinders.
      b. Cut out center of mortar bed joints using angle grinders with diamond-impregnated metal blades. Remove remaining mortar by hand with chisel and resilient mallet.

D. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted meal, and other deteriorated items.

E. Pointing with Mortar:
   1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
   2. Apply Pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in later not greater than 3/8 inch until a uniform depth is formed. Fully compact each later thoroughly and allow it to become thumbprint hard before applying next layer.
   3. After low areas have been filled to same depth as remaining joints, point all joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing masonry units have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to featheredge the mortar.
   4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mock-up. Remove excess mortar from edge of joint by brushing.
   5. Cure mortar by maintaining mortar in thoroughly damp condition for at least 72 consecutive hours including weekends and holidays.
      a. Acceptable curing methods include covering with wet burlap and plastic sheathing, periodic hand misting, and periodic mist spraying using systems of pipes, mist, heads and timers.
   6. Hairline cracking within mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

F. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

3.06 CLEANING

A. All waste and debris caused by the Work of this Section shall be removed and legally disposed of daily, in accordance with requirements of Section 01 50 00 – Temporary Facilities and Controls.

END OF SECTION
SECTION 07 92 00

JOINT SEALANTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS
A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
A. The Work of this Section includes, but is not limited to, furnishing and installation of the following:
   1. Exterior polyurethane sealant for perimeter wall openings
   2. Interior acrylic latex sealant for perimeter wall openings
   3. Joint fillers and sealers, including preparation, filling, sealing, and curing of joints at all exterior and interior locations, as described in Part 3 – Execution of this Section
   4. Backer rods
   5. Concealed sealants
   6. Protection of completed Work

1.03 RELATED WORK SPECIFIED ELSEWHERE
A. Carefully examine all the Contracts Documents for requirements which affect the Work of this Section.
B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
   1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
   2. Section 02 41 13 – Selective Demolition
   3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
   4. Section 08 90 00 – Louvers and Accessories
   5. Section 09 91 13 - Painting
   6. Section 21 00 00 – Fire Suppression
   7. Section 23 00 00 – HVAC
   8. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 QUALITY ASSURANCE
A. The Work of this Section shall be performed by manufacturer approved applicators having a minimum of five (5) years application experience with the required materials.
B. For each type of material required for the Work of this Section, provide primary materials which are the products of one manufacturer. Provide secondary materials which are acceptable to the manufacturers of the primary materials.
C. Make all arrangements and payments necessary to have the approved manufacturer's authorized representative on-site at beginning of waterproofing to advise installer and to ensure compliance with manufacturer's requirements.
D. Provide materials suitable for the intended use and compatible with the materials with which they shall be in contact. Compatibility of sealants and accessories shall be verified in writing by the approved manufacturer.
E. Provide products and materials tested and certified for low emissions of volatile organic compounds (VOC), in accordance with requirements of the Contract Documents. Testing and certification shall comply with requirements of the following:
   1. All paints and architectural coatings totaling 90% or more of the total volumes of such products applied in the project’s interior shall meet the VOC content requirements in the applicable category of South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings (amended July 2007 or current version).
2. All adhesives and sealants shall meet the VOC content requirements in the applicable category of South Coast Air Quality Management District (SCAQMD) Rule 1168, Adhesive and Sealant Applications (amended January 2005, or current version).

1.05 SUBMITTALS

A. Submit manufacturer's product data, installation instructions, use limitations and recommendations for each material and system required by the Work this Section.

1. Prior to ordering waterproofing materials, the Waterproofing Subcontractor for this Section shall submit the items listed below to the Architect for approval:
   a. 3 copies of manufacturer's specifications for proposed products and installation instructions.
   b. Written approval of manufacturers use of the products in the proposed system.
   c. Specimen copy of membrane manufacturer's warranty.
   d. Dimensioned shop drawings indicating areas of Work, membrane layout and profile details of flashing methods for penetrations and terminations. It shall be the manufacturer's responsibility to verify compatibility with surrounding materials, especially at interface with other types of waterproofing.

B. Provide samples as follows:

1. Submit representative samples of each control joint, sealant and expansion joint specified herein, showing the full range of color and finish variations expected. Provide actual samples having minimum length of 6 inches.

2. Provide samples of each waterproofing material to be used in the systems described herein, including primers, mastics, tapes, liquid waterproofing, termination bars and fasteners, protection and drainage composite boards.

C. Provide certifications as follows:

1. Provide manufacturer's certification of sealant and joint material performance, including compatibility with adjacent materials to which material shall be applied. Provide certified test reports on aged performances, hardness, stain resistance, adhesion, cohesion and tensile strength, low temperature flexibility, elongation, modules of elasticity, water absorption, and the resistance to weight loss and deterioration due to heat, ozone and ultraviolet exposure.

1.06 TESTS

A. Submit samples of every material to be used in the Work including, but not limited to, glass, gaskets, glazing materials, framing members, and all other components such as precast concrete, brick, concrete block and other adjoining materials, and accessories, to glazing sealant manufacturer to verify sealant compatibility and to determine, by testing in accordance with requirements of ASTM C794, if primers and what type of primers are required to ensure adhesion to substrates.

1. Submit at least 6 pieces of each type, class, kind, condition, and form of glass including monolithic, laminated, coated and insulated glass for adhesion testing. Provide 6 pieces of each type of brick, precast concrete, concrete block, and other adjoining materials for adhesion and staining testing.

2. Schedule sufficient time for testing, analysis and reporting of results, understanding that long lead times are required by the sealant manufacturer.

3. Obtain manufacturer's written report and recommendations regarding proper sealant choice and use. Use sealants and substrates only in combinations for which favorable adhesion and compatibility results have been obtained.

4. Make all arrangements and pay all expenses related to these tests.

B. Periodically test sealants in place for adhesion using methods recommended by sealant manufacturer. Promptly replace all sealant which does not adhere or which fails to cure properly.

C. If manufacturers cannot or shall not perform these tests, employ at the expense of the Waterproofing Subcontractor for this Section an independent testing agency acceptable to the Architect to perform tests and certifications indicated.
1.07 DELIVERY, STORAGE AND HANDLING
   A. Deliver materials and products to the job site in original, unopened package, clearly labeled with the manufacturer's identification and printed instructions. All material shall be stored and handled in accordance with manufacturer's instructions and recommendations. Protect from damage.

1.08 PROJECT CONDITIONS
   A. Perform Work only when ambient conditions are within the limits established by manufacturers of the materials and products used.
   B. Proceed with Work related to composite sheet waterproofing only when substrate construction and penetrating Work is complete and concrete or mortar has cured for at least 28 days.
   C. Provide ventilation in accordance with the approved manufacturer's written requirements and recommendations throughout application and curing for all materials specified in this Section.

1.09 WARRANTY
   A. Provide written warranty signed by manufacturer, agreeing to repair or replace Work which exhibits defects in materials or Workmanship. "Defects" shall include, but not be limited to, leakage of water, abnormal aging or deterioration, and failure to perform in accordance with requirements of the Contract Documents. Include requirement for removal and replacement of covering and connected adjacent Work. Warranty periods shall be as follows:
      1. Sealants and Crack Control Materials: 5 years from date of Substantial Completion
      2. Waterproofing: 10 years from date of Substantial Completion
      3. Exterior sealants: 20 years from date of Substantial Completion

1.10 PRE-INSTALLATION MEETING
   A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, determine acceptable mock-ups, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.
   B. Advise other trades to ensure that no other Work adversely effects sealer bonding surfaces.

PART 2 - PRODUCTS

2.01 GENERAL REQUIREMENTS
   A. Each sealant shall be checked for adhesion and compatibility with all adjacent materials. Select a sealant that is recommended by the approved manufacturer for the specified application.
   B. Color of each sealant shall be as selected by the Architect from the approved manufacturer's complete selection of standard and premium colors.

2.02 EXTERIOR SEALANT
   A. Provide single-component, non-sag, moisture-cure, polyurethane sealant, Dymonic 100, as manufactured by Tremco, or Architect approved equal by Pecora or Dow Corning. Polyurethane sealant is for exterior caulking of perimeter wall openings, expansion and control joints. Polyurethane sealant shall comply with the following requirements:
      1. Color: As selected by Architect from Manufacturer's standard and premium line of not less than 20 colors.
      2. Solids: 98%
      3. Application: gun-grade sealant, applied with typical caulking equipment
      5. Movement Capability: +/-50%, ASTM C719
      6. Tensile Strength: 350 to 450 psi, ASTM D412
      7. % Elongation: 800 to 900%, ASTM D412

Joint Sealants
07 92 00 - 3
8. Modulus at 100%: 75 to 85 psi, ASTM D412
9. Tear Strength: 65 to 75 psi, ASTM D412
10. Application Temperature: 40 to 100°F
11. Smoke Development: 5, ASTM E84
12. Fire Spread: 5, ASTM E84

2.03 INTERIOR SEALANT

A. Provide single component, non-sag, acrylic latex sealant, AC-20 + Silicone as manufactured by Pecora Corporation, or Architect approved equal by Dow Corning or Tremco. Acrylic latex sealant is for interior caulking of perimeter wall openings, wall joints, control joints, and countertop joints. Acrylic latex sealant shall comply with the following requirements:
   1. Color: As selected by Architect from Manufacturer's standard and premium line of not less than 20 colors.
   2. Adhesion Loss: 0.5, ASTM C736
   3. Elongation, Ultimate: 150%, ASTM D412
   4. Extrudability: 9.8 g/sec, ASTM C731
   5. Low-Temperature Flexibility: PASS, ASTM C734
   6. 100% Modulus: 60-65 psi, ASTM D412
   7. Recovery: 90%, ASTM C736
   8. Slump: <0.05 in., ASTM D2202
  10. VOC Content: 31 g/L, ASTM D3960

2.04 MISCELLANEOUS MATERIALS

A. Provide appropriate surface primers and accessories for surfaces to be adhered to, in accordance with the approved manufacturer’s written requirements.

B. Provide bond breaker tape No. 40 or No. 531 (heavy duty), as manufactured by Valley Industrial Products, or Architect approved equal by Decker, in accordance with the approved manufacturer’s written requirements, appropriate for the sealant being used.

C. Provide backer rods compatible with the specified sealant, and as follows:
   1. Backer rod for all building joints shall be non-absorbing, with highly resistant interior network of closed and open cells, SOF ROD as manufactured by Applied Extrusion Technologies, or Architect approved equal.
   2. Backer rod for paving and floor joints shall be closed cell polyethylene rod extruded in continuous lengths, GREEN ROD as manufactured by NMC, or Architect approved equal.

D. Sealant shall be non-drying, non-hardening, non-bleeding, non-staining sealant complying with ASTM C 834 and C 919.

PART 3 - EXECUTION

3.01 INSPECTION

A. For each material the installer shall examine substrates, supports, and conditions under which this Work is to be performed and notify General Contractor, in writing, of conditions detrimental to the proper completion of the Work. Do not proceed with Work until unsatisfactory conditions are corrected. Beginning Work means Installer accepts substrates and conditions.

B. Strictly comply with the approved manufacturer’s written instructions and recommendations, except where more restrictive requirements are specified in this Section.
3.02 JOINT SEALANTS AND FILLERS

A. Clean joint surfaces immediately before installation of sealants, primers, tapes and fillers. Remove all substances which could interfere with bond. Prime, etch, or roughen joint surfaces as necessary to improve bond. Tape or mask adjoining surfaces to prevent spillage and migration problems. Provide backer rods for all liquid sealants except where specifically recommended against by sealant manufacturers. Prevent three-sided adhesion by use of bond breaker tapes or backer rods.

B. Force sealant into joints to provide uniform, dense, continuous ribbons free from gaps and air pockets. Install sealants so that compressed sealants do not protrude from joints. Dry tool sealants to form a smooth dense surface with joint surfaces adhering equally on opposite sides. At horizontal joints form a slight cove to prevent trapping water. Except in hot weather, make sealant surface slightly concave.

1. Make sealant joint depth equal to joint width for joints up to 1/2 in. wide. For joints over 1/2 in. wide, make depth equal to one-half of the joint width. Joint depth at exterior silicone sealant shall not be greater than 1/2 in.

2. Fill all joints solidly and continuously with a sealant, neatly applied with a standard caulking gun in a continuous motion, using slight pressure. "Push" the sealant bead ahead of the nozzle; do not "drag" the nozzle.

3. Within 5 minutes of sealant application and before sealant skins over, dry tool the joint surface with a concave tool to insure intimate contact with substrate and to eliminate air bubbles. Do not use any liquid for tooling. Provide a smooth, uniform, finished surface.

4. Avoid contaminating adjacent surfaces with excess sealant. Remove all traces of smears and droppings on metal, stone, glass, or other surfaces promptly, using a solvent recommended by the sealant manufacturer and that shall not damage or discolor the building surfaces. Remove smears and droppings on face surfaces by mechanical means after the initial cure of the sealant.

5. Coordinate Work with other trades to prevent contamination of fresh sealant by dust or other debris. Do not seal over any epoxy placements which are not cured.

6. Install internal wall joints so as to maintain connectivity between vertical and horizontal constructions. Extend internal sealant to the face of wall where indicated and as otherwise directed by Architect to compartmentalize waterproofing protection.

7. Install internal sealant materials at sufficient depth (2 1/2 in.+ to maintain 3/4 in. clear unobstructed cavity between finish face of internal sealant and back of external sealant backing material.

8. Internal joint integrity shall be equal to external joint integrity. Internal seals are primary seals to prevent internal building water intrusion.

C. Provide acoustical insulation and sealant to seal tightly and completely around all penetrating objects through non-fire rated gypsum drywall and masonry walls and concrete floors, including but not limited to, HVAC duct, fire protection piping, and electrical conduit penetrations, as indicated on the Drawings.

1. Provide a thin sheet metal sleeves at all penetrations through gypsum drywall construction to allow a minimum 3/4 in. wide gap between the penetrating object and adjacent gypsum drywall construction. Fit the sheet metal sleeve tightly to the surrounding drywall construction on all sides, or the entire perimeter, of the penetrating object. Pack the resulting 3/4 in. space between the sleeve and the penetrating object solidly with fibrous acoustical insulation. Provide resilient, non-hardening acoustical sealant to completely seal both sides of wall between the penetrating object and adjacent gypsum drywall construction.

2. At all penetrations through masonry walls wrap the penetrating object with 1 in. thick fibrous acoustic insulation and fill the space remaining between the acoustic insulation and masonry wall opening solid with cementitious grout prepared in accordance with Section 04 20 00 – Unit Masonry. Provide resilient, non-hardening acoustical sealant to completely seal both sides of wall between the penetrating object and adjacent masonry construction and grout infill.

3. Installation of acoustic insulation and sealant is not required at locations of penetrating objects through fire rated gypsum drywall and masonry walls.

D. Seal all interior and exterior joints, seams, intersections between dissimilar materials, unless specifically noted to be performed under the Work of other Sections.

1. The Work of this Section shall include, but not be limited to, sealing of the following exterior conditions:
a. Building expansion and control joints  
b. Concrete to concrete at cold joints  
c. Vertical wall flashing terminations and reglets.

2. The Work of this Section shall include, but not be limited to, sealing of the following interior conditions at new and existing building:
   a. Perimeter wall openings at H.M. door frames, H.M. security window frames, and overhead sectional door frames.
   b. All joints between gypsum drywall and dissimilar materials
   c. Backsplash to counter joints and backsplash to wall joints at countertops
   d. Completely around all plumbing fixtures, fittings, and trim to countertops, walls and floors
   e. At the perimeters of all backsplashes to wall, ends, and backsplash to counter whether a sink is present or not and all counter to wall areas with no backsplash.
   f. At all slab-on-grade construction joints, control joints, and column bases.

E. Cure sealants in strict compliance with the approved manufacturers' instructions and recommendations to obtain highest quality surface and maximum adhesion. Make every effort to minimize accelerated aging effects and increase in modulus of elasticity.

F. Application of minimal expansion foam sealant at windows and doors shall include, but not limited to, the following conditions:
   1. Perimeter seal around window, doors, and rough openings. Fill gap to approximately 30%. Foam is tack free in 10 minutes and fully cured in 24 hours.
   2. If necessary cured foam can be trimmed with a sharp knife or sanded.
   3. Cured foam exposed to prolonged sunlight must be covered with paint, semi-solid stain, or sealant.

3.03 REPAIR AND CLEANING
   A. Remove and replace Work which is damaged or deteriorated in any respect.
   B. Clean adjacent surfaces using materials and methods recommended by system manufacturer. Remove and replace Work that cannot be successfully cleaned.
   C. All waste and debris caused by the Work of this Section shall be removed and legally disposed of daily, in accordance with requirements of Section 01 50 00 – Temporary Facilities and Controls.

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS
   A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.

1.02 DESCRIPTION OF WORK
   A. The Work of this Section includes, but is not limited to, furnishing and installation of the following:
      1. Architectural Louvers
      2. Insulated blank-off panels
      3. Bird and insect screen
      4. Sub-frames, extended sill, clips, and accessories

1.03 RELATED WORK SPECIFIED ELSEWHERE
   A. Carefully examine all of the Contract Documents for requirements which effect the Work of this Section.
   B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
      1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
      2. Section 02 41 13 – Selective Demolition
      3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
      4. Section 07 92 00 – Joint Sealants
      5. Section 09 91 13 - Painting
      6. Section 21 00 00 – Fire Suppression
      7. Section 23 00 00 – HVAC
      8. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 REFERENCES
   A. ASTM International (ASTM):
      1. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
      2. ASTM A 666 - Standard Specification for Annealed or Cold Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
      6. ASTM B 221 - Standard Specification for Aluminum and Aluminum Alloy Rolled or Cold Finished Bar, Rod, and Wire.
15. ASTM E 413 - Classification for Rating Sound Insulation.

B. American Architectural Manufacturer's Association (AAMA).
1. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum.


E. Underwriters Laboratories, Inc. (UL).

1.05 DEFINITIONS
A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section, unless otherwise defined in this Section or in referenced standards.
B. Standard Free Area: Free area of a louver 48 inches wide by 48 inches high, identical to that provided.
C. Maximum Standard Airflow: Airflow at point of beginning water penetration through a louver 48 inches wide by 48 inches high, identical to that provided.

1.06 SUBMITTALS
A. Submit under provisions of Section 01 33 00 – Submittal Procedures.
B. Product Data: Manufacturer's data sheets for each product and assembly specified.
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Cleaning methods.
C. Shop Drawings: For units and accessories. Include plans; elevations; sections; and details showing profiles, angles, and spacing of elements. Show unit dimensions related to wall openings and adjacent construction; free area for each size indicated for louvers; profiles of frames at jambs, heads, and sills; and anchorage details and locations.
   1. Verify openings by field measurements before fabrication and indicate measurements on Shop Drawings.
   2. For installed products indicated to comply with design loadings, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
D. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
E. Selection Samples: Two complete color charts showing the full range of colors available for units with factory-applied color finishes.
F. Samples for Verification: For each finish specified, two samples representing actual finishes specified; prepared on Samples of same thickness and material indicated for final Work. Where finishes involve normal color and texture variations, include Sample sets showing the full range of variations expected.
1.07 QUALITY ASSURANCE
   A. Manufacturer Qualifications: Minimum 5 years manufacturing similar products. The manufacturer shall have implemented a program for the management of quality objectives, continual improvement, and monitoring of customer satisfaction to assure that customer needs and expectations are met.
   B. Installer Qualifications: Minimum 2 years experience installing similar louvers.
   C. Professional Engineer Qualifications: A professional engineer legally qualified to practice in jurisdiction where Project is located and experienced in providing engineering services of kind indicated. Engineering services are defined as those performed for installations of products that are similar to those indicated for this Project in material, design, and extent.
   D. Source Limitations: Obtain products through one source from a single manufacturer where alike in one or more respects regarding type, design, or factory-applied color finish.

1.08 DELIVERY, STORAGE, AND HANDLING
   A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations and industry standards.
   B. Store products indoors in manufacturer's or fabricator's original containers and packaging, with labels clearly identifying product name and manufacturer. Protect from damage.
   C. Handling: Protect materials and finishes during handling and installation to prevent damage.

1.09 SEQUENCING AND SCHEDULING
   A. Field Measurements: Verify openings and adjacent construction by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
      1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening dimensions and proceed with fabricating products without field measurements. Coordinate construction to ensure that actual opening dimensions correspond to established dimensions.
      2. Coordinate Setting Drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

1.10 PROJECT CONDITIONS
   A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.11 WARRANTY
   A. Manufacturer's Warranty: Provide manufacturer's standard limited warranty for louver systems for a period of 1 year from date of installation, no more than 18 months after shipment from manufacturing plant. When notified in writing from the Owner of a manufacturing defect, manufacturer shall promptly correct deficiencies without cost to the Owner.

1.12 PRE-INSTALLATION MEETING
   A. The Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the Contractor, Architect, and related Subcontractors.
2.01 ARCHITECTURAL LOUVERS

A. Provide architectural blade Louver Type 609, as manufactured by AiroLite Company, LLC, or Architect approved equal by Greenheck. Louvers shall be furnished with insulated blank-off panel, sub-frames, bird screen, insect screen, supports, installation hardware, finishes, and in accordance with the following requirements:

1. Free Area: 7.55 SF
2. Minimum Free Area Velocity: 838 fpm
3. Minimum Air Volume Flow Rate: 6,334 cfm
4. Maximum Static Pressure: 0.09 in. H₂O

B. Performance Requirements:

1. Structural Performance: Provide products capable of withstanding the effects of loads and stresses from wind and normal thermal movement without evidencing permanent deformation of components including blades, frames, and supports; noise or metal fatigue caused by component rattle or flutter; or permanent damage to fasteners and anchors.
   a. Wind Load: Uniform pressure (velocity pressure) of 25 lbf/sq. ft. (1200 Pa), acting inward or outward.
   b. Temperature Change (Range): 120 degrees F (67 degrees C), ambient; 180 degrees F (100 degrees C), material surfaces.

C. Materials:

D. Fabrication:
1. Assemble units in factory to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.
2. Maintain equal louver blade spacing to produce uniform appearance.
3. Fabricate frames, including integral sills for louvers, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining materials' tolerances, and perimeter sealant joints.
4. Include supports, anchorages, and accessories required for complete assembly.

2.02 INSULATED BLANK-OFF PANEL

A. Provide 2 in. insulated blank-off panels as manufactured by Airolite Company, or Architect approved equal by Mapes Architectural Products

1. Attachment: Blank-off panels are not sealed, but fastened to the interior face of the louver.

B. Insulating Blank-off Panels: Metal-faced panels consisting of insulating core as manufactured by The Airolite Company.

1. Metal Facing Sheets: Aluminum sheet, 0.063 in. thick, finished to match exterior and/or interior
2. Thickness: 2 inch
3. Insulating Core: Extruded Polystyrene.
   a. Rigid cellular thermal insulation will comply with ASTM C578, Minimum R-value of 5.0 per 1 inch of thickness @75 degree F mean temperature, Minimum Density of 1.5 lbs./cu.ft.
4. Blank-off Panel Construction: Fabrication method shall be pan-in-pan. Gasket materials, edge treatments, and sealed edges are not by The Airolite Company

2.03 LOUVER SCREENS

A. General: Provide exterior louvers with louver screens.

1. Screening Type: Bird screening, unless otherwise indicated.
2. Screening Type: Insect screening where indicated.

B. Attachment: Secure screens to louver frames with stainless-steel machine screws, spaced 18 in. o.c.
C. Louver Screen Frames: As manufactured by The Airolite Co; to sizes indicated on Drawings.
   1. Fabrication: Mitered corners.
   3. Finish: Same finish as louver frames to which louver screens are attached.
   4. Type: Rewirable frames with a driven spline or insert for securing screen mesh.

D. Louver Screening for Galvanized Steel Louvers: As manufactured by The Airolite Co.
   1. Bird Screening: Galvanized steel, 1/2 inch wire cloth, 0.041 inch wire.
   2. Insect Screening: Fiberglass

2.04 FINISHES, GENERAL
A. All exposed surfaces shall be provided with a three coat, thermo-cured, fluorocarbon system, having a minimum 1.2 mil dry film thickness, and containing a minimum of 50% Kynar 500 or Hylar 5000 resin. Aluminum substrate shall be prepared in accordance with the approved coating manufacturer's written instructions and recommendations.
B. Provide cold applied asphalt mastic required to coat all metal surfaces that, when installed, shall be in contact with concrete, masonry, or other dissimilar metals.
C. Louvers shall be FINISHED-AFTER-ASSEMBLY with a Class I electrolytically color anodized coating (AA-M10C22A42/44) that complies with the performance requirements of AAMA Specification 611-98, "Voluntary Specification for Anodized Architectural Aluminum. Color shall be as selected by the Architect from the approved manufacturer's complete line of standard and premium colors.

PART 3 - EXECUTION
3.01 EXAMINATION AND PREPARATION
A. Prepare substrates and openings using methods recommended by manufacturer for achieving best result for substrates under project conditions.
B. Do not proceed with installation until substrates and nailers have been prepared using the methods recommended by the manufacturer and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.
C. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.

3.02 INSTALLATION
A. Install in accordance with manufacturer’s instructions.
   1. Locate and place units level, plumb, and at indicated alignment with adjacent work.
   2. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.
   3. Form closely fitted joints with exposed connections accurately located and secured.
   4. Provide perimeter reveals and openings of uniform width for sealants and joint fillers as indicated on Drawings.
   5. Repair finishes damaged by cutting, welding, soldering, and grinding. Restore finishes so no evidence remains of corrective work. Return items that cannot be refinished in the field to the factory, make required alterations, and refinish entire unit or provide new units.
   6. Protect galvanized and nonferrous-metal surfaces from corrosion or galvanic action by applying a heavy coating of bituminous paint on surfaces that will be in contact with concrete, masonry, or dissimilar metals.
B. Install concealed gaskets, flashings, joint fillers, and insulation, as installation progresses, where weathertight joints are required. Comply with Section 07 72 00 – Joint Sealants for sealants applied during installation.
3.03 CLEANING, TOUCH UP AND PROTECTION

A. Protect products from damage until completion of project. Use temporary protective coverings where needed and approved by manufacturer. Remove protective covering at the time of Substantial Completion.

B. Touch-up, repair or replace damaged products before Substantial Completion.

C. All waste and debris caused by the Work of this Section shall be removed and legally disposed of daily, in accordance with requirements of Section 01 50 00 – Temporary Facilities and Controls.

END OF SECTION
PART 1 - GENERAL

1.01 RELATED DOCUMENTS
A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.
B. Carefully examine all the Contract Documents for requirements which affect the Work of this Section. The exact scope of Work of this Section cannot be determined without a thorough review of all specification Sections and other Contract Documents.

1.02 DESCRIPTION OF WORK
A. The Work of this Section includes, but is not limited to, preparation, painting and finishing of the following:
   1. Interior wood trim
   2. Interior stucco
   3. Interior plaster walls and ceilings

1.03 RELATED WORK SPECIFIED ELSEWHERE
A. Carefully examine all the Contract Documents for requirements which effect the Work of this Section.
B. Other Specification Sections which directly relate to the Work of this Section include, but are not limited to, the following:
   1. DIVISION 01 – GENERAL REQUIREMENTS; including all Sections contained therein
   2. Section 02 41 13 – Selective Demolition
   3. Section 04 01 20.91 – Concrete Masonry Unit (CMU) Wall Restoration
   4. Section 07 92 00 – Joint Sealants
   5. Section 08 90 00 – Louvers and Accessories
   6. Section 21 00 00 – Fire Suppression
   7. Section 23 00 00 – HVAC
   8. Section 28 31 00 – Fire Detection and Alarm Systems

1.04 QUALITY ASSURANCE
A. All materials, including primers, other undercoat paint, and finish paint shall be produced by a single manufacturer. Use thinners and other accessory materials acceptable to the approved paint manufacturer, and use only within the approved manufacturer's recommended limits.
B. Review other Sections of these specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information or characteristics of finish materials provided for use, to ensure that compatible coats are used.
C. Before beginning primary Work of this Section, provide 100 square foot mock-ups of each color and paint system at locations acceptable to Architect and obtain Architect's acceptance of visual qualities. Protect and maintain acceptable mock-ups throughout the Work of this Section to serve as criteria for acceptance of this Work. Acceptable mock-ups may be incorporated into the finished Work.
1.05 TESTS
A. The Owner may employ an independent testing agency to perform tests, evaluations and certifications. Cooperate and permit samples of materials to be taken as they are used. The Painting Subcontractor shall pay all costs associated with tests demonstrating failure of the tested material to comply with requirements of the Contract Documents.

1.06 SUBMITTALS
A. Submit list of all materials proposed for use, indicating:
   1. Manufacturer
   2. Product name
   3. Surface for which proposed
B. Submit color swatches showing complete range of colors and finishes available for each paint and finish system.
C. Before painting mock-ups, submit representative samples of each material that is to be exposed in the finished Work, showing the full range of color and finish variations expected. Prepare paint samples on gypsum drywall or poster board and make samples not less than 12 inches square. On actual wood surfaces provide 4 in. x 8 in. samples of each natural and stained wood finish.

1.07 DELIVERY, STORAGE AND HANDLING
A. Deliver materials and products in unopened, factory labeled packages. Store and handle in strict compliance with the approved manufacturers' written instructions, and protect from freezing and damage.
B. Avoid the possibility of fire by removing flammable materials, solvents and spirits from the project site or by storing materials in UL approved fire-resistant cabinets. Keep Work area free from flammable waste and soiled rags.

1.08 PROJECT CONDITIONS
A. Perform Work only when existing and forecasted conditions are within the limits established by the approved manufacturer of the materials and products used.
   1. Apply water-based paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50°F and 90°F, unless otherwise permitted by manufacturer's printed instructions.
   2. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45°F and 95°F, unless otherwise permitted by paint manufacturer's printed instructions.
   3. Do not apply paint in snow, rain, fog or mist, or when relative humidity exceeds 85%, or to damp or wet surfaces, unless otherwise permitted by paint manufacturer's printed instructions. Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.
B. The Painting Subcontractor shall examine substrates, supports, and conditions under which this Work is to be performed and notify General Contractor, in writing, of conditions detrimental to the proper completion of the Work. Do not proceed with Work until unsatisfactory conditions are corrected. Beginning Work means Installer accepts substrates and conditions.
C. Comply with the approved manufacturer's requirements and recommendations for area ventilation.
D. Perform Work only when permanent lighting system is operational and in use. If not in use provide temporary lighting that simulates as closely as possible permanent lighting system.
E. Cover or otherwise protect finished Work of other trades.

1.09 PRE-INSTALLATION MEETING
A. The General Contractor shall schedule a pre-installation meeting to establish compliance and expectation of Work, maintain optimum working conditions, determine acceptable mock-ups, and coordinate the Work of this Section with related and adjacent Work. The meeting shall be attended by the General Contractor, Architect, and related Subcontractors.
B. Coordinate the Work of this Section with Work specified in other Sections. Furnish information on finish materials to be used in the field to ensure that correct prime coats are used in the shop.

1.10 EXTRA MATERIAL
A. Provide maintenance stock in the approved manufacturer’s new, unopened containers equal to 5% of the actual quantity installed. Provide a minimum of two, five gallon containers of each wall color and two, one gallon containers of each trim color.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS
A. Materials shall be first line products of one of the following manufacturers, approved by the Architect:
   1. Conventional Paint Finishes:
      a. Sherwin-Williams
      b. Benjamin Moore
      c. California Paints

2.02 MATERIALS
A. Products specified are as manufactured by Sherwin Williams, unless otherwise indicated. Similar products of acceptable manufacturers listed in Paragraph 2.01 may be furnished in lieu of those listed, approved by the Architect.
   1. Provide primary products of the system from the products of a single manufacturer.
   2. Products not specified by name and required for the job, such as shellac, thinners, putty, shall be “best grade” or “first Line” products of a reputable manufacturer and acceptable to the approved manufacturer of the paint coatings.
   3. Colors shall be as selected by the Architect from the approved manufacturer’s complete selection of standard and premium colors. Public areas of the building shall be considered decorative and shall require the use of several colors, including but not limited to, deertone, bright, and accent colors.

PART 3 - EXECUTION

3.01 INSPECTION AND PREPARATION
A. The Installer shall be solely responsible for the finishing Work and shall prepare substrates as needed to obtain the highest quality finished surfaces.
B. Strictly comply with the approved manufacturers' written instructions, except where more restrictive requirements are specified in this Section.
C. Clean surfaces in accordance with the approved manufacturer’s requirements for removal of dirt, oil, grease, mildew, asphalt, concrete splatters, and all other foreign substances. Do not finish over dirt, rust, grease, moisture and other conditions detrimental to formation of a durable finish film.
D. Remove finish hardware, fixtures, accessories, and similar items, or tape and mask all surfaces not to be painted to protect these surfaces from damage or overpaint. Replace these items when finishing Work is completed.
E. Remove incompatible primers and re-prime or provide barrier coats in compliance with the approved finish paint manufacturer’s written instructions.
F. Prepare masonry and concrete materials by removing laitance, efflorescence, form release agents, and surface glaze by cleaning and washing as recommended by the approved finish paint manufacturer and approved by Architect. Brush surfaces to remove loose particles. Fill cracks and irregularities with Portland cement grout to provide uniform surface texture. Allow a minimum of 60 to 90 days curing time before finishing poured and pre-cast concrete. Allow a minimum of 30 to 60 days curing time before finishing concrete masonry. Determine substrate alkalinity and moisture content and, if necessary, take appropriate remedial actions as recommended by the approved finish paint manufacturer.

G. Prepare all wood surfaces not indicated to be factory finished under the Work of Section 06 20 00 by sanding smooth, sealing knots, setting nails and fasteners, and filling holes, cracks, and imperfections with putty acceptable to the approved finish manufacturer. For transparent finished Work, use putty and filler color matched to wood to minimize its appearance. All interior and exterior woodwork shall be sealed and back primed immediately after delivery to site and before installation.

H. Prepare shop primed, ferrous metal surfaces by solvent wiping, sanding and touching-up shop prime coats. Prepare bare metal surfaces by power tool cleaning in accordance with SSPC SP 3 requirements. Remove rust, welding flux and splatter, burrs, and all other surface defects and foreign substances. Clean surfaces by washing with water followed by phosphate rinsing. Apply prime coats immediately after completion of cleaning.

I. Aggressively clean new galvanized surfaces with grease cutting solvent, such as mineral spirits, to remove fabricating oils. After cleaning provide a SSPC SP 7 brush off blast of galvanized steel surfaces to create a 2mil profile for paint adherence. Touch-up abraded surfaces immediately with zinc-rich paint having a minimum dry film content of 95% by weight, Galvilite Galvanizing Repair Compound, as manufactured by ZRC, or Architect approved equal.

J. Solvent clean aluminum surfaces in accordance with SSPC SP 1 requirements.

K. Finish tops, bottoms, and edges of all doors the same as door faces.

L. Clean gypsum drywall surfaces as to make free of dust and foreign substances. Joint treatment materials shall be thoroughly dry. Paint metal corner beads and trim with metal primer before application of water based finish coatings.

M. Ducts visible through supply and return grilles shall be painted flat black.

3.02 APPLICATION

A. Strictly comply with the approved manufacturers' written instructions, except where more restrictive requirements are specified in this Section.

B. Mix and prepare materials in strict compliance with the approved manufacturers' written instructions. Do not thin materials without Architect's approval. Keep foreign substances out of finishing materials.

C. Provide primers as recommended by the approved finish paint manufacturer for substrates encountered. Tint all primers and undercoats to the approximate shade of the finish coat, making each coat slightly darker and closer to the finished shade. Use deep base primers for deep tone, bright, and accent colors. Prime surfaces immediately after surface preparation to prevent contamination of substrate.

D. Apply finish materials at the lowest coverage rate and the highest dry film thickness recommended by the approved manufacturer. Provide additional coats as needed to eliminate all show through and bleed through areas. Apply paint and finish systems as scheduled using brushes or rollers. Stain shall be applied with a brush and then wiped off at the proper time to produce the desired effect.

1. Spray application of paint and finish systems is acceptable for CMU, gypsum drywall, metal doors and frames, interior steel roof decks, structural steel joists, HVAC ducts, and mechanical piping, where Painting Subcontractor can demonstrate adequate control of overspray, control of coats, and has first obtained Architect’s written permission. CMU and gypsum drywall shall be rolled following spray application of paint to provide a dense, uniform appearance. Provide uniform final finishes, free of runs, sags, wrinkles, streaks, shinners, brush/roller marks, color variations and other imperfections.

E. Finish interior of HVAC ductwork behind louvers and grilles, when these surfaces are visible, with flat black paint. Wall surfaces located behind wall mounted markerboards and tackboards shall be painted. Painting of surfaces located behind metal corridor lockers and pre-manufactured casework is not required.
3.03 TOUCH UP, CLEANING, AND PROTECTION
A. Touch up damaged coatings and finishes to eliminate evidence of repair.
B. Clean finished surfaces and remove all finish splatters from adjacent Work. Remove and replace Work that cannot be successfully cleaned.
C. Provide signs and temporary protection to ensure Work being without damage or deterioration at time of final acceptance. Remove protections and re-clean as necessary immediately before final acceptance.
D. All waste and debris caused by the Work of this Section shall be stock piled daily by Painting Subcontractor and removed by General Contractor and legally disposed daily, in accordance with requirements of Section 01 50 00 - Temporary Facilities and Controls.

3.04 FINISH PAINTING SCHEDULE
A. The following finish systems refer to products of Sherwin Williams, unless indicated otherwise. Provide these systems or comparable systems from any specified manufacturer, approved by the Architect.

1. INTERIOR WOOD TRIM
   Primer: Sherwin Williams Premium Latex Primer (B28W08111)
   Finish Coat 1: Sherwin Williams Pro Industrial Waterbased Alkyd Urethane Enamel (B53 Series) Low Sheen or Semi-Gloss (Project Architect will pick sheen)
   Finish Coat 2: Sherwin Williams Pro Industrial Waterbased Alkyd Urethane Enamel (B53 Series) Low Sheen or Semi-Gloss (Project Architect will pick sheen)

2. INTERIOR STUCCO
   Finish Coat 1: Sherwin Williams PrepRite Block Filler, B28
   Finish Coat 2: Sherwin Williams 200 ProMar HP Acrylic Eg-Shel (B20 Series)

3. INTERIOR PLASTER WALLS AND CEILINGS
   Finish Coat 1: Sherwin Williams Premium Wall & Wood Primer* (B28 Series)
   Finish Coat 2: Sherwin Williams 200 ProMar HP Acrylic Eg-Shel (B20 Series)

END OF SECTION
PART 1 - GENERAL

1.00 FILED SUB-BIDS - TIME, MANNER AND REQUIREMENTS FOR SUBMITTING SUB-BIDS

A. HVAC is stipulated as a Filed Sub-Bid under Part D, Item 2 of the Form for General Bid.

B. All sub-bids shall be submitted on the Form for Sub-Bid furnished by the Awarding Authority, as required by section 44F of Chapter 149 of the Massachusetts General Laws, as amended.

C. Sub-bidders must be DCAM Certified in the listed trade and shall include a current DCAM Sub-bidder Certificate of Eligibility and a signed DCAM Sub-bidder's Update Statement with the bid.

D. Sub-Bids must be filed with the Awarding Authority in a sealed envelope, before twelve o'clock (noon), Boston time, on the date stipulated in the Advertisement.

E. Specific information relating to the sub-bidders is set forth in the Contract Documents, under the heading "Notice to All Bidders, Including Sub-Bidders" and the attention of sub-bidders is directed thereto.

F. Work to be done under this SECTION is shown on Contract Drawings numbered FP01.00 and FP02.00. The remaining Contract Documents are included for relevance.

1.01 GENERAL REQUIREMENTS

A. Include General Conditions and applicable parts of Division 1 as part of this Section.

B. Examine all other Sections of the Specifications for any Requirements that affect Work of this Section, whether or not such Work is specifically mentioned in this Section.

C. Coordinate Work with that of all other Trades affecting, or affected by, Work of this Section. Cooperate with such Trades to assure the steady progress of all Work under the Contract.

1.02 SCOPE OF WORK

A. Work in this Section includes all labor, materials, equipment, and services necessary to furnish completely and install a Fire Suppression System as specified herein and in general as follows:

1. Disconnect, make safe, cut and cap, and demolish existing equipment, piping and appurtenances as may be required to accommodate the new work. This Contractor shall be responsible for removal and disposal of all debris generated by the demolition of the existing suppression system(s).

2. Modifications to the existing fire suppression systems as indicated and as may be required to accommodate the new construction.

3. Installation of new clean agent fire suppression systems, complete and ready for operation.

4. Working Plans and supporting calculations for the Fire Suppression System. Plans and calculations shall be stamped by a Registered Fire Protection Engineer, if required by the Authority Having Jurisdiction.
5. Pipe, fittings, hangers, nozzles, tanks, clean agent, detection devices, control panels, and other incidental items. Remove all identifying labels, tags, and maskings that will interfere with painting (except UL, FM, nameplates, etc.)

6. Coring of all penetrations to install suppression system piping. Coring shall be performed using dust collection and reduction techniques which will collect dust and debris before settling on building surfaces.

7. All signage, valve tags and pipe identification associated with the suppression system.

8. Coordination with all other Trades.

9. Flushing and testing.

10. Operating instructions, maintenance manuals, and Record Drawings.

11. Obtain and pay for all inspections, licenses, permits, and approvals required by Governing Authorities and install all work in compliance thereof.

B. The Work of this Section is shown on Drawing FP01.00 and FP02.00.

C. Examine all Project Documents for any Requirements that affect the Work of this Section, whether or not such Work is specifically mentioned in this Section.

1.03 RELATED WORK UNDER OTHER SECTIONS

A. The following Work is not included in this Section but is to be performed by other Trades as specified within the other Sections.

1. Firestopping of fire-rated assembly through penetrations.

2. Painting of piping, fittings, coverings, hangers, supports, and all equipment not specifically specified to be painted by this Contractor.

1.04 INTENT

A. All Work shall be in accordance with the arrangement, details, and locations, as indicated on the Contract Drawings, Reference Drawings and any supplemental Addenda, Bulletins or Drawings issued by the Architect. Layouts are diagrammatic and final arrangement of equipment and piping shall suit field conditions. Install all necessary fittings and equipment offsets required to meet job conditions. Work installed in a manner contrary to that shown on the Drawings, or interfering with the Work of another Trade, shall be removed and reinstalled when so directed by the Architect. Discrepancies and questionable points shall be immediately reported to the Architect for clarification.

1.05 CODES, REGULATIONS, AND STANDARDS

A. All Work shall be installed in compliance with the governing Codes, Regulations, and Ordinances. It shall be the responsibility of this Contractor to familiarize himself with all governing Codes, Regulations, and Ordinances and report any non-compliance of the Plans and Specifications to the Architect, prior to entering into a Contract. All above Requirements shall take precedence over the Plans and Specifications. These Requirements are minimum criteria and no reductions to the quality or capacity of the Systems that may be permitted by Code will be allowed without written permission of the Architect.

B. All workmanship, methods, and materials shall meet the highest standards of the Trade and, in general, shall conform to the standards of the following associations:
American Standards Association (ASA)
American Society of Mechanical Engineers (ASME)
National Board of Fire Underwriters (NBFU)
Standard of Underwriters Laboratories (UL)
American Society of Testing Materials (ASTM)
National Electric Code - NFPA 70 (NEC)
National Fire Protection Association (NFPA)
Occupational Safety and Health Act (OSHA)
American National Standards Institute (ANSI)
Building Officials and Code Administrators (BOCA)
American Society of Sanitary Engineering (ASSE)
Society of Fire Protection Engineers (SFPE)
Massachusetts State Building Code (780CMR)
Massachusetts State Plumbing and Gas Codes (248CMR)
New Bedford Building Regulations and Ordinances
New Bedford Fire Department Requirements

C. Where the contract documents indicate more stringent requirements than the above codes and ordinances, the Contract Documents shall take precedence.

1.06 DRAWINGS AND CONFLICTS IN THE WORK

A. The Drawings and Specifications are intended to be complementary. Any materials shown or specified in one, but not in the other, reasonably implied and usually included under good industry practice and/or required by applicable Codes and Regulations for the proper and safe completion and operation of the Work described herein, shall be furnished and installed by this Contractor at no additional cost to the Owner. Drawings show general arrangement of equipment and are not intended to indicate the exact installation dimensions.

B. Any conflicts and/or non-compliance of the Plans and Specifications apparent at the time of the start of the project shall be brought to the attention of the Architect and/or Engineer prior to entering into a contract.

1.07 EXCHANGE OF INFORMATION AND COORDINATION

A. All Work covered by this Section of the Specifications shall not be installed without first coordinating the installation of same with all other Trades and the General Contractor. This Contractor shall, at his own expense, relocate any of his Work should it interfere with the proper installation and/or operation of the Work to be installed by other Trades and by the General Contractor.

B. Particular attention shall be directed to the coordination of this Work with all Work of other Trades which is to be installed in the ceiling areas. Coordinate, with all other Trades, the Work in suspended ceiling areas to insure adequate space for the installation of all Work of all Trades, prior to installation.

C. Coordination of this Work with all other Trades will require that this Contractor attend on-site coordination meetings and develop coordination Drawings so as to ensure that all Trades will be provided with adequate space to install their Work.

D. Furnish to the General Contractor, and all other Contractors, all information relative to the Work of this Section that will affect them, sufficiently in advance, so that they may plan their Work and installation accordingly. This information shall include, but not be limited to, required clearances from nozzles so as not to create obstructions to nozzle discharge and/or pattern development, clearances from heat sources, cutting and patching, coring, electrical requirements, etc.
E. In the case of failure on the part of this Contractor to provide proper information, as indicated above, sufficiently in advance, this Contractor will pay for all back-charges incurred by the General Contractor and other Contractors for the modification and/or relocation of any portion of their Work already performed in conjunction with this Contract due to this Contractor's delay or for having given incorrect information.

F. Obtain from all other Trades all information relative to the Work covered by this Section of the Specifications, which this Contractor is to execute in conjunction with the installation of the Work of the other Trade(s).

G. In the event that conflicts, if any, cannot be settled rapidly and amicably between the affected Trades, with the Work proceeding in a skillful and competent manner, the Architect shall decide which Work is to be relocated and his judgment shall be final and binding.

1.08 WORKMANSHIP

A. The entire Work provided in this Specification shall be constructed and finished, in every respect, in a skillful, competent, and substantial manner. It is not intended that the Drawings shall show every component, pipe, and detail, but this Contractor shall furnish and install all such parts as may be necessary to complete the Work in accordance with governing Codes and Regulations, the best Trade practices, and to the satisfaction of the Architect, Engineer and the Owner, at no additional cost to the Owner.

1.09 SITE INVESTIGATION

A. It shall be the responsibility of the Bidders to acquaint themselves with the available information, before submitting their Bid. Bidders must visit the site and acquaint themselves with the existing conditions and shall study all Architectural, Structural, Mechanical and Electrical Drawings, as well as the Specifications. The Bidders shall fully inform themselves of all local and state Code Requirements. Bidders must report any conflicts and/or non-compliance of the construction documents to the Architect for review prior to submitting their bid.

1.10 TAXES AND INSURANCE

A. This Contractor shall include in his Bid, applicable federal, state and local taxes and the premiums of the insurance required by the General Conditions and Supplementary General Conditions of the Contract.

1.11 PERMITS AND INSPECTIONS

A. This Contractor shall obtain and pay for all the permits required for this Section of the Work. He shall also obtain and pay for all the inspections and tests required. Defects discovered in Work, materials, and/or equipment shall be replaced at no cost to the Owner, and the inspection and test shall be repeated until no defects are discovered.

1.12 CONTRACT COST BREAKDOWN

A. At the start of construction, submit a breakdown of material and labor costs to aid the Architect in determining the value of the Work installed, as the job progresses. The cost breakdown shall itemize categories of materials or portions of Systems, as may be the case, to place a value on the Work as it is installed.

B. No requisitions will be paid until after the breakdown is delivered to the Architect.

1.13 GUARANTEE

A. Unless otherwise noted, all materials, items of equipment and workmanship furnished under this Section shall carry the standard warranty against all defects in material and workmanship for a period of not less than one (1) year from the date of final acceptance of the Work. Any fault due to defective or improper material or workmanship which may
develop within that period, shall be made good, forthwith, by and at the expense of this Contractor, including all other
damage done to areas, materials and other Systems resulting from this failure.

B. This Contractor shall guarantee that all elements of the Systems are of sufficient capacity to meet the specified
performance Requirements as set forth herein or as indicated.

C. Upon receipt of notice from the Owner of failure of any part of the Systems during the guarantee period, the affected
part or parts shall be promptly replaced by this Contractor, at no charge to the Owner.

D. Before the final payment is made, this Contractor shall furnish a written guarantee covering the above Requirements.

1.14 MATERIALS

A. Materials shall be the best of their respective kinds and in full accord with the most modern mechanical construction.
All materials shall be new.

B. All materials necessary to make the installation complete in every detail shall be furnished and installed under this
Contract, whether or not specifically shown on the Drawings or specified herein.

C. It is the intent of the Specifications that one manufacturer be selected, not a combination, for any particular
classification of materials.

D. Where materials, equipment apparatus, or other products are specified by manufacturer, brand name, type or catalog
number, such designation is to establish the standard of desired quality and style and shall be the basis of the Bid.

1.15 MATERIALS AND EQUIPMENT HANDLING

A. This Contractor shall do all handling of his materials and equipment and the resulting cleanup, at his expense, in a safe
and a satisfactory manner. Special attention shall be paid to the protection of life and property and the equipment or
apparatus handled, and any corresponding damages shall be replaced, repaired, or paid for by this Contractor, as
approved by the Architect. This Contractor shall provide all rigging, hoisting, and staging required to complete the
Work of this Section, unless specifically noted otherwise.

1.16 MAINTENANCE AND PROTECTION OF MATERIALS

A. This Contractor shall be responsible for the maintenance and protection, from loss or damage of all causes, of all
equipment, materials, and tools supplied by him and stored or installed on the job site, until final acceptance of the
Project by the Owner.

B. This Contractor shall store his materials and equipment in the location designated by the Owner and maintain the
storage area in a clean and safe condition.

C. This Contractor, at his own expense, shall clean, patch and repair any material and finishes of the building or its
contents damaged during the execution of this Contract. Patches and repairs shall be performed by Trades specializing
in the specific surfaces affected.

1.17 SUBMITTALS

A. Submit complete Shop Drawings on all materials and equipment intended to be used in the construction of the Systems
in accordance with provisions of Section 01 33 00, Submittals, and Record Documents.
B. The approval of equipment and materials does not relieve this Contractor from the responsibility of Shop Drawing errors in details, sizes, quantities, and dimensions which deviate from the Specifications, Contract Drawings, and/or job conditions, as they exist.

C. If apparatus or materials are submitted by this Contractor for those specified and such substitution necessitates changes in any mechanical or electrical equipment, or alteration to connections, piping supports, or construction, same shall be provided by this Contractor at no additional cost to the Owner.

D. The Architect’s permission to make substitutions shall not relieve this Contractor from full responsibility for the Work.

E. Changes to Work already performed, made necessary by delays in Shop Drawing approval, are the responsibility of this Contractor.

F. Availability of Record Drawings shall be a prerequisite to scheduling a final inspection of this Work and said Drawings and Original Contract Documents will be used in checking completion of the Work.

G. Non-availability of Record Drawings or inaccuracies therein may be ground for cancellation and postponement of any scheduled final inspection of the Work until such time as the discrepancy has been corrected.

1.18 OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS

A. Provide operating instructions to the Owner’s designated representative, with respect to operating and maintenance procedures, for all equipment and Systems installed under this Section. Operating instructions shall be given by the manufacturers’ representatives. The cost of such instruction, up to a full four (4) hours, shall be included in the Contract price.

B. At the completion of the Project, turn over to the Architect two (2) complete Maintenance Manuals containing the following, as applicable:


2. Copy of fully executed permit(s).

3. Hard copy of approved As-Built Drawings.

4. DVD of approved As-Built Drawings in PDF and AutoCad format.

5. Copy of approved Narrative Report

6. Complete approved submittals of all materials and equipment installed.

7. Names, addresses and telephone numbers of all suppliers of the materials and equipment.

8. Warrantees on all equipment.


10. Spare parts list of all equipment and System components.

11. Spare parts kits as may be required by governing Codes, Regulations, and Ordinances. (i.e backflow preventer per 310CMR Section 22.22(4)(c)).

12. Above and below ground test certificates.


15. Fire pump test certificate.

16. Other documentation of permits, inspections, tests, etc. as applicable.

C. Each manual shall be typewritten and bound under a separate hard cover 3-ring binder and will be reviewed by the Architect. The manuals shall be clearly and permanently identified on the cover and binding with the name of the Project.

D. Refer to Section 01 77 00, Project Closeout, for general provisions covering Project closeout procedures.

1.19 CLEANING SYSTEMS

A. Before the Systems are accepted, all equipment shall be thoroughly cleaned to remove all dust, dirt and/or other foreign matter.

B. After the installation is complete, equipment with factory-finished surfaces shall be cleaned and damaged or scratched spots shall be touched up with the same type and color paint applied at the factory.

C. All equipment that is to receive finish paint by the Painting Contractor shall be cleaned by this Contractor and left ready to have surfaces prepared to receive paint.

1.20 RUBBISH REMOVAL

A. At the completion of the Work, or when ordered by the General Contractor or the Architect, this Contractor shall remove from the property, all the rubbish and waste materials belonging to him. Keep the job site free from the accumulation of waste materials and rubbish; premises must be maintained in a clean condition.

1.21 TEMPORARY STRUCTURES

A. This Contractor shall provide, on the premises and where directed by the Architect, shall maintain in good condition, and shall remove when directed, suitable and substantial watertight sheds in which he shall store all his materials and equipment.

1.22 TEMPORARY SERVICES

A. All water, electricity, fire protection and sanitary facilities required for safe and efficient construction during normal working hours shall be furnished in accordance with the General Requirements and Supplementary General Requirements.

1.23 TESTS

A. Furnish all labor, materials, instruments, supplies, and services and bear all cost for the accomplishment of the tests herein specified or required by governing Authorities. Correct all defects appearing under test, repeat the tests until no defects are disclosed, and leave the equipment clean and ready for use.

B. Perform any tests, other than herein specified, which may be specified by legal authorities or by agencies to whose Requirements this Work is to conform.
C. Dispose of test water and wastes after tests are complete, in a manner satisfactory to the Architect and in accordance with governing Regulations.

D. This Contractor shall coordinate and facilitate all inspections and tests required by Codes or the Authorities Having Jurisdiction.

E. This Contractor shall provide necessary support for testing and adjustment of all alarm devices connected to the suppression system.

1.24 EQUIPMENT ACCESS REQUIREMENTS

A. All Work shall be installed so that all parts requiring inspection, operation, maintenance and repair are readily accessible. Minor deviations from the Drawings may be made to accomplish this, but changes of magnitude shall not be made prior to written approval from the Architect.

B. Furnish access panels as required to permit access for adjustment, removal and the replacement and servicing of all equipment, and all other items requiring maintenance and/or adjustment.

C. Access panels shall be installed by the General Contractor.

D. Coordinate the exact location of access panels in all finished spaces with the Architect.

1.25 INSTALLATION REQUIREMENTS

A. This Contractor shall comply with all the governing Codes, Regulations, and Ordinances of all legally constituted Authorities having jurisdiction over the whole or any part of the Work herein specified. Governing Codes and Regulations supplement this Specification and shall take precedence in any case of conflict.

B. All equipment and materials furnished in connection with the installation shall be new and shall be furnished and installed in accordance with these Specifications and the Manufacturer's requirements.

C. All piping that is to receive paint shall not have any identifying labels, tags, markings, etc. (except for UL, FM, and code required nameplates) which would interfere with the preparation and painting of the surfaces.

D. All piping shall be installed concentrically within any floor, ceiling or wall penetration so as to allow for proper sealing of the penetration while maintaining the sealant flush with the adjoining surfaces.

1.26 WIRING DIAGRAMS

A. This Contractor shall provide to the General Contractor wiring diagrams for all equipment furnished under this Section for which wiring is to be installed by the Electrical Contractor.

PART 2 - PRODUCTS

2.01 PIPE AND FITTINGS

A. All piping for the Suppression System shall be of a material having physical and chemical characteristics such that its integrity under stress can be predicted with reliability.

B. In no case shall the value used for the minimum pipe design pressure be less than specified by NFPA.

C. The thickness of the piping shall be calculated in accordance with ASME B31.1.
D. Pipe joints other than threaded, welded, brazed, flared, compression or flanged type shall be listed or approved.

E. Fittings shall have a minimum rated working pressure equal to or greater than the minimum design working pressure for the clean agent being used.

F. Cast iron and Class 150 fittings shall not be used.

G. All pipes shall be run true-to-line and grade and, in general, parallel to walls and ceilings.

2.02 HANGERS AND SUPPORTS

A. All piping shall be rigidly supported from the building structure by means of approved hangers and supports. Pipes shall be supported so as to maintain the required grading and pitching of lines, to prevent vibration and to secure piping in place; they shall be arranged so as to provide for proper expansion and contraction of pipe.

B. Where required, all piping and their attachments shall be designed for seismic forces as per the Requirements of the Massachusetts Building Code. It shall be the responsibility of this Contractor to provide all necessary calculations as required by the Building Code. One copy shall be submitted to the Engineer for his review, and one copy shall be submitted to the Structural Engineer for approval of attachments to the building structure.

C. Maximum spacing of hangers on horizontal runs of pipe shall be in accordance with NFPA.

D. Pipe hangers for all piping smaller than 4” shall be swivel ring band hangers. Pipe hangers for all piping 4” and larger shall be clevis type hangers. Riser clamps shall be of black malleable iron, in two (2) parts bolted together. All hangers and their attachments shall be of a type approved for Fire Suppression System installation.

E. All horizontal piping shall be suspended from the building structural elements by mild galvanized steel rod connecting the pipe hanger to inserts, angle brackets, lag screws, and spring isolators as required by the building construction and Code.

F. All piping installed under this Section of the Specifications shall be independently supported from the building structure and not from the ceilings, walls, piping, ductwork, or conduit of other Trades. All supplementary steel, including factory-fabricated channels required to meet the Requirements specified herein, shall be furnished and installed by this Contractor.

G. Unless noted otherwise, all hangers, rods, supports, channels, and accessories shall be galvanized.

H. This contractor shall furnish and install rod buttons or threaded escutcheons on all threaded rod penetrations of finished ceilings and/or walls.

I. Toggle bolts shall not be allowed.

2.03 DISCHARGE NOZZLES

A. Discharge nozzles shall be listed for their intended use.

B. Discharge nozzles shall be of a material which is corrosion resistant to the agent used and the atmosphere in the intended application area.

C. Nozzles shall be permanently marked to identify the manufacturer, type and size of the orifice.
D. Nozzles shall be installed so as to be free of obstructions that could interfere with the proper distribution of the discharged agent. Nozzles shall be installed in accordance with the manufacturer's installation instructions.

2.04 DETECTION, ACTUATION, ALARM AND CONTROL SYSTEMS

A. Automatic detection and automatic actuation shall be used.

B. Detection, actuation, alarm and control systems shall be installed, tested and maintained in accordance with the appropriate NFPA standards (NFPA 70 and NFPA 72).

C. Initiating and releasing circuits shall be installed in raceways.

D. Automatic detection shall be any listed method or device capable of detecting and indicating heat, flame, or smoke.

E. Adequate and reliable primary and 24 hour minimum standby sources of energy shall be used to provide for the operation of the system.

2.05 OPERATING DEVICES

A. Operating devices shall include agent releasing devices, valves, discharge controls, or other equipment necessary for successful performance of the system.

B. All devices shall be designed for the service they will encounter and shall not readily be rendered inoperative or susceptible to accidental operation (i.e. tamper resistant).

C. All devices shall be located, installed or positioned such that they are not subject to mechanical, chemical, or other damage that would render them inoperative.

D. A mechanical or electrical means of manual release of the system shall be provided. Operation of any manual control shall cause the complete system to operate as designed.

2.06 CONTROL EQUIPMENT

A. Removal of an electric actuator from the agent storage container discharge valve that it controls shall result in an audible and visual indication of system impairment at the releasing control panel.

B. The control equipment shall supervise the actuating devices and associated wiring.

C. The control equipment shall be specifically listed for the number and type of actuating devices utilized.

D. Removal of the primary agent container actuating device from the discharge valve and/or selector valve shall cause a supervisory signal at the releasing control unit.

2.07 OPERATING ALARMS AND INDICATORS

A. Alarms and indicators shall be used to indicate the operation of the system or the failure of any supervised device.

B. Audible and visual pre-discharge alarms shall be provided within the protected area to give warning of impending discharge.

C. Abort switches shall be provided and located near the means of egress for the protected area. The abort switch shall be of a type which required constant manual pressure in order to abort.
D. In all cases, the normal manual control and manual emergency control shall override the abort function.

E. Operation of the abort function shall result in both audible and visible indication of system impairment.

F. Warning and instruction signs shall be provided at entrances to and inside protected areas.

G. Warning and safety instruction signs shall be located outside each entrance to clean agent storage rooms or areas.

2.09 CLEAN AGENT

A. The quantity of agent in the system primary agent supply shall be at least sufficient for the largest single hazard to be protected or group of hazard to be protected simultaneously.

B. A reserve agent supply shall be provided. The reserve quantity shall be as determined by the Authority Having Jurisdiction.

C. Agent shall be new.

D. Agent shall be an inert gas.

2.10 TEST CONNECTIONS

A. Test connections shall be provided in accordance with NFPA requirements.

B. This contractor shall provide the necessary support for testing and adjustment of all alarm devices connected to the suppression system.

2.11 SLEEVES AND INSERTS

A. All pipes passing through walls, floors, or partitions shall be provided with sleeves having an internal diameter one inch (1") larger than outside diameter of the pipe.

B. Sleeves passing through floors, lightproof or soundproof walls and partitions, and through fire rated assemblies shall be made tight using approved caulking materials.

C. Sleeves shall be installed in new and/or existing building elements as required for the installation of through penetration firestop systems.

2.12 ESCUTCHEONS

A. Escutcheons shall be installed around all exposed bare pipe. Escutcheons shall be of sufficient outside diameters to cover the sleeve opening and shall fit snugly around the bare pipe.

B. Escutcheons shall be cast brass, gray primed finish and provided with a setscrew to properly hold escutcheons in place.

C. Escutcheons are permitted to be of metal or plastic construction with finish color if acceptable to the owner. Provide samples to the owner for approval prior to installation.

PART 3 - EXECUTION

3.01 WORKING PLANS
A. Before commencement of any work, this Contractor shall prepare Working Plans stamped and signed by a registered Fire Protection Engineer, submit and obtain approval from the insuring agent and the Fire Department, then submit approved plans for permit. (Refer to Section 1.02-A(4)). Provide one copy of the plans and equipment submittal to the Engineer.

B. Plans shall include all requirements of NFPA 2001.

C. This Contractor shall be responsible to develop complete Hydraulic Calculations, stamped and signed by a registered Fire Protection Engineer, as per NFPA 2001.

3.02 START-UP AND TESTING

A. Notify the Architect of all tests no less than 24 hours prior to scheduled test.

B. Place the entire System into working order.

C. Furnish all labor, equipment, materials, and tests necessary to place all equipment and Systems into operation, and obtain approval of the entire Fire Suppression System from the legal Authorities and Agencies to whose Requirements this Work is to conform.

D. All materials, including nozzles, pipe and fittings shall be properly protected so as to prevent obstructions and damage.

E. Prior to system acceptance, all alarm devices shall be tested for proper installation, adjustment, and interaction.

F. Pressure testing, flow testing, and alarm device testing shall be performed by this Contractor and shall be witnessed by the Authority Having Jurisdiction. Test certificates shall be included in the operation and maintenance manual.

3.03 COORDINATION

A. The structure and its appurtenances, clearances and the related services, such as plumbing, heating, ventilation, and electric service, have been planned to be adequate and suitable for the installation of equipment specified under this Section. The Owner will not assume any increase in cost caused by differing Requirements peculiar to a particular make or type of equipment, and any such incidental cost shall be borne by this Contractor.

B. This Contractor shall be responsible for Work and equipment furnished and installed by him or his Subcontractor(s) until the completion and final acceptance of this Contract, and he shall replace any Work that may be damaged, lost, or stolen, without additional cost to the Owner.

C. Cutting and Patching - It shall be the duty of this Contractor to consult with and give to the General Contractor, the exact location and size of all openings and full information as to cutting and patching necessary for the same.

D. In the event this Contractor fails to provide sleeves, inserts, and templates or fails to notify other Contractors well in advance of his Requirement, he shall be responsible for paying for all cutting and patching made necessary by his failure to do so.

E. The location and method of attaching supports for plumbing equipment to the building structure shall be coordinated with the Architect and General Contractor prior to the installation of any equipment. This Contractor shall take necessary precautions to insure the building structure and components are not overstressed by the support of plumbing equipment.

F. In the event there is a conflict or inadequate space for the proper installation of plumbing Systems, this Contractor shall prepare a scaled (1/4” = 1'-0” min.) composite sketch, showing the building structure and all equipment and items
affecting the installation, to clearly identify the areas of conflict. This Contractor shall submit four (4) copies of the sketch, along with a written explanation of the problem, to the Engineer for his review and determination on what action to take to resolve the conflict.

G. It shall be the duty of this Contractor to furnish full information to all Trades relative to the Work they are to do in connection with Work under this Section. This includes data for wiring, including wiring diagrams, equipment foundations, pipe connections, etc., furnished under other Sections.

3.04 PAINTING

A. All surfaces to be painted shall be free of dirt, scale, rust, grease, and oil. Paint shall be applied in accordance with the Manufacturer's Requirements.

B. This Contractor shall touch up, with spray paint, all scratched or damaged surfaces of equipment with factory finish. Spray paint shall be the same color and type as factory finish.

END OF SECTION
1.00 FILED SUB-BIDS - TIME, MANNER AND REQUIREMENTS FOR SUBMITTING SUB-BIDS

A. HVAC is stipulated as a Filed Sub-Bid under Part D, Item 2 of the Form for General Bid.

B. All sub-bids shall be submitted on the Form for Sub-Bid furnished by the Awarding Authority, as required by section 44F of Chapter 149 of the Massachusetts General Laws, as amended.

C. Sub-bidders must be DCAM Certified in the listed trade and shall include a current DCAM Sub-bidder Certificate of Eligibility and a signed DCAM Sub-bidder’s Update Statement with the bid.

D. Sub-Bids must be filed with the Awarding Authority in a sealed envelope, before twelve o’clock (noon), Boston time, on the date stipulated in the Advertisement.

E. Specific information relating to the sub-bidders is set forth in the Contract Documents, under the heading “Notice to All Bidders, Including Sub-Bidders” and the attention of sub-bidders is directed thereto.

F. Work to be done under this SECTION is shown on Contract Drawings numbered M01.00, M01.01 and M01.02. The remaining Contract Documents are included for relevance.

G. Sub-Sub-Bid Requirements:

1. Sub bidder’s attention is directed to Massachusetts G.L. Chapter 149 Section 44F, as amended, which provides in part as follows:

   a. Each sub bidder shall list in Paragraph E of the “Form of Sub bid” the name and bid price of each person, firm or corporation performing each class of work or part thereof for which the Section of the Specifications for that sub trade requires such listing, provided that, in the absence of a contrary provision in the Specifications, any sub bidder may, without listing any bid price, list his own name or part thereof and perform that work with persons on his own payroll, if such sub bidders, after sub bid openings, shows to the satisfaction of the Awarding Authority that he does customarily perform such class of work with persons on his own payroll and is qualified to do so. This Section of the Specifications requires that the following classes of work shall be listed in Paragraph E under the conditions indicated herein.

      Ductwork – 23 00 00
      Insulation – 23 00 00
      Automatic Temperature Controls – 23 00 00
      Testing and Balancing – 23 00 00

1.01 PROVISIONS INCLUDED

A. The Conditions of the Contract and Division 01 - General Requirements, apply to the Work under this Section.

1.02 SCOPE OF WORK

A. The work described herein shall be interpreted as work to be done by the HVAC Contractor.
B. The work covered by this Section of the Specifications includes the furnishing of all labor and materials and in performing all operations in connection with the installation of the HVAC work.

C. The work includes, but is not limited to, the following,

1. Self-contained Air Conditioning Unit.
2. Sheet Metal Ductwork.
4. Insulation.
5. Electric Duct Heater.
6. Condensate Piping.
7. Automatic Temperature Controls.
8. Testing, Adjusting and Balancing.
10. Operating Instructions.
11. Record Drawings.
12. Demolition (as shown on the drawings).
13. Electrical Work. (Refer to Electrical Drawings and Specifications)
14. Temporary Heating and Air Conditioning.
15. Cutting and patching.

1.03 RELATED WORK UNDER OTHER SECTIONS

A. The following work is not included under this Section and will be performed under the Sections indicated:

1. By the General Contractor
   a. Masonry and concrete work.
   b. Finish painting, including painting of supporting steel for mechanical equipment.
   c. Flashing and waterproofing of all new duct and pipe penetrations through the wall.
   d. Coring.
   e. Louvers.

2. By the Electrical Contractor (As part of the General/HVAC Contractor’s Work)
   a. All wiring required for the automatic temperature control system shall be provided by the Control Contractor under this Section.
   b. Automatic temperature control wiring shall be provided under this Section.
   c. All electrical power wiring and connections and all disconnect switches not provided with or as integral part of the HVAC equipment shall be provided by the Electrical Contractor.
   d. Motor starters shall be furnished and installed by the HVAC Contractor and wired by the Electrical Contractor.
   e. Installation and wiring of the new electric duct heater furnished by the HVAC Contractor.

3. By the Fire Protection Contractor (As Part of the General/HVAC Contractor’s Work)
   a. Sprinkler piping, heads, devices, and equipment as shown on the Fire Protection drawings.

1.04 CODES, ORDINANCES AND PERMITS

A. All material and work provided shall be in accordance with the following codes and standards:

2. State Department of Public Safety.
3. Local codes.
4. Standards of the Underwriters Laboratories (UL).
5. Occupational Safety and Health Act (OSHA).
7. Massachusetts and National Electrical Codes.

B. Where the contract documents indicate more stringent requirements than the above codes and ordinances, the Contract Documents shall take precedence.

C. All necessary permits, inspections, approvals, etc. are to be obtained and paid for by the contractor.

1.05 CONTRACT DRAWINGS AND SPECIFICATIONS

A. The drawings showing layout of the HVAC systems indicate the approximate location of piping, ductwork, equipment and location of services. They are schematic and are not intended to show the exact routing or all fittings required. The final determination as to the routing shall be governed by structural conditions and other obstructions. No cutting or removal of any wood or concrete members will be allowed, unless approved in writing by the Architect.

B. The right to make any reasonable change in the location of ducts, piping, apparatus and equipment up to the time of roughing-in is reserved by the Architect without involving any additional expense to the Owner.

C. The specifications supplement the drawings and provide specifics pertaining to the methods and material to be used in the execution of the work.

D. Any discrepancies between the drawings and specifications or within the drawings/specifications shall be brought to the attention of the Architect/Engineer for clarifications.

E. Contractor shall read and understand the Contract Documents and submit the bid in accordance therewith. Contractor shall visit the site and get familiar with the local conditions under which the Work has to be performed. Failure to so examine the Contract Documents and site will not relieve the Contractor from any obligation under the bid as submitted.

1.06 SHOP DRAWING AND MATERIALS SCHEDULE

A. Within fifteen days after the date of notice to proceed and before purchasing any materials or equipment, submit for approval a complete list, in six copies, of all materials to be incorporated in the work. After the list has been processed, submit complete shop drawings of all equipment. These shop drawing submittals shall be submitted within fifteen days after the processing date of original submittal list.

B. The approval of equipment does not relieve the HVAC Contractor from the responsibility for shop drawing errors in details, sizes, quantities, wiring diagram arrangements and dimensions which deviate from the specification, contract drawings and/or job conditions as they exist.

C. Refer to General Requirements for substitution of equipment and submittal of shop drawings. If apparatus or materials are substituted for those specified and such substitution necessitates changes in or additional connections, supports or construction, same shall be provided. The HVAC Contractor shall assume cost and entire responsibility thereof.

D. Submit the name(s) and contact information for a minimum of two qualified vendors that are eligible to provide operations and maintenance on the installed HVAC system.

1.07 COOPERATION AND COORDINATION WITH OTHER TRADES
A. The work shall be so performed that the progress of the entire building construction including all other trades, shall not be delayed nor interfered with. Materials and apparatus shall be installed as fast as conditions of the building will permit and must be installed promptly when and as desired.

B. Confer with all other trades relative to location of all apparatus and equipment to be installed and select locations so as not to conflict with work of other Sections. Any conflicts shall be referred immediately to the Architect/Engineer for decision to prevent delay in installation of work. All work and materials placed in violation of this clause shall be readjusted to the Architect's/Engineer's satisfaction, at no expense to the Owner.

C. Where work of this section will be installed in close proximity to work of other sections or where there is evidence that the work of this section will interfere with work of other sections, assist in working out space conditions to make satisfactory adjustment. Prepare and submit for approval 3/8 inch scale or larger working drawings and sections, clearly showing how this work is to be installed in relation to the work of other sections. If the work of this section is installed before coordinating with other trades or so as to cause interference with work of other trades, make changes necessary to protect conditions without extra charge.

D. Keep fully informed as to the shape, size and position of all openings required for all apparatus and give information in advance to build openings into the work. Furnish and set in place all sleeves, pockets, supports and incidentals.
   1. There are numerous existing openings and penetrations in masonry construction currently utilized by existing equipment. Following the demolition of existing systems, existing openings are to be utilized for the installation of the work of this Contract.

E. All distribution systems which require pitch or slope such as sanitary drains and water piping shall have the right of way over those which do not. Confer with other trades as to the location of pipes, ducts, lights and apparatus and install work to avoid interferences.

F. Where there is evidence that work of this Subcontractor will interfere with the work of other trades, this Subcontractor shall assist in working out space conditions to make satisfactory adjustments.

G. This Subcontractor shall, with the approval of the Engineer and without extra charge, make reasonable modifications in his work as required by structural interference’s, or by interference with work of other trades, or for proper execution of the work.

H. If this Subcontractor installs his work before coordinating with other trades and his work causes interference with the work of such other trades, he shall make all necessary changes in his work to correct the condition without extra charge and as directed by the Engineer.

I. This Subcontractor shall protect all materials and work of other trades from damage that may be caused by his work and shall make good any damages so caused.

1.08 RECORD DRAWINGS

A. Provide two sets of black line prints to be used as working record drawings during construction. One set of prints shall be maintained at the job site and shall, at all times, be accurate, clear and complete, showing the actual location of all equipment ducts and piping. The working record drawings shall be available for review at the job site by the Architect's/Engineer's field representative. The marked up As Built Drawings required to be maintained under this section are Drawings M01.00, M01.01, & M01.02.

B. Any addenda sketches, supplementary drawings and change orders issued during the course of construction shall be transferred to the working record drawings.
C. At the completion of all work submit an accurate, checked set of working record drawings. Non-availability of these drawings will postpone the final inspection until the record drawings are available.

D. The Contractor shall incorporate all changes on the original drawings. The contractor shall submit to the designer, disks of drawings on Auto CAD Version 2008 format with two sets of prints and reproducible drawings on mylar. Inaccuracies in Record Drawings, as determined by the designer, shall be corrected.

E. All costs related to these requirements shall be paid for by the HVAC Contractor.

1.09 OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS

A. Provide operating instructions to the Owner’s designated representatives with respect to operating functions and maintenance procedures for all equipment and systems installed. The cost of providing a manufacturer’s representative at the site for instructional purposes shall be included in the contract price. The operating instructions shall be presented in scheduled, pre-arranged formal periods. The HVAC Contractor shall include in his contract price, the cost for instructions, up to eight (8) hours, which will not necessarily be consecutive.

B. At the completion of the project, turn over to the Architect/Engineer, two complete manuals containing the following:
   1. Complete shop drawings of all equipment.
   2. Operation description of all systems.
   3. Names, addresses and telephone numbers of all major suppliers of equipment on a separate indexing sheet.
   4. Preventive maintenance instructions for all equipment.
   5. Spare parts list of all system components.

C. The Contractor shall collect the operating instructions, bind them into two complete sets and deliver them to the Architect/Engineer who will check for completeness and deliver them to the Owner. All information shall be in three-ring, loose-leaf binders.

D. Delivery of the operating and maintenance manuals shall be a condition precedent to final payment.

1.10 GUARANTEE

A. This Contractor shall obtain, in the Owner’s name, the standard written manufacturer’s guarantee for one year or greater of all materials furnished under this section where such guarantees are offered in the manufacturer’s published product data. All these guarantees shall be in addition to, and not in lieu of, other liabilities which this Contractor may have by law or other provisions of the contract documents.

B. This Contractor shall warranty workmanship and materials for a period of not less than one year from the date of substantial completion. Should any defects in materials or workmanship appear during this period, they shall be corrected or replaced by the Contractor to the satisfaction of the Architect, and at no expense to the Owner.

1.11 PERMITS

A. This Contractor shall be responsible for obtaining and paying for all permits and inspections required to complete all work described in this section.

1.12 STORAGE OF MATERIALS

A. Store materials prior to their installation where designated by the General Contractor. Be responsible for all stored equipment and materials and protect all installed equipment and materials from damage.
1.13 INSPECTION AND TESTS

A. If inspection of materials installed shows defects, such defective work, materials and/or equipment shall be replaced at no cost to the Owner and the inspection and tests repeated.

B. Make all reasonable tests as required and prove the integrity of all work and leave the entire HVAC installation in correct adjustment and ready to operate.

1.14 ELECTRICAL CHARACTERISTICS

A. In general, and unless specifically indicated otherwise in the specifications or noted on the drawings, all HVAC equipment shall be of the HP, voltage, and phase as indicated on the drawings.

B. Control wiring and conduit for the HVAC systems shall be furnished under this Section. Power wiring, including provisions for disconnect switches not otherwise furnished as an integral part of the mechanical equipment, is under the work of the Electrical Contractor.

C. Fractional horsepower motors wired for single phase operation shall have automatic reset overload protection built into the motor.

1.15 DEFINITION OF TERMS

A. “Furnish” or “Supply” means to purchase, procure, acquire and deliver.

B. “Install” means to rig, erect, mount and connect, unless specifically noted otherwise.

C. “Furnish and Install” means to supply, deliver, rig, erect, mount and connect in readiness for operation, unless specifically noted otherwise.

D. “Provide” is synonymous with “Furnish and Install”.

E. “Piping” means pipe, tubing, fittings, flanges, unions, valves, strainers, traps, hangers and other accessories related to such piping.

F. “Concealed” means hidden in chases, furred spaces and walls, above ceilings or enclosed in construction.

G. “Exposed” means visible or not installed “Concealed” as defined above.

H. “Approved Equal” or “or equal” means any equipment or material which is approved by the Engineer as equal in quality, durability, appearance, strength, design and performance to the equipment or material originally specified.

I. “Underground” means buried exterior to or within the building.

1.16 CORE DRILLING

A. All holes through the building structure for the passage of piping shall be cut by the HVAC Contractor using an approved core boring machine with diamond edged bit and vacuum sludge removal. The size of holes shall provide for packing around a sleeve. The location of all core drilled holes shall be coordinated with all structural reinforcing and components and be approved by the Architect prior to commencing work.
1.17 SCAFOLDING AND STAGING

A. All staging, exterior and interior, required to be over eight feet in height, shall be furnished and erected by the General Contractor and maintained in safe condition by him without charge to and for the use of all trades as needed by them for proper execution of their work, except where specified to the contrary in any filed sub-bid Section of the Specification.

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 Architect prior to commencement of such erecting and dismantling work.

B. Any staging that is up to eight (8) feet in height shall be furnished and erected by the applicable Subcontractor.

1.18 WORK COORDINATION AND JOB OPERATIONS

A. HVAC equipment shall not be installed in congested and possible problem areas without first coordinating the installation of same with the other trades. Relocate HVAC equipment should it interfere with the proper installation of equipment to be installed by the other trades.

B. Particular attention is directed to the coordination of ductwork with the equipment of other trades being installed in and above the ceiling areas. Conflicts in mounting heights and clearances above hung ceilings shall be brought to the attention of the Architect for a decision before equipment is installed.

C. Furnish to the other trades, all information relative to the portion of the HVAC installation that will affect them, so that they may plan their work and installations accordingly.

1.19 DEMOLITION

A. This contractor shall demolish, remove and dispose of properly, existing equipment and appurtenances as specified herein and as indicated on the drawings. Demolition shall include, but not be limited to the following:

1. General: The existing HVAC equipment noted on the demolition drawings shall be removed in its entirety.
2. Demolition shall include, but not limited to existing indoor air handling units, steam radiators, exhaust fans, ductwork, diffusers, registers and grilles, controls and accessories.

B. The Owner reserves the right to maintain ownership of certain HVAC system components that are scheduled to be removed. The Contractor shall coordinate this with the Owner.

1.20 REBATES

A. Contractor shall assist the Owner in obtaining all eligible utility rebates and transferring these rebates to the Owner.

PART 2 - PRODUCTS

2.01 PIPE AND FITTINGS

a. Condensate Drain Piping: Material shall be Schedule 40 PVC piping with drainage fittings. Piping shall be sized as indicated on the drawings. Provide P-trap for each condensate drain line connection. Provide clean-outs at each change in direction of piping. Clean-outs shall be made with threaded plug tees. Pitch piping down in direction of flow.
2.02 HANGERS AND SUPPORTS

A. Provide pipe supports, hangers, and other devices necessary to support firmly and substantially the piping and the apparatus described in the specifications and shown on the drawings.

B. Hangers shall be arranged to maintain the required grading and pitch, to prevent vibration, and to provide for expansion and contraction.

C. Each vertical line shall be supported at its base using a suitable hanger placed in the horizontal line near the riser.

D. Where the weight of piping or other apparatus makes it impracticable to support same from the ceiling alone, flange pipe standards shall be installed to support the weight of piping, valves and fittings.

E. Brackets of approved type may be used along walls.

F. Piping 2 inch diameter and smaller shall be supported by "A" bands with one 3/8 inch adjustable steel rod with concrete insert or beam clamp.

G. 1A bands and clevis hangers shall be installed outside the thermal insulation. Provide 18 gauge, 12" long pipe covering protection shields on insulated piping at 1A bands and clevis hangers.

H. Two rod roll hangers shall be used in lieu of the hanger type specified where space limitations necessitate.

I. The maximum spacing between pipe supports shall be the following:

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Maximum Spacing - Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot; and smaller</td>
<td>7</td>
</tr>
<tr>
<td>1-1/2&quot;</td>
<td>9</td>
</tr>
<tr>
<td>2&quot;</td>
<td>10</td>
</tr>
<tr>
<td>3&quot;</td>
<td>10</td>
</tr>
</tbody>
</table>

J. These spans apply to straight runs of piping without concentrated loads. Spans shall be shorter as required by changes in direction or by concentrated loads such as strainers, valves, etc.

K. Supplementary steel shall be furnished and installed as required to support piping and equipment.

L. Piping shall not be supported from ductwork, breeching, equipment, ceiling suspension systems or other piping.

M. Provide galvanized metal shields between pipe hangers and insulation where saddles are not required and where hangers are installed outside of insulation.

N. All hangers and supports shall be in compliance with seismic requirements of the State Building Code.

2.03 SLEEVES, INSERTS AND ESCUTCHEONS

A. All piping passing through masonry walls, slabs, floor partitions or other building construction shall be provided with pipe sleeves at least two pipe sizes larger than the pipe passing through them or the insulation jacket on covered pipes. Sleeves shall be flush on either side of masonry walls or partitions. All sleeves in floor slabs shall extend 1/2" above finished floors. All sleeves shall be standard weight steel pipe.

B. Where exposed pipes pass through floors, finished walls or finished ceilings, they shall be fitted with neat, heavy spun or stamped steel, chrome plated escutcheons, firmly secured to the pipes. In unfinished areas, escutcheons shall be cast iron, split and painted to match the adjacent surfaces. Escutcheons shall be of sufficient outside diameter to amply cover the sleeved openings for the pipe.
C. Where pipes penetrate fire rated assemblies, walls or floors, openings shall be firestopped.

2.04 SHEET METAL WORK

A. Furnish and install, in an approved manner, all sheet metal work that is indicated on the drawings or that is specified or required for the various systems of heating, ventilation, air conditioning, return air and exhaust air.

B. All sheet metal work shall be manufactured and erected in a first class and workmanlike manner, in accordance with the Duct Manual of the Sheet Metal and Air Conditioning Contractors National Association, Inc. and shall be approved by the Architect. All ducts, unless otherwise approved, shall be true to the dimensions indicated on the plans and shall be straight and smooth on the inside with neatly finished joints. The ducts shall be securely anchored to the building construction in an approved manner and shall be so installed as to be completely free from vibration under all conditions of operation. All ducts shall be supported in accordance with requirements of Plate Numbers 18, 19 and 20 of the SMACNA Duct Manual.

C. All slip joints for low velocity rectangular ducts shall be made in direction of air flow and, unless otherwise indicated on the plans, all elbows shall have long turns with the inside radius no less than the plan dimension of the duct. Where short radius elbows or square corner elbows are used, they shall be fitted with turning vanes. All notches for connecting sections of duct and all governing seam notches shall not be cut any deeper than necessary to insure tight corners. All notched corners not meeting with approval shall be removed and reinstalled or sealed with solder. All transverse and longitudinal joints shall be sealed airtight to the satisfaction of the Architect/Engineer with United McGill water based duct sealer or approved equal. Duct sealer shall be a vinyl copolymer mastic formulated to withstand temperature from -20°F to +150°F. Sealant shall have a temperature UL Classification with a flame spread of 5 or less and smoke developed of 0 when tested on both 18-gauge galvanized steel and inorganic reinforced cement board.

D. Exhaust and air intake plenums shall be soldered tight at all bottom seams and on all side seams.

E. Unless otherwise specified, all rectangular ducts shall be of the best bloom galvanized steel of the U.S. Standard gauges specified below and shall be stiffened by cross breaking and by use of galvanized rolled steel angles as specified below:

<table>
<thead>
<tr>
<th>Rectangular Sizes</th>
<th>Gauge No.</th>
<th>Galvanized Iron Angle Stiffeners</th>
<th>Center Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 14&quot;</td>
<td>26</td>
<td>Standing Seams</td>
<td></td>
</tr>
<tr>
<td>15&quot; to 30&quot;</td>
<td>24</td>
<td>Standing Seams</td>
<td>Not Greater Than 33&quot;</td>
</tr>
<tr>
<td>31&quot; to 60&quot;</td>
<td>22</td>
<td>1&quot; x 1&quot; x 3/16&quot;</td>
<td>Not Greater Than 33&quot;</td>
</tr>
<tr>
<td>61&quot; to 84&quot;</td>
<td>20</td>
<td>1-1/2&quot;x1-1/2&quot;x3/3/16&quot;</td>
<td>Not Greater Than 33&quot;</td>
</tr>
</tbody>
</table>

F. All rectangular sheet metal ductwork, unless otherwise specified, shall be constructed with longitudinal Pittsburgh Lock seams thoroughly flattened down to make a tight joint. Transverse joints shall be made up with slip joints and standing lock seams. Branches to and from the main trunk shall be made at an angle but shall, in no case, exceed 45° to the line of air flow.

G. Flexible Connections: The inlet and outlet of each of the exhaust fans and air handling units shall be connected to the ductwork by an approved flexible connection made of Ventfab as manufactured by Iden Associates, tightly secured to the fan inlet and outlet with metal bands. A minimum 4" space shall be maintained between the duct and fan connection and the flexible connection shall not be stretched tight.

H. The exact locations of all ducts to be installed above the ceilings shall be agreed upon among the mechanical trades under the supervision of the General Contractor before work is fabricated or installed. In general, the plumbing piping shall be given the right of way owing to pitch requirements and the HVAC Subcontractor shall raise or lower his ducts to clear the plumbing piping.
I. All openings in building construction surrounding transversing ducts shall be sealed with mineral wool or other non-combustible material to prevent the passage of flame or smoke.

J. Fire Dampers: Furnish and install fire dampers, where indicated on the drawings, as required by the Massachusetts Building Code, NFPA, and as specified herein. Fire dampers shall be as manufactured by Greenheck, Prefco Products, Inc., Ruskin, or approved equal.

1. Unless otherwise indicated, fire dampers shall be the interlocking blade curtain type fire damper and shall be UL approved and labeled. Type B (damper curtain out of the air stream) shall be used. Fire dampers shall be gravity operated for vertical installation and shall be provided with closure springs and latches for horizontal installation. Dampers shall be dynamically rated to close under air flow.

2. All fire dampers shall be constructed and installed in accordance with the conditions of their approval, the manufacturer's instructions, NFPA Bulletin #90A and the National Board of Fire Underwriters Pamphlet No. 90. Samples of fire damper shall be submitted to and approved by the local authorities having jurisdiction. Fire dampers shall have the UL time rating as required by the building element/assembly in which the fire damper is to be installed.

3. A full size and tight access door with catches shall be provided at all dampers, regardless of type. The doors shall be of metal clad construction with the same thickness of insulation as that specified for the ducts.

K. Access doors installed in ducts near fire dampers shall be made of same gauge galvanized steel as ducts in which they are installed, hinged to a galvanized mounting frame.

L. Volume Dampers: Furnish and install where shown on the drawings or where required, air splitter dampers and/or butterfly dampers with indicating and locking quadrants or push rods and pillow blocks. The dampers shall be two gauges heavier than the ducts in which they are installed. In each branch duct runout where indicated or required, place so as to be accessible, a friction type damper.

1. Damper blades shall be riveted to the supporting rod. Case or malleable brackets riveted to the sides of the ducts shall be used to support the damper rod. Splitter damper shall be sufficiently long to extend the full width of the branch duct to which attached. Where necessary, they shall be curved to scoop branch duct air out of the main duct stream.

M. Sound Insulation: Furnish and install in the first 10 feet of all supply and return air ductwork, from the indoor air handling unit or where called out or shown on the drawings 1" thick Ultralite duct liner of 1-1/2 pound density with vinyl coating one side, or equal. Fasten to inside of ducts with Type A stic klips, Type S stic klip adhesive and speed clip washers. For medium pressure ductwork the acoustical lining shall be rated for medium pressure ducts.


O. Duct Sizes: All duct sizes indicated on the drawings are inside dimensions of either the bare metal or the sound insulation where specified. Where sound insulation is specified for installation, the sheet metal ducts shall be increased in size to provide the free area inside the sound insulation called for on the drawings.

P. Flexible Duct:

1. Furnish and install flexible ducts from sheetmetal ducts to supply outlets as indicated on the drawings.

2. Flexible ducts shall be fabri-flex coated fiberglass fabric ducts or approved equal. Flexible supply ducts shall be Fabriflex Type IV insulated ducts or approved equal with 1", 3/4 Lb. density insulation in a seamless polyethylene covered jacket.

3. Flexible ducts shall be installed in strict accordance with the manufacturer's recommendations. Lengths of flexible ducts shall not exceed 4' lengths or as indicated on the drawing.

2.05 SELF-CONTAINED AIR CONDITIONING UNIT
A. Furnish and install a self-contained air conditioning system as scheduled on the design drawings. The air conditioning system shall be as manufactured by AboveAir or approved equal as manufactured by Trane, Carrier or Johnson Controls.

B. Cabinet: The cabinet and access panels shall be fabricated from sturdy heavy gauge galvanized steel. The panels shall be lined with 2lb. density thermal/acoustical insulation for whisper quiet operation. The evaporator cabinet shall be equipped with a full condensate pan constructed of stainless steel. Large removable side panels shall provide ease of installation, service and maintenance on the system.

C. Blower Assemblies: Blowers shall be belt driven double-inlet, dynamically balanced unit with multiple forward curved blades mounted on a solid steel keyed shaft. A heavy-duty V-belt fan drive (sized for 200% of motor nameplate horsepower) with adjustable cast iron pulleys keyed and secured to the blower shaft shall be provided for adjusting fan speed to system requirements.

D. Motor Assemblies: All fan motors shall be permanently mounted, 1750 or 3450 RPM with overload protection. Motors shall have permanently lubricated ball bearings and be resiliently mounted to an adjustable motor frame. Motor pulleys shall be cast iron, keyed, with variable pitch design to allow for field adjustment of specific airflow and static requirements.

E. Air pattern-Ducted: Evaporators and indoor air cooled self-contained condensing unit sections shall be designed for ducted air distribution. Air inlet and outlet connections shall include factory provided turned-out duct flanges for ease of field duct connection.

F. Filters: The system shall be provided with 2" extended surface pleated disposable type filters rated for a 30% average dust-spot efficiency. The filters shall be removable without shutting down the system.

G. Electrical Circuits: The system shall be provided with a factory installed main electrical enclosure per NEC code requirements. A low voltage transformer with integral protection shall be provided to supply 24 VAC to the control circuit. The 24 volt control circuit terminal strips shall be clearly labeled for thermostat wiring and interlock. The fan motor(s), compressor shall each have their own contactor. A float switch shall be provided in the evaporator section to sense a clogged condensate drain and shall shut unit down to prevent water damage. Self-Contained systems shall be designed for single point main power connection.

H. Standard Features: The system shall be self-contained with integral factory installed air cooled condensing unit. The condensing unit shall be a direct driven, centrifugal blower type. The condenser coil shall be constructed of copper tubes and aluminum fins. The condensing unit shall be sized for full heat of rejection at 95°F ambient. The condensing unit shall be factory tested, charged with refrigerant, sealed and be capable of being connected to the evaporator section directly when the units are close coupled.

I. A main power non-fused disconnect shall be factory provided for field installation.

J. Unit shall be provided with hot gas re-heat.

2.06 INSULATION

A. Provide duct insulation of the type hereinafter specified on the following: sheet metal ducts. All sealers, solvents, tapes, adhesives and mastics used in conjunction with this section of the specifications shall possess the maximum safety quantities available and Standards #90A and #90B. Insulation shall be fiberglass except as specified hereinafter having a minimum density of four pounds per cubic foot. Insulation shall be as manufactured by Owens/Corning Fiberglass Corporation, Armstrong, Johns-Manville or equal and installed in accordance with the manufacturer's recommendations.

B. Ductwork:
1. All new air conditioning supply air ducts and outdoor air ducts shall be insulated with 1-1/2" thick fiberglass insulation wrap with 0.0025" aluminum foil facing that has been tested in accordance with ASTM E-84, having a flame spread rating of 25 maximum and smoke developed rating of 50 maximum.

2. Ducts with internal sound insulation shall not be provided with additional thermal insulation unless otherwise specified. Refer to ‘Sheet Metal Work’, for requirements for sound insulation.

2.07 DUCT HEATER (ELECTRIC)

A. Furnish and install an enclosed element electric duct heater as listed in the schedules. Heater shall be insert type. Three phase heaters shall have balanced three phase steps unless specified otherwise. Heater to be ETL listed for zero clearance to combustible surfaces and bear the ETL label. Heater shall meet the requirements of the latest National Electric Code.

B. Heater shall be provided with fused disconnect switch.

C. Heater shall be provided with differential pressure switch to shut heater off in the event of no air flow due to fan failure in the corresponding air handling unit.

D. Duct heater shall be as scheduled on the drawings and shall be manufactured by Markel or approved equal.

2.08 MOTOR STARTERS

A. Furnish and install all motor starters required for HVAC equipment under this section if not factory installed by the equipment manufacturer. The starters shall be wired by a licensed Electrician.

B. Motor Controls – Manual and Magnetic:

   1. The individually mounted magnetic starters indicated on the plans and as required shall be magnetic across-the-line starters with thermal overload on each phase.
   2. Starters shall be of the size and type required for particular motor horsepower and voltage. Minimum size starter to be Size 0.
      a. All starters shall have OL reset button, pilot light to indicate on or off and hand-off-auto switch in cover, unless indicated otherwise.
      b. All starters to have 120 volt control via individual control transformers fused on the secondary, where not fed at 120 volts.
   3. Manual motor starters shall be furnished with thermal overloads on each phase. Thermal switches shall be provided with pilot lights.
   4. Three (3) auxiliary contacts shall be furnished and installed in all motor starters (1 NC, 2 NO).
   5. Motor starters shall be all manufactured by the same company and shall be one of the following: Square D Company, Allen Bradley, General Electric, Cutler Hammer or ITE.

2.09 DIFFUSERS, REGISTERS AND GRILLES

A. Provide all diffusers, registers and grilles indicated on the drawings. The units shall be of the size, type and style indicated on the drawings and as hereinafter noted. They shall be complete with the finishes and accessories hereinafter noted. Colors to be selected by the Architect. They shall be as manufactured by Price or approved equal. Coordinate the location of supply, return and exhaust outlets with lighting plans. Contractor shall coordinate the border styles of the diffusers, registers and grilles with the architectural ceilings prior to submitting the shop drawings. Any discrepancies shall be brought to the attention of the Architect/Engineer.

B. Supply air registers shall be double deflection and aluminum construction and integral opposed blade dampers. Registers shall be Titus Model 300RL or approved equal.
C. Return registers shall be of steel construction with opposed blade dampers (no damper for transfer grilles), 35 degree horizontal fixed bars maintaining an effective area capacity of greater than 75% and baked enamel finish. TITUS Model 350RL or approved equal.

2.10 AUTOMATIC TEMPERATURE CONTROLS

A. General:

1. Furnish and install, as hereinafter specified, a complete electronic temperature control system as manufactured by Honeywell, SIEBE, Johnson, or approved equal.
2. The control system shall be installed by competent control mechanics and electricians regularly employed in the field of Automatic Temperature Controls. All control equipment shall be the product of one manufacturer.

B. Scope: The control system shall consist of all thermostats, automatic control valves, dampers and actuators, and other accessory equipment and a complete system of electrical wiring to fill the intent of the specification and provide for a complete and operable system. All control equipment shall be fully proportioning, except as noted otherwise.

C. Electric Wiring:

1. All electric wiring and wiring connections, either line voltage or low voltage, required for the installation of the temperature control system, as herein specified, shall be provided by the temperature control contractor, unless specifically shown on the electrical drawings or called for in the electrical specifications. The wiring installation shall be in accordance with National and local codes and with the electrical portion of these specifications. All wiring shall be run concealed wherever possible. Exposed wiring shall be run in raceways. Raceways shall be Wiremold 200 Series with all elbows, raceways, covers, mounting stops, box extensions and wiring for a complete and neat installation. 120 volt power shall be provided by the Electrical Contractor.

2. All wiring shall comply with the requirements of the electrical section of the specification.

D. Submittal Brochure: The following shall be submitted for approval:

1. Control drawings with detailed wiring diagrams, including bill of material and description of operation for all systems.
2. Data sheets for all control system components.

E. Instruction and Adjustment: Upon completion of the project, the control contractor shall:

1. Completely adjust, ready for use, all thermostats, damper operators, etc., provided under this section.
2. Furnish two (2) instruction manuals covering the function and operation of the control systems on the project for the use of the Owner's operating personnel. A competent technician shall be provided for instruction purposes.

F. Guarantee: The control system designated on drawings and plans and herein specified, shall be guaranteed to be free from original defects in both material and workmanship for a period of one (1) year or normal use and service, excepting damages from other causes. This guarantee shall become effective starting the date the owner begins to receive beneficial use of the system.

G. Programmed Maintenance:

1. Upon completion of the installation, the control contractor shall submit to the owner, an agreement to provide the necessary programmed maintenance to keep the various control systems in proper working condition.
2. This programmed maintenance agreement shall fully describe the maintenance work to be performed and shall advise the cost of this work during the guarantee period, as well as for subsequent years thereafter.
1. Room Type Instruments: Room thermostats for the indoor air handling unit shall be 7 day/24 hour programmable heating and cooling type with a humidity monitoring component. Thermostat shall be capable of operating the air condition unit based on humidity setpoint. The thermostat shall also control the duct mounted electric duct heater. The thermostat shall be capable of controlling the multiple stages of the duct heater. Provide impact lockable covers for thermostats installed in public areas.

   a. Each room thermostat shall also include the following auxiliary devices:
      1) Heat/Cool option switch.
      2) Setpoint Adjustment.
      3) Temperature Indicator.
      4) Humidity Indicator.
      5) Override Switch.

   b. The setpoint adjustment shall allow for modification of the temperature by the occupant. Setpoint adjustment may be locked out, overridden or limited as to time or temperature by an authorized operator. Thermostats shall require a password to set the schedule by an authorized operator.

   c. The temperature and humidity indicator shall be digital display and shall be visible without removing the thermostat cover.

   d. The override switch shall initiate override of the night setback mode to normal (day) operation when activated by an authorized operator.

2. Remote Temperature Sensor (Duct Mounted): A duct mounted remote temperature sensor shall be provided in the return air duct and shall be interlocked with the wall mounted thermostat associated with the self-contained air condition unit.

3. Remote Humidity Sensor (Duct Mounted): A duct mounted remote humidity sensor shall be provided in the return air duct and shall be interlocked with the wall mounted thermostat associated with the self-contained air condition unit.

4. Duct Mounted Temperature Sensor: Duct mounted temperature sensor shall be provided for AHU-1 in the supply duct downstream of the electric duct heater to maintain a minimum discharge air temperature setpoint.

5. Dampers:

   a. Automatic dampers, furnished by the control contractor shall be single or multiple blade as required. Dampers are to be installed by the sheet metal contractor under the supervision of the temperature control contractor. All blank-off plates and conversions necessary to install smaller than duct size dampers are the responsibility of the sheet metal contractor.

   b. All damper frames are to be constructed of #13 gauge galvanized sheet metal and shall have flanges for duct mounting.

   c. Damper blades shall not exceed 6” in width. All blades are to be corrugated type construction, fabricated from two (2) sheets of #22 galvanized sheet steel, spot welded together. Blades are to be suitable for high velocity performance.

   d. All damper bearings are to be made of nylon. Bushings that turn in the bearings are to be oil-impregnated sintered metal.

   e. Replaceable butyl rubber seals are to be provided with the damper. Seals are to be installed along the top, bottom and sides of the frame and along each blade edge. Seals shall provide a tight-closing, low-leakage damper. Leakage and flow characteristic charts must be submitted to the engineer prior to approval of dampers.

6. Damper Operators:

   a. All damper operators shall be electric On/Off spring return type. They shall be quiet in operation and shall have ample power to overcome friction of damper linkage and air pressure acting on louvers to position...
HVAC system should be installed accurately and smoothly. The damper operator mounting arrangement shall be outside the airstream wherever possible. The actuators must be designed so that they may be used for either clockwise or counterclockwise fail-safe operation. Actuators shall be protected from overload at all angles of rotation.

b. The operators shall be capable of operating at varying rates of speed to correspond to the dictates of the controllers and variable load requirements. The operators shall be capable of operating in sequence when required by the sequence of the operation. The operators shall have external adjustable stops to limit the stroke in either direction. The operator linkage arrangement shall be such as to permit normally open or normally closed position of the dampers as required.

c. All damper operators mounted on modulating dampers are to have pilot positioners of the fully relay type with an interconnecting linkage to provide mechanical feedback so as to provide accurate positioning and control.

d. The ATC Contractor shall furnish and install damper operators for the automatic dampers in air handling units.

7. Miscellaneous Devices: Provide all the necessary relays, cumulator, temperature and humidity sensors, carbon dioxide sensors, air flow measuring devices, positioners, transformers, etc., to make a complete and operable system.

I. Sequence of Operation:

1. Self-contained Air Conditioning Unit and Electric Duct Heater: The self-contained air conditioning unit and the associated electric duct heater shall be controlled by the 7 day/24 hour heating and cooling programmable wall mounted heating and cooling thermostat.

   a. Occupied Cycle: The unit shall be controlled by a wall mounted heating-cooling thermostat with night setback feature. In occupied mode, the supply fan shall run continuously, the fresh air damper shall open to admit the design minimum quantity of outdoor air and the unit's refrigeration system shall be energized to maintain the cooling setpoints in summer, and the duct mounted electric heater shall be energized in stages, to maintain the heating setback temperature.

   b. Unoccupied Cycle: The outside air damper shall remain fully closed. The mechanical refrigeration system shall be off, and the supply fan and electric duct heater shall cycle to maintain the heating setback temperature.

   c. When the relative humidity in the controlled space (as measured by the sensor in the return air duct) rises above the space humidity setpoint, unit's refrigeration system and the supply fan will energize to reduce the humidity in the space. During dehumidification mode, the supply air temperature is controlled to the supply air reheat setpoint by controlling the hot gas reheat. The range for the supply air reheat setpoint shall be 65°F to 80°F with the default being 70°F.

PART 3 - EXECUTION

3.01 MATERIALS AND WORKMANSHIP

A. All specified materials and equipment shall be furnished new and free of defects.

B. Store all equipment and materials in a clean, dry place to preserve initial quality.

C. Protect installed materials and equipment against damage and corrosion. All equipment shall be left in a first-class condition. The Architect shall determine the adequacy of equipment condition and appearance and it shall be the responsibility of this Contractor to rectify any deficiencies. This shall include, but is not limited to furnishing and applying paint in accordance with the manufacturer's recommendation.

D. All work shall be installed in a first-class manner consistent with the best current trade practices. All devices, materials and equipment shall be securely installed plumb and/or level.
3.02 PROTECTION AND CLEANUP

A. Protection:
   1. Be responsible for the maintenance and protection of all material and equipment furnished during all phases of construction from loss, damage or deterioration until final acceptance by the Owner.
   2. All materials and equipment on the job site shall be suitably stored and protected from the weather.
   3. During the progress of the work all pipes, ducts and equipment openings shall be temporarily closed so as to prevent obstruction and damage.

B. Cleanup:
   1. After installation, equipment with factory finished surfaces shall be cleaned and damaged spots touched up with the same type paint applied at the factory.
   2. Keep the job site free from accumulation of waste material and rubbish, construction equipment and surplus materials from the site and leave the premises in a clean condition.

3.03 SYSTEM START-UP AND OPERATION

A. After completion of the installation and before acceptance by the Owner, this Contractor shall start-up, operate and thoroughly check the entire HVAC system to assure complete adherence to the design intent.

B. It is intended that the start-up/operational endeavor shall conclusively establish that all systems are functioning properly with respect to rotation of equipment, wiring interlocks, control interlocks and sequential control.

C. Should any portion of system performance be found to be contrary to the specified intent, same shall be corrected as required, at no cost to the Owner.

D. After completion of the system check procedure and when the Contractor is firmly convinced that all systems are performing properly and efficiently, he shall submit in writing to the Architect a certified statement to that effect.

3.04 SYSTEMS IDENTIFICATION

A. All items of mechanical equipment including but not limited to AHU shall be identified by approved nameplates provided by this Subcontractor.
   1. The nameplates to be aluminum 2-1/2" x 3/4" with a black background with etched or engraved natural aluminum lettering. The nameplates shall bear notations corresponding to the same unit notations indicated on the design drawings.
   2. All equipment nameplates shall be conspicuously visible externally.

3.05 SAFETY PRECAUTIONS

A. Furnish, place and maintain proper guards for the prevention of accidents and any other necessary construction required to secure safety of life and property. Conform to all OSHA requirements.

3.06 SUPPLEMENTARY STEEL, CHANNELS AND SUPPORTS

A. Furnish and install all supplementary steel, channels and supports required for the proper installation, mounting and support of all equipment. Method of attachment to the building structure shall be in a manner approved by the Architect. Type and size of supports shall be determined by the Contractor and shall allow only a minimum amount of deflection.
B. All supplementary steel and channels shall be installed in a neat and workmanlike manner parallel to the walls, floor and ceiling construction. All turns shall be made with 90 degree and 45 degree fittings, as required to suit the construction and installation conditions.

3.07 TESTING, BALANCING AND CLEANING

A. This Contractor shall engage a Certified Balancing Contractor to balance and adjust the new air systems, using methods and procedures which have been developed and employed to accomplish this service.

B. Air System Balancing and Cleaning:

1. Before the systems are tested and balanced, all ducts and equipment shall be thoroughly cleaned so that no dirt, dust or other foreign matter will be deposited in or carried through systems. All filters shall be renewed after air handling systems have been cleaned.
2. Each air supply, return and exhaust system shall be balanced to deliver within 10% the air quantities specified on the drawings.
3. Submit to the Architect six copies of the complete air balancing report. Air balancing report shall include for each fan system the fan size, make, model, fan and motor RPM, delivered amperage, CFM, fan static pressures and CFM at each air inlet and outlet.
4. Final air quantities shall be achieved by adjusting fan outlet dampers and fan RPM. Final damper settings shall be permanently marked after air balance report.

END OF SECTION
SECTION 28.31.00
FIRE DETECTION AND ALARM SYSTEMS
(FILED SUB-BID REQUIRED)

PART 1 – GENERAL

1.01 GENERAL

A. The Conditions of the Contract and other sections of Division 1, General Requirements, apply to work of this Section.

1.02 FILED SUB-BIDS

A. Sub-bids shall be submitted for the Work of this Section in accordance with the provisions of M.G.L. c.149 §§44A-J. The time and place for submission of sub-bids are set forth in the Advertisement. The procedures and requirements for submitting sub-bids are set forth in the Instructions to Bidders.

B. Sub-bidders must be DCAM Certified in the listed trade and shall include a Current DCAM sub-bidder Certificate of Eligibility and a signed DCAM Sub-bidder’s Update Statement with the bid.

C. Work of this section is shown on Drawings FA0.01, FA1.01, FA1.02, FA1.03, FA1.04 AND FA1.05.

D. SUB-SUB TRADES

1. Sub bid trades are not required.

1.03 WORK TO BE PERFORMED

A. The scope of work under this Section, without limiting the generality thereof, includes the furnishing of all labor, materials, equipment, services and incidentals necessary to complete all of the Work in accordance with the Contract Documents which are intended to describe and provide for a finished piece of Work, and are to be cooperative; what is called for by either shall be complete in every detail, notwithstanding whether or not every item necessarily involved is particularly mentioned.

B. Electrical Work shall generally consist of, but not be limited to:

1. Obtain all permits, inspections and approvals, and pay all fees;
2. Provide all wire and cable, connectors and connections;
3. Provide all raceways, fittings and supports;
4. Provide all device, pull, outlet and junction boxes;
5. Provide all wireless fire detection and alarm equipment, devices and ancillary devices as required;
6. Testing, training, commissioning and demonstration of all systems;
7. Record Drawings;
8. Operation and Maintenance Instruction and Manuals;

C. All permit and inspection fees shall be paid for by this Contractor.
D. Be prepared for, and accommodate work-arounds, given the likelihood that this Contractor will not be able to access some portions of the building at some times. It is expected that this Contractor will then work in other areas of the Project. Required work-arounds shall not be the basis of any claim for additional compensation.

E. Wiring shall be routed as required to minimize cutting and patching required. Devices shall be located to comply with code required locations, and to avoid field obstructions, and to comply generally with locations as shown on the drawings. The relocation of devices and related work within 10 feet of location shown on plans shall be included in the contract price.

F. Restore to match surrounding surfaces any area disturbed or exposed by the Work of this contract.

G. Perform work and provide material and equipment as shown on Drawings and as specified or indicated in this Section of the Specifications. Completely coordinate work of this Section with work of others and provide a complete and fully functional installation. Drawings and Specifications form complimentary requirements; provide work specified and not shown, and work shown and not specified as though explicitly required by both. Although work is not specifically shown or specified, provide supplementary or miscellaneous items, appurtenances, devices and materials obviously necessary for a sound, secure and complete installation. Remove all debris caused by the Contractors’ work.

H. Drawings are diagrammatic and indicate general arrangement of systems and work included in Contract. It is not intended to specify or to show every offset, fitting or component; however, Contract Documents require components and materials whether or not indicated or specified as necessary to make the installation complete and operational.

I. As work progresses and for duration of Contract, maintain complete and separate set of prints of Contract Drawings at job site at all times. Record work completed and all changes from original Contract Drawings clearly and accurately, including work installed as a modification or addition to the original design. Indicate actual circuiting, light fixture locations, device outlet locations, switch assignments, loadcenter schedule, etc.

1.04 RELATED WORK SPECIFIED UNDER OTHER SECTIONS

A. Painting of electrical conduits, pull boxes, hangers, panelboard doors and trim, and all other electrical equipment, to match the surrounding finish as directed by the Architect, shall be done by the Contractor.

B. All temporary power shall be provided by the General Contractor.

C. All removal and disposal of demolished electrical items shall be provided by the Electrical Contractor.

D. All cutting and patching required for the electrical work shall be provided by the Electrical Contractor.

1.05 SUBMITTALS

A. Submit shop drawings and manufacturer’s product data in accordance with the provisions of the General Conditions. Submit quantity of copies as requested.

B. List of material and equipment requiring shop drawings shall include, but is not limited to:
   1. Wire and Cable
   2. Wire and Cable Connectors and Devices
   3. Raceways
   4. Boxes
   5. Wireless Fire Alarm System
C. Submittals shall be indexed from list above. Add additional items to end of list. Check, stamp and mark with project name shop drawings and product data before submitting for approval. Specifically indicate on shop drawing transmittal form or by separate letter any deviations from Contract Documents because of standard shop practice or other reason. Cross out, but do not obliterate, material not intended for inclusion in the Work. Clearly indicate material to be included in the Work.

D. Submit for approval all materials incorporated in the Work. Installation of material which is not approved shall be at the risk of this Contractor, and the Owner may order that it be removed and/or replaced.

E. Submit samples of any material or equipment requested, prior to approval.

F. The Engineer will review one initial submittal, and one re-submittal of any item. If review, of re-submittals beyond the first re-submittal are required; this Contractor shall bear the Engineer’s cost to review the re-submittal. If materials which have previously been approved or approved-as-noted are re-submitted, this Contractor shall bear the Engineer’s cost to review the re-submittal.

1.06 CODES, ORDINANCES AND PERMITS

A. All Work shall be done in strict accordance with the Codes, rules and regulations governing electrical work in the City of New Bedford, and the Commonwealth of Massachusetts, and the Massachusetts Electrical Code. If there is any conflict between plans or specifications and such rules and regulations, the rules and regulations shall take precedence.

B. The publications and/or standards listed below form a part of this specification. The publications are referenced in text by the basic designation only.

1. National Fire Protection Association (NFPA) - USA:
   a. No. 70 National Electrical Code (NEC)
   b. No. 72 National Fire Alarm and Signaling Code
   c. No 241 Standard for Safeguarding Construction, Alteration, and Demolition Operations

2. Commonwealth of Massachusetts
   a. 527 CMR 12.00 Massachusetts Electrical Code
   b. 780 CMR Massachusetts State Building Code, 9th Edition and it's reference standards
   c. 521 CMR Massachusetts Regulations of the Architectural Access Board

C. Perform work strictly as required by rules, regulations, standards, codes, ordinances, and laws of local, state, and federal government, and other authorities that have lawful jurisdiction.

D. Give notices, file plans, obtain permits and licenses, pay all fees and obtain all necessary approvals from authorities that have jurisdiction. Deliver all certificates of inspection to the Architect. No work shall be covered before examination and approval by the Authority Having Jurisdiction. Replace any imperfect or condemned work with materials conforming to the requirements, and satisfactory to the Architect, without extra cost to the Owner. This Contractor is responsible to obtain all permits and pay all fees.

E. Where the Engineer is to witness testing or perform inspections of work, provide not less than seven (7) calendar days notice to the Engineer of such inspections or testing. At or before request for completion inspection, provide completed as-built plans for review by the Engineer at the final inspection.

F. Where the local Authority Having Jurisdiction (AHJ) requires work which is not included in the Contract, and where such work will result in an added cost to the Owner, this Contractor shall obtain such requirement from the AHJ in
writing. Such requirements shall be supported by applicable code, ordinance or law citation(s), or other justification, to the full satisfaction of the Owner.

1.07 INSPECTION OF SITE

A. Prior to submitting a bid, the bidder is advised to with prior arrangement with the Owner, visit the site (See Advertisement for site date) and shall at that time, inspect all existing conditions to ascertain the exact scope and nature of the work that is required under this Contract, how it relates to existing work to remain and all job conditions and restrictions.

B. Bidders are advised to visit the site and inform themselves as to conditions under which this work will be performed, prior to submitting prices. Failure to do so will, in no way relieve the successful bidder from the responsibility of furnishing any materials or performing any work in accordance with the true intent of the Drawings and Specifications.

C. No claim for extra compensation will be recognized if difficulties are encountered which an examination of the site conditions, Drawings and Specifications prior to executing the Contract would have revealed.

1.08 STORAGE AND REMOVAL OF MATERIALS

A. Provide suitable containers on-site for storage of materials, or store material off-site. Type and location of containers shall be subject to the approval of the Engineer.

B. Provide suitable containers for demolition materials. Empty containers when they become full, and remove from the site immediately upon completion of demolition activities. Type and location of containers shall be subject to the approval of the Engineer.

1.09 CHANGES IN THE WORK

A. Any addition, deletion or change in the work which affects the contract sum will be addressed via a change order. The Contractor may be noticed to proceed with the work while the change order paperwork is being processed via a bulletin, construction change directive, or other document.

B. In addition to any requirements listed in other sections of the contract, any proposals shall be fully supported by documentation of costs, including material quantities and unit costs, labor units, labor rates and any mark-ups in accordance with the contract. Any sub-contractor proposals shall be similarly detailed. Material unit costs shall be based on the proposer's actual costs, which shall be documented by vendor quotes, invoices or other upon request. Material prices from estimating or pricing guides will not be accepted. Material prices which are in excess of the retail costs of materials in the area will not be accepted.

C. Any change order proposal shall also state the impact, if any, on the contract duration. If no such statement is made, the contract duration will remain unchanged.

D. The proposer shall bear the costs associated with reviewing, documenting and processing any change orders which are the result of a failure to properly carry out the work, or other proposals which are 1) not requested by the Owner, Architect or Engineer, or 2) are not the result of differing conditions.

1.10 SAFETY

A. The Contractor shall be solely and completely responsible for all safety on the Project. This shall include safety to the workers, Tenants, the Engineer and Owner and their respective employees. The Contractor shall develop and implement all safety programs required by mandated and industry standard regulations.

PART 2 – PRODUCTS

NEI FIRE DETECTION AND ALARM SYSTEMS

28 31 00 - 4
2.01 GENERAL

A. Products furnished shall be designed and approved for the intended use, shall meet all requirements of the Massachusetts Electrical Code (MEC), and local codes, shall be manufactured in accordance with the standard indicated, and shall meet the requirements specified in the Contract Documents. Materials and equipment shall be listed by a nationally recognized testing laboratory.

B. All material incorporated in the Work shall be new and unused. Samples of any material or item shall be furnished upon request of the Engineer, prior to approval.

C. All products shall be rated for and approved for use in the application shown, regardless of any notations on the plans. Equipment located outdoors or in wet locations shall be weatherproof, and/or enclosed in suitably rated enclosures. All equipment shall be rated for the current, voltage and phases at which they are applied.

D. All workmanship shall be of the highest quality, as determined by the Engineer. This Contractor will be required to repair or replace all Work which is not of the highest quality and workmanship.

E. All equipment and components shall be installed in strict compliance with manufacturers’ recommendations. Consult the manufacturer’s installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc., before beginning system installation.

F. It is the intent of the Specifications that one manufacturer be selected, not a combination, for any particular classification of material. For example, all wire of one manufacturer, all switches of one manufacturer, etc.

G. Where materials, equipment, apparatus, or other products are specified by manufacturer, brand name, type or catalog number, such designation is to establish standards of performance, quality, type and style.

H. This Contractor shall be responsible for ordering and furnishing the correct quantity of material required. Routing and equipment arrangements shown on the drawings are approximate only and are not warranted to be accurate.

I. Each and all items of the Fire Alarm System shall be listed as a product of a single fire alarm system manufacturer under the appropriate category by Underwriters Laboratories, Inc. (UL), and shall bear the "UL" label. All control equipment shall be listed under UL category UOJZ as a single control unit. Partial listing shall not be acceptable.

J. Peripheral devices connected to or associated with the fire alarm control panel shall be compatible with, and UL listed for use with the fire alarm control panel provided.

2.02 WIRE AND CABLE

A. General

1. Minimum wire size shall be No.14 AWG.

2. All conductors shall be annealed copper, 98% conductivity, Class B stranding, except No.10 AWG and smaller diameter may be solid.

3. Aluminum conductors are not allowed.

4. Minimum sizes shall be No. 12 AWG for power and lighting and No. 14 AWG for control.

5. Conductors shall be identified (colored) as required by the MEC.

6. Wire and cable in underground ducts shall be approved for use in wet locations.

B. NEC Type THWN/THHN: UL 83
2.03 WIRE AND CABLE CONNECTORS AND DEVICES

A. Ground conductors of #14, 12 and 10 AWG shall be made up using only green wire nuts with grounding pigtail provisions.

2.04 RACEWAYS

A. Surface Raceways: UL 5. Including a system of interlocking, two piece metal raceways, fittings and outlet boxes designed for surface mounting, as manufactured by Wiremold, Hubbell, MonoSystems, T&B or approved equal. Color as selected by architect. Use surface raceway only where explicitly shown or concealed wiring methods or alternate routing of raceway/wiring is not possible, and only with the express permission of the Engineer.


C. Electrical Metallic Tubing (EMT): UL 797. Fittings – compression one inch and below, set screw over one inch. Pre-painted raceways are not acceptable.

D. Fittings for metallic raceway shall be steel. Connectors for EMT shall have insulated throat.

E. Steel supports or racks shall be galvanized steel channel and fittings. Supports shall be manufactured by Unistrut, Kindorf, Husky Products Company, or approved equal. Steel support rods or support bolts for conduits shall be 1/8" diameter for each inch or fraction thereof of diameter of conduit size, but no rod or bolt shall be less than 1/4" in diameter.

F. All required fittings, offsets and bends required shall be provided to route the conduits from source to destination, whether these are shown on the plans or not. Contractor shall/may arrange conduits as required to avoid obstructions, and account for field conditions. Provide all supports as required by the National Electrical Code.

G. Wireways shall be painted steel trough with screw mounted covers fabricated from a minimum of 14 gauge steel with ANSI grey polyester coating over phosphatized surfaces, inside and outside. Wireways shall be sized as required. Wireways shall be furnished without knockouts.

2.05 BOXES

A. Outlet Boxes: UL listed, NEMA OS 1, with marked volume. Size boxes in accordance with volume requirements of MEC.

B. Outlet boxes shall be specifically designed for the construction encountered, with suitable supports and attachments.

1. Outlet boxes shall be non-metallic, in gangs and configurations to suit the application, with suitable wire/cable clamps as required. Outlet boxes shall be flush mounted in all finished areas. Ceiling outlet boxes shall be listed and rated for support of light fixtures up to 50 pounds. Outlet boxes shall be reinforced fiberglass as manufactured by Allied Moulded, rigid thermoplastic as manufactured by Carlon (“SuperBlue”), or reinforced phenolic as manufactured by Union, Steel City.
2. Surface mounted outlet boxes shall be specifically designed for the construction encountered, with suitable supports and attachments. Outlet boxes shall be metallic, in gangs and configurations to suit the application. Outlet boxes may be surface mounted in unfinished areas.

C. Outlet boxes for fire alarm notification devices shall be as follows, per the installed device, and device location:
   1. Audible/visible device, and visible device, common areas – single or double gang, flush mounted, deep old work box with swing out or spring type mounting ears, suitable for termination of Type NM cable. Material: plastic.
   2. Audible/Visible device, basement, crawlspace & mechanical/electrical areas – 4” square junction box, surface mounted, suitable for use with ¾” raceways, with device mounting adapter or “plaster ring” as required. Material: pressed steel, painted red.
   3. Where devices weigh in excess of 6 pounds, provide outlet box rated for support of devices of at least 50 pounds.

D. Pull boxes shall be code gauge sheet steel, painted, with screw covers. In wet, exterior or basement areas, provide galvanized sheet steel boxes, with gasketed cover. Where dimensions are shown, these are based on no splices. Increase dimensions as required if splices are provided in pull boxes.

E. Where required, provide outlet box extensions to bring front of outlet box flush with mounting surface, per MEC 314.22.

F. Junction boxes shall be of size and type to accommodate (1) structural conditions, (2) size and number of raceways, conductors or cables entering, splices, and (3) devices or fixtures for which required.

G. Special care shall be taken to set all boxes correctly square and true with the building finish. Junction boxes and accessories shall be as manufactured by Steel City, Appleton, Raco, or approved equal.

2.06 EXISTING DISTRIBUTION EQUIPMENT

A. Where connections are made in existing panelboards or other distribution equipment, the panel index shall be revised to indicate the new loads served. All existing panelboards that do not have a circuit directory card mounted in a frame with noncombustible plastic cover shall have one installed on the inside of the door. All directory cards shall be properly filled in, using a typewriter, and indicate areas and devices served by each unit. Where spares or spaces are provided, mark these designations in pencil by hand.

B. New circuit breakers, disconnects, starters, etc. added to existing equipment shall be the same frame size and interrupting capacity as existing panelboards and circuit breakers. New circuit breakers installed in existing panelboards shall be listed as fully compatible with the panelboard.

2.07 NAMEPLATES

A. Black phenolic nameplates, screw-on type, with ¼” minimum white engraving shall be furnished for all equipment and properly fastened with brass screws. Lettering shall be minimum 1” high where label is above eye level. Nameplates shall be provided for the following equipment:
   1. Junction boxes larger than 4-11/16”
   2. Terminal cabinets.
   3. Fire alarm system enclosures

B. Submit a complete listing of all nameplates required, for review and approval prior to engraving.
2.08 WIRELESS FIRE ALARM SYSTEM

A. This is a performance based specification, for a wireless fire detection and alarm system for the historic city hall building. All required elements shall be provided for a complete, code compliant system, accepted by the authority having jurisdiction.

B. System Description

1. UL-listed, FCC certified 900 MHz frequency hopping spread spectrum wireless addressable system, with multiplexed signal transmission and horn strobe evacuation as noted in the contract drawings.
2. Approved Manufacturers: CWSI or approved equal. The awarding authority has determined that it is in the public interest that the wireless fire alarm system by CWSI be used. This shall not preclude the use of other products which are equal in all respects should they be found to be or become available.
3. All components provided shall be listed for use with the selected system.

C. Engineered Signal Survey Procedure: Prior to submittals, a signal survey shall be conducted. Utilizing a CWSI Signal Survey Unit and a CWSI Repeater the contractor shall perform a series of signal surveys to determine appropriate locations for repeater installation. This shall be done by initially locating the repeater at the panel location and utilizing the survey unit to determine the first appropriate repeater location. The contractor shall use the repeater in conjunction with the survey tool to determine the quantity and locations necessary for full repeater network coverage. Appropriate locations shall be determined by the contractor performing signal surveys from the survey unit which should perform five (5) back-to-back signal queries from survey unit to the repeater. The final value shall be the average of the readings in a percentage form. No location is to be accepted with readings under 75%. A report shall be submitted showing values and said values shall also be noted on the riser diagram at the repeater locations.

1. Provide quantity of repeaters required for a complete and operational fire alarm system, not less than shown on the drawings.

D. Systems Operational Description

1. A. Fire-alarm signal initiation shall be by one or more of the following devices and systems:
   b. Wireless Heat detectors.
   c. Wireless Smoke detectors.
   d. Duct smoke detectors via Wireless Transmitters
   e. Wireless Carbon monoxide detectors.
   f. Suppression system activation via wireless transmitters.
2. Fire-alarm signal shall initiate the following actions:
   a. Activate alarm notification appliances.
   b. Identify alarm and specific initiating device at fire-alarm control unit, and remote annunciator.
   c. Transmit an alarm signal to the remote alarm receiving station.
   d. Include provisions for recall of elevator to primary or alternate recall floors via wireless control and interposing relays.
   e. Record events in the system memory.
3. Supervisory signal initiation shall be by one or more of the following devices and actions:
   a. Valve supervisory switch via wireless control relays.
b. Fire suppression system supervisory signal via wireless transmitters.

c. Loss of communication with any wireless device on the network or system.

d. Removal of a Wireless Device: The removal of a wireless device from its installed location shall send a unique supervisory signal indicating the exact device and location within the installation. This signal shall be re-transmitted every 200 seconds until the condition is restored to a normal state.

4. D. System trouble signal initiation shall be by one or more of the following devices and actions:

   a. Open circuits, shorts, and grounds in designated circuits.

   b. Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.

   c. Loss of communication with any addressable sensor, transmitter, repeater, control relay and/or annunciator

   d. Low Battery Reporting: A low battery from a wireless initiating device shall send a distinct signal and shall be displayed at the control unit and indicate both the device and exact location within the installation. Once the initial low battery signal is received the device will continue to transmit low battery status every four hours and shall continue to power the device for a minimum of seven days after receipt of initial low battery signal. If powering a smoke detector that contains an internal sounder, after seven days of low battery signals the smoke detector must be able to power the sounder for a minimum of five minutes.

   e. Loss of primary power at fire-alarm control unit.

   f. Ground or a single break in internal circuits of fire-alarm control unit.

   g. Abnormal ac voltage at fire-alarm control unit.

   h. Break in standby battery circuitry.

   i. Failure of battery charging.

   j. Abnormal position of any switch at fire-alarm control unit or annunciator.

5. System Supervisory Signal Actions:

   a. Identify specific device initiating the event at fire-alarm control unit connected network control panels, off-premises network control panels, and remote annunciators.

   b. Transmit a supervisory signal to the remote alarm receiving station.

   c. Display system status on remote annunciator.

E. Performance Requirements

1. The system shall provide for bi-directional radio frequency communication between all initiating devices, repeaters and control unit. Transmission format shall be Frequency Hopping Spread Spectrum (FHSS) with CRC data validation.

2. Each initiating device shall be individually identified on the control unit by device type and location within the protected premises as determined by the owner or local authority having jurisdiction.

3. The control unit shall separately identify each initiating device in both initial and continued alarm status.

4. Elevator Recall:

   a. Elevator recall shall be initiated only by one of the following alarm-initiating devices:

      i. Wireless elevator lobby detectors except the lobby detector on the designated floor.

      ii. Wireless smoke detector in elevator machine room.
Note – the existing elevator controller does not have the capability to initiate FEO. The proposed system shall include all required provisions for connection to a controller in the future, by only installing wiring between the system and the controller. All hardware and programming shall be provided.

F. Transmission to Remote Alarm Receiving Station: Automatically transmit alarm, supervisory, and trouble signals to a remote alarm station.

G. Primary Power Source of Control Units and Repeaters: Each Control Unit and Repeater shall be powered by a primary uninterrupted 120 volt supply.

1. Where the main control panel does not have adequate simultaneous power capacity to power all notification devices, the power shall be increased as required by adding modular expansion power supplies. Where required, provide power supply(ies) and a 120 volt branch circuit(s) using specified wiring methods. Expansion power supplies shall be located in accessible locations, as approved by the Architect.

2. Positive-Temperature-Coefficient (PTC) thermistors, circuit breakers, or other over-current protection shall be provided on all power outputs. The power supply shall provide an integral battery charger for use with batteries up to 60 AH or may be used with an external battery and charger systems. Battery arrangement may be configured in the field.

3. The power supply shall provide a supervised battery and charger for standby power. Batteries shall be sealed Gel-Cell type, 12 volt nominal. Battery shall have sufficient capacity to power the system for not less than sixty (60) hours plus five (5) minutes of alarm upon a normal AC power failure. The batteries are to be completely maintenance free. Fluid, level checks, refilling, spills and leakage shall not be required.

4. The main power supply shall operate on 120 VAC, 60 Hz, and shall provide all necessary power for the FACP.

5. The main power supply shall continuously monitor all field wires for earth ground conditions.

6. All circuits shall be power-limited, per UL 864 requirements.

7. Provide a smoke detector above all control equipment including control panels and power supplies.

H. Primary Power Source of Initiating Devices: Each wireless initiating device shall be powered by a single supervised 3 volt lithium battery

I. Fire-Alarm Control Panel

1. Basis of design for the complete solution is CWSI, Wireless Fire Alarm Control Panel Model CP-3600.

2. General Requirements for Wireless Fire-Alarm Control Panel: The Control Panel shall have the capability of up to 2048 addressable points displayed on an LCD screen allowing for pinpoint status of all alarm, supervisory and trouble conditions. Network operation includes wireless command signals to repeaters and wireless relays for activation of control functions such as; appliance circuits, elevator recall, HVAC control and more. The Control Panel allows for the reporting of up to four separate alarm types and provides for event memory recall of alarm, supervisory and all control functions. The Control Panel shall be UL listed 10th Edition 864 & 1730. The control unit shall separately identify each initiating device in both initial and continued alarm status. The control panel shall maintain a perpetual recall memory of the last 1000 alarm and supervisory signals, 1000 trouble signals, and 1000 test log signals in the exact order received and 2000 all event log serialized enrollment shall be the method of identifying transmitters and repeaters within the installation. The control unit shall provide either 24 or 60 hour battery standby. The Control Panel and or Repeaters must be capable of sending wireless commands to other wireless peripherals such as wireless relays, repeaters, annunciators, control modules and said activation must comply with the 10 second rule.

J. Wireless Annunciator (part # WRA-3): The Annunciator shall have a 4 x 20 character backlit LCD which will display alarm, supervisory and trouble signals from compatible CWSI panels and devices. Shall have 5 front panel LEDs for visual indication of A/C power, Alarm, Supervisory, Trouble and Silence. The annunciator shall provide acknowledge, signal silence and system rest control functions via a membrane keypad protected by a key lock.
The Annunciator shall be UL 864 Listed Accessory Device with Bi-Directional RF Communication. The Annunciator shall utilize Frequency Hopping Spread Spectrum format. Rechargeable battery supply shall have a 24 hour backup time with built in alert sounder. All remote annunciators shall be stand alone with no wiring or other physical interconnections between them and or the control unit.

K. Wireless Repeater (part #AR-5): The Repeater shall be a wireless addressable bi-directional repeater which is used to form a wireless network which receives, screens, verifies, and retransmits low power radio signals from other CWIS wireless initiating devices, repeaters and control panels. In addition to providing RF signaling within the installation, the repeater shall provide two supervised addressable Notification Appliance Circuits (NACs). The repeater shall have an optional RM-5 Plug-in Relay Module which adds 5 Form C Relays to the repeater.

1. Each repeater shall be UL listed 864 and FM Approved and powered by a normal 120 VAC supply.
2. In the event of primary power interruption, a signal shall be sent to the control unit indicating loss of primary ac power within 200 seconds. Trouble relay activation at the control unit will be delayed for 120 minutes and when power is restored the condition will self- restore.
3. The internal battery back-up power source of each repeater shall provide full operation for a minimum of sixty (60) hours in the event of a primary loss of power. When used in conjunction with notification appliances or other ancillary equipment, the repeater shall, in the event of a loss of primary power, be able to operate the NAC outputs or other equipment for a minimum of 5 minutes after 60 hour battery backup time.
4. The repeater shall be supervised and transmit a separate and distinct low battery signal when the internal battery source reaches the predetermined low battery threshold as described by UL. This condition will display within 200 seconds at the control unit.
5. The repeater shall transmit a test signal evidencing its ability to communicate and verify that its signal strength is within the acceptable tolerance levels prescribed by the manufacturer to provide adequate transmission. Failure of the control unit to receive the test signal within 200 seconds will result in a trouble indication at the control unit.
6. Repeaters shall be installed in exact locations as determined by the site signal survey performed by a factory trained representative of the manufacturer.
7. Repeaters shall be configured and located in a manner whereby each initiating device shall report to a repeater with acceptable signal strength reception. In addition, each repeater’s transmission shall likewise be received by a repeater and or control unit with acceptable signal strength reception.

L. Wireless Transmitter (part #345): The Fire Transmitter shall be addressable transmitters (monitoring modules) designed specifically for connection to initiating devices, sprinkler flow and supervisory switches, and other UL miscellaneous accessories with normally open contacts. Shall be UL 864 Listed Accessory Devices. The Fire Transmitters shall be supervised for low battery, tamper, 200 second polling, and end of line violation. The Fire Transmitters shall offer the option of either Style 1 or Style 2 wiring configuration. The Fire Transmitter shall utilize Frequency Hopping Spread Spectrum (FHSS) signaling technology and shall provide bi- directional system communication.

1. Shall operate on single 3 volt battery.
2. Shall have remote reset.
3. Shall be available for installations requiring horizontal mounting.

M. Wireless Relay (part #SR-5): The Wireless Relay shall be a standalone unit providing five Form C relays activated by low power radio signals from either the control unit or repeaters. The wireless relay shall also provide N.C. trouble inputs for monitoring A/C loss, Low Battery and General Trouble on third party equipment.

1. The relay shall be powered by a 12 VAC wall transformer or UL 1481 Listed 24Vdc power supply.
2. Shall have 900 MHz Frequency Hopping Spread Spectrum Format.
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3. Shall have rechargeable battery
4. Shall be a UL 864 Listed Accessory Device

N. Relay Box: Shall be an optional accessory for connection to the repeater. The Relay Box shall provide up to 40 programmable N.O. dry contact outputs. The Relay Box shall be UL 864 9th Edition Listed.
1. Shall be used for interconnection to other manufacturer’s equipment when other interfaces are required.
2. Shall have bi-directional RF communication.
3. Shall have 900MHz Frequency Hopping Spread Spectrum Format.
4. Shall have 60 hour battery standby time.

O. Antennas
1. Yagi: The Yagi shall be a highly directional antenna that shall be used to provide long distance reception and re-transmission of signals to outlying facilities.
   a. Shall have a frequency range of 900 to 930 MHz
   b. The Yagi shall have a gain of 15.2 dB Typical
   c. Shall have an input connector- female
   d. The Polarity shall be VERT
   e. The power handling shall be 500 Watts
   f. The Yagi’s mast size shall be 1-1/4” with a wind area/survival of 0.4 Sq. Ft / 100MPH.
2. Omni Antennas: The Omni OM-1 antennas shall be an omni-directional antenna used for bi-directional reception and re-transmission of signals equally, in all directions.
   a. The OM-1 shall have a frequency range of 902-928 MHz and shall have a Gain of 2.5 dBi
   b. The radiation shall be Omni and the polarization shall be vertical.
   c. The OM-1 wave shall be Å½ wave loaded.
   d. The connector shall be SMA Plug
   e. The operation temp for the OM-1 shall be -20degrees to +65 degrees C
   f. The Omni OM-3 shall be a High Gain 5dB Antenna with a higher penetration capability. Use of the OM-3 shall vary based on site specific needs. The OM-3 Antenna shall be intended for use only on the Control Panel, Repeaters and FAST Survey tool.
   g. The OM-3 shall mount directly onto the Control Panel or Repeater with no additional equipment necessary.
   h. The OM-3 frequency range shall be 902-928 MHz and the Gain shall be 5 dBi.
   i. The radiation shall be Omni and the polarization shall be vertical.
   j. The OM-3 wave shall be Å½ wave dipole, collinear.
   k. The connector shall be SMA Plug.
   l. The operation temp for the OM-3 shall be -30 degrees to +75 degrees C.

P. Initiating Devices
1. General
a. Each initiating device shall be UL listed, CSFM Listed, NYFD Approved and FM Approved and powered by an internal battery(s) as specified to provide one year minimum operation.

b. Each initiating device shall transmit two levels of alarm status. Upon activation, the device shall transmit a signal indicating an initial alarm. Every sixty (60) seconds, while the device remains in alarm, a continuous signal shall be transmitted indicating continued alarm and this will continue until the devices automatically or manually restored.

c. Each initiating device shall transmit a test signal evidencing its ability to communicate and verify that its signal strength is within the acceptable tolerance levels prescribed by the manufacturer to provide adequate transmission. Failure of the control unit to receive the test signal within 200 seconds will result in a trouble indication at the control unit.

d. Stand Alone Technology: The system shall be designed so that the inoperability of a single wireless initiating device will not render any other wireless initiating device inoperable.

e. The internal power source of each initiating device shall be supervised and transmit a separate and distinct low battery signal when the battery voltage reaches the determined threshold set forth by UL. The initiating device shall be capable of full operation for a minimum of seven days after the initial low battery signal has been received at the control unit. This condition will report within 200 seconds.

f. The removal of an initiating device from its mounting shall result in a separate and distinct tamper signal which shall be transmitted within 200 seconds and displayed at the control unit.

g. When utilizing a wired fire transmitter, the wiring shall be supervised and any loss of wiring integrity shall be reported within 200 seconds at the control unit.

2. Wireless Manual Pull Stations (part #310): The Fire Alarm Pull Station shall be a self-contained addressable dual action lexan fire pull station with a built in transmitter. In addition to the supervisory features such as low battery and tamper, the Pull Station shall also meet the 200 second polling requirement. The pull Station shall utilize Frequency Hopping Spread Spectrum (FHSS) signaling technology and provide bi-directional system communication to assure a secure and reliable communication network.

a. Comply with UL 38.

b. Shall be ADA compliant

c. Double-action mechanism requiring two actions to initiate an alarm type; with integral wireless transmitter arranged to communicate manual-station status (normal, alarm, or trouble) to fire-alarm control unit.

d. Station Reset: Key- or wrench-operated switch.

e. Indoor Protective Shield: Factory-fabricated, clear plastic enclosure hinged at the top to permit lifting for access to initiate an alarm. Lifting the cover actuates an integral battery-powered audible horn intended to discourage false-alarm operation.

3. Wireless Smoke Detectors (part #301, 302): The Smoke Detectors shall be wireless addressable photoelectric smoke detectors. All smoke detectors will be supervised for low battery, tamper, and 200 second polling. All smoke detectors shall provide bi-directional communication between the transmitter and smoke detector, allowing for hardware fault supervision of the detector itself.

a. Shall comply with UL 268.

b. Shall operate on single 3 volt battery with pre-low battery signal 48 hours prior to horn chirp.

c. Shall have field replaceable chamber and hardware fault supervision

d. Shall have precise field sensitivity diagnostics and pre-alarm maintenance signal.

e. Base Mounting: Detector and associated electronic components shall be mounted in a twist-lock module that connects to a fixed base.
f. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.

g. Detectors shall be digital-addressable type, individually monitored at fire-alarm control unit for calibration, and alarm condition.

4. Wireless CO Detectors (part #350): Shall provide an internal 85dB temporal horn for CO detector applications, requiring signal point audibility and annunciation. The CO Detector shall utilize Frequency Hopping Spread Spectrum (FHSS) signaling technology. The CO detector shall have a built in transmitter and sounder that complies with UL 2075.
   b. Testable by introducing test carbon monoxide into the sensing cell.
   c. Detector shall send trouble alarm when nearing end-of-life, power supply problems, or internal faults.
   d. Provide means for addressable connection to fire-alarm system.
   e. Test button simulates an alarm condition.

5. Wireless Fixed and Rate of Rise Heat Detector: The heat detector shall be an addressable wireless 135 degree fixed and rate of rise detector that complies to and is listed to UL 521. The heat detector shall be supervised for low battery, tamper and provide 200 second poling verification to the control unit. The heat detector shall also send a freeze warning supervisory signal to the control unit indicating that ambient temperature is reaching a threshold that would render the unit inoperable.

Q. Notification Appliance:
   1. Audible appliances: Electronic sounders shall operate on 24 VDC nominal. Electronic sounders shall have a three pulse temporal pattern, with an output sound level of at least 90 dBA measured at 10 feet from the device. This Contractor shall measure and set the sound pressure level (SPL) in db, A weighted, to meet the code requirement for the area(s) served, and as required by the local AHJ.
      a. Provide System Sensor Model MHR or equal.
   2. Strobe Unit: shall meet the requirements of the ADA, UL Standard 1971 and shall meet the following criteria:
      a. The maximum pulse duration shall be 2/10 of one second.
      b. Strobe intensity shall meet the requirements of UL 1971.
      c. The flash rate shall meet the requirements of UL 1971.
      d. Strobes shall be multi-candela rating.
      e. Strobes shall be synchronized where required.
      f. Strobes for carbon monoxide warning shall be white, and labeled ‘alert’, ‘evac’, or other label as required by the AHJ.
      g. Where located in straight corridors, strobes may be set at 15 candela setting. Where located at corridor intersections and all other areas not otherwise noted, strobes shall be set at 75 candela or greater.
   3. Provide combination horn/strobes units, meeting the requirements above, where indicated on the plans.

R. DACT
   1. Provide Keltron SDACT-2 or approved equal.

S. Signage
   1. Provide all signage as required by the Local Fire Department.
2. Provide a typewritten instruction card mounted behind a lexan cover in a painted wood frame. Include interpretation and describe appropriate response for displays and signals. Briefly describe the functional operation of the system under normal, alarm, and trouble conditions.

3. Provide a wall mounted map of the facility, framed in painted wood and covered with lexan. The map shall show all floors of the facility, and all fire alarm devices and equipment. Provide in a scale/size satisfactory to the local Fire Department.

PART 3 – EXECUTION

3.01 MATERIALS AND WORKMANSHIP

A. Work shall be executed in workmanlike manner and shall present neat, rectilinear and mechanical appearance when completed. Maintain maximum headroom at all times. Do not run raceway exposed unless shown exposed on drawings. Material and equipment shall be new and installed according to manufacturer’s recommended best practice so that completed installation shall operate safely and efficiently.

B. This Contractor shall review installation details of all electrical equipment in public areas with the Architect and cooperate fully with the Architect in this regard. Any work installed which is not reviewed with and approved by the Architect is subject to re-work at no increase in contract price.

C. All workmanship shall be of the highest quality, as determined by the Engineer. This Contractor will be required to repair or replace all Work which is not of the highest quality and workmanship.

D. All equipment and components shall be installed in strict compliance with manufacturers’ recommendations. Consult the manufacturer’s installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc., before beginning system installation.

E. Conductor fasteners shall be tightened with a torque tool in good condition to factory specifications. At time of inspection, torque tool(s) shall be available to demonstrate proper torque.

3.02 CONTINUITY OF SERVICES

A. Do not interrupt existing services without Owner’s and Architect’s approvals.

3.03 TESTING, INSPECTION AND CLEANING

A. Verify and correct as necessary: voltages, tap settings, trip settings and phasing on equipment from secondary distribution system to points of use. Test secondary voltages at loadcenters, and at other locations on distribution systems as necessary. Test secondary voltages under no-load and full-load conditions.

B. Provide necessary testing equipment and testing.

C. Failure or defects in workmanship or materials revealed by tests or inspection shall be corrected promptly and retested until satisfactory results are achieved. Replace defective material.

D. Final Inspection

   1. At the final inspection, a factory-trained representative of the manufacturer of the major equipment shall demonstrate that the systems function properly in every respect.

E. Clean panels and other equipment. Panelboard interiors shall be cleaned and vacuumed. Equipment with damage to painted finish shall be repaired to Architect’s satisfaction.

F. After completion of project, clean the exterior surface of equipment included in this section.
3.04 TRAINING

A. Provide a training session for the Owner and his representative(s) for a minimum of 4 hours at the jobsite or other location chosen by the Owner. The training session shall be conducted by a manufacturer's qualified representative.

B. Submit training materials for approval prior to conducting training. Satisfactory completion of training shall be a prerequisite to substantial completion.

C. The training program shall consist of the following:
   1. Review of the one-line drawings and schedules.
   2. Review of the factory record shop drawings and placement of the various components.
   3. Review of each piece of equipment, components within, control and power wiring.
   4. Discuss the maintenance timetable and procedures to be followed in an ongoing maintenance program.
   5. Full operation of the unit, under any and all operating conditions.

3.05 WARRANTY

A. Materials provided under this section shall be warranted against defects in materials and workmanship by this Contractor for not less than one (1) year from the date of substantial completion.

B. This Contractor shall respond to the site to address any warranty contact from the Owner within 48 hours. If the defective item can be repaired, it shall be repaired within 48 hours. Repairs shall be to the full satisfaction of the Owner, and repairs which render an item in a condition less than new will not be accepted. If the item cannot be repaired within 48 hours, the contractor shall provide such temporary work as directed by the Owner to address the issue until such time as the issue is permanently addressed. If the issue appears to be across all same or similar products, the contractor shall be prepared to address (repair or replace) the remaining items.

3.06 SYSTEM START-UP AND OPERATION

A. Provide all labor and materials and service necessary for the initial start-up and operation of all systems and equipment furnished and installed under this Section of the Specifications. This shall include all programming, data entry, testing and the like to demonstrate a completely functional system.

B. Request, schedule and attend meetings with the Authorities having jurisdiction as required to resolve all device, room and area labeling, sequence of operation, recorded messages, etc. Program the system based on the requirements of the Authorities having jurisdiction, based on the meetings held.

C. Provide the services of a qualified representative for all major equipment pre-start set-up, start-up and initial operation. Such periods shall be sufficient to insure proper operation of systems and equipment.

3.07 OPERATION AND MAINTENANCE MANUALS

A. The following information shall be submitted for record purposes at project closeout:
   1. Final as-built drawings and information for items listed in this paragraph
   2. Wiring diagrams
   3. Installation information
   4. Signed Permits/Certificate of Inspection
5. Warranties.

B. Two (2) Operation and Maintenance Manuals shall include the following information: one copy of all approved submittals, Instruction books and/or leaflet, recommended renewal parts list and list of local distributors who service installed system. O&M manuals shall be bound in properly sized, indexed and tabbed 3-ring binders, with front and edge labeling.

C. INSTRUCTION: Provide instruction as required to the building personnel and fire and safety personnel. "Hands-on" demonstrations of the operation of the system shall be provided.

ACCESS AND ACCESS PANELS

A. Provide proper access to material or equipment that require access, inspection, replacement, repair or service. If proper access cannot be provided, confer with Architect as to best method of approach to minimize effects of reduced access.

FIRE BLOCKING AND STOPPING

A. Provide all materials and labor to penetrate or remove and re-install existing fire blocking, or re-route wiring to avoid fire blocking.

B. Provide fire stopping for all electrical conduits which enter or pass through fire rated walls or floors. Materials and methods of fire stopping shall be approved by UL. Fire seal fittings shall be used around cable, in sleeves, or in core drilled holes passing through fire rated walls and floors. Fire stopping shall be T&B Fire-Seal, O.Z. Gedney, Minnesota Mining and Manufacturing Company or approved equal.

WIRING METHODS

A. Install wire and cable in approved raceways as specified and as approved by authorities that have jurisdiction.

B. Surface metal raceways shall not be used unless explicitly specified and shown on Drawings, or approved in advance by the Engineer. Do not use surface raceways on floor. Surface raceways shall be secured to the mounting surface using concealed means. Use only fittings provided by the manufacturer of the raceway system provided. Use of surface metal raceways, where approved, in lieu of cutting, fishing wiring, patching and painting, shall not be the basis of any claim for additional compensation.

C. Wiring methods shall be as follows:
   1. Interior, finished, dry locations, concealed – EMT or fished.
   2. Interior, finished, dry locations, exposed – None (conceal all wiring methods).
   3. Interior, mechanical, electrical or other utility spaces, exposed – EMT or RMC.

D. All conductors shall be installed in raceways, or fished in, or run in attic spaces, as required by the NEC. Raceways and wiring shall be concealed in finished spaces.

E. All wiring in finished spaces shall be run concealed, except where surface metal raceway systems are specifically noted on the plans or otherwise approved. Provide chases, soffits and boxouts, finished to match surrounding areas, as required.

F. Splices shall be made only at device outlet boxes. Addition or re-use of boxes in finished areas solely for the purpose of splicing will not be accepted.
G. All device outlet boxes shall be set flush to the final finish surface. All openings in the surface finish around the box shall be filled in accordance with the MEC. Where device outlet boxes are located in an area with existing device outlet boxes, match mounting heights, but not less than 18" above finish floor. Mount all boxes true and plumb. Patch and paint as needed.

3.11 BONDING AND GROUNDING

A. Bond and ground equipment and systems connected under this Section in accordance with standards of MEC and other applicable regulations. Provide approved means for terminating and connecting grounding conductors, such as lugs, crimp-on terminals, green ground screws, grounding wirenuts, etc.

B. Conduit system shall be electrically continuous throughout. Equipment frames, enclosures, boxes, etc. shall be grounded by use of green colored equipment ground conductor sized as per Table 250.122 of MEC. Raceway ground alone will not be accepted.

C. Ground shielded cables at the control panel location only. Insulate shield at device location.

D. Green bonding jumper shall be installed in flexible conduits.

3.12 FIRE ALARM

A. Installation shall be in accordance with the NEC, NFPA 72, local and state codes, as shown on the drawings, and as recommended by the major equipment manufacturer.

B. Permitting

1. It is recognized that various jurisdictions may have varying requirements for issuance of permits for work related to fire protection systems. Be responsible for determining the local authority(ies) having jurisdiction, what their requirements are, and providing all documents required for permitting. The Engineer will provide the contract document plans, specifications, and where requested by the AHJ, a fire protection construction documents narrative.

C. Comply completely with 780 CMR 33, Safeguards During Construction. Comply with NFPA 241 as listed in 780 CMR 35.

D. Wiring Methods

1. All conduit, junction boxes, conduit supports and hangers shall be concealed in finished areas and may be exposed in unfinished (i.e. non-public) areas. All junction boxes shall be spray painted red and labeled “Fire Alarm”, exposed conduit shall be EMT with minimum 2" wide red band maximum spacing every 5’, no less than one 2” per conduit between devices. Pre-painted raceways are not acceptable. System smoke detectors shall not be installed prior to the system programming and test period. If construction is ongoing during this period, measures shall be taken to protect smoke detectors from contamination and physical damage.

2. Cable must be separated from any open conductors of Power, or Class 1 circuits, and shall not be placed in any conduit, junction box or raceway containing these conductors, as per NEC Article 760.

3. Conduit shall be 3/4 inch (19.1mm) minimum.

4. Conduit shall not enter the Fire Alarm Control Panel, or any other remotely mounted Control Panel equipment or backboxes, except where specified by the factory.

5. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 14 AWG for initiating device circuits and signaling line circuits, and 14 AWG for notification device circuits.
6. Wire and cable not installed in conduit shall have a fire resistance rating suitable for the installation as indicated in NFPA 70 (e.g., FPLR). Where located in ducts, provide suitably approved cable.

7. All field wiring shall be completely supervised.

E. The main fire alarm control panel shall be connected to a separate dedicated branch circuit, maximum 20 amperes. This circuit shall be labeled at the house panel as FIRE ALARM. Fire alarm control panel primary power wiring shall be 12 AWG. The control panel cabinet shall be grounded securely to either a cold water pipe or grounding rod.

F. Connect the DACT at the FACP to the building telephone interface, and obtain two (2) dedicated telephone lines for the FACP and the service of central station monitoring on behalf of the Owner. Installation costs from the telephone company and the central station service shall be billed to and paid for by the Owner.

G. All fire detection and alarm system devices shall be flush mounted or surface mounted where indicated on the plans when located in finished areas and may be surface mounted when located in unfinished areas.

H. Manual pull stations shall be suitable for surface mounting, and shall be installed not less than 42 inches or more than 48 inches above the finished floor.

I. Make addressable connections with a wireless transmitter to the following devices and systems. Install the interface device less than 36 inches from the device controlled. Make an addressable confirmation connection when such feedback is available at the device or system being controlled.
   1. Alarm-initiating connection to elevator recall system and components.
   2. Supervisory connections at supervisory switches.
   3. Supervisory connections at fire suppression systems.

J. Provide smoke detector above all control equipment including control panels, and power supplies.

K. Test: Provide the service of a competent, factory-trained engineer or technician authorized by the manufacturer of the fire alarm equipment to technically supervise and participate during all of the adjustments and tests for the system.
   1. Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.
   2. Close each sprinkler system control valve and verify proper supervisory alarm at the FACP.
   3. Verify activation of all flow switches.
   4. Open initiating device circuits and verify that the trouble signal actuates.
   5. Open and short Notification appliance circuits and verify that the trouble signal actuates.
   7. Check proper operation of all alarm notification devices.
   8. Check installation, supervision, and operation of smoke detectors.
   9. Verify that each initiating device alarm signal is properly received and processed by the fire alarm control panel (Walk Test).
   10. Conduct tests to verify trouble indications for common mode failures, such as alternating current power failure, low battery, etc.

L. System Acceptance
1. Provide notice as required by applicable codes to the Owner, occupants, engineer, general contractor, authorities having jurisdiction of scheduled testing. Make all necessary temporary provisions for reporting of fire while the system is being tested.

2. Retain the required licensed professionals as required to test the related interfaced systems where included in the project (including, but not limited elevator systems, fire pump systems, fire sprinkler systems, HVAC systems, etc.) for all testing and any re-testing.

3. Pre-test. Perform a 100% test of the system, and correct any deviations or deficiencies. Measure and set the sound pressure level (SPL) in db, A weighted, to meet the code requirement for the area(s) served, and as required by the local AHJ. The pre-test shall include all related interfaced systems.

4. Contractor's Certification. Following the pre-test, certify to the Engineer in writing that a 100% pre-test has been completed, and that the system is installed and operates in accordance with the approved fire protection construction documents and applicable codes, identifying any deviations, or so stating if there are no deviations. The certification shall be notarized.

5. Engineer's test. Request and attend a 100% functional test of the system in the presence of the Engineer. A factory-trained representative of the manufacturer of the major equipment shall demonstrate that the systems and related interfaced systems function properly in every respect. Include all required material and equipment for complete testing including ladders, test smoke, carbon monoxide gas, test magnets, etc., and access to all areas and devices.

6. Provide not less than seven (7) days advance notice to the Engineer of the requested test date. On the test date, provide not less than two (2) employees, for activation of devices and relaying of events received from the control panel/remote annunciator. Each employee shall have a 2 way radio (not a cell phone) with full batteries.

7. Have in hand the acceptance submittals listed below for review by the Engineer.

8. Engineer's certification. Following the observation of an acceptable 100% test of the fire protection system(s) and any related interfaced system(s), and an acceptable visual observation of the installed system, and approval of the submittals listed below, the Engineer will provide a certification that the fire protection systems have been installed in accordance with the approved fire protection construction documents, including any deviations.

9. Fire Department Test. Following issuance of the certification noted above, arrange for and attend a 100% test for witness by the local AHJ(s). Advise the Engineer of the time and date of the test. Immediately advise the Owner and Engineer of the results of the test, such as acceptance, failure and why, etc.

10. This Contractor shall be responsible for all costs associated with the failure to comply with this procedure explicitly. This Contractor shall be responsible for all costs associated with re-testing due to issues with the installed systems, failure to properly pre-test the system, failure to have the proper staff and test equipment on hand for testing. Costs include, but are not limited to, the Owner's, AHJs and Engineer's travel and labor costs at current hourly rates. Any costs shall be paid prior to the issuance of the Engineer's certification.

11. Acceptance Submittals:
   a. Submit the following hard copy documents for review by the Engineer and acceptance by the local AHJ prior to requesting final acceptance testing. It is recommended that the acceptance submittals be submitted well before the acceptance testing. Allow 30 days for review and approval of acceptance submittals. The submittals shall be hard copies.
      i. Provide an input/output matrix for the system.
      ii. Provide a completed record of completion, including all original ink signatures (i.e. not word-processor printed).
      iii. Provide material, test, performance and completion certificates, properly executed by the parties in accordance with applicable NFPA standards.
iv. Provide final as-built plans.

v. Where the system uses site specific software, provide a copy of the site specific software on a flash drive factory mounted in the plan box. The software shall not require a password to access from the flash drive.

b. A copy (or originals as may be required by the AHJ) of items above shall be placed in each fire alarm plan box.

c. Provide a list of all system passwords (all access levels). The password list shall be typed, on an adhesive label applied to the inside of the front cover of the plan box. The label shall have a title in 1” red color letters “SYSTEM PASSWORDS”.

d. Once the as-built plans have been certified, turn a copy over to the Owner, and obtain a certification from the Owner that they have received the as-built fire protection system as-built plans, shop drawings, and O&M manuals.

END OF SECTION