

INVITATION TO BID
CITY OF QUINCY, MASSACHUSETTS
PURCHASING DEPARTMENT
1305 HANCOCK ST., QUINCY, MA 02169

SAVILLE HALL-BATHROOM RENOVATION PROJECT

QUINCY COLLEGE	<u>ITB for "FILED SUBCONTRACTORS"</u>	OCTOBER 8, 2015 @ 11:00 A.M.
QUINCY COLLEGE	<u>ITB for "GENERAL CONTRACTORS"</u>	OCTOBER 15, 2015 @ 11:00A.M.

The Department of Public Works for the City of Quincy, Massachusetts is seeking sealed bids, from General Bidders and Sub-bidders, for construction of the **Saville Hall Bathroom Renovation Project**. The project consists of interior selective demolition and new alterations to existing bathroom. Work includes selective demolition work, new doors and frames, new door hardware; new drywall partitions and new toilet compartments, floor and ceiling finishes; and associated electrical and mechanical work. The estimated cost of this project is \$163,000.

All work under this contract shall be completed within one hundred eighty days (180) calendar days.

All bids for this project are subject to applicable bidding laws of Massachusetts, including General Laws Chapter 149, Section 44A to 44J inclusive, as amended.

General and Subcontractors shall file their bids with a copy of the certificate from Division of Capital Asset Management (General-DCAM in ~~General Contracting~~) showing that they are eligible to bid on projects of this category, of this estimated project dollar amount and up to an aggregate limit, and with an Update Statement, DCAM Form CQ3 and Certificate of Eligibility, DCAM Form CQ7.

A **pre-bid conference** will be held at **10:00 a.m. local time on Monday, September 28, 2015** at the Saville Hall, 24 Saville Ave, Quincy, Massachusetts. Attendance is strongly recommended.

Filed sub-bids will be received until **11:00 a.m. local time on Thursday, October 8, 2015**, in the office of the Purchasing Agent, 1305 Hancock Street, Quincy, Massachusetts 02169, at which time and place all bids will be publicly opened and read aloud. Late filed sub-bids delivered by mail or in person will be rejected.

All questions regarding the filed sub-bid should be directed to Kathryn R. Hobin, Purchasing Agent through fax: 617-376-1074 and email to: khobin@quincyma.gov and cc: kimtrillcott@quincyma.gov Questions will be accepted until Friday, October 2, 2015 at 4:00 p.m.

General Bids will be received until **11:00 a.m. local time on Thursday, October 15, 2015**, in the office of the Purchasing Agent, 1305 Hancock Street, Quincy, Massachusetts 02169, at which time and place all bids will be publicly opened and read aloud. Late General Bids delivered by mail or in person will be rejected

All questions regarding this general bid should be directed to Kathryn R. Hobin, Purchasing Agent through fax: 617-376-1074 and email to: khobin@quincyma.gov and cc: kimtrillcott@quincyma.gov Questions will be accepted until Friday, October 9, 2015 at 4:00 p.m.

Each general bid and each sub-bid shall be accompanied by a bid security in the amount of five percent (5%) of the total value of the bid in the form of a bid bond or certified/treasurer's check.

Sub-Bids are required for the following classes of Work:

<u>Trade Categories:</u>	Est. Cost
PLUMBING	\$40,000.
TILING	\$22,000.
ELECTRICAL	\$22,000.

Detailed specifications are available on-line at the City of Quincy's website: www.quincyma.gov or at the Quincy City Hall, Purchasing Department, Quincy City Hall, 1305 Hancock Street Quincy, Massachusetts 02169, business hours are 8:30 a.m. to 4:30 p.m.

Minimum Wage Rates as determined by the Commissioner of Department of Workforce Development under the provisions of the Massachusetts General Laws Chapter 149, Section 26 to 27D, as amended, apply to this project. It is the responsibility of the Contractor, before bid opening, to request if necessary, any additional information on Minimum Wage Rates for those trades people who may be employed for the proposed work under this contract.

The City reserves the right to waive any informality in or to reject any or all bids when such an action is deemed in the best interests of the City.

Non-responsive, and/or unbalanced bids may be rejected.

Thomas P. Koch
Mayor

Daniel G. Raymondi
Commissioner of Public Works

Kathryn R. Hobin
Purchasing Agent

Consulting Engineer: Beacon Architectural Assoc. 145 South Street, Boston MA 02111

Advertise		Req. No.	Charge to
The Quincy Sun	September 17, 2015	S100815	College
The Central Register	September 16, 2015		

1305 Hancock St., Quincy MA 02169
Telephone: (617) 376-1060 Fax: (617) 376-1074

INSTRUCTIONS TO BIDDERS

ARTICLE 1 PROJECT IDENTIFICATION

Owner: City of Quincy, Massachusetts

Awarding Authority: Kathryn R. Hobin
Purchasing Agent
1305 Hancock St., Quincy, MA 02169

Project Name: Renovation of Quincy College Bathroom

Funding: a. The City of Quincy
b. Commonwealth of Massachusetts

Funds for all work included under this contract have not been authorized, as yet. Consequently, all and/or any portion of the work may be deleted or postponed indefinitely. All work done pursuant to this bid shall be subject to funding provided by any public agency, as applicable, and authorization by the Mayor and the City Council.

The following Documents are required to be submitted with the Bids. Failure to comply with these requirements may render the Bid non-responsive and thus be disqualified.

- a. Bid Forms (all original signatures)
- b. Bid Bond
- c. All attached City paperwork
- d. Certificate of Eligibility and Update Statements from DCAM

ARTICLE 2 QUALIFICATIONS OF BIDDERS

Bidders may be investigated by the City to determine if they are qualified to perform the work. Bidders shall submit within five (5) calendar days of the City's or Engineer's request, written evidence of such information and data necessary to make this determination.

The investigation of a Bidder will seek to determine whether the organization is adequate in size, is authorized to do business in the project jurisdiction and has had previous experience and whether available equipment and financial resources are adequate to assure

the City that the work will be completed in accordance with the terms of the Agreement. The amount of other work to which the Bidder is already committed may also be considered.

The City reserves the right to reject any Bid if the evidence submitted by, or the investigation of such Bidder fails to satisfy the City that such Bidder is properly qualified to carry out the obligations and the work included in the Contract Documents.

ARTICLE 3 COPIES OF CONTRACT DOCUMENTS

Complete sets of Contract Documents shall be used in preparing Bids; neither the City nor the Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.

The City and the Engineer in making copies of Contract Documents available do so only for the purpose of obtaining bids on the Work and do not confer a license or grant permission for any other use.

ARTICLE 4 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize themselves with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize themselves with Federal, State and local laws, ordinances, rules and regulations that may in any manner affect cost, progress, or performance of the work; and (d) study and carefully correlate Bidder's observations with the requirements of the Contract Documents.

All information given in the Drawings and the other bid documents relating to sub-surface and other conditions, natural phenomena, existing utilities, pipelines, other structures, etc. is from the best sources available to the City. All such information is furnished only for the information and convenience of the Bidders and is not guaranteed.

Before submitting the Bid, each Bidder may, at his own expense, make such additional investigations and tests as the Bidder may deem necessary to determine the accuracy of their Bid for performance of the work in accordance with the time, price and other terms and conditions of the Contract Documents.

Upon request, the City will provide each Bidder access to the site to conduct such investigations and tests as each Bidder may deem necessary for submission of the Bid.

The lands upon which the work is to be performed and rights-of-way for access thereto are identified on the Drawings.

The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 4 and that the Contract

Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the work.

ARTICLE 5 INTERPRETATIONS

All questions about the meaning or intent of the Contract Documents must be received in writing by the City of Quincy Purchasing Department, 1305 Hancock St., Quincy, MA 02169, prior to the Bid Opening Date, as set forth in the Invitation to Bid.

Written clarifications or interpretations will be issued through Addenda. No addenda, will be issued any later than 72 hours before the bid opening date. Only questions answered by formal written Addenda will be binding. Oral and other clarifications or interpretations will be without legal effect. Addenda will be posted to the City of Quincy's website and notified to all parties who have been recorded to have received the Contract Documents.

Each Bidder shall be responsible for determining all Addenda issued have been received and incorporated into their Bid.

A BID WHICH INCLUDES, FOR ANY ITEM, A BID PRICE THAT IS ABNORMALLY HIGH OR LOW, MAY BE REJECTED AS AN UNBALANCED BID.

The quantities in the Bid Form are being set forth as a basis for the comparison of bids only and the actual amount of work may not correspond therewith.

The City reserves the right to delete all or any portion of the work or add new work or to decrease or increase the scope of any item of the work to be done under this Contract either prior to executing the Contract or at any time during the life of the Contract. Exercise by the City of the above rights shall not constitute any grounds or basis of claims for damages or for a loss of anticipated profits.

Also, an increase or a decrease of quantity for any bid item (regardless of its magnitude) shall not be regarded as a grounds or basis for any increase or decrease in the Contract unit prices, nor in the time allowed for the completion of the work except as provided for in the Contract.

ARTICLE 6 PRE-BID CONFERENCE: Will be held on September 28, 2015 @ 10:00 a.m. at 24 Saville Hall, Quincy, MA

ARTICLE 7 BID SECURITY

Each bid must be accompanied by a bid bond or certified check or a treasurer's/cashiers check issued by a bona fide bank or trust company, payable to the City of Quincy. The Bid Security shall be in the amount of five percent (5%) of the Total Bid Price. The Bid Security shall be sealed in a separate envelope from the Bid and then attached to the

envelope containing the Bid. All Bid Securities except those of the three lowest responsible and eligible bidders will be returned within ten calendar days after the opening of bids. All Bid securities will be returned on the execution of the Agreement, or if no award is made, within sixty calendar days after the actual Bid Opening Date, unless the bid security is forfeited under the conditions stipulated herein.

In case a party to whom a Contract is awarded shall fail or neglect to execute the Agreement and furnish the satisfactory bonds within the time specified, the City may determine that the bidder has abandoned the Contract, and thereupon the Bid Forms and acceptance thereof shall be null and void, and the Bid Security accompanying the Bid form shall be forfeited to the City as liquidated damages for such failure or neglect and to indemnify the said City for any loss which may be sustained by failure of the Bidder to execute the Agreement and furnish the bonds aforesaid, provided that the amount forfeited to the City shall not exceed the difference between the Bid Price of said Bidder and that of the next lowest responsible and eligible Bidder and provided further that, in case of death, disability or other unforeseen circumstances affecting the Bidder, such Bid Security may be returned. After execution of the Agreement and acceptance of bonds by the City, the Bid Security accompanying the Bid Form of the Successful Bidder will be returned.

ARTICLE 8 PERFORMANCE, PAYMENT AND OTHER BONDS

Performance, Payment and other required bonds and project Insurance Certificates shall be provided in accordance with the General Conditions of the Contract and be included in the final price provided by the Contractor on this project.

All Bonds required, as Contract Security shall be furnished prior to the execution of the Agreement.

ARTICLE 9 BID FORMS

Each Bid shall be submitted on the Bid Form included in this Project Manual. All blank spaces for Bid prices must be filled in with unit or lump sum prices for each of the items for which the bid is requested.

Bid Forms shall be completed in ink or be typewritten. The Bid price of each item on the form shall be stated in words, and figures. Discrepancies between unit prices and their respective total amounts will be resolved in favor of the unit prices. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and correct sum thereof shall be resolved in favor of the correct arithmetic sum, based on words.

Bids by corporations shall be executed in the corporation name, by the Chief Executive Officer (or other corporate officer). The bid must be accompanied by evidence of authority to sign the bid and the corporate seal shall be affixed and attested to by the

secretary. The corporate address and state of incorporation shall be shown below the signature.

Bids by partnership shall be executed in the partnership name and signed by a partner, whose title shall appear under the signature. The official address of the partnership shall be shown below the signature.

All names shall be typed or printed below the signature.

The Bid shall confirm the receipt of all Addenda. Actual number of Addenda received shall be filled in on the Bid Form.

The address, telephone number and email address of the person to whom communications regarding the Bid are to be directed shall be shown.

Bids shall be submitted (original signatures) in a sealed envelope bearing on the outside the Bidder's name, address, Project Title, Bid opening date and time, for which the Bid is submitted. If forwarded by mail, the Bid shall be enclosed in a sealed envelope with the notation "**BID ENCLOSED**" on the face and address as above.

ARTICLE 10 RECEIPT OF BIDS

Sealed bids for the work under this Contract will be received at the time and place indicated in the Invitation to Bid.

The City may consider informal any Bid not prepared and submitted in accordance with the provisions hereof.

Bidders are cautioned that it is the responsibility of each individual Bidder to insure that the bid is in the possession of the responsible official or a designated alternate prior to the stated time and at the place of the Bid Opening. The City is not responsible for bids delayed by mail and/or other forms of delivery.

ARTICLE 11 MODIFICATIONS AND WITHDRAWAL OF BIDS

Bids may be modified only by an appropriate document duly executed and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

Bids may be withdrawn prior to the scheduled Bid Opening time or the authorized postponement thereof.

Bids, once officially opened, cannot be withdrawn and shall remain open for a period of sixty (60) calendar days from the date of the opening. The City, at its sole discretion, may release any bid and return the Bid Security prior to that date.

ARTICLE 12 AWARD OF CONTRACT

The Contract will be awarded to the lowest responsible and eligible bidder (Successful Bidder). Such a Bidder shall possess the skill, ability, job-related prior work experience, and integrity necessary for the faithful performance of the work and the bid form being complete and responsive, is the lowest in price of all the bids opened.

The City reserves the right to reject any and all Bids, to waive any and all informalities, if it is in the City's best interest to do so and the right to disregard all nonconforming, non-responsive, unbalanced and conditional Bids.

The City also reserves the right to reject the Bid of any Bidder who is considered to be unqualified in accordance with Article 2, above.

If the Contract is to be awarded, the City will give the Successful Bidder a Notice of Award within sixty (60) calendar days after the actual Bid Opening Date. The Notice of Award will have to be formally acknowledged and accepted by the Bidder within the time period stipulated herein.

The acceptance of the above Notice of Award shall be accompanied by a complete list of sub-contractors (specialty, suppliers, and sub-consultants, etc.) selected by the Bidder to work on the project. The list shall contain information on the percentage of total work (material, labor, equipment and services) allocated to each sub-contractor.

ARTICLE 13 EXECUTION OF AGREEMENT

When the City gives a Notice of Award to the Successful Bidder, at least four (4)-unsigned copies of the Agreement and all other applicable Contract Documents will accompany it. Within ten (10) calendar days from the date of such notification, Contractor shall execute and return all copies of the Agreement and all other applicable Contract Documents to the City. Within ten- (10) calendar days thereafter, the City will deliver one fully signed copy along with the "Notice to Proceed" to the Contractor.

If for any reason the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the City and the Contractor. If the Notice to Proceed has not been issued within the ten (10) calendar days after signing of the Agreement, or within the time period mutually agreed upon, the Contractor may terminate the Agreement without further liability on the part of either party.

The Bidder's attention is especially directed to special requirements in relation to project construction work and completion schedule, specified in Sections 011000, 013100, 013200, 013300, 014000, 014200, 015000, 016000, 017419, and 017700, in this Project Manual. Each Bidder is urged to study these requirements to insure compliance with the same before submitting the Bid.

ARTICLE 14 SAFETY AND HEALTH REGULATIONS

This Project is subject to all of the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974, and CFR 29, Part 1910, General Industry Safety and Health Regulations Identified as Applicable to Construction.

The Successful Bidder shall comply with the Department of Labor Safety and Health Regulations for Construction promulgated under the Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).

The Successful Bidder shall have a competent person or persons, as required under the Occupational Safety and Health Act on the site to inspect the Work and to supervise the conformance of the Work with the regulations of the Act.

This project is also subject to the Massachusetts Department of Labor and Industries Division of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations (Industrial Bulletin No. 12)".

ARTICLE 15 SALES TAX

The materials and supplies to be used in the Work shall be exempt from all applicable Federal, State and local sales taxes.

ARTICLE 16 UTILITY UNDERGROUND PLANT DAMAGE PREVENTION SYSTEM

All excavations within public or private ways are subject to the requirements of Massachusetts General Laws, Acts of 1983, Chapter 252, included in Part II of the Supplementary Conditions.

ARTICLE 17 WAGE RATES

All work done under this Contract shall be subject to compliance with the minimum wage rates as mandated by the Commonwealth of Massachusetts Department of Labor and Industries and the U.S. Department of Labor Wage Rates issued in the most recent wage decisions applicable to the project area.

The Commonwealth of Massachusetts Minimum Wage Rates issued under the provisions of the Massachusetts General Laws, Chapter 149, Section 26 to 27H, as amended, shall apply to the projects when the use of Federal funds is not involved on a particular project.

The Schedule of Minimum Wage Rates is included in the Appendices and shall be strictly enforced.

It is the responsibility of the Contractor, before submitting the Bid, to verify the minimum wage rates and to request, if necessary, any additional and/or the latest information on wage rates for all tradespeople to be employed under this contract.

ARTICLE 18 COMPETITIVE BIDDING

The Bidding and award of this contract shall be in full compliance with the Federal Procurement Act and with MGL Chapter 149, as last revised.

ARTICLE 19 GUARANTEES

In addition to other guarantees due the City, the Contractor guarantees that the Work and services to be performed under the Contract, and all workmanship, materials, and equipment furnished, used or installed shall be free from defects and flaws, and shall be in strict accordance with the Drawings, Specifications, and other Contract Documents. Also, the strength of all parts of all manufactured equipment shall be adequate and as specified and that the performance test requirements of the Contract shall be fulfilled. This guarantee shall be for a period of one year from and after the date of Substantial Completion and acceptance of the Work unless otherwise specified herein.

The Performance Bond shall remain in full force and effect throughout the Guarantee Period.

If at any time within the said period of guarantee, any part of the Work requires repairs, correction and/or replacement, the City may notify the Contractor in writing to make the required repairs, correction or replacement. If the Contractor neglects to commence making such repairs, corrections, or replacements to the satisfaction of the City within ten (10) days from the date of receipt of such notice, or having commenced said repairs, corrections or replacement, fails to prosecute such work with diligence, the City may employ other person(s) to make the same, and all direct and indirect costs of making said repairs, corrections or replacements, including compensation for additional professional services, shall be paid by the Contractor.

ARTICLE 20 LABOR DISPUTES

The Bidder shall submit a written statement as to whether it has been the subject of, or otherwise been involved in any labor dispute during the past five (5) years. If the bidder has been the subject of, or otherwise been involved in any labor dispute during this period, the Bidder must also provide a detailed description of each labor dispute, including the name and location of the project worked on, the nature of the dispute, the duration and dates during which the dispute took place and how the dispute was resolved. For these purposes, "labor disputes" shall include picketing or any other activity which disrupted or delayed the Work.

ARTICLE 21 RECORD KEEPING

The Contractor is reminded that the provisions of Chapter 149 relative to record keeping apply to this Contract. A brief summary of the requirements is as follows:

- a. The Contractor and all sub-contractors shall maintain books, records and accounts at least six (6) years after the final payment. They will be subject to inspection by the awarding authority, officers of the Inspector General, or the Department of Capital Asset Management.
- b. Any changes in record keeping or recording transactions, which affect the awarding authority, shall be explained along with a letter from the Contractor's independent certified public accountant approving or otherwise commenting on the change.
- c. The Contractor shall file with the awarding authority a statement of management as to whether the system of internal accounting controls has been established.
- d. The Contractor shall file with the awarding authority a statement prepared and signed by an independent certified public account that an examination has been made of internal accounting controls.

ARTICLE 22 LAWS AND REGULATIONS

All applicable laws, ordinances and rules and regulations of all Public Agencies having jurisdiction over construction of the project shall apply to the Contract throughout.

This project is subject to all of the OSHA Safety and Health Regulations (see CFR Part 1926/1910 and all subsequent amendments), as promulgated by the United States Department of Labor on June 24, 1974 and MGL Chapter 454 CMR 10.00, et.seq.; The Prevention of Accidents and Illnesses in Construction Operations. Contractors shall become familiar with the requirements of these regulations.

Kathryn R. Hobin
Purchasing Agent

This form may be substituted with standardized form issued by insurance/bonding agent.

BID BOND

KNOW ALL MEN BY THESE PRESENT, that we, the undersigned,

_____ as Principal and

_____ as Surety, are hereby held and firmly bound unto

_____ as OWNER in the penal sum of

for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves,

successors and assigns _____ .

Signed this _____ day of _____, 20

The Condition of the above obligation is such that whereas the Principal has submitted to:

_____ a certain BID, attached hereto and hereby made a part hereof

to enter into a contract in writing for the:

NOW, THEREFORE,

- (A) If said BID shall be rejected, or
- (B) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor, or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID,

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

This form may be substituted with standardized form issued by insurance/bonding agent.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall in no way be impaired or affected by any extension of the time within which the OWNER may accept such BID, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these present to be signed by their proper officers the day and year first set forth above.

Principal (L.S.)

Surety

BY: _____

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Cir. 570, as amended) and be authorized to transact business in the state where the project is located.

RELEVANT PREVIOUS EXPERIENCE

The Bidder shall list below the relevant prior work experience on similar projects, and give references that will enable the City to evaluate his qualifications to perform the work under this Contract. The length of the relevant experience must be at least 5 years on projects of comparable size and complexity. The evaluation shall be based on prior experience, work performance and level of key personnel skills, and business standing (add additional page if necessary).

I. PROJECTS

Completion Date	Project Name	Contract Amount	Design Reference Engineer Name	Reference Phone No.
-----------------	--------------	-----------------	--------------------------------	---------------------

- a. _____.
- b. _____.
- c. _____.
- d. _____.
- e. _____.
- f. _____.

II. KEY PERSONNEL:

Key personnel to be employed on the job, in the event of contract award. Attach brief education and experience where applicable.

- 1. _____.
- 2. _____.
- 3. _____.
- 4. _____.

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the date given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheet. The bidder may submit any additional information, if desired.

1. Name of Bidder:
2. Permanent main office address:
 - a. Treasury Number (Employer's Identification No.):
3. When organized?
4. If a corporation, where incorporated?
5. How many years have you been engaged in the contracting business under your present firm or trade name?
 - a. Names and home addresses of principal officers and their social security numbers: (attach separate sheet).
6. Contracts on hand: (Schedule these, showing gross amount of each contract and the approximate anticipated dates of completion. Name and address of client and name of person supervising for client.) (Attach separate sheet)
7. General character of work performed by your company?
8. Have you ever failed to complete any work awarded to your? If so, where and why?
9. Have your ever defaulted on a contract? If so, where and why?
10. List the more important contracts recently completed by you stating approximate cost of each, and the month and year completed. (Give names and addresses of client and name of person supervising for client). (See attached form.)
11. List your major equipment available for this contract. (Use separate sheet)
12. Experience in construction work similar in importance to this project. (See form)
13. Background and experience of the principle members of your organization, including the officers.

- 14. Credit available: \$_____.
- 15. Give bank reference, including bank name, address, telephone and contact name.
- 16. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required?
- 17. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the City of Quincy in verification of the recitals comprising this Statement of Bidder's Qualifications.

Dated this _____ day of _____, 20__.

Name of Bidder: _____.

By: _____.

Title: _____.

State of _____.

County of _____.

_____ being duly sworn, deposed and says that he is

_____ of _____
(office) (Name of Organization)

and that the answers to the foregoing questions and all statements contained therein are true and correct.

SUBSCRIBED AND SWORN TO, before me the _____ day of _____, 20

(Notary Public) Seal

My commission expires: _____.

**CERTIFICATE OF ACKNOWLEDGMENT
OF CONTRACTOR FOR BID**

State of _____ .

Date: _____ 20__.

County of _____ .

On this _____ day of _____ , 20____,

before me personally appeared _____ .

who being duly sworn, did depose and say as follows:

_____, that said firm consists of
(Company Name)

(name of principals in firm and position)

that he executed the foregoing instrument on behalf of said firm for the uses and purposes stated herein. If a corporation, the seal affixed to the foregoing instrument is such corporate seal and it was so affixed by order of the Board of Directors of said corporation, and that by like order, he signed thereto his name and official designation.

(Notary Public) (Seal)

My commissioner expires: _____.



CITY OF QUINCY
Purchasing Department
1305 Hancock Street, Quincy, MA 02169

Phone: (617) 376-1060

Fax: (617) 376-1074

SIGNATURE AUTHORIZATION

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

(NAME OF CORPORATION)

held on _____, at which all the Directors were present or waived notice, it was
(DATE)

VOTED, that:

(NAME)

(OFFICER)

of this company, be and he/she hereby is authorized to execute Contracts and Bonds in the name and behalf of said Company, and affix its Corporate Seal thereto, and such execution of any Contract or obligation in this Company's name on its behalf by such _____ under seal of the Company, shall be valid
(OFFICER)

and binding upon this Company. It was further voted that the City of Quincy may rely on such authorization of future Contracts until notified to the contrary.

A true copy,

ATTEST: _____
(CLERK'S SIGNATURE)

PLACE OF BUSINESS: _____

DATE OF THIS CONTRACT: _____

I hereby certify that I am the Clerk of the:

_____ that _____ is the
(COMPANY) (NAME)

duly elected _____ of said Company, and that the above VOTE has not been
(TITLE)

amended or rescinded and remains in full force and effect as of the date of this Contract.

_____ **CORPORATE SEAL**

SIGNATURE PAGE

DATED: _____

BY: _____
(Signature and Title of Person Authorized to Sign Bid)

(Name of General Bidder)

(Business Address)

(Social Security Number – Federal Tax ID No.)

Telephone Number: (_____) _____

Email: _____

(SEAL: IF BID IS BY A CORPORATION)

ATTEST: _____

The proposed surety company on the bond to be given as follows:

(Contact Name)

(Name of Surety)

(Address of Home Office)

(Massachusetts Address, if different)

(Business Telephone)



CITY OF QUINCY
Purchasing Department
1305 Hancock Street, Quincy, MA 02169

Phone: 376-1060

Fax: 376-1074

TAX COMPLIANCE CERTIFICATE

MASS. GENERAL LAWS, CH. 62C, S: 49A(b)

I hereby certify that pursuant to MGL Chapter 62c, section 49a, I have complied with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding of child support. This is being signed under the pains and penalties of perjury.

(1) Individual Contractor

(Contractor's Name and Signature)

Social Security Number

(2) Corporation, Association
or Partnership

(Contractor's Name)

Federal Tax ID Number, or
Social Security Number

By:

(Authorized Signature)

CERTIFICATE OF NON – COLLUSION

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

(Name of person signing bid or proposal)
(Please print)

(Signature required)

(Name of business)

CHAPTER 62C. ADMINISTRATIVE PROVISIONS RELATIVE TO STATE TAXATION

Chapter 62C: Section 49A Certification of compliance with tax laws as prerequisite to obtaining license or governmental contract

Section 49A. (a) Any person applying to any department, board, commission, division, authority, district or other agency of the commonwealth or any subdivision of the commonwealth, including a city, town or district, for a right or license to conduct a profession, trade or business, or for the renewal of such right or license, shall certify upon such application, under penalties of perjury, that he has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support. Such right or license shall not be issued or renewed unless such certification is made.

(b) No contract or other agreement for the purposes of providing goods, services or real estate space to any of the foregoing agencies shall be entered into, renewed or extended with any person unless such person certifies in writing, under penalties of perjury, that he had complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

(c) Any such agency, which has been notified by the commissioner pursuant to section forty-seven A that a person who holds a license or certificate of authority issued by such agency or who has agreed to furnish goods, services or real estate space to such agency has neglected or refused to file any returns or to pay any tax required under this chapter and that such person has not filed in good faith a pending application for abatement of such tax or a pending petition before the appellate tax board contesting such tax or has been penalized pursuant to section 9 of chapter 62E for failure to comply with the provisions under said chapter 62E relating to reporting of employees and contractors, or has been penalized pursuant to paragraph (3) of subsection (f) of section 12 of chapter 119A for failure to comply with the provisions under said chapter 119A relating to withholding and remitting child support, shall refuse to reissue, renew or extend such license, certificate of authority, contract or agreement until the agency receives a certificate issued by the commissioner that the person is in good standing with respect to any and all returns due and taxes payable to the commissioner as of the date of issuance of said certificate, including all returns and taxes referenced in the initial notification or, if the licensee has been penalized for failure to comply with the provisions relating to reporting of employees and contractors under chapter 62E or withholding and remitting child support under chapter 119A, a certificate issued by the commissioner that the licensee is in compliance with said provisions.

(d) Any person who owns or leases a motor vehicle or trailer that is required to be registered in the commonwealth under chapter 90 and improperly registers the motor vehicle or trailer in another state or misrepresents the place of garaging of the motor vehicle or trailer in another city or town, shall be considered in violation of laws of the commonwealth relating to taxes under chapter 60A, chapter 64H or chapter 64I. The right, license or contract provided for in subsections (a) and (b) shall not be issued or renewed until the person or business entity has paid all taxes due at the time of application for such right, license or contract.

(e) Any person who, for the purpose of evading payment of a tax pursuant to chapters 59 to 64J, inclusive, willfully makes and subscribes any return, form, statement or other document pursuant to subsection (a), (b) or (d) that contains or is verified by a written declaration that is made under the penalties of perjury, and that contains information that he does not believe to be true and correct as to every matter material to his compliance with all laws of the commonwealth relating to taxes, shall be subject to section 73.

**AFFIDAVIT
REGARDING PRIOR LABOR DISPUTES**

The Bidder must execute and complete the following statements as to whether it has been the subject of, or otherwise been involved in, any labor dispute during the past five (5) years. If the Bidder has been the subject of, or otherwise been involved in any labor dispute during this period, the bidder must also provide a detailed description of each labor dispute, including the name and location of the project worked on, the nature of the dispute was resolved. For these purposes, "labor disputes" shall include picketing or any other activity which disrupted or delayed the work.

I _____, being first duly sworn, do hereby depose/state:
(Name)

1. I make each of the following statements with full authorization to bind

_____ to each of the representations made below.
(Name of Bidder)

2. _____ has/has not been involved in a labor dispute
(Name of Bidder)

as described above, within the past five (5) years.

3. (Complete only if bidder has been involved in dispute).

The dispute(s) occurred on the following project(s). (Use separate sheet if necessary)

<u>Name and Location of Project</u>	<u>Date Dispute Began</u>	<u>Date Concluded</u>
-------------------------------------	---------------------------	-----------------------

a.

b.

Attach separate sheet and give full description of the nature of each dispute and an explanation of how it was resolved. (Please give a full description below, for each such dispute).

Signed under the penalty of perjury this _____ day of _____, 20____.

BY: _____

on behalf of: _____
(Company name)

CERTIFICATION

Internal Accounting

The Contractor certifies that it has internal accounting controls, as required by Chapter 30, Section 39R and that the Contractor will:

1. maintain accurate and detailed accounts for a six (6) year period after the final payment;
2. file regular statements of management concerning internal auditing controls;
3. file an annual audited financial statement; and
4. submit a statement from an independent certified public accountant that such CPA has examined management's internal auditing controls and expresses an opinion as to their consistency with management's statements in (2) above, and whether such statements are reasonable with respect to transactions and assets that are substantial in relation to designer's financial statements. General Laws, Chapter 7, Section 301 (e).

Signed under the pains and penalties of perjury:

Name of Company

Authorized Signature

Note: This form is to be completed only when the contract exceeds \$100,000 and is for the purchase of materials or for the construction, renovation, etc. of public works or public buildings.

(To be typed onto letterhead of the Certified Public Accountant)

City of Quincy
Office of the City Solicitor
1305 Hancock Street
Quincy, Massachusetts 02169

Attn: James S. Timmins
City Solicitor

RE: _____
Project Name

Dear Mr. Timmins:

Please be advised that I have reviewed the statement on internal accounting controls prepared by/for

_____ (name of company), in connection with the above captioned project. This statement is required under Massachusetts General Laws, Chapter 30, § 39R. In our opinion, representations of management are consistent with our evaluation of the system of internal accounting controls. In addition, we believe that they are reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the firm's financial statements.

Yours sincerely,

Certified Public Accountant

Note: This form is to be completed only when the contract exceeds \$100,000. and is for the purchase of materials or for the construction, renovation, etc. of public works or public buildings.

**CERTIFICATION OF GENERAL BIDDERS ON PUBLIC CONSTRUCTION
PROJECTS**

I. CERTIFICATION REGARDING HEALTH AND SAFETY

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 ten 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 application to awards made subject to section 44A.

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

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 _____
Signature

Print name and title

Business Address

Street Address City and State

**CERTIFICATION OF SUB- BIDDERS (IF ANY) ON PUBLIC CONSTRUCTION
PROJECTS**

I. CERTIFICATION REGARDING HEALTH AND SAFETY

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 Occupation Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F.

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

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

Date _____

Name of Sub-bidder

By _____
Signature

Print Name and Title

Business Name

Street Address, City and State

INDEMNITY AGREEMENT

In consideration of the award of Contract No. _____.

by the City of Quincy, hereinafter referred to as INDEMNITEE, to the CONTRACTOR/BIDDER:

_____.

hereinafter referred to as INDEMNITOR, and for other good and valuable consideration, said INDEMNITOR agrees to hold INDEMNITEE, City of Quincy, and its various department and employees harmless from any and all liability, loss or damage that INDEMNITEE may suffer as the result of claims, demands, costs, including attorneys fees, or judgement or other actions against it by reason of any and all work done by or on behalf of the INDEMNITOR in connection with the above-referenced contract.

INDEMNITOR,

By Duly Authorized Agent

Date: _____.

TILE

FORM FOR SUB-BID

To all General Bidders Except those Excluded:

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

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

[Repeat preceding line for each alternate]

B. This sub-bid includes addenda numbered _____

C. This sub-bid

may be used by any general bidder except:

may only be used by the following general bidders:

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

D. The undersigned agrees that, if he is selected as a sub-bidder, he will, within 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 the general bidder, who shall pay the premiums therefor, or if prequalification is required pursuant to section 44D 3/4, 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.

FORM FOR SUB-BID – PAGE 2

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

Name	Class of Work	Bid price
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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

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

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

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

1. Have been in business under present business name _____ years.

2. Ever failed to complete any work awarded? _____

3. List one or more recent buildings with names of the general contractor and architect on which you served as a sub-contractor for work of similar character as required for the above-named building.

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

4. Bank reference _____

FORM FOR SUB-BID – PAGE 3

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

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

Date _____

(Name of Sub-bidder)

By _____
(Title and Name of Person Signing Bid)

(Business Address)

(City and State)

PLUMBING

FORM FOR SUB-BID

To all General Bidders Except those Excluded:

- A. The undersigned proposes to furnish all labor and materials required for completing, in accordance with the hereinafter described plans, specifications and addenda, all the work specified in Section No. _____ of the specifications and in any plans specified in such section, prepared by _____ (name of architect or engineer) for _____ (project) in _____ (city or town), Massachusetts, for the contract sum of _____ dollars (\$ _____).

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

[Repeat preceding line for each alternate]

- B. This sub-bid includes addenda numbered _____

- C. This sub-bid

may be used by any general bidder except:

may only be used by the following general bidders:

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

- D. The undersigned agrees that, if he is selected as a sub-bidder, he will, within 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 the general bidder, who shall pay the premiums therefor, or if prequalification is required pursuant to section 44D 3/4, 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.

FORM FOR SUB-BID – PAGE 2

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

Name	Class of Work	Bid price
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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

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

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

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

1. Have been in business under present business name _____ years.

2. Ever failed to complete any work awarded? _____

3. List one or more recent buildings with names of the general contractor and architect on which you served as a sub-contractor for work of similar character as required for the above-named building.

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

4. Bank reference _____

FORM FOR SUB-BID – PAGE 3

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

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

Date _____

(Name of Sub-bidder)

By _____
(Title and Name of Person Signing Bid)

(Business Address)

(City and State)

ELECTRICAL
FORM FOR SUB-BID

To all General Bidders Except those Excluded:

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

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

[Repeat preceding line for each alternate]

B. This sub-bid includes addenda numbered _____

C. This sub-bid

may be used by any general bidder except:

may only be used by the following general bidders:

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

D. The undersigned agrees that, if he is selected as a sub-bidder, he will, within 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 the general bidder, who shall pay the premiums therefor, or if prequalification is required pursuant to section 44D 3/4, 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.

FORM FOR SUB-BID – PAGE 2

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

Name	Class of Work	Bid price
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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

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

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

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

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

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

4. Bank reference _____

FORM FOR SUB-BID – PAGE 3

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

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

Date _____

(Name of Sub-bidder)

By _____
(Title and Name of Person Signing Bid)

(Business Address)

(City and State)

FORM FOR GENERAL BID

To the Awarding Authority:

A. The Undersigned proposes to furnish all labor and materials required for _____ (project) in _____, Massachusetts, in accordance with the accompanying plans and specifications prepared by _____ (name of architect or engineer) for the contract price specified below, subject to additions and deductions according to the terms of the specifications.

B. This bid includes addenda numbered _____

C. The proposed contract price is _____ dollars (\$_____).

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

(Repeat preceding line for each alternate)

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

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

Item 2. Sub-bids as follows: –

Sub-trade	Name of Sub-bidder	Amount	Bonds required, indicated by "Yes" or "No"
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
	Total of Item 2	\$ _____	

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

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

FORM FOR GENERAL BID – PAGE 2

E. The undersigned agrees that, if he is selected as general contractor, he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price; provided, however, that if there is more than 1 surety company, the surety companies shall be jointly and severally liable.

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

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

Date _____

(Name of General Bidder)

By _____
(Name of Person Signing Bid and Title)

(Business Address)

(City and State)

**SPECIAL NOTICE TO AWARDING AUTHORITY
BIDDERS' UPDATE STATEMENTS ARE NOT PUBLIC RECORDS AND
ARE NOT OPEN TO PUBLIC INSPECTION (M.G.L. C.149, §44D)**

**Commonwealth of Massachusetts
Division of Capital Asset Management**

**PRIME/GENERAL CONTRACTOR
UPDATE STATEMENT**

TO ALL BIDDERS AND AWARDING AUTHORITIES

A COMPLETED AND SIGNED PRIME/GENERAL CONTRACTOR UPDATE STATEMENT MUST BE SUBMITTED WITH EVERY PRIME/GENERAL BID FOR A CONTRACT PURSUANT TO M.G.L. c.149, §44A AND M.G.L. c. 149A. ANY PRIME/GENERAL BID SUBMITTED WITHOUT AN APPROPRIATE UPDATE STATEMENT IS INVALID AND MUST BE REJECTED.

Caution: This form is to be used for submitting Prime/General Contract bids. It is not to be used for submitting Filed Sub-Bids or Trade Sub-Bids.

AWARDING AUTHORITIES

If the Awarding Authority determines that the bidder does not demonstrably possess the skill, ability, and integrity necessary to perform the work on the project, it must reject the bid.

BIDDER'S AFFIDAVIT

I swear under the pains and penalties of perjury that I am duly authorized by the bidder named below to sign and submit this Prime/General Contractor Update Statement on behalf of the bidder named below, that I have read this Prime/General Contractor Update Statement, and that all of the information provided by the bidder in this Prime/General Contractor Update Statement is true, accurate, and complete as of the bid date.

[Enter Bid Date Here]
Bid Date

[Enter Name of Prime/General Contractor Here]
Name of Prime/General Contractor

[Enter Project Number Here]
Project Number (or
name if no number)

[Enter Business Address Here]
Business Address

[Enter Name of Awarding Authority Here]
Awarding Authority

[Enter Your Telephone Number Here]
Telephone Number

SIGNATURE ⇨

Bidder's Authorized Representative

INSTRUCTIONS

INSTRUCTIONS TO BIDDERS

- This form must be completed and submitted by all Prime/General contractors bidding on projects pursuant to M.G.L. c. 149, §44A and M.G.L. c. 149A.
- You must give complete and accurate answers to all questions and provide all of the information requested. **MAKING A MATERIALLY FALSE STATEMENT IN THIS UPDATE STATEMENT IS GROUNDS FOR REJECTING YOUR BID AND FOR DEBARRING YOU FROM ALL PUBLIC CONTRACTING.**
- Information is to cover the period from the date your most recent annual Certificate of Eligibility was issued (not extended) to the date of the bid.
- You must use this official form of Update Statement. Copies of this form may be obtained from the awarding authority and from the Asset Management Web Site: www.mass.gov/cam
- If additional space is needed, please copy the appropriate page of this Update Statement and attach it as an additional sheet.
- See the section entitled "Bidding Limits" in the *Instructions to Awarding Authorities* for important information concerning your bidding limits.

INSTRUCTIONS TO AWARDING AUTHORITIES

Determination of Bidder Qualifications

- It is the awarding authority's responsibility to determine who is the lowest eligible and responsible bidder. You must consider all of the information in the low bidder's Update Statement in making this determination. **Remember:** this information was not available to the Division of Capital Asset Management at the time of certification.
- The bidder's performance on the projected listed in Parts 1 and 2 must be part of your review. Contact the project references.
- **AWARDING AUTHORITIES ARE STRONGLY ENCOURAGED TO REVIEW THE LOW BIDDER'S ENTIRE CERTIFICATION FILE AT THE DIVISION OF CAPITAL ASSET MANAGEMENT. Telephone (617) 727-9320 for an appointment.**

Bidding Limits

Single Project Limit: The total amount of the bid, including all alternates, may not exceed the bidder's Single Project Limit.

Aggregate Work Limit: The annual value of the work to be performed on the contract for which the bid is submitted, when added to the annual cost to complete the bidder's other currently held contracts, may not exceed the bidder's Aggregate Work Limit. Use the following procedure to

determine whether the low bidder is within its Aggregate Work Limit:

- Step 1** Review Update Statement Question #2 to make sure that all requested information is provided and that the bidder has accurately calculated and totaled the annualized value of all incomplete work on its currently held contracts (column 9).
- Step 2** Determine the annual dollar value of the work to be performed on your project. This is done as follows:
- (i) If the project is to be completed in less than 12 months, the annual dollar value of the work is equal to the full amount of the bid.
 - (ii) If the project will take more than 12 months to complete, calculate the number of years given to complete the project by dividing the total number of months in the project schedule by 12 (calculate to 3 decimal places), then divide the amount of the bid by the calculated number of years to find the annual dollar value of the work.
- Step 3** Add the annualized value of all of the bidder's incomplete contract work (the total of column 9 on page 5) to the annual dollar value of the work to be performed on your project. **The total may not exceed the bidder's Aggregate Work Limit.**

Correction of Errors and Omissions in Update Statements

Matters of Form: An awarding authority shall not reject a contractor's bid because there are mistakes or omissions of form in the Update Statement submitted with the bid, provided the contractor promptly corrects those mistakes or omissions upon request of the awarding authority. [810 CMR 4.09(1)].

Correction of Other Defects: An awarding authority may, in its discretion, give a contractor notice of defects, other than mistakes or omissions of form, in the contractor's Update Statement, and an opportunity to correct such defects, provided the correction of such defects is not prejudicial to fair competition. An awarding authority may reject a corrected Update Statement if it contains unfavorable information about the contractor that was omitted from the Update Statement filed with the contractor's bid. [810 CMR 4.09(2)].

PART 1 - COMPLETED PROJECTS

LIST ALL PUBLIC AND PRIVATE BUILDING PROJECTS YOUR FIRM HAS COMPLETED SINCE THE DATE YOUR CURRENT CERTIFICATE OF ELIGIBILITY WAS ISSUED (NOT EXTENDED). *

PROJECT TITLE & LOCATION	WORK CATEGORY	CONTRACT PRICE	START DATE	DATE COMPLETED
[Enter Project Title & Location Here]	[Enter Work Category]	[Enter Contract Price]	[Enter Start Date]	[Date Completed]
[Enter Project Title & Location Here]	[Enter Work Category]	[Enter Contract Price]	[Enter Start Date]	[Date Completed]
[Enter Project Title & Location Here]	[Enter Work Category]	[Enter Contract Price]	[Enter Start Date]	[Date Completed]
[Enter Project Title & Location Here]	[Enter Work Category]	[Enter Contract Price]	[Enter Start Date]	[Date Completed]
[Enter Project Title & Location Here]	[Enter Work Category]	[Enter Contract Price]	[Enter Start Date]	[Date Completed]
[Enter Project Title & Location Here]	[Enter Work Category]	[Enter Contract Price]	[Enter Start Date]	[Date Completed]

Attach additional sheets if necessary

* If your firm has been terminated from a project prior to completion of the work or has failed or refused to complete its work under any contract, full details and an explanation must be provided. See Part 3 of this Update Statement.

PROVIDE THE FOLLOWING REFERENCE INFORMATION FOR EACH COMPLETED PROJECT LISTED ON THE PREVIOUS PAGE.

PROJECT TITLE	COMPANY NAME	CONTACT PERSON	TELEPHONE
	OWNER:		
	DESIGNER:		
	GC:		
	OWNER:		
	DESIGNER:		
	GC:		
	OWNER:		
	DESIGNER:		
	GC:		
	OWNER:		
	DESIGNER:		
	GC:		
	OWNER:		
	DESIGNER:		
	GC:		

Is your company or any individual who owns, manages or controls your company affiliated with any owner, designer or general contractor named above, either through a business or family relationship? YES NO

Are any of the contact persons named above affiliated with your company or any individual who owns, manages or control your company, either through a business or family relationship? YES NO

If you have answered YES to either question, explain:

PART 2 - CURRENTLY HELD CONTRACTS

LIST ALL PUBLIC AND PRIVATE BUILDING AND NON-BUILDING CONSTRUCTION PROJECTS YOUR FIRM HAS UNDER CONTRACT ON THIS DATE REGARDLESS OF WHEN OR WHETHER THE WORK COMMENCED.

1 PROJECT TITLE & LOCATION	2 WORK CATEGORY	3 START AND END DATES	4 ON SCHEDULE (yes / no)	5 CONTRACT PRICE	6 % NOT COMPLETE	7 \$ VALUE OF WORK NOT COMPLETE (col. 5 x col. 6)	8 NO. OF YEARS REMAINING (see note below)	9 ANNUALIZED VALUE OF INCOMPLETE WORK (col. 7 + col. 8)

ANNUALIZED VALUE OF ALL INCOMPLETE CONTRACT WORK (Total of Column 9) \$

- Column 8**
- If less than one year is left in the project schedule, write 1.
 - If more than 12 months are left in the project schedule, divide the number of months left in the project schedule by 12 (calculate to three decimal places).

PROVIDE THE FOLLOWING REFERENCE INFORMATION FOR EACH INCOMPLETE PROJECT LISTED ON THE PREVIOUS PAGE.

PROJECT TITLE	COMPANY NAME	CONTACT PERSON	TELEPHONE
	OWNER:		
	DESIGNER:		
	GC:		
	OWNER:		
	DESIGNER:		
	GC:		
	OWNER:		
	DESIGNER:		
	GC:		
	OWNER:		
	DESIGNER:		
	GC:		
	OWNER:		
	DESIGNER:		
	GC:		
	OWNER:		
	DESIGNER:		
	GC:		

Is your company or any individual who owns, manages or controls your company affiliated with any owner, designer or general contractor named above either through a business or family relationship? YES NO

Are any of the contact persons named above affiliated with your company or any individual who owns, manages or control your company, either through a business or family relationship? YES NO

If you have answered YES to either question, explain:

PART 3 - PROJECT PERFORMANCE

Please answer the following questions. Information is to cover the period from the date your current Certificate of Eligibility was issued to the bid date.

If you answer YES to any question, on a separate page provide a complete explanation. Include all details [project name(s) and location(s), names of all parties involved, relevant dates, etc.].

	YES	NO
A. Has your firm been terminated on any contract prior to completing its work?	<input type="checkbox"/>	<input type="checkbox"/>
B. Has your firm failed or refused either to perform or complete any of its work under any contract prior to substantial completion?	<input type="checkbox"/>	<input type="checkbox"/>
C. Has your firm failed or refused to complete any punchlist work under any contract?	<input type="checkbox"/>	<input type="checkbox"/>
D. Has your surety taken over or been asked to complete any of your work under any contract?	<input type="checkbox"/>	<input type="checkbox"/>
E. Has your surety made payment to a materials supplier or other party under your payment bond on any contract?	<input type="checkbox"/>	<input type="checkbox"/>
F. Has any subcontractor filed a demand for direct payment with an awarding authority on a public project for any of your contracts?	<input type="checkbox"/>	<input type="checkbox"/>
G. Have any of your subcontractors or suppliers filed litigation to enforce a mechanic's lien against property in connection with work performed or materials supplied under any of your contracts?	<input type="checkbox"/>	<input type="checkbox"/>
H. Have there been any deaths of employee or others occurring in connection with any of your projects?	<input type="checkbox"/>	<input type="checkbox"/>
I. Has any employee or other person suffered an injury resulting in complete disability in excess of thirty working days in connection with any of your projects?	<input type="checkbox"/>	<input type="checkbox"/>

PART 4 - LEGAL PROCEEDINGS

Please answer the following questions. Information is to cover the period from the date your current Certificate of Eligibility was issued to the bid date.

The term "Administrative Proceeding" as used in this Update Statement includes (i) any action or proceeding brought by a governmental agency, department or officer to enforce any law, regulation, code or other legal requirement, except for those brought in state or federal courts, and (ii) any action taken by a governmental agency, department or officer imposing penalties, fines or other sanctions for failure to comply with any such legal requirement.

If you answer YES to any question, on a separate page provide a complete explanation of each proceeding and any judgement or decision. Include all details (name of court or administrative agency, title of case or proceeding, case number, date action was commenced, date judgement or decision was entered, fines or penalties imposed, etc.).

	YES	NO
A. Have any judicial proceedings (other than criminal proceedings) been brought or concluded adversely against your firm or a principal or officer of your firm relating to the procurement or performance of any construction contract, including actions to obtain payment brought by subcontractors, suppliers or others?	<input type="checkbox"/>	<input type="checkbox"/>
B. Have any criminal proceedings been brought or concluded adversely against your firm or a principal or officer of your firm relating to any of the following offenses: graft, embezzlement, forgery, bribery, falsification or destruction of records, receipt of stolen property or environmental offenses?	<input type="checkbox"/>	<input type="checkbox"/>
C. Have any judicial or administrative proceedings been brought or concluded adversely against your firm or a principal or officer of your firm relating to a violation of state or federal antitrust laws arising out of the submission of bids or proposals?	<input type="checkbox"/>	<input type="checkbox"/>
D. Have any judicial or administrative proceedings been brought or concluded adversely against your firm or a principal or officer of your firm relating to a violation of state or federal laws regulating campaign contributions?	<input type="checkbox"/>	<input type="checkbox"/>
E. Have any judicial or administrative proceedings been brought or concluded adversely against your firm or a principal or officer of your firm relating to a violation of chapter 268A of the Massachusetts General Laws?	<input type="checkbox"/>	<input type="checkbox"/>
F. Have any judicial or administrative proceedings been brought or concluded adversely against your firm or a principal or officer of your firm relating to a violation of any state or federal law regulating prevailing wages?	<input type="checkbox"/>	<input type="checkbox"/>
G. Have any judicial or administrative proceedings been brought or concluded adversely against your firm or a principal or officer of your firm relating to a violation of any state or federal law regulating hours of labor, minimum wages, overtime pay, equal pay, child labor or worker's compensation?	<input type="checkbox"/>	<input type="checkbox"/>
H. Have any judicial or administrative proceedings been brought or concluded adversely against your firm or a principal or officer of your firm relating to a violation of any state or federal law prohibiting discrimination in employment?	<input type="checkbox"/>	<input type="checkbox"/>
I. Have any judicial or administrative proceedings been brought or concluded adversely against your firm or a principal or officer of your firm relating to a claim of repeated or aggravated violation of any state or federal law regulating labor relations or occupational health or safety?	<input type="checkbox"/>	<input type="checkbox"/>
J. Have any proceedings been brought by any state or federal agency to debar or suspend your firm or any principal or officer of your firm from public contracting?	<input type="checkbox"/>	<input type="checkbox"/>
K. Has your firm been fined by OSHA or any other state or federal agency for violations of any laws or regulations related to occupational health or safety?	<input type="checkbox"/>	<input type="checkbox"/>

PART 5 - SUPERVISORY PERSONNEL

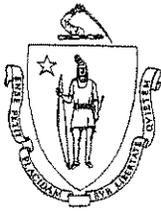
List all supervisory personnel, such as project managers and superintendents, who will be assigned to the project if your firm is awarded the contract. **Attach the resume of each person listed below.**

NAME	TITLE OR FUNCTION

PART 6 - CHANGES IN BUSINESS ORGANIZATION OR FINANCIAL CONDITION

Have there been any changes in your firm's business organization, financial condition or bonding capacity since the date your current Certificate of Eligibility was issued? Yes No

If YES, attach a separate page providing complete details.



THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF LABOR
DIVISION OF OCCUPATIONAL SAFETY
PREVAILING WAGE PROGRAM
www.mass.gov/dos/pw

The Massachusetts Prevailing Wage Law
M.G.L. c. 149, §§26-27

NOTICE TO AWARDING AUTHORITIES

- The enclosed wage schedule applies only to the specific project listed at the top of the schedule, and these rates will remain in effect for the duration of the project.
- You should request an updated wage schedule from the Division of Occupational Safety if you have not opened bids or selected a contractor within 90 days of the date of issuance of the enclosed wage schedule.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project for which it has been issued.
- Once a contractor has been selected by the awarding authority, the wage schedule shall be made a part of the contract for that project.

NOTICE TO CONTRACTORS

- The enclosed wage schedule must be posted in a conspicuous place at the work site during the life of the project.
- The wages listed on the enclosed wage schedule must be paid to employees on public works projects regardless of whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- The enclosed wage schedule applies to all phases of the project, including the final clean-up. Contractors whose only role is to perform final clean-up must pay their employees according to this wage schedule.
- All apprentices must be registered with the Massachusetts Division of Apprenticeship Training (DAT) in order to be paid at the lower apprentice rates. All apprentices must keep his/her apprentice identification card on his/her person during all work hours. If a worker is not registered with DAT, they must be paid the "total rate" listed on the wage schedule regardless of experience or skill level. For further information, please call 617-626-5409, or write to DAT, 19 Staniford Street, Floor 1, P.O. Box 146759, Boston, MA 02114.

WEEKLY PAYROLL RECORDS REPORT
& STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form has been printed on the reverse of this page and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

In addition, every contractor and subcontractor is required to submit a copy of their weekly payroll records to the awarding authority. This is required to be done on a weekly basis. Once collected, the awarding authority is also required to preserve those records for three years.

In addition, each such contractor, subcontractor or public body shall furnish to the Department of Labor & Workforce Development/Division of Occupational Safety within fifteen days after completion of its portion of the work a statement, executed by the contractor, subcontractor or public body who supervises the payment of wages, in the following form:

STATEMENT OF COMPLIANCE

_____, 200_____

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

do hereby state:

That I pay or supervise the payment of the persons employed by
_____ on the _____
(Contractor, subcontractor or public body) (Building or project)

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

Signature _____
Title _____



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

Prevailing Wage Rates

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

RONALD L. WALKER, II
Secretary

WILLIAM D MCKINNEY
Director

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

Awarding Authority: City of Quincy
Contract Number: **City/Town:** QUINCY
Description of Work: QUINCY COLLEGE BATHROOM RENOVATIONS - DEMO WORK, NEW DOORS, FRAMES, NEW DRYWALL AND NEW TOILET COMPARTMENTS, FILED SUBS IN PLUMBING, HVAC AND TILE
Job Location: 32 SAVILLE AVE, QUINCY, MA 02169

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2015	\$32.75	\$10.41	\$9.33	\$0.00	\$52.49
	12/01/2015	\$32.75	\$10.41	\$10.08	\$0.00	\$53.24
	06/01/2016	\$33.25	\$10.41	\$10.08	\$0.00	\$53.74
	08/01/2016	\$33.25	\$10.91	\$10.08	\$0.00	\$54.24
	12/01/2016	\$33.25	\$10.91	\$10.89	\$0.00	\$55.05
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2015	\$32.82	\$10.41	\$9.33	\$0.00	\$52.56
	12/01/2015	\$32.82	\$10.41	\$10.08	\$0.00	\$53.31
	06/01/2016	\$33.32	\$10.41	\$10.08	\$0.00	\$53.81
	08/01/2016	\$33.32	\$10.91	\$10.08	\$0.00	\$54.31
	12/01/2016	\$33.32	\$10.91	\$10.89	\$0.00	\$55.12
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2015	\$32.94	\$10.41	\$9.33	\$0.00	\$52.68
	12/01/2015	\$32.94	\$10.41	\$10.08	\$0.00	\$53.43
	06/01/2016	\$33.44	\$10.41	\$10.08	\$0.00	\$53.93
	08/01/2016	\$33.44	\$10.91	\$10.08	\$0.00	\$54.43
	12/01/2016	\$33.44	\$10.91	\$10.89	\$0.00	\$55.24
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.29	\$9.80	\$19.23	\$0.00	\$117.32
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.85	\$7.30	\$13.20	\$0.00	\$56.35
	12/01/2015	\$36.60	\$7.30	\$13.20	\$0.00	\$57.10
	06/01/2016	\$37.35	\$7.30	\$13.20	\$0.00	\$57.85
	12/01/2016	\$38.35	\$7.30	\$13.20	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	06/01/2015	\$33.43	\$10.40	\$5.95	\$0.00	\$49.78
	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.85	\$7.30	\$13.20	\$0.00	\$56.35
	12/01/2015	\$36.60	\$7.30	\$13.20	\$0.00	\$57.10
	06/01/2016	\$37.35	\$7.30	\$13.20	\$0.00	\$57.85
	12/01/2016	\$38.35	\$7.30	\$13.20	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2015	\$40.32	\$6.97	\$16.21	\$0.00	\$63.50
	01/01/2016	\$41.62	\$6.97	\$16.21	\$0.00	\$64.80
	01/01/2017	\$42.92	\$6.97	\$16.21	\$0.00	\$66.10

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$26.21	\$6.97	\$10.54	\$0.00	\$43.72
2	65	\$26.21	\$6.97	\$10.54	\$0.00	\$43.72
3	70	\$28.22	\$6.97	\$11.35	\$0.00	\$46.54
4	75	\$30.24	\$6.97	\$12.16	\$0.00	\$49.37
5	80	\$32.26	\$6.97	\$12.97	\$0.00	\$52.20
6	85	\$34.27	\$6.97	\$13.78	\$0.00	\$55.02
7	90	\$36.29	\$6.97	\$14.59	\$0.00	\$57.85
8	95	\$38.30	\$6.97	\$15.40	\$0.00	\$60.67

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
2	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
3	70	\$29.13	\$6.97	\$11.35	\$0.00	\$47.45
4	75	\$31.22	\$6.97	\$12.16	\$0.00	\$50.35
5	80	\$33.30	\$6.97	\$12.97	\$0.00	\$53.24
6	85	\$35.38	\$6.97	\$13.78	\$0.00	\$56.13
7	90	\$37.46	\$6.97	\$14.59	\$0.00	\$59.02
8	95	\$39.54	\$6.97	\$15.40	\$0.00	\$61.91

Notes:

Apprentice to Journeyworker Ratio:1:5

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (QUINCY)</i>	08/01/2015	\$49.86	\$10.18	\$18.57	\$0.00	\$78.61
	02/01/2016	\$50.43	\$10.18	\$18.57	\$0.00	\$79.18
	08/01/2016	\$51.33	\$10.18	\$18.65	\$0.00	\$80.16
	02/01/2017	\$51.90	\$10.18	\$18.65	\$0.00	\$80.73

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.93	\$10.18	\$18.57	\$0.00	\$53.68
2	60	\$29.92	\$10.18	\$18.57	\$0.00	\$58.67
3	70	\$34.90	\$10.18	\$18.57	\$0.00	\$63.65
4	80	\$39.89	\$10.18	\$18.57	\$0.00	\$68.64
5	90	\$44.87	\$10.18	\$18.57	\$0.00	\$73.62

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.22	\$10.18	\$18.57	\$0.00	\$53.97
2	60	\$30.26	\$10.18	\$18.57	\$0.00	\$59.01
3	70	\$35.30	\$10.18	\$18.57	\$0.00	\$64.05
4	80	\$40.34	\$10.18	\$18.57	\$0.00	\$69.09
5	90	\$45.39	\$10.18	\$18.57	\$0.00	\$74.14

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
<i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN	06/01/2015	\$36.20	\$7.30	\$13.40	\$0.00	\$56.90
<i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2015	\$36.95	\$7.30	\$13.40	\$0.00	\$57.65
	06/01/2016	\$37.70	\$7.30	\$13.40	\$0.00	\$58.40
	12/01/2016	\$38.70	\$7.30	\$13.40	\$0.00	\$59.40

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER	06/01/2015	\$35.05	\$7.30	\$13.40	\$0.00	\$55.75
<i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2015	\$35.80	\$7.30	\$13.40	\$0.00	\$56.50
	06/01/2016	\$36.55	\$7.30	\$13.40	\$0.00	\$57.25
	12/01/2016	\$37.55	\$7.30	\$13.40	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING TOP MAN	06/01/2015	\$35.05	\$7.30	\$13.40	\$0.00	\$55.75
<i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2015	\$35.80	\$7.30	\$13.40	\$0.00	\$56.50
	06/01/2016	\$36.55	\$7.30	\$13.40	\$0.00	\$57.25
	12/01/2016	\$37.55	\$7.30	\$13.40	\$0.00	\$58.25

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	03/01/2015	\$35.75	\$9.80	\$16.48	\$0.00	\$62.03

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.88	\$9.80	\$1.63	\$0.00	\$29.31
2	60	\$21.45	\$9.80	\$1.63	\$0.00	\$32.88
3	70	\$25.03	\$9.80	\$11.59	\$0.00	\$46.42
4	75	\$26.81	\$9.80	\$11.59	\$0.00	\$48.20
5	80	\$28.60	\$9.80	\$13.22	\$0.00	\$51.62
6	80	\$28.60	\$9.80	\$13.22	\$0.00	\$51.62
7	90	\$32.18	\$9.80	\$14.85	\$0.00	\$56.83
8	90	\$32.18	\$9.80	\$14.85	\$0.00	\$56.83

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (QUINCY)</i>	07/01/2015	\$45.82	\$10.90	\$18.71	\$1.30	\$76.73
	01/01/2016	\$46.44	\$10.90	\$18.71	\$1.30	\$77.35

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$10.90	\$12.21	\$0.00	\$46.02
2	60	\$27.49	\$10.90	\$13.71	\$1.30	\$53.40
3	65	\$29.78	\$10.90	\$14.71	\$1.30	\$56.69
4	70	\$32.07	\$10.90	\$15.71	\$1.30	\$59.98
5	75	\$34.37	\$10.90	\$16.71	\$1.30	\$63.28
6	80	\$36.66	\$10.90	\$17.71	\$1.30	\$66.57
7	90	\$41.24	\$10.90	\$18.71	\$1.30	\$72.15

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.22	\$10.90	\$12.21	\$0.00	\$46.33
2	60	\$27.86	\$10.90	\$13.71	\$1.30	\$53.77
3	65	\$30.19	\$10.90	\$14.71	\$1.30	\$57.10
4	70	\$32.51	\$10.90	\$15.71	\$1.30	\$60.42
5	75	\$34.83	\$10.90	\$16.71	\$1.30	\$63.74
6	80	\$37.15	\$10.90	\$17.71	\$1.30	\$67.06
7	90	\$41.80	\$10.90	\$18.71	\$1.30	\$72.71

Notes:

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

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
LABORERS - ZONE 1	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	06/01/2015	\$43.83	\$10.00	\$14.55	\$0.00	\$68.38
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$45.08	\$10.00	\$14.55	\$0.00	\$69.63
	06/01/2016	\$45.83	\$10.00	\$14.55	\$0.00	\$70.38
	12/01/2016	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	06/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
	12/01/2017	\$49.08	\$10.00	\$14.55	\$0.00	\$73.63

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

COMPRESSOR OPERATOR	06/01/2015	\$29.61	\$10.00	\$14.55	\$0.00	\$54.16
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$30.48	\$10.00	\$14.55	\$0.00	\$55.03
	06/01/2016	\$31.00	\$10.00	\$14.55	\$0.00	\$55.55
	12/01/2016	\$31.87	\$10.00	\$14.55	\$0.00	\$56.42
	06/01/2017	\$32.56	\$10.00	\$14.55	\$0.00	\$57.11
	12/01/2017	\$33.25	\$10.00	\$14.55	\$0.00	\$57.80

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DELEADER (BRIDGE) PAINTERS LOCAL 35 - ZONE 2	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.28	\$7.85	\$0.00	\$0.00	\$32.13
2	55	\$26.71	\$7.85	\$3.66	\$0.00	\$38.22
3	60	\$29.14	\$7.85	\$3.99	\$0.00	\$40.98
4	65	\$31.56	\$7.85	\$4.32	\$0.00	\$43.73
5	70	\$33.99	\$7.85	\$14.11	\$0.00	\$55.95
6	75	\$36.42	\$7.85	\$14.44	\$0.00	\$58.71
7	80	\$38.85	\$7.85	\$14.77	\$0.00	\$61.47
8	90	\$43.70	\$7.85	\$15.44	\$0.00	\$66.99

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$7.85	\$0.00	\$0.00	\$32.61
2	55	\$27.23	\$7.85	\$3.66	\$0.00	\$38.74
3	60	\$29.71	\$7.85	\$3.99	\$0.00	\$41.55
4	65	\$32.18	\$7.85	\$4.32	\$0.00	\$44.35
5	70	\$34.66	\$7.85	\$14.11	\$0.00	\$56.62
6	75	\$37.13	\$7.85	\$14.44	\$0.00	\$59.42
7	80	\$39.61	\$7.85	\$14.77	\$0.00	\$62.23
8	90	\$44.56	\$7.85	\$15.44	\$0.00	\$67.85

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN LABORERS - ZONE 1	06/01/2015	\$35.25	\$7.30	\$13.20	\$0.00	\$55.75
	12/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 1	06/01/2015	\$36.25	\$7.30	\$13.20	\$0.00	\$56.75
	12/01/2015	\$37.00	\$7.30	\$13.20	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS LABORERS - ZONE 1	06/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
	12/01/2015	\$36.75	\$7.30	\$13.20	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 1	06/01/2015	\$36.25	\$7.30	\$13.20	\$0.00	\$56.75
	12/01/2015	\$37.00	\$7.30	\$13.20	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR LABORERS - ZONE 1	06/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
	12/01/2015	\$36.75	\$7.30	\$13.20	\$0.00	\$57.25

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.25	\$7.30	\$13.20	\$0.00	\$55.75
	12/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$58.86	\$9.80	\$19.23	\$0.00	\$87.89
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$63.06	\$9.80	\$19.23	\$0.00	\$92.09
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.23	\$9.80	\$19.23	\$0.00	\$117.26
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELECTRICIAN - Local 103

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.27	\$13.00	\$0.55	\$0.00	\$31.82
2	40	\$18.27	\$13.00	\$0.55	\$0.00	\$31.82
3	45	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
4	45	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
5	50	\$22.84	\$13.00	\$12.23	\$0.00	\$48.07
6	55	\$25.12	\$13.00	\$12.58	\$0.00	\$50.70
7	60	\$27.40	\$13.00	\$12.95	\$0.00	\$53.35
8	65	\$29.69	\$13.00	\$13.32	\$0.00	\$56.01
9	70	\$31.97	\$13.00	\$13.69	\$0.00	\$58.66
10	75	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
2	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
3	45	\$20.78	\$13.00	\$11.84	\$0.00	\$45.62
4	45	\$20.78	\$13.00	\$11.84	\$0.00	\$45.62
5	50	\$23.09	\$13.00	\$12.71	\$0.00	\$48.80
6	55	\$25.39	\$13.00	\$13.07	\$0.00	\$51.46
7	60	\$27.70	\$13.00	\$13.39	\$0.00	\$54.09
8	65	\$30.01	\$13.00	\$13.81	\$0.00	\$56.82
9	70	\$32.32	\$13.00	\$14.18	\$0.00	\$59.50
10	75	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

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

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2015	\$53.30	\$13.58	\$14.21	\$0.00	\$81.09
ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2016	\$54.53	\$14.43	\$14.96	\$0.00	\$83.92
	01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.65	\$13.58	\$0.00	\$0.00	\$40.23
2	55	\$29.32	\$13.58	\$14.21	\$0.00	\$57.11
3	65	\$34.65	\$13.58	\$14.21	\$0.00	\$62.44
4	70	\$37.31	\$13.58	\$14.21	\$0.00	\$65.10
5	80	\$42.64	\$13.58	\$14.21	\$0.00	\$70.43

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.27	\$14.43	\$0.00	\$0.00	\$41.70
2	55	\$29.99	\$14.43	\$14.96	\$0.00	\$59.38
3	65	\$35.44	\$14.43	\$14.96	\$0.00	\$64.83
4	70	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
5	80	\$43.62	\$14.43	\$14.96	\$0.00	\$73.01

Notes:

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2015	\$37.31	\$13.58	\$14.21	\$0.00	\$65.10
	01/01/2016	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
	01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$40.22	\$10.00	\$14.30	\$0.00	\$64.52
	11/01/2015	\$40.80	\$10.00	\$14.30	\$0.00	\$65.10
	05/01/2016	\$41.69	\$10.00	\$14.30	\$0.00	\$65.99
	11/01/2016	\$42.28	\$10.00	\$14.30	\$0.00	\$66.58
	05/01/2017	\$43.16	\$10.00	\$14.30	\$0.00	\$67.46
	11/01/2017	\$43.89	\$10.00	\$14.30	\$0.00	\$68.19
	05/01/2018	\$44.60	\$10.00	\$14.30	\$0.00	\$68.90

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$41.65	\$10.00	\$14.30	\$0.00	\$65.95
	11/01/2015	\$42.24	\$10.00	\$14.30	\$0.00	\$66.54
	05/01/2016	\$43.13	\$10.00	\$14.30	\$0.00	\$67.43
	11/01/2016	\$43.73	\$10.00	\$14.30	\$0.00	\$68.03
	05/01/2017	\$44.62	\$10.00	\$14.30	\$0.00	\$68.92
	11/01/2017	\$45.35	\$10.00	\$14.30	\$0.00	\$69.65
	05/01/2018	\$46.07	\$10.00	\$14.30	\$0.00	\$70.37

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$21.68	\$10.00	\$14.30	\$0.00	\$45.98
	11/01/2015	\$22.02	\$10.00	\$14.30	\$0.00	\$46.32
	05/01/2016	\$22.54	\$10.00	\$14.30	\$0.00	\$46.84
	11/01/2016	\$22.89	\$10.00	\$14.30	\$0.00	\$47.19
	05/01/2017	\$23.42	\$10.00	\$14.30	\$0.00	\$47.72
	11/01/2017	\$23.84	\$10.00	\$14.30	\$0.00	\$48.14
	05/01/2018	\$24.27	\$10.00	\$14.30	\$0.00	\$48.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE <i>LOCAL 103</i> <i>/ COMMISSIONING ELECTRICIANS</i>	09/01/2015	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31
	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$35.64	\$10.00	\$14.55	\$0.00	\$60.19
	12/01/2015	\$36.69	\$10.00	\$14.55	\$0.00	\$61.24
	06/01/2016	\$37.31	\$10.00	\$14.55	\$0.00	\$61.86
	12/01/2016	\$38.35	\$10.00	\$14.55	\$0.00	\$62.90
	06/01/2017	\$39.19	\$10.00	\$14.55	\$0.00	\$63.74
12/01/2017	\$40.02	\$10.00	\$14.55	\$0.00	\$64.57	
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 1</i>	06/01/2015	\$20.50	\$7.30	\$13.20	\$0.00	\$41.00
	12/01/2015	\$20.50	\$7.30	\$13.20	\$0.00	\$41.00
	06/01/2016	\$20.50	\$7.30	\$13.20	\$0.00	\$41.00
	12/01/2016	\$20.50	\$7.30	\$13.20	\$0.00	\$41.00
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	09/01/2015	\$41.59	\$9.80	\$17.53	\$0.00	\$68.92

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.80	\$9.80	\$1.79	\$0.00	\$32.39
2	55	\$22.87	\$9.80	\$1.79	\$0.00	\$34.46
3	60	\$24.95	\$9.80	\$12.16	\$0.00	\$46.91
4	65	\$27.03	\$9.80	\$12.16	\$0.00	\$48.99
5	70	\$29.11	\$9.80	\$13.95	\$0.00	\$52.86
6	75	\$31.19	\$9.80	\$13.95	\$0.00	\$54.94
7	80	\$33.27	\$9.80	\$15.74	\$0.00	\$58.81
8	85	\$35.35	\$9.80	\$15.74	\$0.00	\$60.89

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$29.61	\$10.00	\$14.55	\$0.00	\$54.16
	12/01/2015	\$30.48	\$10.00	\$14.55	\$0.00	\$55.03
	06/01/2016	\$31.00	\$10.00	\$14.55	\$0.00	\$55.55
	12/01/2016	\$31.87	\$10.00	\$14.55	\$0.00	\$56.42
	06/01/2017	\$32.56	\$10.00	\$14.55	\$0.00	\$57.11
	12/01/2017	\$33.25	\$10.00	\$14.55	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	07/01/2015	\$38.06	\$7.85	\$16.10	\$0.00	\$62.01
	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.03	\$7.85	\$0.00	\$0.00	\$26.88
2	55	\$20.93	\$7.85	\$3.66	\$0.00	\$32.44
3	60	\$22.84	\$7.85	\$3.99	\$0.00	\$34.68
4	65	\$24.74	\$7.85	\$4.32	\$0.00	\$36.91
5	70	\$26.64	\$7.85	\$14.11	\$0.00	\$48.60
6	75	\$28.55	\$7.85	\$14.44	\$0.00	\$50.84
7	80	\$30.45	\$7.85	\$14.77	\$0.00	\$53.07
8	90	\$34.25	\$7.85	\$15.44	\$0.00	\$57.54

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.51	\$7.85	\$0.00	\$0.00	\$27.36
2	55	\$21.46	\$7.85	\$3.66	\$0.00	\$32.97
3	60	\$23.41	\$7.85	\$3.99	\$0.00	\$35.25
4	65	\$25.36	\$7.85	\$4.32	\$0.00	\$37.53
5	70	\$27.31	\$7.85	\$14.11	\$0.00	\$49.27
6	75	\$29.26	\$7.85	\$14.44	\$0.00	\$51.55
7	80	\$31.21	\$7.85	\$14.77	\$0.00	\$53.83
8	90	\$35.11	\$7.85	\$15.44	\$0.00	\$58.40

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.56	\$10.00	\$0.00	\$0.00	\$33.56
2	60	\$25.70	\$10.00	\$14.55	\$0.00	\$50.25
3	65	\$27.84	\$10.00	\$14.55	\$0.00	\$52.39
4	70	\$29.98	\$10.00	\$14.55	\$0.00	\$54.53
5	75	\$32.12	\$10.00	\$14.55	\$0.00	\$56.67
6	80	\$34.26	\$10.00	\$14.55	\$0.00	\$58.81
7	85	\$36.41	\$10.00	\$14.55	\$0.00	\$60.96
8	90	\$38.55	\$10.00	\$14.55	\$0.00	\$63.10

Effective Date - 12/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.24	\$10.00	\$0.00	\$0.00	\$34.24
2	60	\$26.45	\$10.00	\$14.55	\$0.00	\$51.00
3	65	\$28.65	\$10.00	\$14.55	\$0.00	\$53.20
4	70	\$30.86	\$10.00	\$14.55	\$0.00	\$55.41
5	75	\$33.06	\$10.00	\$14.55	\$0.00	\$57.61
6	80	\$35.26	\$10.00	\$14.55	\$0.00	\$59.81
7	85	\$37.47	\$10.00	\$14.55	\$0.00	\$62.02
8	90	\$39.67	\$10.00	\$14.55	\$0.00	\$64.22

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	08/01/2015	\$43.31	\$10.20	\$21.48	\$2.25	\$77.24
	02/01/2016	\$44.31	\$10.20	\$21.48	\$2.25	\$78.24
	08/01/2016	\$45.46	\$10.20	\$21.48	\$2.25	\$79.39
	02/01/2017	\$46.56	\$10.20	\$21.48	\$2.25	\$80.49
	08/01/2017	\$47.66	\$10.20	\$21.48	\$2.25	\$81.59
	02/01/2018	\$48.81	\$10.20	\$21.48	\$2.25	\$82.74

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56

For apprentice rates see "Apprentice- ELECTRICIAN"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	08/01/2015	\$43.31	\$10.20	\$21.48	\$2.25	\$77.24
	02/01/2016	\$44.31	\$10.20	\$21.48	\$2.25	\$78.24
	08/01/2016	\$45.46	\$10.20	\$21.48	\$2.25	\$79.39
	02/01/2017	\$46.56	\$10.20	\$21.48	\$2.25	\$80.49
	08/01/2017	\$47.66	\$10.20	\$21.48	\$2.25	\$81.59
	02/01/2018	\$48.81	\$10.20	\$21.48	\$2.25	\$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i>	09/01/2015	\$49.69	\$9.70	\$16.89	\$0.00	\$76.28
	03/01/2016	\$50.69	\$9.70	\$16.89	\$0.00	\$77.28
	09/01/2016	\$51.69	\$9.70	\$16.89	\$0.00	\$78.28
	03/01/2017	\$52.69	\$9.70	\$16.89	\$0.00	\$79.28
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	09/01/2015	\$49.69	\$9.70	\$16.89	\$0.00	\$76.28
	03/01/2016	\$50.69	\$9.70	\$16.89	\$0.00	\$77.28
	09/01/2016	\$51.69	\$9.70	\$16.89	\$0.00	\$78.28
	03/01/2017	\$52.69	\$9.70	\$16.89	\$0.00	\$79.28
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.85	\$7.30	\$13.20	\$0.00	\$56.35
	12/01/2015	\$36.60	\$7.30	\$13.20	\$0.00	\$57.10
	06/01/2016	\$37.35	\$7.30	\$13.20	\$0.00	\$57.85
	12/01/2016	\$38.35	\$7.30	\$13.20	\$0.00	\$58.85
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2015	\$43.81	\$11.50	\$13.80	\$0.00	\$69.11
	09/01/2016	\$45.81	\$11.50	\$13.80	\$0.00	\$71.11
	09/01/2017	\$47.81	\$11.50	\$13.80	\$0.00	\$73.11
	09/01/2018	\$50.06	\$11.50	\$13.80	\$0.00	\$75.36
	09/01/2019	\$52.56	\$11.50	\$13.80	\$0.00	\$77.86

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.91	\$11.50	\$10.05	\$0.00	\$43.46
2	60	\$26.29	\$11.50	\$10.80	\$0.00	\$48.59
3	70	\$30.67	\$11.50	\$11.55	\$0.00	\$53.72
4	80	\$35.05	\$11.50	\$12.30	\$0.00	\$58.85

Effective Date - 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$11.50	\$10.05	\$0.00	\$44.46
2	60	\$27.49	\$11.50	\$10.80	\$0.00	\$49.79
3	70	\$32.07	\$11.50	\$11.55	\$0.00	\$55.12
4	80	\$36.65	\$11.50	\$12.30	\$0.00	\$60.45

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER	09/16/2015	\$42.40	\$7.80	\$20.85	\$0.00	\$71.05
IRONWORKERS LOCAL 7 (BOSTON AREA)	03/16/2016	\$43.40	\$7.80	\$20.85	\$0.00	\$72.05
	09/16/2016	\$44.05	\$7.80	\$20.85	\$0.00	\$72.70
	03/16/2017	\$44.65	\$7.80	\$20.85	\$0.00	\$73.30

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 09/16/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.44	\$7.80	\$20.85	\$0.00	\$54.09
2	70	\$29.68	\$7.80	\$20.85	\$0.00	\$58.33
3	75	\$31.80	\$7.80	\$20.85	\$0.00	\$60.45
4	80	\$33.92	\$7.80	\$20.85	\$0.00	\$62.57
5	85	\$36.04	\$7.80	\$20.85	\$0.00	\$64.69
6	90	\$38.16	\$7.80	\$20.85	\$0.00	\$66.81

Effective Date - 03/16/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.04	\$7.80	\$20.85	\$0.00	\$54.69
2	70	\$30.38	\$7.80	\$20.85	\$0.00	\$59.03
3	75	\$32.55	\$7.80	\$20.85	\$0.00	\$61.20
4	80	\$34.72	\$7.80	\$20.85	\$0.00	\$63.37
5	85	\$36.89	\$7.80	\$20.85	\$0.00	\$65.54
6	90	\$39.06	\$7.80	\$20.85	\$0.00	\$67.71

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
LABORER <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.10	\$7.30	\$13.20	\$0.00	\$55.60
	12/01/2015	\$35.85	\$7.30	\$13.20	\$0.00	\$56.35
	06/01/2016	\$36.60	\$7.30	\$13.20	\$0.00	\$57.10
	12/01/2016	\$37.60	\$7.30	\$13.20	\$0.00	\$58.10

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - LABORER - Zone 1

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.06	\$7.30	\$13.20	\$0.00	\$41.56
2	70	\$24.57	\$7.30	\$13.20	\$0.00	\$45.07
3	80	\$28.08	\$7.30	\$13.20	\$0.00	\$48.58
4	90	\$31.59	\$7.30	\$13.20	\$0.00	\$52.09

Effective Date - 12/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.51	\$7.30	\$13.20	\$0.00	\$42.01
2	70	\$25.10	\$7.30	\$13.20	\$0.00	\$45.60
3	80	\$28.68	\$7.30	\$13.20	\$0.00	\$49.18
4	90	\$32.27	\$7.30	\$13.20	\$0.00	\$52.77

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER LABORERS - ZONE 1	06/01/2015	\$35.10	\$7.30	\$13.20	\$0.00	\$55.60
	12/01/2015	\$35.85	\$7.30	\$13.20	\$0.00	\$56.35
	06/01/2016	\$36.60	\$7.30	\$13.20	\$0.00	\$57.10
	12/01/2016	\$37.60	\$7.30	\$13.20	\$0.00	\$58.10

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 1	06/01/2015	\$35.10	\$7.30	\$13.20	\$0.00	\$55.60
	12/01/2015	\$35.85	\$7.30	\$13.20	\$0.00	\$56.35
	06/01/2016	\$36.60	\$7.30	\$13.20	\$0.00	\$57.10
	12/01/2016	\$37.60	\$7.30	\$13.20	\$0.00	\$58.10

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 1	06/01/2015	\$35.25	\$7.30	\$13.20	\$0.00	\$55.75
	12/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50

For apprentice rates see "Apprentice- LABORER"

LABORER: MASON TENDER LABORERS - ZONE 1	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

LABORER: MULTI-TRADE TENDER LABORERS - ZONE 1	06/01/2015	\$35.10	\$7.30	\$13.20	\$0.00	\$55.60
	12/01/2015	\$35.85	\$7.30	\$13.20	\$0.00	\$56.35
	06/01/2016	\$36.60	\$7.30	\$13.20	\$0.00	\$57.10
	12/01/2016	\$37.60	\$7.30	\$13.20	\$0.00	\$58.10

For apprentice rates see "Apprentice- LABORER"

LABORER: TREE REMOVER LABORERS - ZONE 1	06/01/2015	\$35.10	\$7.30	\$13.20	\$0.00	\$55.60
	12/01/2015	\$35.85	\$7.30	\$13.20	\$0.00	\$56.35
	06/01/2016	\$36.60	\$7.30	\$13.20	\$0.00	\$57.10
	12/01/2016	\$37.60	\$7.30	\$13.20	\$0.00	\$58.10

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
----------------	----------------	-----------	--------	---------	---------------------------	------------

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

LASER BEAM OPERATOR LABORERS - ZONE 1	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

MARBLE & TILE FINISHERS BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2015	\$38.08	\$10.18	\$17.25	\$0.00	\$65.51
	02/01/2016	\$38.53	\$10.18	\$17.25	\$0.00	\$65.96
	08/01/2016	\$39.23	\$10.18	\$17.33	\$0.00	\$66.74
	02/01/2017	\$39.69	\$10.18	\$17.33	\$0.00	\$67.20

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

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.04	\$10.18	\$17.25	\$0.00	\$46.47
2	60	\$22.85	\$10.18	\$17.25	\$0.00	\$50.28
3	70	\$26.66	\$10.18	\$17.25	\$0.00	\$54.09
4	80	\$30.46	\$10.18	\$17.25	\$0.00	\$57.89
5	90	\$34.27	\$10.18	\$17.25	\$0.00	\$61.70

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.27	\$10.18	\$17.25	\$0.00	\$46.70
2	60	\$23.12	\$10.18	\$17.25	\$0.00	\$50.55
3	70	\$26.97	\$10.18	\$17.25	\$0.00	\$54.40
4	80	\$30.82	\$10.18	\$17.25	\$0.00	\$58.25
5	90	\$34.68	\$10.18	\$17.25	\$0.00	\$62.11

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS, TILELAYERS & TERRAZZO MECH BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2015	\$49.90	\$10.18	\$18.57	\$0.00	\$78.65
	02/01/2016	\$50.47	\$10.18	\$18.57	\$0.00	\$79.22
	08/01/2016	\$51.37	\$10.18	\$18.65	\$0.00	\$80.20
	02/01/2017	\$51.94	\$10.18	\$18.65	\$0.00	\$80.77

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.95	\$10.18	\$18.57	\$0.00	\$53.70
2	60	\$29.94	\$10.18	\$18.57	\$0.00	\$58.69
3	70	\$34.93	\$10.18	\$18.57	\$0.00	\$63.68
4	80	\$39.92	\$10.18	\$18.57	\$0.00	\$68.67
5	90	\$44.91	\$10.18	\$18.57	\$0.00	\$73.66

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.24	\$10.18	\$18.57	\$0.00	\$53.99
2	60	\$30.28	\$10.18	\$18.57	\$0.00	\$59.03
3	70	\$35.33	\$10.18	\$18.57	\$0.00	\$64.08
4	80	\$40.38	\$10.18	\$18.57	\$0.00	\$69.13
5	90	\$45.42	\$10.18	\$18.57	\$0.00	\$74.17

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	04/01/2015	\$37.64	\$9.80	\$16.21	\$0.00	\$63.65

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 04/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$20.70	\$9.80	\$4.48	\$0.00	\$34.98
2	65	\$24.47	\$9.80	\$13.36	\$0.00	\$47.63
3	75	\$28.23	\$9.80	\$14.18	\$0.00	\$52.21
4	85	\$31.99	\$9.80	\$14.99	\$0.00	\$56.78

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$21.97	\$10.00	\$14.55	\$0.00	\$46.52
	12/01/2015	\$22.62	\$10.00	\$14.55	\$0.00	\$47.17
	06/01/2016	\$23.01	\$10.00	\$14.55	\$0.00	\$47.56
	12/01/2016	\$23.66	\$10.00	\$14.55	\$0.00	\$48.21
	06/01/2017	\$24.17	\$10.00	\$14.55	\$0.00	\$48.72
	12/01/2017	\$24.69	\$10.00	\$14.55	\$0.00	\$49.24

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$25.68	\$10.00	\$14.55	\$0.00	\$50.23
	12/01/2015	\$26.43	\$10.00	\$14.55	\$0.00	\$50.98
	06/01/2016	\$26.89	\$10.00	\$14.55	\$0.00	\$51.44
	12/01/2016	\$27.64	\$10.00	\$14.55	\$0.00	\$52.19
	06/01/2017	\$28.24	\$10.00	\$14.55	\$0.00	\$52.79
	12/01/2017	\$28.85	\$10.00	\$14.55	\$0.00	\$53.40

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.28	\$7.85	\$0.00	\$0.00	\$32.13
2	55	\$26.71	\$7.85	\$3.66	\$0.00	\$38.22
3	60	\$29.14	\$7.85	\$3.99	\$0.00	\$40.98
4	65	\$31.56	\$7.85	\$4.32	\$0.00	\$43.73
5	70	\$33.99	\$7.85	\$14.11	\$0.00	\$55.95
6	75	\$36.42	\$7.85	\$14.44	\$0.00	\$58.71
7	80	\$38.85	\$7.85	\$14.77	\$0.00	\$61.47
8	90	\$43.70	\$7.85	\$15.44	\$0.00	\$66.99

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$7.85	\$0.00	\$0.00	\$32.61
2	55	\$27.23	\$7.85	\$3.66	\$0.00	\$38.74
3	60	\$29.71	\$7.85	\$3.99	\$0.00	\$41.55
4	65	\$32.18	\$7.85	\$4.32	\$0.00	\$44.35
5	70	\$34.66	\$7.85	\$14.11	\$0.00	\$56.62
6	75	\$37.13	\$7.85	\$14.44	\$0.00	\$59.42
7	80	\$39.61	\$7.85	\$14.77	\$0.00	\$62.23
8	90	\$44.56	\$7.85	\$15.44	\$0.00	\$67.85

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	07/01/2015	\$39.46	\$7.85	\$16.10	\$0.00	\$63.41
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	01/01/2016	\$40.41	\$7.85	\$16.10	\$0.00	\$64.36
	07/01/2016	\$41.36	\$7.85	\$16.10	\$0.00	\$65.31
	01/01/2017	\$42.31	\$7.85	\$16.10	\$0.00	\$66.26

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

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.73	\$7.85	\$0.00	\$0.00	\$27.58
2	55	\$21.70	\$7.85	\$3.66	\$0.00	\$33.21
3	60	\$23.68	\$7.85	\$3.99	\$0.00	\$35.52
4	65	\$25.65	\$7.85	\$4.32	\$0.00	\$37.82
5	70	\$27.62	\$7.85	\$14.11	\$0.00	\$49.58
6	75	\$29.60	\$7.85	\$14.44	\$0.00	\$51.89
7	80	\$31.57	\$7.85	\$14.77	\$0.00	\$54.19
8	90	\$35.51	\$7.85	\$15.44	\$0.00	\$58.80

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.21	\$7.85	\$0.00	\$0.00	\$28.06
2	55	\$22.23	\$7.85	\$3.66	\$0.00	\$33.74
3	60	\$24.25	\$7.85	\$3.99	\$0.00	\$36.09
4	65	\$26.27	\$7.85	\$4.32	\$0.00	\$38.44
5	70	\$28.29	\$7.85	\$14.11	\$0.00	\$50.25
6	75	\$30.31	\$7.85	\$14.44	\$0.00	\$52.60
7	80	\$32.33	\$7.85	\$14.77	\$0.00	\$54.95
8	90	\$36.37	\$7.85	\$15.44	\$0.00	\$59.66

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	07/01/2015	\$37.52	\$7.85	\$16.10	\$0.00	\$61.47
PAINTERS LOCAL 35 - ZONE 2	01/01/2016	\$38.47	\$7.85	\$16.10	\$0.00	\$62.42
	07/01/2016	\$39.42	\$7.85	\$16.10	\$0.00	\$63.37
	01/01/2017	\$40.37	\$7.85	\$16.10	\$0.00	\$64.32

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.76	\$7.85	\$0.00	\$0.00	\$26.61
2	55	\$20.64	\$7.85	\$3.66	\$0.00	\$32.15
3	60	\$22.51	\$7.85	\$3.99	\$0.00	\$34.35
4	65	\$24.39	\$7.85	\$4.32	\$0.00	\$36.56
5	70	\$26.26	\$7.85	\$14.11	\$0.00	\$48.22
6	75	\$28.14	\$7.85	\$14.44	\$0.00	\$50.43
7	80	\$30.02	\$7.85	\$14.77	\$0.00	\$52.64
8	90	\$33.77	\$7.85	\$15.44	\$0.00	\$57.06

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.24	\$7.85	\$0.00	\$0.00	\$27.09
2	55	\$21.16	\$7.85	\$3.66	\$0.00	\$32.67
3	60	\$23.08	\$7.85	\$3.99	\$0.00	\$34.92
4	65	\$25.01	\$7.85	\$4.32	\$0.00	\$37.18
5	70	\$26.93	\$7.85	\$14.11	\$0.00	\$48.89
6	75	\$28.85	\$7.85	\$14.44	\$0.00	\$51.14
7	80	\$30.78	\$7.85	\$14.77	\$0.00	\$53.40
8	90	\$34.62	\$7.85	\$15.44	\$0.00	\$57.91

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS)	06/01/2015	\$35.10	\$7.30	\$13.20	\$0.00	\$55.60
LABORERS - ZONE 1	12/01/2015	\$35.85	\$7.30	\$13.20	\$0.00	\$56.35
	06/01/2016	\$36.60	\$7.30	\$13.20	\$0.00	\$57.10
	12/01/2016	\$37.60	\$7.30	\$13.20	\$0.00	\$58.10

For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) *	07/01/2015	\$38.06	\$7.85	\$16.10	\$0.00	\$62.01
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.03	\$7.85	\$0.00	\$0.00	\$26.88
2	55	\$20.93	\$7.85	\$3.66	\$0.00	\$32.44
3	60	\$22.84	\$7.85	\$3.99	\$0.00	\$34.68
4	65	\$24.74	\$7.85	\$4.32	\$0.00	\$36.91
5	70	\$26.64	\$7.85	\$14.11	\$0.00	\$48.60
6	75	\$28.55	\$7.85	\$14.44	\$0.00	\$50.84
7	80	\$30.45	\$7.85	\$14.77	\$0.00	\$53.07
8	90	\$34.25	\$7.85	\$15.44	\$0.00	\$57.54

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.51	\$7.85	\$0.00	\$0.00	\$27.36
2	55	\$21.46	\$7.85	\$3.66	\$0.00	\$32.97
3	60	\$23.41	\$7.85	\$3.99	\$0.00	\$35.25
4	65	\$25.36	\$7.85	\$4.32	\$0.00	\$37.53
5	70	\$27.31	\$7.85	\$14.11	\$0.00	\$49.27
6	75	\$29.26	\$7.85	\$14.44	\$0.00	\$51.55
7	80	\$31.21	\$7.85	\$14.77	\$0.00	\$53.83
8	90	\$35.11	\$7.85	\$15.44	\$0.00	\$58.40

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	07/01/2015	\$36.12	\$7.85	\$16.10	\$0.00	\$60.07
PAINTERS LOCAL 35 - ZONE 2	01/01/2016	\$37.07	\$7.85	\$16.10	\$0.00	\$61.02
	07/01/2016	\$38.02	\$7.85	\$16.10	\$0.00	\$61.97
	01/01/2017	\$38.97	\$7.85	\$16.10	\$0.00	\$62.92

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.06	\$7.85	\$0.00	\$0.00	\$25.91
2	55	\$19.87	\$7.85	\$3.66	\$0.00	\$31.38
3	60	\$21.67	\$7.85	\$3.99	\$0.00	\$33.51
4	65	\$23.48	\$7.85	\$4.32	\$0.00	\$35.65
5	70	\$25.28	\$7.85	\$14.11	\$0.00	\$47.24
6	75	\$27.09	\$7.85	\$14.44	\$0.00	\$49.38
7	80	\$28.90	\$7.85	\$14.77	\$0.00	\$51.52
8	90	\$32.51	\$7.85	\$15.44	\$0.00	\$55.80

Effective Date - 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.54	\$7.85	\$0.00	\$0.00	\$26.39
2	55	\$20.39	\$7.85	\$3.66	\$0.00	\$31.90
3	60	\$22.24	\$7.85	\$3.99	\$0.00	\$34.08
4	65	\$24.10	\$7.85	\$4.32	\$0.00	\$36.27
5	70	\$25.95	\$7.85	\$14.11	\$0.00	\$47.91
6	75	\$27.80	\$7.85	\$14.44	\$0.00	\$50.09
7	80	\$29.66	\$7.85	\$14.77	\$0.00	\$52.28
8	90	\$33.36	\$7.85	\$15.44	\$0.00	\$56.65

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2015	\$32.58	\$10.41	\$9.33	\$0.00	\$52.32
	12/01/2015	\$32.58	\$10.41	\$10.08	\$0.00	\$53.07
	06/01/2016	\$33.08	\$10.41	\$10.08	\$0.00	\$53.57
	08/01/2016	\$33.08	\$10.91	\$10.08	\$0.00	\$54.07
	12/01/2016	\$33.08	\$10.91	\$10.89	\$0.00	\$54.88
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.02	\$9.80	\$19.23	\$0.00	\$50.05
2	60	\$25.22	\$9.80	\$19.23	\$0.00	\$54.25
3	70	\$29.43	\$9.80	\$19.23	\$0.00	\$58.46
4	75	\$31.53	\$9.80	\$19.23	\$0.00	\$60.56
5	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
6	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
7	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87
8	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87

Notes:

Apprentice to Journeyworker Ratio:1:3

PIPEFITTER & STEAMFITTER	09/01/2015	\$49.69	\$9.70	\$16.89	\$0.00	\$76.28
PIPEFITTERS LOCAL 537	03/01/2016	\$50.69	\$9.70	\$16.89	\$0.00	\$77.28
	09/01/2016	\$51.69	\$9.70	\$16.89	\$0.00	\$78.28
	03/01/2017	\$52.69	\$9.70	\$16.89	\$0.00	\$79.28

Apprentice - PIPEFITTER - Local 537

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.88	\$9.70	\$7.50	\$0.00	\$37.08
2	45	\$22.36	\$9.70	\$16.89	\$0.00	\$48.95
3	60	\$29.81	\$9.70	\$16.89	\$0.00	\$56.40
4	70	\$34.78	\$9.70	\$16.89	\$0.00	\$61.37
5	80	\$39.75	\$9.70	\$16.89	\$0.00	\$66.34

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.28	\$9.70	\$7.50	\$0.00	\$37.48
2	45	\$22.81	\$9.70	\$16.89	\$0.00	\$49.40
3	60	\$30.41	\$9.70	\$16.89	\$0.00	\$57.00
4	70	\$35.48	\$9.70	\$16.89	\$0.00	\$62.07
5	80	\$40.55	\$9.70	\$16.89	\$0.00	\$67.14

Notes:

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

Apprentice to Journeyworker Ratio:**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIPELAYER <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

PLUMBERS & GASFITTERS <i>PLUMBERS & GASFITTERS LOCAL 12</i>	09/01/2015	\$50.46	\$10.82	\$15.14	\$0.00	\$76.42
	03/01/2016	\$51.61	\$10.82	\$15.14	\$0.00	\$77.57
	09/01/2016	\$52.66	\$10.82	\$15.14	\$0.00	\$78.62
	03/01/2017	\$53.66	\$10.82	\$15.14	\$0.00	\$79.62

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.66	\$10.82	\$5.63	\$0.00	\$34.11
2	40	\$20.18	\$10.82	\$6.37	\$0.00	\$37.37
3	55	\$27.75	\$10.82	\$8.56	\$0.00	\$47.13
4	65	\$32.80	\$10.82	\$10.03	\$0.00	\$53.65
5	75	\$37.85	\$10.82	\$11.48	\$0.00	\$60.15

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.06	\$10.82	\$5.61	\$0.00	\$34.49
2	40	\$20.64	\$10.82	\$6.36	\$0.00	\$37.82
3	55	\$28.39	\$10.82	\$8.56	\$0.00	\$47.77
4	65	\$33.55	\$10.82	\$10.02	\$0.00	\$54.39
5	75	\$38.71	\$10.82	\$11.48	\$0.00	\$61.01

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic\$56.90 Step5 with lic\$63.40

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537</i>	09/01/2015	\$49.69	\$9.70	\$16.89	\$0.00	\$76.28
	03/01/2016	\$50.69	\$9.70	\$16.89	\$0.00	\$77.28
	09/01/2016	\$51.69	\$9.70	\$16.89	\$0.00	\$78.28
	03/01/2017	\$52.69	\$9.70	\$16.89	\$0.00	\$79.28

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

PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i>	06/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	12/01/2015	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	06/01/2016	\$37.60	\$7.30	\$13.20	\$0.00	\$58.10
	12/01/2016	\$38.60	\$7.30	\$13.20	\$0.00	\$59.10

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$29.61	\$10.00	\$14.55	\$0.00	\$54.16
	12/01/2015	\$30.48	\$10.00	\$14.55	\$0.00	\$55.03
	06/01/2016	\$31.00	\$10.00	\$14.55	\$0.00	\$55.55
	12/01/2016	\$31.87	\$10.00	\$14.55	\$0.00	\$56.42
	06/01/2017	\$32.56	\$10.00	\$14.55	\$0.00	\$57.11
	12/01/2017	\$33.25	\$10.00	\$14.55	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY MIX CONCRETE DRIVERS after 4/30/10 (Drivers Hired After 4/30/2010) <i>TEAMSTERS LOCAL 25b</i>	07/01/2015	\$27.88	\$7.98	\$8.92	\$0.00	\$44.78
	05/01/2016	\$28.03	\$7.98	\$9.31	\$0.00	\$45.32
	07/01/2016	\$28.03	\$8.23	\$9.31	\$0.00	\$45.57
	05/01/2017	\$28.18	\$8.23	\$9.72	\$0.00	\$46.13
	07/01/2017	\$28.18	\$8.48	\$9.72	\$0.00	\$46.38
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 25b</i>	07/01/2015	\$29.18	\$7.98	\$8.92	\$0.00	\$46.08
	05/01/2016	\$29.33	\$7.98	\$9.31	\$0.00	\$46.62
	07/01/2016	\$29.33	\$8.23	\$9.31	\$0.00	\$46.87
	05/01/2017	\$29.48	\$8.23	\$9.72	\$0.00	\$47.43
	07/01/2017	\$29.48	\$8.48	\$9.72	\$0.00	\$47.68
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 2 (Residential Wood)</i>	04/01/2011	\$24.24	\$8.67	\$15.51	\$0.00	\$48.42
RESIDENTIAL WOOD FRAME CARPENTER ** ** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. <i>CARPENTERS -ZONE 2 (Residential Wood)</i> As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.	05/01/2011	\$24.24	\$6.34	\$6.23	\$0.00	\$36.81

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - CARPENTER (Residential Wood Frame) - Zone 2

Effective Date - 05/01/2011

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$14.54	\$6.34	\$0.00	\$0.00	\$20.88
2	60	\$14.54	\$6.34	\$6.23	\$0.00	\$27.11
3	65	\$15.76	\$6.34	\$6.23	\$0.00	\$28.33
4	70	\$16.97	\$6.34	\$6.23	\$0.00	\$29.54
5	75	\$18.18	\$6.34	\$6.23	\$0.00	\$30.75
6	80	\$19.39	\$6.34	\$6.23	\$0.00	\$31.96
7	85	\$20.60	\$6.34	\$6.23	\$0.00	\$33.17
8	90	\$21.82	\$6.34	\$6.23	\$0.00	\$34.39

Notes:

Apprentice to Journeyworker Ratio:1:5

RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) <i>ROOFERS LOCAL 33</i>	08/01/2015	\$40.11	\$11.00	\$12.00	\$0.00	\$63.11
	02/01/2016	\$41.01	\$11.00	\$12.00	\$0.00	\$64.01

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - ROOFER - Local 33

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.06	\$11.00	\$3.38	\$0.00	\$34.44
2	60	\$24.07	\$11.00	\$12.00	\$0.00	\$47.07
3	65	\$26.07	\$11.00	\$12.00	\$0.00	\$49.07
4	75	\$30.08	\$11.00	\$12.00	\$0.00	\$53.08
5	85	\$34.09	\$11.00	\$12.00	\$0.00	\$57.09

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.51	\$11.00	\$3.38	\$0.00	\$34.89
2	60	\$24.61	\$11.00	\$12.00	\$0.00	\$47.61
3	65	\$26.66	\$11.00	\$12.00	\$0.00	\$49.66
4	75	\$30.76	\$11.00	\$12.00	\$0.00	\$53.76
5	85	\$34.86	\$11.00	\$12.00	\$0.00	\$57.86

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE	08/01/2015	\$40.36	\$11.00	\$12.00	\$0.00	\$63.36
ROOFERS LOCAL 33	02/01/2016	\$41.26	\$11.00	\$12.00	\$0.00	\$64.26
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER	08/01/2015	\$43.31	\$10.20	\$21.48	\$2.25	\$77.24
SHEETMETAL WORKERS LOCAL 17 - A	02/01/2016	\$44.31	\$10.20	\$21.48	\$2.25	\$78.24
	08/01/2016	\$45.46	\$10.20	\$21.48	\$2.25	\$79.39
	02/01/2017	\$46.56	\$10.20	\$21.48	\$2.25	\$80.49
	08/01/2017	\$47.66	\$10.20	\$21.48	\$2.25	\$81.59
	02/01/2018	\$48.81	\$10.20	\$21.48	\$2.25	\$82.74

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.32	\$10.20	\$4.90	\$0.00	\$32.42
2	40	\$17.32	\$10.20	\$4.90	\$0.00	\$32.42
3	45	\$19.49	\$10.20	\$9.59	\$1.18	\$40.46
4	45	\$19.49	\$10.20	\$9.59	\$1.18	\$40.46
5	50	\$21.66	\$10.20	\$10.45	\$1.27	\$43.58
6	50	\$21.66	\$10.20	\$10.70	\$1.28	\$43.84
7	60	\$25.99	\$10.20	\$12.17	\$1.45	\$49.81
8	65	\$28.15	\$10.20	\$13.04	\$1.54	\$52.93
9	75	\$32.48	\$10.20	\$14.76	\$1.72	\$59.16
10	85	\$36.81	\$10.20	\$15.98	\$1.89	\$64.88

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.72	\$10.20	\$4.90	\$0.00	\$32.82
2	40	\$17.72	\$10.20	\$4.90	\$0.00	\$32.82
3	45	\$19.94	\$10.20	\$9.59	\$1.19	\$40.92
4	45	\$19.94	\$10.20	\$9.59	\$1.19	\$40.92
5	50	\$22.16	\$10.20	\$10.45	\$1.28	\$44.09
6	50	\$22.16	\$10.20	\$10.70	\$1.29	\$44.35
7	60	\$26.59	\$10.20	\$12.17	\$1.47	\$50.43
8	65	\$28.80	\$10.20	\$13.04	\$1.56	\$53.60
9	75	\$33.23	\$10.20	\$14.76	\$1.75	\$59.94
10	85	\$37.66	\$10.20	\$15.98	\$1.92	\$65.76

Notes:
Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SIGN ERECTOR PAINTERS LOCAL 35 - ZONE 2	06/01/2013	\$25.81	\$7.07	\$7.05	\$0.00	\$39.93
--	------------	---------	--------	--------	--------	---------

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - SIGN ERECTOR - Local 35 Zone 2

Effective Date - 06/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$12.91	\$7.07	\$0.00	\$0.00	\$19.98
2	55	\$14.20	\$7.07	\$2.45	\$0.00	\$23.72
3	60	\$15.49	\$7.07	\$2.45	\$0.00	\$25.01
4	65	\$16.78	\$7.07	\$2.45	\$0.00	\$26.30
5	70	\$18.07	\$7.07	\$7.05	\$0.00	\$32.19
6	75	\$19.36	\$7.07	\$7.05	\$0.00	\$33.48
7	80	\$20.65	\$7.07	\$7.05	\$0.00	\$34.77
8	85	\$21.94	\$7.07	\$7.05	\$0.00	\$36.06
9	90	\$23.23	\$7.07	\$7.05	\$0.00	\$37.35

Notes:
Steps are 4 mos.

Apprentice to Journeyworker Ratio:1:1

SPECIALIZED EARTH MOVING EQUIP < 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2015	\$33.04	\$10.41	\$9.33	\$0.00	\$52.78
	12/01/2015	\$33.04	\$10.41	\$10.08	\$0.00	\$53.53
	06/01/2016	\$33.54	\$10.41	\$10.08	\$0.00	\$54.03
	08/01/2016	\$33.54	\$10.91	\$10.08	\$0.00	\$54.53
	12/01/2016	\$33.54	\$10.91	\$10.89	\$0.00	\$55.34
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2015	\$33.33	\$10.41	\$9.33	\$0.00	\$53.07
	12/01/2015	\$33.33	\$10.41	\$10.08	\$0.00	\$53.82
	06/01/2016	\$33.83	\$10.41	\$10.08	\$0.00	\$54.32
	08/01/2016	\$33.83	\$10.91	\$10.08	\$0.00	\$54.82
	12/01/2016	\$33.83	\$10.91	\$10.89	\$0.00	\$55.63
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	03/01/2015	\$54.43	\$8.42	\$14.90	\$0.00	\$77.75
	10/01/2015	\$55.58	\$8.42	\$14.90	\$0.00	\$78.90
	01/01/2016	\$55.58	\$8.67	\$15.05	\$0.00	\$79.30
	03/01/2016	\$56.58	\$8.67	\$15.05	\$0.00	\$80.30
	10/01/2016	\$57.73	\$8.67	\$15.05	\$0.00	\$81.45
	03/01/2017	\$58.73	\$8.67	\$15.05	\$0.00	\$82.45

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

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

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.05	\$8.42	\$8.40	\$0.00	\$35.87
2	40	\$21.77	\$8.42	\$8.40	\$0.00	\$38.59
3	45	\$24.49	\$8.42	\$8.40	\$0.00	\$41.31
4	50	\$27.22	\$8.42	\$8.40	\$0.00	\$44.04
5	55	\$29.94	\$8.42	\$8.40	\$0.00	\$46.76
6	60	\$32.66	\$8.42	\$8.40	\$0.00	\$49.48
7	65	\$35.38	\$8.42	\$8.40	\$0.00	\$52.20
8	70	\$38.10	\$8.42	\$8.40	\$0.00	\$54.92
9	75	\$40.82	\$8.42	\$8.40	\$0.00	\$57.64
10	80	\$43.54	\$8.42	\$8.40	\$0.00	\$60.36

Effective Date - 10/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.45	\$8.42	\$8.40	\$0.00	\$36.27
2	40	\$22.23	\$8.42	\$8.40	\$0.00	\$39.05
3	45	\$25.01	\$8.42	\$8.40	\$0.00	\$41.83
4	50	\$27.79	\$8.42	\$8.40	\$0.00	\$44.61
5	55	\$30.57	\$8.42	\$8.40	\$0.00	\$47.39
6	60	\$33.35	\$8.42	\$8.40	\$0.00	\$50.17
7	65	\$36.13	\$8.42	\$8.40	\$0.00	\$52.95
8	70	\$38.91	\$8.42	\$8.40	\$0.00	\$55.73
9	75	\$41.69	\$8.42	\$8.40	\$0.00	\$58.51
10	80	\$44.46	\$8.42	\$8.40	\$0.00	\$61.28

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

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31
	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.70	\$13.00	\$0.41	\$0.00	\$27.11
2	40	\$13.70	\$13.00	\$0.41	\$0.00	\$27.11
3	45	\$15.41	\$13.00	\$11.03	\$0.00	\$39.44
4	45	\$15.41	\$13.00	\$11.03	\$0.00	\$39.44
5	50	\$17.13	\$13.00	\$11.30	\$0.00	\$41.43
6	55	\$18.84	\$13.00	\$11.58	\$0.00	\$43.42
7	60	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
8	65	\$22.26	\$13.00	\$12.13	\$0.00	\$47.39
9	70	\$23.98	\$13.00	\$12.41	\$0.00	\$49.39
10	75	\$25.69	\$13.00	\$12.68	\$0.00	\$51.37

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.85	\$13.00	\$0.42	\$0.00	\$27.27
2	40	\$13.85	\$13.00	\$0.42	\$0.00	\$27.27
3	45	\$15.58	\$13.00	\$11.52	\$0.00	\$40.10
4	45	\$15.58	\$13.00	\$11.52	\$0.00	\$40.10
5	50	\$17.32	\$13.00	\$11.79	\$0.00	\$42.11
6	55	\$19.05	\$13.00	\$12.06	\$0.00	\$44.11
7	60	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
8	65	\$22.51	\$13.00	\$12.62	\$0.00	\$48.13
9	70	\$24.24	\$13.00	\$12.90	\$0.00	\$50.14
10	75	\$25.97	\$13.00	\$13.17	\$0.00	\$52.14

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2015	\$48.80	\$10.18	\$18.57	\$0.00	\$77.55
	02/01/2016	\$49.37	\$10.18	\$18.57	\$0.00	\$78.12
	08/01/2016	\$50.27	\$10.18	\$18.65	\$0.00	\$79.10
	02/01/2017	\$50.84	\$10.18	\$18.65	\$0.00	\$79.67

Classification

Effective Date Base Wage Health Pension Supplemental Unemployment Total Rate

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.40	\$10.18	\$18.57	\$0.00	\$53.15
2	60	\$29.28	\$10.18	\$18.57	\$0.00	\$58.03
3	70	\$34.16	\$10.18	\$18.57	\$0.00	\$62.91
4	80	\$39.04	\$10.18	\$18.57	\$0.00	\$67.79
5	90	\$43.92	\$10.18	\$18.57	\$0.00	\$72.67

Effective Date - 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.69	\$10.18	\$18.57	\$0.00	\$53.44
2	60	\$29.62	\$10.18	\$18.57	\$0.00	\$58.37
3	70	\$34.56	\$10.18	\$18.57	\$0.00	\$63.31
4	80	\$39.50	\$10.18	\$18.57	\$0.00	\$68.25
5	90	\$44.43	\$10.18	\$18.57	\$0.00	\$73.18

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2015	\$36.45	\$7.30	\$13.40	\$0.00	\$57.15
	12/01/2015	\$37.20	\$7.30	\$13.40	\$0.00	\$57.90
	06/01/2016	\$37.95	\$7.30	\$13.40	\$0.00	\$58.65
	12/01/2016	\$38.95	\$7.30	\$13.40	\$0.00	\$59.65
For apprentice rates see "Apprentice- LABORER"						

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2015	\$35.17	\$7.30	\$13.40	\$0.00	\$55.87
	12/01/2015	\$35.92	\$7.30	\$13.40	\$0.00	\$56.62
	06/01/2016	\$36.67	\$7.30	\$13.40	\$0.00	\$57.37
	12/01/2016	\$37.67	\$7.30	\$13.40	\$0.00	\$58.37
For apprentice rates see "Apprentice- LABORER"						

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	06/01/2015	\$35.05	\$7.30	\$13.40	\$0.00	\$55.75
	12/01/2015	\$35.80	\$7.30	\$13.40	\$0.00	\$56.50
	06/01/2016	\$36.55	\$7.30	\$13.40	\$0.00	\$57.25
	12/01/2016	\$37.55	\$7.30	\$13.40	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						

TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2015	\$33.62	\$10.41	\$9.33	\$0.00	\$53.36
	12/01/2015	\$33.62	\$10.41	\$10.08	\$0.00	\$54.11
	06/01/2016	\$34.12	\$10.41	\$10.08	\$0.00	\$54.61
	08/01/2016	\$34.12	\$10.91	\$10.08	\$0.00	\$55.11
	12/01/2016	\$34.12	\$10.91	\$10.89	\$0.00	\$55.92
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2015	\$47.33	\$7.30	\$13.80	\$0.00	\$68.43
	12/01/2015	\$48.08	\$7.30	\$13.80	\$0.00	\$69.18
	06/01/2016	\$48.83	\$7.30	\$13.80	\$0.00	\$69.93
	12/01/2016	\$49.83	\$7.30	\$13.80	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2015	\$49.33	\$7.30	\$13.80	\$0.00	\$70.43
	12/01/2015	\$50.08	\$7.30	\$13.80	\$0.00	\$71.18
	06/01/2016	\$50.83	\$7.30	\$13.80	\$0.00	\$71.93
	12/01/2016	\$51.83	\$7.30	\$13.80	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2015	\$39.40	\$7.30	\$13.80	\$0.00	\$60.50
	12/01/2015	\$40.15	\$7.30	\$13.80	\$0.00	\$61.25
	06/01/2016	\$40.90	\$7.30	\$13.80	\$0.00	\$62.00
	12/01/2016	\$41.90	\$7.30	\$13.80	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2015	\$41.40	\$7.30	\$13.80	\$0.00	\$62.50
	12/01/2015	\$42.15	\$7.30	\$13.80	\$0.00	\$63.25
	06/01/2016	\$42.90	\$7.30	\$13.80	\$0.00	\$64.00
	12/01/2016	\$43.90	\$7.30	\$13.80	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	08/01/2015	\$33.04	\$10.41	\$9.33	\$0.00	\$52.78
	12/01/2015	\$33.04	\$10.41	\$10.08	\$0.00	\$53.53
	06/01/2016	\$33.54	\$10.41	\$10.08	\$0.00	\$54.03
	08/01/2016	\$33.54	\$10.91	\$10.08	\$0.00	\$54.53
	12/01/2016	\$33.54	\$10.91	\$10.89	\$0.00	\$55.34
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	06/01/2015	\$35.35	\$7.30	\$13.20	\$0.00	\$55.85
	12/01/2015	\$36.10	\$7.30	\$13.20	\$0.00	\$56.60
	06/01/2016	\$36.85	\$7.30	\$13.20	\$0.00	\$57.35
	12/01/2016	\$37.85	\$7.30	\$13.20	\$0.00	\$58.35
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	09/01/2015	\$50.46	\$10.82	\$15.14	\$0.00	\$76.42
	03/01/2016	\$51.61	\$10.82	\$15.14	\$0.00	\$77.57
	09/01/2016	\$52.66	\$10.82	\$15.14	\$0.00	\$78.62
	03/01/2017	\$53.66	\$10.82	\$15.14	\$0.00	\$79.62
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$25.66	\$8.70	\$4.48	\$0.00	\$38.84
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$36.55	\$8.70	\$6.58	\$0.00	\$51.83
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$29.94	\$8.70	\$6.05	\$0.00	\$44.69
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$23.52	\$8.70	\$5.24	\$0.00	\$37.46
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$36.35	\$8.70	\$9.43	\$0.00	\$54.48
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$32.08	\$8.70	\$6.59	\$0.00	\$47.37
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$23.52	\$8.70	\$3.72	\$0.00	\$35.94
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$19.25	\$8.70	\$2.85	\$0.00	\$30.80
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	09/01/2013	\$42.77	\$8.70	\$11.78	\$0.00	\$63.25

Apprentice - LINEMAN (Outside Electrical) - East Local 104

Effective Date - 09/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.66	\$8.70	\$4.24	\$0.00	\$38.60
2	65	\$27.80	\$8.70	\$4.71	\$0.00	\$41.21
3	70	\$29.94	\$8.70	\$5.43	\$0.00	\$44.07
4	75	\$32.08	\$8.70	\$6.16	\$0.00	\$46.94
5	80	\$34.22	\$8.70	\$6.88	\$0.00	\$49.80
6	85	\$36.35	\$8.70	\$7.62	\$0.00	\$52.67
7	90	\$38.49	\$8.70	\$8.83	\$0.00	\$56.02

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2015	\$28.12	\$4.25	\$3.09	\$0.00	\$35.46
	01/01/2016	\$28.98	\$4.25	\$3.12	\$0.00	\$36.35
TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2015	\$26.49	\$4.25	\$3.04	\$0.00	\$33.78
	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63
TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2015	\$26.49	\$4.25	\$3.04	\$0.00	\$33.78
	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TREE TRIMMER	02/01/2015	\$18.05	\$3.55	\$0.00	\$0.00	\$21.60
<i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$18.51	\$3.55	\$0.00	\$0.00	\$22.06
This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.						
TREE TRIMMER GROUNDMAN	02/01/2015	\$15.92	\$3.55	\$0.00	\$0.00	\$19.47
<i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$16.32	\$3.55	\$0.00	\$0.00	\$19.87
This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.						

Additional Apprentices Information:

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

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

All steps are six months (1000 hours.)

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

** Multiple ratios are listed in the comment field.

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

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

TABLE OF CONTENTS

DIVISION 1 - GENERAL REQUIREMENTS

Section 011000	Summary
Section 013100	Project Management and Coordination
Section 013200	Construction Progress Documentation
Section 013300	Submittal Requirements
Section 014000	Quality Requirements
Section 014200	References
Section 015000	Temporary Facilities and Controls
Section 016000	Product Requirements
Section 017419	Construction Waste Management and Disposal
Section 017700	Contract Closeout

DIVISION 2 – EXISTING CONDITIONS

Section 024119	Selective Demolition
----------------	----------------------

DIVISION 3 - CONCRETE

Not Used

DIVISION 4 - MASONRY

Not Used

DIVISION 5 - METALS

Not Used

DIVISION 6 - WOOD AND PLASTICS

Section 061000	Rough Carpentry
Section 062000	Finish Carpentry

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

Section 079200	Joint Sealants
----------------	----------------

DIVISION 8 - DOORS AND WINDOWS

Section 081113	Hollow Metal Frames
Section 081416	Flush Wood Doors

DIVISION 9 - FINISHES

Section 092216	Non-Structural Metal Framing
Section 092900	Gypsum Board Assemblies
Section 093000	Tiling
Section 095113	Acoustical Panel Ceilings
Section 099100	Painting

DIVISION 10 - SPECIALTIES

Section 102113 Reinforced Composite Toilet Compartments
Section 102813 Toilet Accesories

DIVISION 11 - 20

Not Used

DIVISION 21 – FIRE PROTECTION

Not Included

DIVISION 22 – PLUMBING

SEE DRAWINGS

DIVISION 23 – HVAC

SEE DRAWINGS

DIVISION 25 – BUILDING AUTOMATION

Not Used

DIVISION 26 - ELECTRICAL

SEE DRAWINGS

END OF TABLE OF CONTENTS

SECTION 011000 SUMMARY

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

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

1.2 REQUIREMENTS INCLUDED

- A. Work under this Contract.
- B. Examination of Site and Documents.
- C. Contract Method.
- D. Supervision of Work.
- E. General Contractor's Use of Premises.
- F. Coordination.
- G. Field Engineering.
- H. Reference Standards.
- I. Preconstruction Conference.
- J. Project Meetings.
- K. Permits, Inspection, and Testing Required by Governing Authorities.
- L. Cutting, Coring, Patching, Unless Otherwise Indicated.
- M. Debris Removal.
- N. Field Measurements.
- O. Emergency Procedures.
- P. Safety Regulations.
- Q. OSHA Safety and Health Course Documentation.
- R. Damage Responsibility.
- S. Owner Furnished Products.
- T. Owner Occupancy.

U. Special Requirements.

1.3 WORK UNDER THIS CONTRACT

- A. The work to be done under this contract consists of executing and completing all work required for Saville Hall, Toilet Room Alterations, located at the Quincy College, Quincy, MA.

1. General Information:

- a. The project consists of interior selective demolition and new alterations to existing toilet rooms in an existing building on the Quincy College campus.
- b. Work includes selective demolition work, new doors and frames, new door hardware; new drywall partitions and new toilet compartments, new plumbing fixtures; cutting and patching work, painting; new wall, floor and ceiling finishes; and associated electrical and mechanical work.

- B. The work will include all operations necessary to deliver the work on and off site amenities in a fully installed and operable condition and obtaining all necessary licenses, permits, and certificates.

1.4 EXAMINATION OF SITE AND DOCUMENTS

- A. A pre-bid conference will be held at the job site on the date and at the time indicated in the Invitation to Bid.
- B. Bidders shall visit the site during the pre bid conference, at the time specified in the advertisement and the bid documents.
- C. The bidders are expected to examine and to be thoroughly familiar with all contract documents and with the conditions under which the work is to be carried out. Owner will not be responsible for errors, omissions, and/or charges for extra work arising from the General Contractors or Subcontractors failure to familiarize themselves with the contract documents. The General Contractor and Subcontractor acknowledge that they are familiar with the conditions and requirements of the contract documents where they require, in any part of the work a given result to be produced, and that the contract documents are adequate and will produce the required results.
- D. Contact: The designer will be present at the pre bid conference. This will be the only time available for viewing the site.
- E. No questions from Bidders will be accepted within 5 days of the Bid opening. Questions will be answered in the form of an addendum.

1.5 CONTRACT METHOD

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

1.6 SUPERVISION OF WORK

- A. The General Contractor shall be held directly responsible for the correct installation of all work performed under this Contract. The General Contractor must make good repair, without expense to the Commonwealth, of any part of the new work, or existing work to remain, which may become inoperative on account of leaving the work unprotected or unsupervised during

construction of the system or which may break or give out in any manner by reason of poor workmanship, defective materials or any lack of space to allow for expansion and contraction of the work during the General Contractor's warranty period, from the date of final acceptance of the work by the Owner.

- B. The General Contractor shall furnish a competent Massachusetts licensed superintendent satisfactory to the Owner and to the Designer. The licensed superintendent shall supervise all work under this contract and who shall remain on duty at the site throughout the Contract period while work is in progress.
 - 1. Submit the name and resume of the superintendent for approval to the Owner's Project Manager. Include experience with projects of equal size and complexity.

1.7 GENERAL CONTRACTOR'S USE OF PREMISES

- A. Use of the Site: Limit use of the premises to work in areas indicated within the construction work limits shown on the drawings. Coordinate work of all Subcontractors required outside the construction boundary. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
 - 1. Owner Occupancy: Allow for Owner occupancy and use by the public (if applicable).
 - 2. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 - 3. Immediate Work Area: The Contractor is responsible for clean-up of all debris, dirt and sediment resulting from the construction work.
- B. Schedule and perform work to afford minimum of interruption to normal and continuous operation of utility systems. The General Contractor shall submit to Owner and the Designer for approval, proposed schedule for performing work; including construction of new utilities, re-routing of existing utilities and final connection of new work to existing work. Schedule shall indicate shutdown time required for each operation.
 - 1. Work includes checking all safety devices to verify that they have come back on-line after interruption. This requirement will not be waived.
- C. The General Contractor shall schedule as per Section 015000 - Temporary Facilities and Controls, the shutting down or interrupting any utilities, services or facilities which may affect the operation of the building outside the area of work or other buildings, services or facilities of the Owner.
- D. The General Contractor shall be aware of the sensitivity of the building occupants to noise, dust, debris, vibration, and site maintenance and take appropriate precautions to avoid conflict.
- E. Damage to existing work, if caused by the General Contractor's operations under this Contract, shall be repaired at the General Contractor's expense.
 - 1. An existing conditions survey shall be conducted, with the Designer, the Owner's Project Manager, at which existing conditions will be videotaped by the General Contractor. A copy of the videotape shall be provided to the Owner's Project Manager.
- F. The General Contractor can gain access to the premises during the hours specified below. In addition the General Contractor and his personnel will limit themselves only within the working

premises during working hours. If work needs to be scheduled during times other than those listed below, General Contractor shall inform the Owner's Project Manager one week prior to work.

1. Deliveries: 7:00 AM to 6:00 PM.
 2. General Access: 7:00 AM to 6:00 PM during the regular work week.
- G. Confine operations at the site to areas permitted by:
1. Laws
 2. Ordinances
 3. Permits
 4. Contract Documents
 5. Owner's Regulations
- H. If required by Owner's Project Manager, workers will be required to wear identifying name badges. In secure areas, submit names of workers for clearing by the Owner's Project Manager.
- I. General Contractor shall supervise the use of the site related to construction and be responsible for correcting any damage identified by the Owner's Project Manager to the Owner's Project Manager's satisfaction.
- J. All available existing utilities adjacent to the construction site will be available for use during construction unless indicated otherwise. Temporary connections to these utilities, removal, usage, and their associated costs will be the responsibility of the appropriate Subcontractor.
1. Utilities Available for use During Construction: Electricity and water. All connections to existing utilities will need to be coordinated with Owner.
- K. The General Contractor shall verify that Subcontractors have visited the site and included all costs associated with the location of the project, and any restriction or limitations the location of the project may pose.
- L. The Subcontractors shall at all times conduct their operations in a courteous, professional manner while on the project or in the vicinity of the project. Harassment, offensive language or behavior will not be permitted on the site.
- M. Quincy College can neither accept nor assume responsibility for the security of the Contractor's material or equipment which is lost, stolen or vandalized. The Contractor is advised to exert caution in placement and storage of his equipment and material.
- N. Parking: Parking spaces on Campus are very limited and the College will not provide designated parking lot spaces near the construction site for the Contractor's use. The Contractor shall determine the location of the nearest available parking spaces. The Contractor will be required to pay all fees for parking. The Contractor shall state his/her parking and staging area requirements during the Pre-construction Meeting. The area(s) storage will then be agreed to between the Contractor and the Owner's Project Manager. The limits of material storage will be delineated by the Contractor with construction fencing and enforced throughout the Contract. Refer to Section 015000 - Temporary Facilities and Controls for additional requirements.
- O. Areas not to be used for storage include the areas under the "drip line" of trees, planting beds, and sidewalks. Install temporary fencing around the drip line of trees and protect vegetation

from construction damage. Restoration of the delineated parking and storage area shall be as described in Section 017700 – Contract Closeout. Trailers or storage piles shall not be located over utility lines or their access points.

- P. Radios, tape players, “boom boxes”, or other audio entertainment equipment, including personal entertainment devices, shall not be allowed on the project site.
- Q. The Contractor shall not permit smoking by employees on or in any building, or within twenty feet of a building entrance, operable window or air intake. The term “building” includes buildings under construction or renovation.
- R. The Contractor shall not allow the use of intoxicating beverages or non-prescription controlled substance drugs upon or about the work site.
- S. The Contractor shall provide and maintain in good serviceable condition at all times, warning signs and non-combustible barriers, forms and fire resistive tarps or plastic, each of which shall be approved by the University, shall be suitable for the purpose, and shall be installed adjacent to each work area, for complete enclosure and/or isolation of all excavations, wells, pits, manholes, shafts, overhead areas, etc., which are associated with the work under the contract. Barriers shall be a secure fence, guardrail, cover, or similar assembly designed and erected to provide protection for concrete, protection from the weather, and to prevent accidental access. Barrier tape and/or sawhorses shall not be used as a means of such access protection.

1.8 COORDINATION

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

1.9 FIELD ENGINEERING

- A. Provide field engineering services; establish grades, lines and levels, by use of recognized engineering survey practices.

1.10 REFERENCE STANDARDS

- A. For products specified by association or trade standards, comply with requirements for the standard, except where more rigid requirements are specified or are required by codes. Refer to Section 014200 - REFERENCES.
- B. Where reference is made in the Contractual Documents to Publications and Standards issued by Associations or Societies, the intent shall be understood to specify the current edition of such Publications or Standards (including tentative revision) in effect on the date of the contract advertisement notwithstanding any reference to a particular date.

1.11 PRE-CONSTRUCTION CONFERENCE

- A. In accordance with the CONTRACT AND GENERAL CONDITIONS, a pre-construction conference to review the work will be conducted by the Owner's Project Manager.
- B. Representatives of the following shall be required to attend this conference:
 - 1. Owner
 - 2. Designer
 - 3. General Contractor
 - 4. All Subcontractors
 - 5. Applicable Municipal Agencies
- C. The General Contractor shall have a responsible representative at the pre construction conference to be called by the Owner's Project Manager following the award of the contract, as well as representatives of field or office forces and major Subcontractors. All such representatives shall have authority to act for their respective firms. The pre-construction conference is to be held within five days of Notice to Proceed, or as otherwise determined by Owner.
- D. Contact List: The Contractor shall provide to the Designer and Owner's Project Manager a list containing the following:
 - 1. Contractor's name, address, office and cell phone number, fax number, e-mail address and after hours emergency phone number.
 - 2. Contractor's Superintendent name email address and cell phone number.
 - 3. Each Sub-Contractor's name, email address, address, office and cell phone number, fax number and description of the products or services they will provide to the project.
- E. Agenda: Discuss items of significance that affect progress, including the following:
 - 1. Communication protocols and procedures
 - 2. Tentative construction schedule.
 - 3. Phasing (if applicable).
 - 4. Procedures for processing field decisions and Change Orders.
 - 5. Procedures for reviewing and processing Applications for Payment.
 - 6. Schedule of Values.
 - 7. Preparation of Record Documents
 - 8. Distribution of the Contract Documents.
 - 9. Submittal procedures.

10. Use of the premises.
11. Responsibility for temporary facilities and controls.
12. Parking and construction limits.
13. Office, work, and storage areas.
14. Equipment deliveries and priorities.
15. First aid.
16. Security.
17. Progress cleaning.
18. Working hours.
19. Emergency phone numbers.
20. Material deliveries.
21. Project Close out

- F. Reporting: Minutes of the meeting shall be prepared by the General Contractor or designated representative and shall be distributed to each party present. The General Contractor shall be responsible for distributing the minutes to all Filed-Sub Contractors.

1.12 PROJECT MEETINGS

- A. Project meetings shall be held on a weekly basis and as required subject to the discretion of the Owner's Project Manager.
- B. Attendees: In addition to the Owner's Project Manager and Designer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
- C. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
1. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 2. Review present and future needs of each entity present, including the following:
 - a. Interface requirements.
 - b. Sequence of operations.
 - c. Status of submittals.
 - d. Deliveries.
 - e. Off-site fabrication.
 - f. Access.
 - g. Site utilization.
 - h. Temporary facilities and controls.
 - i. Manpower.
 - j. Hazards and risks.
 - k. Progress cleaning.
 - l. Quality and work standards.
 - m. Change Orders.
 - n. Documentation of information for payment requests.

- D. As a prerequisite for monthly payments, ordering schedules, shop drawing submitted schedules, and coordination meeting schedules shall be prepared and maintained by the General Contractor and shall be revised and updated on a monthly basis, and a copy shall be submitted to the Owner's Project Manager and Designer.
- E. In order to expedite construction progress on this project, the General Contractor shall order all materials immediately after the approval of shop drawings and shall obtain a fixed date of delivery to the project site for all materials ordered which shall not impede or otherwise interfere with construction progress. The General Contractor shall present a list and written proof of all materials and equipment ordered (through purchase orders). Such list shall be presented at the meetings and shall be continuously updated.
- F. Scheduling shall be discussed with all concerned parties, and methods shall be presented by the General Contractor, which shall reflect construction completion not being deferred or foreshortened. Identify critical long-lead items and other special scheduling requirements. The project schedule is to include time for submission of shop drawing submittals, time for review, and allowance for resubmittal and review.
- G. Project meetings shall be chaired by the Owner's Project Manager.
- H. Minutes of the project meetings shall be prepared by the General Contractor and shall be distributed to all present. Minutes shall enumerate each topic item, and each topic shall be updated at each progress meeting. Actions to be taken for each topic shall be recorded, along with identification of the party responsible for each action item. Items shall not be removed from the Minutes until all issues with each item have been resolved.

1.13 PERMITS, INSPECTION, AND TESTING REQUIRED BY GOVERNING AUTHORITIES

- A. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having any jurisdiction require any portion of the Work to be inspected, tested, or approved, the General Contractor shall give the Designer, the Owner's Project Manager or his/her designated representative, and such Authority timely notice (5 business days minimum) of its readiness so the Designer may observe such inspecting, testing, or approval.
- B. Prior to the start of construction, the General Contractor shall complete application to the applicable Building Code enforcement authority for a Building Permit. Such Permit shall be displayed in a conspicuous location at the project site. The building permit fee shall be paid by the Contractor.
- C. Unless otherwise specified under the Sections of the Specifications, the General Contractor shall pay such proper and legal fees to public officers and others as may be necessary for the due and faithful performance of the work and which may arise incidental to the fulfilling of this Contract. As such, all fees, charges, and assessments in connection with the above shall be paid by the General Contractor
- D. The General Contractor shall maintain at the site, for the duration of construction operations, at least one (1) up-to-date copy of all relevant codes and standards listed in the Contract Documents or determined to be applicable to the work. One (1) copy of such codes shall be for the exclusive use of Owner and the Designer and its Consultants, and shall be kept in the General Contractor's site office.
- E. The General Contractor shall furnish and install all information required by the building official and shall secure the general building permit for the work promptly on award of the Contract. The General Contractor shall conform to all conditions and requirements of the permit and code

enforcement authority. The General Contractor shall provide names and license numbers of its responsible representatives to complete the application for permit, and shall receive the permit and promptly distribute copies to Owner and the Designer.

- F. General Contractor and specialized Subcontractors as applicable shall identify all permits (other than general building permit) required from Authorities having jurisdiction over the Project for the construction and occupancy of the work. The General Contractor shall prepare the necessary applications and submit required plans and documents to obtain such permits in a timely manner, and shall furnish the required information to the Building Official and obtain the required permits as early as practicable after award of the Contract.
1. The General Contractor shall display all permit cards as required by the Authorities, and shall deliver legible photocopies of all permits to Owner's Project Manager and the Designer promptly upon their receipt.
 2. The General Contractor shall arrange for all inspections, testing and approvals required for all permits, and shall notify the Designer of such inspections at least three (3) business days in advance (longer if so required in the various Sections of the Specifications), so they may arrange to observe.
 3. The General Contractor shall comply with all conditions and provide all notices required by all permits.
 4. The General Contractor shall perform and/or arrange for and pay all testing and inspections required by the Governing Codes and Authorities, other than those provided by Owner, and shall notify the Designer of such inspections at least three (3) business days in advance of all such testing or inspection, so they may arrange to observe.
 5. Where Inspecting Authorities require corrective work for conformance with applicable Codes and Authorities, the General Contractor shall promptly comply with such requirements, except in cases where such requirements clearly exceed the requirements of the Contract Documents, in which case the General Contractor shall proceed in accordance with the procedures for modifications or changes in the work established in the Contract Documents, as amended.
- G. Metal dumpsters of 6 cubic yard aggregate capacity or more, and containing combustible materials, must have a Local Fire Department Permit issued for each location. If the containers are delivered and removed on the same day, no permit is required (527 CMR 34.03).
- H. Storage of more than 2500 cubic feet gross volume of combustible or flammable materials in a building will require a permit from the Local Fire Department.
- I. Use and storage of more than 10 gal or 42 lbs of Liquefied Propane Gas (LPG) containers on site must be approved by and a permit must be secured through the local Fire Department.
- J. Any work involving existing fire protection systems or related equipment (fire alarm, sprinkler, fixed extinguishing system) will require the Contractor to obtain a permit from the local Fire Department. Any work which disables part or all of a fire protections system for more than 8 hours shall submit an impairment plan to the Owner's Project Manager.
- K. The General Contractor shall be required to keep a copy of the State Building Code (with latest amendments) at the job site at all times.
- 1.14 CUTTING, CORING, AND PATCHING, UNLESS OTHERWISE INDICATED
- A. The General Contractor shall coordinate all cutting, coring, fitting and patching of the work that may be required to make its several parts come together properly and fit it to receive or be

received by work of the Subcontractors shown on the Drawings and Specifications. The Subcontractor shall perform all cutting, coring or patching.

- B. The General Contractor shall coordinate that the work of the Subcontractor is not endangered by any cutting, coring, excavating, or otherwise altering of the work and shall not allow the cutting or altering the work of any Subcontractor except with the written consent of the Designer.
- C. Submit a written request to Designer at least three (3) business days in advance of executing any cutting or alteration which affects:
 - 1. Work of Owner or separate Contractor.
 - 2. Structural value or integrity of any element of the Project.
 - 3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 - 4. Efficiency, operational life, maintenance, or safety of operational elements.
 - 5. Visual qualities of sight-exposed elements.
 - 6. Request shall include:
 - a. Identification of the Project.
 - b. Description of affected work.
 - c. The necessity for cutting, alteration, or excavation.
 - d. Effect on work of Owner or any separate General Contractor, or on structural or weatherproof integrity of Project.
 - e. Description of proposed work:
 - f. Alternatives to cutting and patching.
 - g. Cost proposal, when applicable.
 - h. Written permission of any separate General Contractor whose work will be affected.
 - 7. Should conditions of Work or the schedule indicate a change of products from original installation, General Contractor shall submit request for substitution.
 - 8. Submit written notice to Designer designating date and time the work will be uncovered a minimum of three business days in advance.
- D. Performance:
 - 1. Execute cutting and patching by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
 - a. In general, where mechanical cutting is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings through concrete work.
 - b. Prior to cutting and structural steel or concrete work, contact Designer and Project Structural Engineer in writing. Do not cut any structural steel and concrete work until approval has been granted by the Designer and the Project Structural Engineer.
 - 2. Employ original installer or fabricator to perform cutting and patching for:
 - a. Weather-exposed or moisture-resistant elements such as roofing and flashing.
 - b. Sight-exposed finished surfaces.
 - 3. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.
 - 4. Restore work which has been cut or removed; install new products matching existing to provide completed Work in accordance with requirements of Contract Documents.
 - 5. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

6. Patch with seams which are durable and as invisible as possible. Flash and seal all penetration of exterior work. Comply with specified tolerances for the work.
 7. Restore exposed finishes of patched areas; and, where necessary extend finish restoration onto retained work adjoining, in a manner which will eliminate evidence of patching.
 - a. Where patch occurs in a smooth painted surface, extend final paint coat over the entire unbroken surface containing the patch.
 8. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - a. For continuous surfaces, refinish to nearest intersection.
 - b. For an assembly, refinish entire unit.
- E. Existing Utilities Services:
1. Interruptions to critical existing utility services will not be allowed except as scheduled per Section 015000 - Temporary Facilities and Controls.
 - a. Sanitary sewer, storm drainage, and water changeovers as affecting existing services shall be done with no disruptions of existing services and scheduling of such work will require approval in writing by the Owner.
 - b. All relocation of existing electrical, telephone, and gas services that are utility company owned shall be performed by the respective utility company, and the cost of any charges for such work shall be paid by the General Contractor. All utility installations and relocation shall be the responsibility of the General Contractor. Coordination of all of the aforesaid work is the responsibility of the General Contractor.
 2. The General Contractor shall locate and record on Drawings all existing utilities along the course of the work by such means as the Designer and the Owner's Project Manager may approve, and shall preserve such marked locations until the work has progressed to the point where the encountered utility is fully exposed and protected as required. It shall be the General Contractor's responsibility to notify the proper authorities and/or utility company before interfering therewith.
 3. Existing utilities that are indicated on the Drawings or whose locations are made known to the General Contractor prior to excavations, though accuracy and information as to grades and elevations may be lacking, shall be protected from damage during the excavation and backfilling operations and, if damaged by the General Contractor, it shall be repaired by the General Contractor at his/her own expense.
 4. All exposed conduits, wires, and/or cables shall be provided with sufficient protection and support to prevent failure, fraying, or damage due to backfilling or other construction operations.
 5. The General Contractor shall exercise measures as necessary to prevent the placement of impediments that limit continuous access by authorized utility company or College maintenance personnel and shall be required to reimburse the utility company or Owner for any expense incurred as a result of need to remove any such impediments to access.
- F. Cutting and Patching of Existing Roofing and Flashing: Provide all necessary cutting and patching of existing roofing and flashing to allow for new penetrations of structural, mechanical and electrical items through existing membrane.
1. Engage existing roofing installer to provide all cutting and patching of existing roof membrane.

2. Existing Roofing: Prior to the start of cutting and patching work in any one area, install roofing protection to protect existing roofing to remain.
3. Provide all required flashing boots and counterflashing for items penetrating existing roofing. Ensure that materials used are compatible with existing roofing.
4. Provide certification that existing roof warrantee will be maintained at completion of the work.

1.15 DEBRIS REMOVAL

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

1.16 FIELD MEASUREMENTS

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

1.17 OSHA SAFETY AND HEALTH COURSE DOCUMENTATION

- A. OSHA Safety and Health Course Documentation Records: Chapter 306 of the Massachusetts Acts of 2004 requires that everyone employed at the jobsite must complete a minimum 10-hour long course in construction safety and health approved by the U.S. Occupational Safety and Health Administration (OSHA) prior to working at the jobsite. Compliance is required of General Contractors' and Subcontractors' on-site employees at all levels whether stationed in the trailer or working in the field. Unless the Massachusetts Attorney General's office indicates otherwise,

this requirement does not apply to home-office employees visiting the site or to suppliers' employees who are making deliveries.

- B. Documentation records shall be initially compiled by the General Contractor and Subcontractors as part of their certified payrolls, and the General Contractor shall create and maintain a copy of the documentation on site at all times. On-site documentation shall be filed in alphabetical order and immediately available to Owner's Project Manager and OSHA inspectors. Fines imposed for non-compliance shall be promptly paid by the General Contractor at no additional expense to Owner. Delays in the progress of the Work caused by such non-compliance will not be acceptable as the basis for an extension of contract time or change order request.

1.18 DAMAGE RESPONSIBILITY

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

1.19 OWNER FURNISHED PRODUCTS

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

1.20 OWNER OCCUPANCY

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

1.21 SPECIAL REQUIREMENTS

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

1. The General Contractor shall provide a repository for collection and disposal of health and safety materials. Collection and disposal of contaminated disposable supplies shall be at no additional cost.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 013100 PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Without limitations, coordination will include Project Scheduling, coordination of submittals, coordination of all elements of the Work, and coordination of contract closeout.
- B. Description:
 - 1. Coordinate scheduling, submittals, and work of the various Subcontractors and elements of the Work to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.
 - 2. Coordinate sequence of the Work to accommodate Partial (Beneficial) Occupancy.
- C. Meetings:
 - 1. In addition to progress meetings, hold coordination meetings and pre-installation conferences with personnel and Subcontractors to assure coordination of the Work.
- D. Coordination of Submittals:
 - 1. Schedule and coordinate submittals.
 - 2. Coordinate work of various Subcontractors having interdependent responsibilities for installing, connecting to, and placing in service such equipment.
 - 3. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and effect on work of other Subcontractors,

1.2 MECHANICAL AND ELECTRICAL COORDINATOR (MEC)

- A. The purpose of the General Contractor shall coordinate to prevent conflicts in the installation of all materials and equipment for the entire project, but not specifically relating to the mechanical and electrical Subcontractors.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 013200 CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

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

1.2 REQUIREMENTS INCLUDED

- A. Procedures and requirements for submission and review of progress schedules and reports.

1.3 RELATED SECTIONS

A. CONTRACT AND GENERAL CONDITIONS

- 1. Failure to complete the Work on time - liquidated damages.

B. Section 011000 – SUMMARY

- 1. Project meetings.

C. Section 013100 - PROJECT MANAGEMENT AND COORDINATION

- 1. Progress and coordination meetings.

D. Section 013300 - SUBMITTAL REQUIREMENTS

- 1. Project reports.
- 2. Schedule of values.
- 3. Shop drawings, product data, and samples.

E. Section 015000 - TEMPORARY FACILITIES AND CONTROLS

- 1. Computer equipment hardware, software, and ancillary supplies.

1.4 CONSTRUCTION SCHEDULE

- A. General Contractor shall prepare and submit for Designer and Owner's information, a Progress Schedule for the work of the project. Said schedule shall be coordinated to include sequencing of the project work.

- 1. General Schedule Requirements
- 2. Bar Chart Schedule Requirements
- 3. Schedule Submission Requirements
- 4. Schedule Progress Reporting and Changes
- 5. Progress Payments to General Contractor
- 6. Adjustment of Critical Path Contract Completion Time

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 days of date established for commencement of the Work. Base schedule on the startup construction schedule and additional information received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 - 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 013300 SUBMITTAL REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

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

1.2 REQUIREMENTS INCLUDED

- A. Shop drawings, products data, samples, submittal logs (shop drawings and samples, RFI, NOI, PCO, CO and SK drawings), and schedule of values.

1.3 SHOP DRAWINGS, PRODUCTS DATA, AND SAMPLES

A. General:

1. Review and submit to the Designer and where outlined below to the Owner's Project Manager, shop drawings, project data and samples required by Specifications Sections in hard and electronic copies.
2. No submissions made by FAX will be accepted.
3. The General Contractor shall prepare and submit for the Designer and the Owner's Project Manager's approval, a Schedule of Shop Drawings, Product Data and Samples required to be submitted for the Work. The schedule shall indicate, by Subcontractor, the date by which final approval of each item must be obtained, and shall be revised as required by conditions of the Work, subject to the Owner's Project Manager's approval. The Schedule of Shop Drawings, Product Data and Samples shall correspond with the construction schedule so that the submissions relate to the time when the products and/or systems will be required on the site. Neither the Designer nor the Owner's Project Manager will approve a schedule that calls for out-of-sequence submittals.

B. Shop Drawings:

1. Original drawings shall be prepared by General Contractor, Subcontractor, Supplier or Distributor, which illustrate some portion of the Work, showing fabrication, layout, setting, or erection of details.
 - a. Shop drawings shall be prepared by a qualified detailer.
 - b. Details shall be identified by reference to sheet and detail numbers indicated on Contract Drawings.
 - c. Maximum sheet size shall be 30-inch by 42-inch.
 - d. Submit with the required number of opaque prints specified and electronic media herein.

C. Product Data:

1. Manufacturers' catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data. Provide manufacturer's catalogue sheet, specification for each product and other pertinent data as required under the individual specification.

- a. Modify product data submittals to delete information which is not applicable to the project.
 - b. Supplement standard information to provide additional information applicable to the project.
 - c. Clearly mark each copy to identify pertinent materials, products, or models.
 - d. Show dimensions and clearances required.
 - e. Show performance characteristics and capacities.
 - f. Show wiring diagrams and controls.
2. All such data shall be specific and identification of material or equipment submitted shall be clearly made in ink. Data of general nature will not be accepted.
 3. Product Data shall be accompanied by transmittal notice. The General Contractor's stamp of approval shall appear on the printed information itself.
 4. Submit the information listed above in both hard and electronic format.

D. Samples:

1. Physical samples shall illustrate materials, equipment, or workmanship, and shall establish standards by which work is judged. After review and approval, samples may be used in construction of project if not retained for comparison
 - a. Office samples of sufficient size and quantity shall clearly illustrate:
 - 1) Functional characteristics of product or material, with integrally related parts and attachment devices.
 - 2) Full range of color samples (including standard and premium ranges).
 - 3) After review and approval by Designer and the Owner's Project Manager, samples may be used in construction of project if not retained for comparison.
 - b. Field Samples and Mock-ups
 - 1) Erect at project site at locations acceptable to the Designer and the Owner's Project Manager.
 - 2) Construct each sample of mock-up complete, including work of all Subcontractors required in finished work. Samples shall be incorporated into a larger mock-up with varied products and Subcontractors if required.
2. Unless otherwise specified in the individual Section, the General Contractor shall submit two labeled specimens of each Sample.
3. Samples shall be of adequate size to permit proper evaluation of material. Where variations in color or in other characteristics are to be expected, samples shall show the maximum range of variation. Materials exceeding the variation of the approved samples will not be approved on the Work.
4. Samples which can be conveniently mailed shall be sent directly to the Designer, accompanied by transmittal notice. On the transmittal notice the General Contractor shall stamp his approval of Samples submitted.
5. If Sample is rejected by the Designer, a new Sample shall be resubmitted in the manner specified herein above. This procedure shall be repeated until the Sample is approved in writing by the Designer.
6. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of Samples whether or not specified in the Specifications, at no additional cost to the Commonwealth.

- E. Mock-ups: Erect at project site at location acceptable to Designer and the Owner's Project Manager, a mock-up complete, including work of all Subcontractors required in finished work.

1.4 GENERAL CONTRACTOR'S RESPONSIBILITIES:

- A. Review shop drawings, Product Data and Samples prior to submission. Verify:

1. Field measurements.
 2. Field construction criteria.
 3. Catalog numbers and similar data.
 4. Conformance with Specifications.
 5. Integration with adjoining work.
 6. Delivery schedule.
 7. Is the product an equal to the product specified or a substitution? If either of these occur a comparison sheet must be submitted comparing the proposed product to the product specified.
- B. All shop drawings prepared by Subcontractors shall be processed through the General Contractor. The General Contractor shall check all the shop drawings for conformity with the Contract Documents and particularly for field measurements and proper fit with adjoining work prior to submitting same to the Designer for approval. Certification shall appear on each shop drawing stating that the General Contractor has made his/her check. Format and content of the General Contractor's certification stamp shall be subject to approval by the Owner's Project Manager and the Designer and shall include, but not be limited to:
1. The Term "By Others" shall not be used on shop drawings, the General Contractor shall state by whom related items are to be furnished and/or installed.
 2. The Designer reserves the right to reject and return to the General Contractor, without examination, any shop drawings which have not been previously checked and certified as outlined above, which carry the term "by other" or such vague reference, which are difficult to read, which have arrived by FAX or which in any way are obviously not in conformity with Contract Requirements.
 3. Shop drawings shall show materials, design, dimensions, connections and other details necessary to ensure that they accurately interpret the Contract Documents and shall also show adjoining work in such detail as required to provide proper connection with same.
 4. The Designer will check and approve shop drawings only for conformance with the design concept and for compliance with information given in the Contract Documents. Approval of shop drawings by the Designer will not release the General Contractor from his responsibility for furnishing same of proper dimensions, size quantity and quality to effectively perform the work and carry out the requirements and intent of Contract Documents.
 5. Such approval will not relieve the General Contractor from responsibility for errors of any sort in the shop drawings, nor for the proper coordination of any submittal with all other work. If the shop drawings deviate, or are intended to deviate, from the Contract Documents, the General Contractor shall so advise the Designer in writing at the time the shop drawings are submitted, stating the difference in value between the Contract requirements and that denoted by said shop drawings.
 6. The General Contractor shall assume full liability for delay attributed to insufficient time for delivery and/or installation of material or performance of the work when approval of pertinent shop drawing is withheld due to the failure of the General Contractor to submit, revise, or resubmit shop drawings in adequate time to allow the Designer and the Owner's Project Manager a reasonable time, not to exceed twenty-one (21) calendar days, for normal checking and processing of each submission or resubmission.
- C. Coordinate each submittal with requirements of Contract Documents.
- D. The General Contractor's responsibility for errors and omissions in submittals is not relieved by the Designer's review and approval of submittals, unless Designer gives tentative written acceptance of specific deviations identified as such by the General Contractor, subject to written concurrence by the Owner's Project Manager.

- E. Notify the Designer in writing at the time of submission, of deviations in submittals from requirements of Contract Documents or previous submissions.
- F. Work that requires submittals shall not commence unless submitted with Designer's stamp and initials or signature indicating review and approval, and Owner's Project Manager's initials or signature of concurrence indicate review and approval.
 - 1. No work shall be started in the shop or on the job, or materials delivered to the site, until pertinent shop drawings have been approved by the Designer and the Owner's Project Manager.
- G. After aforesaid review and approval, distribute copies.
- H. Maintain one (2) copies of each approved submittal at the project site. One for the General Contractor and one for the UMBA resident.

1.5 SUBMISSION REQUIREMENTS:

- A. General: All submittals shall be made to the Designer's Office. The quantity and make-up of submittals shall be as established by the Designer; however, two (2) additional copies of all submittals shall be transmitted to the UMBA Project Manager at the same time that such submittals are transmitted to the Designer. The Designer will log and distribute submittals for review by his consultant engineers. The General Contractor shall distribute all MEP shop drawings directly to the Designer. All submittals shall be in both hard and electronic copies.
- B. Make submittals promptly in accordance with approved schedules, and in such sequence as to cause no delay in the work.
- C. Submit number of samples specified in each Section of the Specifications.
- D. Submittals shall include:
 - 1. Date and revision dates.
 - 2. Project title and number.
 - 3. The names of:
 - a. Designer;
 - b. General Contractor;
 - c. Subcontractor;
 - d. Supplier;
 - e. Manufacturer;
 - f. Separate detailer when pertinent.
 - 4. Identification of product or material.
 - 5. Location of work and relation to adjacent structure or materials.
 - 6. Field dimensions clearly identified as such.
 - 7. Specification Section number and specific paragraph under which item is specified.
 - 8. Submission number.
 - 9. Applicable standards, such as ASTM number.
 - 10. A blank space, five-inch by four-inch, for the Designer's stamp.
 - 11. General Contractor's remarks. Identify exceptions or deviations from Contract Documents and reasons for them.
 - a. If shop drawings submitted by the General Contractor indicate a departure from the Contract and the Designer deems it to be minor adjustment in the interest of Owner (subject to concurrence by the General Contractor stating it does not involve a change in Contract Price or extension of time), the Designer may

approve the submission, but the approval shall be subject to Owner review and acceptance of the Designer's recommendation.

- b. The approval of Owner shall be inferred to contain in substance the following: The change is so ordered with the understanding that it does not involve any change in the Contract Price or Time, and that it is subject generally to all contract stipulations and covenants, and is without prejudice to any and all rights of Owner under the Contract.
12. General Contractor's stamp, initialed or signed certifying review and approval of submittal.
13. Any other items as called for by the Designer, the Owner's Project Manager or required by the manufacturers.
14. The Designer reserves the right to ask for shop drawings for any or all items on the project, whether or not requested in individual specification sections, at no additional cost to the Commonwealth.

1.6 RESUBMISSION REQUIREMENTS:

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

1.7 THE OWNER'S PROJECT MANAGER'S AND DESIGNER'S REVIEWS AND DISTRIBUTION OF SUBMISSIONS

- A. The Owner's Project Manager and/or his/her designees will review submittals concurrently with the Designer and his/her consultant engineers. The Designer and the Owner's Project Manager shall communicate within the aforesaid review period time frame (21 calendar days). The time frame for the Designer's review will not exceed fourteen (14) calendar days between her/his receipt of submittal and contacting the Owner's Project Manager. After the Designer's (and his/her consultant engineers) review, distribution shall be as stated herein.
 1. If submittal is 'reviewed - no exceptions taken', or 'reviewed, make corrections noted', the Owner's Project Manager shall compose a transmittal indicating the status. The Owner's Project Manager will then return one (1) copy of the submittal together with the transmittal to the Designer, and shall retain one (1) copy for her/his records. The Designer shall copy and attach the Owner's Project Manager's transmittal to each submittal, stamp the submittals in concurrence with the status agreed to, and transmit back to the General Contractor, with one (1) copy sent directly to the Owner. The General Contractor shall then distribute said submittals to appropriate Subcontractors, and one (1) copy to the Owner.
 2. If submittal is 'reviewed - revise and resubmit' or 'rejected', the Owner's Project Manager shall compose a transmittal indicating the status. The Owner's Project Manager will then

return one (1) copy of the submittal together with the transmittal to the Designer, and shall retain one (1) copy for her/his records. The Designer shall copy and attach the Owner's Project Manager's transmittal to each submittal, stamp the submittals in concurrence with the status agreed to, and transmit back to the General Contractor for resubmission. A copy of the transmittal, indicating that a submittal was disapproved and returned to the General Contractor, will be forwarded from the Designer to the Owner's Project Manager with an additional copy forwarded from the Designer to the Owner, for their records.

3. If a submittal is 'reviewed - no exceptions taken' or reviewed, make corrections noted' by the Designer, or approved as noted by the Designer, but the Owner's Project Manager does not concur, a meeting between the Designer and the Owner's Project Manager will immediately be established to resolve the impasse within the overall review period time frame (21 calendar days). The Owner's Project Manager will have final authority as to the disposition of the submission. The Designer's position of approval (or disapproval) must be based on the contractual criteria of design intent, function, structure, and durability. The Owner's Project Manager's contrary position must also be based on these criteria.
4. The combined review period, for the Designer and the Owner's Project Manager, will not exceed twenty-one (21) calendar days from the established date of each submission indicated on the Schedule of Shop Drawings, Product Data and Samples, plus the additional time, if any, for distribution by the General Contractor and receipt of submissions by the Designer and Owner's Project Manager. The General Contractor is required to anticipate review time, including time for possible rejection and resubmission, in establishing Schedule dates.
 - a. The aforementioned time provided the Designer for checking shop drawings is from the date of receipt of shop drawings by the Designer to the mailing date of shop drawings returned to the General Contractor by the Designer.
5. The Designer will process the submission and indicate the appropriate action on the submission and the transmittal. Incomplete or erroneous transmittals will be returned without action.
6. The Designer will fill out transmittal in the following sequence:
 - a. Date received from General Contractor.
 - b. Date forwarded to Owner's Project Manager.
 - c. Date received from Owner's Project Manager.
 - d. Date returned to General Contractor.
 - e. Action taken on submission.
 - f. Distribution, including number of copies distributed and type of material distributed (i.e., print, brochure or sample, etc.).
 - g. Designer's remarks (note major deviations from the Contract Documents).

B. Designer's Review Procedure:

1. Stamped REVIEWED, "NO EXCEPTIONS TAKEN":
 - a. No corrections or resubmissions required, fabrication may proceed.
2. Stamped REVIEWED, "MAKE CORRECTIONS NOTED":
 - a. If General Contractor complies with noted corrections, fabrication may proceed. Submit corrected print for final review.
 - b. If, for any reason, the General Contractor cannot comply with the noted corrections, fabrication shall not proceed and General Contractor shall resubmit, following procedures outlined in this Section.
3. Stamped REVIEWED, "REVISE AND RESUBMIT" OR "REJECTED":
 - a. General Contractor shall revise and resubmit for review. Fabrication shall not proceed.

C. Manufacturer's Instruction

1. When required in individual Specification Section, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting and finishing, in quantities specified for product data, with two (2) additional copies submitted to the Owner's Project Manager.
 - D. Certificates of Compliance: Submit certificates of compliance with the associated Shop Drawings, Product Data, and Samples required for the product in quantities specified for certificates of compliance, with two (2) additional copies submitted to the Owner's Project Manager.
 - E. Field Samples: Provide field samples of finishes at the project as required by individual Specification Section. Install sample complete and finished.
 - F. Patterns and Colors: Submit accurate color charts and pattern charts to the Designer for review and selection whenever a choice of color or pattern is available in a specified product, unless the exact color and pattern of a product are indicated in the Contract Documents. Color and Pattern charts shall represent the manufacturer's complete standard offerings, except where Specifications limit the offerings by defining a particular series or product type which is normally limited in color and pattern availability. Color and Pattern charts shall be submitted in quantities specified with two (2) additional copies submitted to the Owner's Project Manager.
- 1.8 SCHEDULE OF VALUES
- A. Prior to the first request for payment, the General Contractor shall submit to the Designer and the Owner's Project Manager, a Schedule of Values of the various portions of the Work in sufficient detail to reflect various major components of each Subcontractor, including quantities when requested, aggregating the total contract sum, and divided so as to facilitate payments for work under each Section. The schedule shall be prepared in such form as specified or as the Designer or the Owner's Project Manager may approve, and it shall include data to substantiate its accuracy. Each item in the Schedule of Values shall include its proper share of overhead and profit. This schedule, including breakdown and values, requires the approval of the Designer and the Owner's Project Manager and shall be used only as a basis for the General Contractor's request for payment

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 014000 QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

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

1.2 REQUIREMENTS INCLUDED

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

1.3 RELATED SECTIONS

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

1.4 GENERAL CONTRACTOR'S QUALITY ASSURANCE

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

1.5 GENERAL CONTRACTOR'S TESTING RESPONSIBILITIES

- A. The General Contractor shall provide inspections, tests and quality control services specified in individual specification Sections and required by governing authorities, except where they are specifically indicated to be solely the responsibility of a Subcontractor in the respective specification section or solely the responsibility of Owner.
- B. Engage and pay for the services of an independent agency acceptable to the Owner's Project Manager to perform the specified inspections, testing, and quality control. Submit qualifications

to the Owner's Project Manager. General Contractor's testing agency/laboratory shall be licensed by the Commonwealth of Massachusetts Department of Public Safety.

- C. Re-testing: The General Contractor is responsible for re-testing where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Documents requirements, regardless of whether the original test or service was the General Contractor's responsibility.
- D. Substitutions, Suspicious Issues and Designer Initiated Testing: The General Contractor is responsible for inspections, tests and similar services for substitutions, suspicious issues identified by the General Contractor or Owner's Project Manager, and testing initiated by the Designer.
- E. Associated Services: The General Contractor shall cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as required. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
 - 1. Provide access to the work and furnish incidental labor and facilities necessary to facilitate inspections and tests.
 - 2. Take adequate quantities or representative samples of materials that require testing or assist the agency in taking samples.
 - 3. Provide facilities for storage and curing of test samples and delivery of samples to testing laboratories.
 - 4. Provide the agency with a preliminary design mix proposed for use for material mixes that require control by the testing agency.
 - 5. Provide security and protection of samples and test equipment at the project site.
- F. The General Contractor shall prepare and submit to the Owner's Project Manager for approval a Quality Assurance and Quality Control Plan within 30 days from Notice to Proceed. A Quality Assurance and Quality Control (QA/QC) Plan shall promote completion of all work in accordance with the Contract Documents including Contract, Construction Drawings, Specifications, Project Procedures, Approved Submittals and Shop Drawings, Approved Changes, Applicable Codes and Regulations, Referenced Industry Standards, and similar items. The primary purpose of this quality plan is to ensure that all in place work by the General Contractor and all Subcontractors is performed correctly the first time and is turned over and represented as complete and defect free in accordance with the Contract Documents.
- G. The General Contractor shall prepare and submit to the Owner's Project Manager their QA/QC Plan as discussed in Par. E above. In addition, if this Contract does not require a dedicated QA/AC Manager, the duties of the QA/AC Manager as delineated in Par. 1.5F shall be carried out by another qualified member of the General Contractor's onsite staff.
 - 1. The purpose of a QA/QC Manager shall be to prepare and submit the Quality Assurance and Quality Control Plan for approval and to be responsible for and to manage adherence to the plan throughout the construction process. The QA/QC Manager shall be designated for the project from the initial notice to proceed through system acceptances by both the designer and Owner's Project Manager. The QA/QC Manager shall at all times instill an expectation that all work will be completed correctly and in an expeditious manner and shall be responsible for enforcement of the General Contractor's Staff and all Subcontractors to this plan.
 - 2. Have extensive experience in building construction, project controls, and previous QA/QC training and practical knowledge.

3. Have excellent communication and writing skills, be highly organized and be able to work with both management and Subcontractors.
4. Have a working knowledge of project scheduling.
5. The General Contractor shall submit substantiating documentation attesting to the proposed QA/QC Manager's capabilities to the Owner's Project Manager and the Designer for approval.
6. Duties of the QA/QC Manager:
 - a. Prepare and submit QA/QC Plan for approval.
 - b. Conduct and submit minutes for all requisite Quality Meetings.
 - c. Coordinate and report on all daily quality activities.
 - d. Verify accurate documentation by Subcontractors and Vendors.
 - e. Work with Owner's Commissioning Agent.
 - f. Oversee final project records pertaining to quality.
 - g. Report, photograph and distribute evidence of deficient and/or defective construction conditions or materials that cannot be corrected within three work days of observation. When such conditions or materials are remedied report, photograph and distribute evidence of remedial work prior to concealing. Photographs shall be dated and defects and/or deficiencies shall be clearly labeled on the photographs.

1.6 OWNER'S INDEPENDENT TESTING AGENCIES

- A. Owner will engage an independent testing agency at its own expense to perform certain tests and similar services as set forth in Section 014325. Information provided by Owner's Independent Testing Agency shall be for the sole use of Owner's Project Manager, and shall not relieve the General Contractor of its responsibilities to provide its own quality control, to meet all requirements of the Contract and to provide a completed project free from construction defects.
- B. It is the General Contractor's responsibility to provide and pay for its own inspection and testing to assure quality control. General Contractor shall be responsible for coordinating its work with requirements of Owner's testing agencies, and shall provide reasonable services in support of facilitating work of Owner's testing agencies as required.

1.7 DUTIES OF THE GENERAL CONTRACTOR'S TESTING AGENCIES

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

1.8 GENERAL CONTRACTOR'S QUALITY CONTROL REQUIREMENTS, GENERAL

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of the quality as specified.
- B. Comply fully with manufacturer's instructions, including each step in sequence.

- C. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- D. Perform work by persons qualified to produce workmanship of specified quality.
- E. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortions, or disfigurement. Anchorage devices shall be labeled to allow for visual inspection and verification of type of anchorage device.

1.9 WELDING

A. Certified Welders:

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

B. Welding and Cutting:

1. Where electric or gas welding or cutting work is done above or within ten (10) feet of combustible material or above a space that may be occupied by persons, use interposed shields of incombustible material to protect against fire damage or injury due to sparks and hot metal.
2. Place tanks supplying gases for gas welding or cutting at no greater distance from the work than is necessary for safety, securely fastened and maintained in an upright position in accordance with applicable codes. Store such tanks in a locked enclosure remote from any combustible material and free from exposure to the rays of the sun or high temperatures.
3. Maintain suitable fire extinguishing equipment near all welding and cutting operations. When operations cease for the noon hour or at the end of the day, thoroughly wet down the surroundings adjacent to welding and cutting operations.
4. Station a workman equipped with suitable fire extinguishing equipment near welding and cutting operations to see that sparks do not lodge in floor cracks or pass through floor or wall openings or lodge in any combustible material. Keep the workman at the source of work which offers special hazards for thirty (30) minutes after the job is completed to make sure that smoldering fires have not been started.
5. Place a qualified electrician in charge of installing and maintaining electric and arc welding equipment. Remove damaged electric, arc or gas welding equipment from the site.

1.10 MANUFACTURER'S REPRESENTATIVES

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

1.11 EXAMINATION OF SUBSTRATE

- A. Installers of materials, products or equipment shall:
 - 1. Examine base surfaces upon which materials, products or equipment are to be installed.
 - 2. Examine conditions upon which materials, products or equipment are to be installed.
 - 3. Where there is any question as to the dryness of a surface, test with a modern moisture-indicating machine.
 - 4. Notify the General Contractor, in writing, with a copy to the Designer, if conditions are detrimental to proper and timely construction and completion of the work.
- B. Do not proceed with work until unsatisfactory substrate, or not acceptable conditions have been corrected. Commencement of installation constitutes acceptance of substrate or base surfaces, and the cost of any corrective work due shall be borne by the installer applying his/her materials, products or equipment thereon.

1.12 GENERAL CONTRACTOR'S QUALITY ASSURANCE AND QUALITY CONTROL PLAN

- A. The General Contractor's Quality Assurance and Quality Control Plan shall instill an expectation that all work will be completed correctly and in an expeditious manner. In all instances the General Contractor shall be responsible for the adherence to and enforcement of the General Contractor's Staff and all Subcontractors to this plan.
 - 1. Submit the General Contractor's Quality Assurance and Quality Control Plan to the Owner's Project Manager within 30 days from the Notice to Proceed. Submit in format acceptable to Owner's Project Manager. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out General Contractor's quality-assurance and quality-control responsibilities. Coordinate with General Contractor's construction schedule.
- B. The Plan shall include specific procedures for conducting formalized inspections of predetermined selected work items at the time the General Contractor first starts new work. These inspections are performed by a designated QA/QC Inspection Team composed of authorized representatives from Owner, the General Contractor, A/E, Subcontractor(s) (whose work is being inspected) and others as may be required.
- C. The Quality Assurance and Quality Control Plan shall be created as a General Contractor Project Specific Quality Plan addressing at a minimum the following components:
 - 1. Quality meetings.
 - a. Pre-construction conference.
 - b. Pre-installation review meetings.
 - c. Coordination meetings.
 - 2. Regular Daily Inspections.
 - 3. First Delivery of Material / Equipment Inspections.
 - 4. First Equipment in Place Inspections.
 - 5. Mock-up Inspections.

6. Bench Mark Inspections.
7. Follow-Up Bench Mark Inspections.
8. Below Grade / In-Wall and Above Ceiling Inspections.
9. Utility Activation and Start-Up Inspection Procedures for Equipment/Systems Prior to Validation.

D. Quality Meetings:

1. Pre-construction Conference:
 - a. A conference held to discuss all aspects of the construction project such as the schedule, payment procedures, change order procedures and much more. This meeting is held immediately after contract award.
 - b. The Owner's Project Manager, Designer, Design Consultants, General Contractor and Subcontractors will attend these meetings.
2. Pre-Installation Review Meetings:
 - a. A review meeting shall be held for certain kinds of work requiring special coordination efforts between Subcontractors, a better understanding of how the work is to be performed by one or more Subcontractors, sequencing of work between the Subcontractors, or a review of special requirements pertaining to the work to be performed. This type of meeting is conducted just prior to starting the actual work. The meeting is scheduled and run by the General Contractor on an as needed basis.
 - b. The Owner's Project Manager, Designer, General Contractor and all applicable Subcontractors will attend these meetings.
 - c. The General Contractor's Staff and Subcontractor's actual supervisory people who will be performing the work in the field are to attend these meetings.
 - d. Safety precautions relating to the work to be performed are also to be discussed as part of this meeting.
3. Coordination Meetings:
 - a. The General Contractor shall conduct project Coordination Meetings at regular intervals. Project Coordination Meetings are in addition to specific meetings held for other purposes, such as regular progress meetings and special pre-installation meetings. An example would be regularly scheduled MEP coordination meetings to monitor the progress of the MEP coordination process.
 - b. General Contractor shall request representation by every party currently involved in coordination or planning for the construction activities involved.
 - c. General Contractor shall record meeting results and distribute copies to everyone in attendance and others affected by decisions or actions resulting from each meeting. The Owner's Project Manager and the Designer are to be on the Distribution List.

E. Regular Daily Inspections:

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

F. First Delivery of Material/Equipment Inspection:

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

G. First Equipment In Place Inspection:

1. The General Contractor shall manage and keep current an anticipated schedule for all materials and equipment to be inspected in place and provide regular updates or upon request to the Owner's Project Manager and QA/QC Inspection Team.
2. General Contractor and QA/QC Inspection Team will inspect and document the first setting of equipment to verify it is in conformance with the requirements of the Contract Documents.
3. The installation and assembly will be verified against the requirements of the design documents and the approved shop drawings.
4. The General Contractor shall log, record and distribute any account for each type of first in place equipment inspection as a component of daily reporting and provide notification on a regular basis during construction of currently observed items requiring corrective action or pending inspection.
5. Upon acceptance of the equipment in place, the General Contractor can proceed with permanently anchoring it into place by the means prescribed in the Contract Documents.
6. This inspection establishes the basis for judging all future setting of like equipment.

H. Mock-Up Inspections:

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

I. Benchmark Inspections (In Sequence Work):

1. The General Contractor in consultation with the Owner's Project Manager, Designer and QA/QC Inspection Team will establish which work will be scheduled for benchmarking during the normal course of construction.
2. The General Contractor shall log, record and distribute any account of Benchmark(s) as a component of daily reporting and provide notification on a regular basis during construction of currently observed items in process, requiring corrective action, or follow up, and that require inspection.
3. General Contractor shall note that the work to be inspected has been started and if found to be acceptable shall call for a benchmark inspection to be conducted by the QA/QC Inspection Team.
4. The QA/QC Inspection Team shall review, comment that the work appears in conformance to the requirements. Comments are documented and distributed by the General Contractor. Non-conforming work will be corrected at no additional cost to Owner.
5. This inspection establishes the basis for judging all future work of a like type, none of which shall commence until the benchmark is approved.
6. The Benchmark process and inspection(s) does not take away from the responsibility of the General Contractor and installing contractors to provide a finished and fully functioning product and to maintain the construction schedule.

J. Follow-Up Benchmark Inspections:

1. The General Contractor shall ensure that all subsequent work being built of the same type of work that was previously benchmarked will be built in conformance to the Benchmarked work without deviation.
2. The General Contractor and QA/QC Inspection Team will randomly inspect subsequent work being built of the same type of work that was previously benchmarked to ensure the work is being built in conformance with the benchmarked work.
3. The General Contractor shall log, record and distribute any account of follow-up benchmark(s) as a component of daily reporting and provide notification on a regular basis during construction of currently observed items in process, requiring corrective action, or follow up, and that require inspection.

K. Below Grade / In Wall and Above Ceiling Inspections:

1. It is the intent of this section to mandate inspection of as much of the work that is to be enclosed before it has been covered over to avoid having to reopen closed spaces to complete or correct work therein.
2. The General Contractor shall verify that all work is complete within the concealed space and is ready to be inspected before it is enclosed.
3. The General Contractor and all Subcontractors who have work installed within the work area shall sign a closure form stating that their work has been completed and has been inspected by all applicable code officials. General Contractor will be responsible for all costs to have the space reopened later to complete or correct any work within the space, and to have the space closed again, including all costs incurred for any schedule impacts due to this work.
4. Photographs of areas to be permanently enclosed will be taken by General Contractor and retained as a part of the project record.
5. The General Contractor shall log, record and distribute account of below grade, in wall or above ceiling inspections as a component of daily reporting and provide notification on a regular basis during construction of currently observed items in process, requiring corrective action, or follow up.
6. No closure or covering of work shall proceed until all requirements are met and approval given by the QA/QC Inspection Team where such inspections are to be conducted.

14-446

QUINCY COLLEGE
Saville Hall, Toilet Room Alterations
Quincy, MA

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 014200 REFERENCES

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

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

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract including, but not limited to, the following:
 - 1. The Designer (the Architect-of-Record or Engineer-of-Record as applicable).
 - 2. The Owner's Project Manager.
 - 3. The General Contractor.
- B. "Reviewed": When used to convey Designer's action on General Contractor's submittals, applications, and requests, "reviewed" is limited to Designer's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Designer. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities subject to Owner's approval. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if

bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source, and have available on site for reference.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

AA	Aluminum Association, Inc. (The)
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ABAA	Air Barrier Association of America
ACI	ACI International (American Concrete Institute)
AGC	Associated General Contractors of America (The)
AIA	American Institute of Architects (The)
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ALSC	American Lumber Standard Committee, Incorporated
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
APA	APA - The Engineered Wood Association
ARMA	Asphalt Roofing Manufacturers Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	ASME International (The American Society of Mechanical Engineers International)
ASTM	ASTM International (American Society for Testing and Materials International)
AWI	Architectural Woodwork Institute
AWPA	American Wood-Preservers' Association
AWS	American Welding Society
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association (The)
CDA	Copper Development Association
CISCA	Ceilings & Interior Systems Construction Association
CRI	Carpet & Rug Institute (The)
CSI	Construction Specifications Institute (The)
DHI	Door and Hardware Institute
EPA	Environmental Protection Agency (United States)
FM	Factory Mutual
FMRC	Factory Mutual Research (Now FM Global)
FSC	Forest Stewardship Council

GA	Gypsum Association
GANA	Glass Association of North America
GS	Green Seal
HPVA	Hardwood Plywood & Veneer Association
ICRI	International Concrete Repair Institute, Inc.
IESNA	Illuminating Engineering Society of North America
ILI	Indiana Limestone Institute of America, Inc.
ISO	International Organization for Standardization
ISSFA	International Solid Surface Fabricators Association
ITS	Intertek Testing Service NA
LEED	Leadership in Energy & Environmental Design (USGBC)
MFMA	Maple Flooring Manufacturers Association, Inc.
NAAMM	National Association of Architectural Metal Manufacturers
NAIMA	North American Insulation Manufacturers Association
NBGQA	National Building Granite Quarries Association, Inc.
NCMA	National Concrete Masonry Association
NeLMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NFPA	NFPA (National Fire Protection Association)
NFRC	National Fenestration Rating Council
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association)
NRCA	National Roofing Contractors Association
NSF	NSF International (National Sanitation Foundation International)
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
NWWDA	National Wood Window and Door Association (Now WDMA)
SDI	Steel Deck Institute
SDI	Steel Door Institute
SGCC	Safety Glazing Certification Council
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SSINA	Specialty Steel Industry of North America
SSPC	SSPC: The Society for Protective Coatings
TCA	Tile Council of America, Inc.
UL	Underwriters Laboratories Inc.
USGBC	U.S. Green Building Council
WCLIB	West Coast Lumber Inspection Bureau
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association)
WWPA	Western Wood Products Association

- B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of current edition of Codes in the Commonwealth of Massachusetts.

14-446

QUINCY COLLEGE
Saville Hall, Toilet Room Alterations
Quincy, MA

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 015000 TEMPORARY FACILITIES AND CONTROLS

1.1 GENERAL PROVISIONS

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

1.2 REQUIREMENTS INCLUDED

- A. Temporary Facilities and Controls including the following:

1. Temporary Water.
2. Heating During Construction.
3. Temporary Power.
4. Hoisting Equipment and Machinery.
5. Staging.
6. Maintenance of Access.
7. Dust Control.
8. Noise Control.
9. Enclosures.
10. Cleaning During Construction.
11. Field Offices.
12. Telephone Service.
13. Sanitary Facilities.
14. Construction Barriers.
15. Parking.
16. Debris Control and Removal.
17. Safety Protection.
18. Vehicle and Equipment Protection.
19. Shoring.
20. Delivery of Materials.
21. Shut Down Notice.
22. Construction Cores.

1.3 TEMPORARY WATER

- A. Water will be furnished by the Owner.
- B. Water shall be distributed by means of connections to the permanent service lines that are to be installed at the expense of the General Contractor.
- C. Any temporary hoses and pipe lines and connections from the permanent service lines within the building, necessary for the use of the General Contractor and his Subcontractors shall be installed, protected, and maintained at the expense of the Plumbing Subcontractor.
- D. Temporary hoses and temporary pipelines shall not be permitted to be installed along, through or across corridor and occupied rooms or spaces.
- E. The General Contractor shall provide an adequate supply of drinking water from approved sources of acceptable quality, satisfactorily cooled, for his employees and those of his Subcontractors.

- F. Use of the water may be discontinued by the Commonwealth if, in the opinion of the Owner's Project Manager, it is wastefully used.

1.4 HEATING DURING CONSTRUCTION

- A. Not Applicable.

1.5 TEMPORARY POWER

- A. Electric power will be furnished by the Owner to the General Contractor.
- B. Power shall be distributed by means of connections to the existing service.
- C. Any temporary wiring and connections from the existing service or within the building, necessary for the use of the General Contractor and his Subcontractors shall be installed, protected, and maintained at the expense of the Electrical Subcontractor.
- D. Use of the electric power may be discontinued by the Commonwealth if, in the opinion of the Owner's Project Manager, it is wastefully used.

1.6 HOISTING EQUIPMENT AND MACHINERY

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

1.7 STAGING

- A. All staging, planking and scaffolding, exterior and interior, required for the proper execution of the work and over eight feet in height, shall be furnished, installed, and maintained by the General Contractor.
 - 1. Erection and dismantling of staging shall be performed only by trained, certified, and experienced staging personnel qualified to perform such work.
 - 2. Copies of such certifications, clearly indicating qualifications, shall be provided to the Owner prior to commencement of such erecting and dismantling work.
- B. All staging up to eight feet in height shall be provided by the individual Subcontractors as applicable to their work.

1.8 MAINTENANCE OF ACCESS

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

1.9 DUST CONTROL

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

1.10 NOISE CONTROL

- A. Work must be scheduled and performed in such a manner as to not interfere with the operations of the Owner. Construction work that is deemed by the Owner's Project Manager to be excessively noisy may be required to be done during non-normal working hours and at no additional expense to Owner.
- B. Comply with requirements of authorities having jurisdiction. Develop and maintain a noise-abatement program and enforce strict discipline over all personnel to keep noise to a minimum.
- C. Execute construction work by methods and by use of equipment which will reduce excess noise.
 - 1. Equip air compressors with silencers, and power equipment with mufflers.
 - 2. Manage vehicular traffic and scheduling to reduce noise.
 - 3. No heavy equipment may be started or idled before 7A.M.

1.11 ENCLOSURES

- A. Provide temporary, insulated, weather tight closures of openings in exterior surfaces for providing acceptable working conditions and protection for materials, allowing for heating during construction, and preventing entry of unauthorized persons. Provide doors with self-closing hardware and locks.
- B. All utilities including electric ducts, conduits, telephone lines, sprinklers, and other utilities shall be protected against damage from construction activity. The General Contractor shall be responsible for all damage to the utilities from construction and shall repair all such damage at no additional cost to Owner.
- C. Provide temporary partitions and ceiling as required to separate work areas from occupied areas, to prevent penetration of dust and moisture into occupied areas, to prevent damage to existing areas and equipment. Construction shall be framing and sheet materials with closed

joints and sealed edges at intersections with existing surfaces; (STC rating 35 in accordance with ASTM E900. Flame Spread Rating of 25 in accordance with ASTM E84. Paint surfaces exposed to view in occupied areas.)

1.12 CLEANING DURING CONSTRUCTION

- A. Unless otherwise specified under the various Sections of the Specifications, the General Contractor shall perform clean-up operations during construction as herein specified.
 - 1. Refer to Section 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL for additional requirements.
- B. Control accumulation of waste materials and rubbish; periodically dispose of off-site in a legal manner. The General Contractor shall bear all costs, including fees resulting from such disposal.
- C. Clean interior areas prior to start of finish work and maintain areas free of dust and other contaminants during finish operations.
- D. Maintain project in accordance with all local, Commonwealth of Massachusetts, and Federal Regulatory Requirements.
- E. Store volatile wastes in covered metal containers, and remove from premises.
- F. Prevent accumulation of wastes which create hazardous conditions.
- G. Provide adequate ventilation during use of volatile or noxious substances.
- H. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.
 - 4. Identify potential sources of cleaning water runoff and propose abatement procedures.
- I. Use only those materials which will not create hazards to health or property and which will not damage surfaces.
- J. Use only those cleaning materials and methods recommended by manufacturer of surface materials to be cleaned.
- K. Execute cleaning to ensure that the buildings, the sites, and adjacent properties are maintained free from accumulations of waste materials and rubbish and windblown debris, resulting from construction operations.
- L. Provide on-site containers for collection of waste materials, debris, and rubbish.
- M. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal dump site (DEP approved).
- N. Handle material in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.

- O. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not damage surrounding surfaces.

1.13 FIELD OFFICES

- A. Not Required.

1.14 TELEPHONE SERVICE

- A. Not Required

1.15 SANITARY FACILITIES

- A. The General Contractor shall provide suitable toilet facilities for its staff, and additional facilities for the workmen on the job, including personnel of Subcontractors.
- B. Provide chemical toilets where work is in progress and in quantity required by OSHA Code.
- C. Chemical toilets and their maintenance shall meet requirements of state and local health regulations and ordinances and shall be subject to the approval the Owner and Designer.
- D. Upon completion of new toilet facilities, the Owner's Project Manager may designate a specific toilet area to be used for the General Contractor and Subcontractors engaged in the Work. However, General Contractor shall take responsibility for maintenance and cleaning of such areas and shall leave them in first class condition equal to the accepted conditions of toilet facilities not used for construction personnel.

1.16 CONSTRUCTION BARRIERS

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

1.17 PARKING

- A. Parking: Parking spaces on Campus are very limited and the College will not provide designated parking lot spaces near the construction site for the Contractor's use. The Contractor shall determine the location of the nearest available parking spaces. The Contractor will be required to pay all fees for parking. The Contractor shall state his/her parking and staging area requirements during the Pre-construction Meeting. The area(s) for materials storage will then be agreed to between the Contractor and the Owner's Project Manager. The limits of material storage will be delineated by the Contractor with construction fencing and enforced throughout the Contract.

1.18 DEBRIS CONTROL AND REMOVAL

- A. Debris shall not be permitted to accumulate or migrate and the work shall at all times be kept satisfactorily clean. Facility trash receptors shall not be used for the disposal of debris.

Dumpster shall be provided by the General Contractor for removal of debris for all Subcontractors.

- B. Remove debris from the work site on a daily basis and dispose of same at any (private or public) DEP approved dump that the General Contractor may choose providing that the General Contractor shall make all arrangements and obtain all approvals and permits necessary from the owner or officials in charge of such dumps. Proposed dump site shall be submitted to be approved by Owner prior to start of demolition. During disposal process, copies of daily receipts from dumpsite shall be submitted on a regular basis.

1.19 SAFETY PROTECTION

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

1.20 VEHICLE AND EQUIPMENT PROTECTION

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

1.21 SHORING

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

1.22 DELIVERY OF MATERIALS

- A. All Materials shall be delivered to the Contractor's or Sub-Contractor's warehouse or may be delivered to the site if the Contractor's representative is present to receive them.
- B. No materials will be received by Owner personnel, either on site or at the Owner's shipping and receiving dock.

1.23 SHUT DOWN NOTICE

- A. The Contractor shall notify the Owner's Project Manager at least fourteen (14) working days in advance, of the need for Owner personnel to shut down or modify any utilities or building systems. If, due to Owner's emergencies or staffing shortages, the Physical Plant personnel are unable to provide the required shut down or modifications, the contractor shall reschedule their work at no cost to the University.

1.24 CONSTRUCTION CORES

- A. Prior to start of construction, the General Contractor shall review with the Owner's Project Manager which doors will require construction cores.

- B. For existing and new doors requiring installation of construction cores, the Physical Plant lock shop shall remove the existing core and install College keyed construction cores. The Contractor will be required to sign out keys for the construction cores at the lock shop. At completion of the construction work the Physical Plant lock shop will remove the construction core and reinstall the appropriate final core. The Contractor is required to return all construction core keys to the lock shop at completion of the project.

1.25 COVERED WALKWAYS

- A. Install temporary overhead protection at building entrances, for an appropriate distance from the building, when performing construction work above the entrance on the roof or building façade.
- B. Comply with standards and code requirements for erecting structurally adequate overhead protection. Erect overhead protection using appropriate scaffold and wood plank decking to provide safe passage.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 016000 PRODUCT REQUIREMENTS

1.1 GENERAL PROVISIONS

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

1.2 REQUIREMENTS INCLUDED

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

1.3 WORKMANSHIP

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

1.4 MANUFACTURERS' INSTRUCTIONS

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

1.5 TRANSPORTATION AND HANDLING

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

- D. Promptly inspect shipments to assure that products comply with requirements, that quantities are correct, and products are undamaged.

1.6 STORAGE AND PROTECTION

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 017419 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.0 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Waste Management Goals
 - 2. Diversion and disposal of nonhazardous demolition and construction waste.

1.2 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging. Hazardous materials are not included.
- C. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations. Hazardous materials are not included.
- D. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- E. Diversion: To remove, or have removed, from the site for recycling, reuse, or salvage, materials that might otherwise be sent to a landfill. Diversion from landfill does not include burning, incinerating, thermally destroying waste, or waste-to-energy processes.
- F. Recyclable: The ability of a product or materials to be recovered at the end of its life cycle and remanufactured into a new product.
- G. Recycle (Recycling): Recovery of demolition and construction waste for subsequent processing in preparation for reuse.
- H. Return: To send back reusable or unused products to vendors or manufacturers.
- I. Reuse: Recovery of demolition or construction waste and subsequent incorporation on site into the Work of this Project.
- J. Salvage: Recovery of demolition or construction waste from existing buildings or construction sites and subsequent sale or reuse in another facility.
- K. Segregation: To place similar waste materials together for collection in a designated site area, trash bin, or roll-off container.

1.3 SUBMITTALS

- A. General: Submit the following according to Conditions of the Construction Contract and Division 01 Specification Sections.
- B. Recycling and Processing Facility Records: Document receipt and acceptance of recyclable waste by licensed recycling and processing facilities. Include legible copies of on-site logs, manifests, weight tickets, receipts, and invoices.
- C. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include legible copies of manifests, weight tickets, receipts, and invoices.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Waste Management Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:
 - 1. Review and discuss waste management plan.
 - 2. Review requirements for documenting quantities of each type of waste and its disposition.
 - 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 - 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 - 5. Review waste management requirements for each trade.
- C. Project Meetings: Waste management plans and implementation shall be discussed at the following meetings:
 - 1. Pre-demolition meeting.
 - 2. Pre-construction meeting.
 - 3. Regular job-site meetings.
 - 4. Sub-contractor job-site coordination meetings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 - 1. Comply with operation, termination, and removal requirements in Section 015000 "Temporary Facilities and Controls."

- B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
 - 1. Distribute Waste Management Plan to all impacted parties within three (3) days of submittal return.
 - 2. Distribute Waste Management Plan to entities when they first begin work on-site. Review plan procedures and locations established for diversion and disposal.
- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold. Provide labeling in multiple languages as needed to enable proper communication and understanding.
 - 2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 - 3. Store items in a secure area until installation.
 - 4. Protect items from damage during transport and storage.
 - 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- B. Salvaged Items for Sale and Donation: Not permitted to be stored on Project site.
- C. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area off-site.
 - 5. Protect items from damage during transport and storage.
- D. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.
- E. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.
- F. Plumbing Fixtures: Separate by type and size.
- G. Lighting Fixtures: Separate lamps by type and protect from breakage.
- H. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Owner.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4. Store components off the ground and protect from the weather.
 - 5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

- A. Asphaltic Concrete Paving: Break up and transport paving to asphalt-recycling facility.
- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 - 1. Pulverize concrete to maximum 1-1/2-inch size.
 - 2. Crush concrete and screen to comply with requirements in Section 312000 "Earth Moving" for use as satisfactory soil for fill or subbase.
- C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 - 1. Pulverize masonry to maximum 3/4-inch size.
 - 2. Clean and stack undamaged, whole masonry units on wood pallets.
- D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- E. Metals: Separate metals by type.
 - 1. Structural Steel: Stack members according to size, type of member, and length.
 - 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- F. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

- G. Metal Suspension System: Separate metal members including trim, and other metals from acoustical panels and tile and sort with other metals.
- H. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
 - 1. Store clean, dry carpet and pad in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.
- I. Carpet Tile: Remove debris, trash, and adhesive.
 - 1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.
- J. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
- K. Lighting Fixtures: Separate lamps by type and protect from breakage.
- L. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.
- M. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.
- N. Conduit: Reduce conduit to straight lengths and store by type and size.

3.5 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 - 2. Polystyrene Packaging: Separate and bag materials.
 - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 - 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Wood Materials:
 - 1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
 - 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.
 - 1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.6 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 017419

SECTION 017700 CONTRACT CLOSEOUT

1.1 GENERAL PROVISIONS

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

1.2 FINAL CLEANING

- A. Unless otherwise specified under the various Sections of the Specifications, the General Contractor shall perform final cleaning operations as herein specified prior to final inspection.
- B. Maintain project site free from accumulations of waste, debris, and rubbish, caused by operations. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave project clean and ready for occupancy.
- C. Cleaning shall include all surfaces, interior and exterior in which the General Contractor has had access whether existing or new.
- D. Refer to Sections of the Specifications for cleaning of specific products or work.
- E. Use only those materials which will not create hazards to health or property and which will not damage surfaces.
- F. Use only those cleaning materials and methods that are recommended by the manufacturer of surface material to be cleaned.
- G. Employ experienced workmen, or professional cleaners, for final cleaning operations.
- H. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- I. All new and existing glass and plastic surfaces throughout the building shall be thoroughly cleaned and washed by qualified window cleaners at the expense of the General Contractor just prior to acceptance of the Work.
- J. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces as acceptable to the Designer and Owner's Project Manager.
- K. Ventilating Systems: Clean permanent filters and replace disposable filters if units were operated during construction. Units should not be operated without filters at all. Throw away filters should be used when operating units prior to Substantial Completion. Submit report of ventilation system cleanliness including ductwork to the Owner's Project Manager.
- L. Leave all architectural metals, hardware, and fixtures in undamaged polished conditions.
- M. Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and decayable materials.
- N. At the end of the project, General Contractor and each Subcontractor shall remove all his tools, equipment, machinery, and surplus materials from the job site. The General Contractor shall

remove all waste materials and rubbish from the project at this time. All temporary structures shall be removed and the project shall be left clean.

- O. Subsequent to installation of User Agency furniture, telephones, and equipment, and prior to issue of Certificate of Use and Occupancy, provide additional cleaning to remove any soil resulting from installations of such furniture and equipment. Such additional cleaning may include, but not be limited to dusting of horizontal surfaces, vacuuming, and washing of hard or resilient floor surfaces and re-waxing where required.

1.3 LANDSCAPE REPAIRS

- A. All lawn areas used for contractor parking and material storage shall have the topsoil removed, the subsoil shall be loosened to 12" below finished grade, the topsoil shall be replaced and amended with a complete, slow release fertilizer, proof rolled and seeded with a restoration seem mix consisting of:

PURE SEED	GERM.
34.72% KENTUCKY BLUE GRASS 85/80	95%
24.68% CREEPING RED FESCUE	85%
19.82% OMEGA III PERENNIAL RYE GRASS	95%
19.78% SATURN PERENNIAL RYEGRASS	95%

- B. All lawn areas damaged by pedestrian or vehicular traffic due to the contractor's operations shall be aerated. Aeration shall consist of 9"-10" deep infraction at areas free of tree roots and at areas within tree drip lines shall be aerated 1"-3" with a tow behind 3- point hitch aerator. If in the opinion of the Campus Landscape Architect, the lawn areas require over-seeding or restoration, the following seed mixture shall be used at a rate to be determined:

PURE SEED	GERM.
34.72% KENTUCKY BLUE GRASS 85/80	95%
24.68% CREEPING RED FESCUE	85%
19.82% OMEGA III PERENNIAL RYE GRASS	95%
19.78% SATURN PERENNIAL RYEGRASS	95%

1.4 AS-BUILT DRAWINGS

- A. As-built Drawings shall consist of all the Contract Drawings. As-built Drawings shall be kept up-to-date. Information from on-going Work shall be recorded on As-built Drawings within 48 hours of Work being performed.
- B. The General Contractor and each Subcontractor shall be required to maintain one set of As-built Drawings, as the work relates to their Sections of the Specifications, at the site.
- C. The As-built Drawings shall be stored and maintained in the General Contractor's field office apart from other documents used for construction. The As-built Drawings shall be maintained in a clean, dry, and legible condition and shall not be used for construction purposes.
- D. As-built Drawings, as submitted by the General Contractor shall be verified in the field by the Designer or his Consultants. Verification by the Designer shall occur during the construction process and prior to the related work being completed and covered up.
- E. The As-built Drawings shall be available at all time for inspection by the Owner's Project Manager or Designer. All deficiencies noted shall be promptly corrected.

- F. The following information shall be indicated on the As-Built Drawings:
1. Record all changes, including change orders, in the location, size, number and type both horizontally and vertically of all elements of the project which deviate from those indicated on all the Contract Drawings.
 2. The tolerance for the actual location of utilities and appurtenances within the building to be marked on the As-built Drawings shall be plus or minus two (2) inches.
 3. The location of all underground utilities and appurtenances referenced to permanent surface improvements, both horizontally and vertically at ten (10) ft. intervals and at all changes of direction.
 4. The location of all internal utilities and appurtenances, concealed by finish materials, including but not limited to valves, coils, dampers, vents, cleanouts, strainers, pipes, junction boxes, turning vanes, variable and constant volume boxes, ducts, traps and maintenance devices. The location of these internal utilities, appurtenances, and devices shall be shown by offsets to the column grid lines on the Drawings.
 5. Each of the utilities and appurtenances shall be referenced by showing a tag number, area served and function on the As-built Drawings.
- G. At the end of each month and before payment for materials installed, the General Contractor, each Subcontractor, and agents of the Commonwealth shall review As-built Drawings for purpose of payment.
1. If the changes in location of all installed elements are not shown on the As-Built Drawings and verified in the field, then the material shall not be considered as installed and payment will be withheld.
- H. Prior to the installation of all finish materials, a review of the As-built Drawings shall be made to confirm that all changes have been recorded. All costs to investigate such conditions shall be borne by the applicable party as determined by the Designer.
- I. At the completion of the contract, each Subcontractor shall submit to the General Contractor a complete set of his respective As-built Drawings indicating all changes. After checking the above drawings, the General Contractor shall certify in writing on the title sheet of the drawings that they are complete and correct and shall submit the As-built Drawings to the Designer.
1. As-Built Drawings shall be submitted electronically to the Designer, in a format which can be added to the complete plans as constructed.
- J. The Designer shall review the drawings and shall verify by letter to the Owner's Project Manager that the work is accurate. The Designer shall incorporate all changes on the original drawings; thus creating Record Drawings. The Designer shall submit to the Owner's Project Manager, electronic files in Autocad 2000 (or later version) format with two (2) sets of prints to be used for the final inspection of the project. Inaccuracies in As-built Drawings, as determined by the Designer and the Owner's Project Manager, may be grounds for postponement of the final inspection or delay the processing of final payment until such inaccuracies are corrected by the General Contractor.

1.5 OPERATING AND MAINTENANCE REQUIREMENTS

- A. At least two weeks prior to the time of turning over this contract to the Operating Agency for Use and Occupancy, or Final Acceptance, the General Contractor shall secure and deliver to the Operating Agency via the Designer, three (3) complete, indexed files and three (3) CD or DVD copies, containing approved operating and maintenance manuals, shop drawings, record of paint colors, floor and ceiling materials and other data as follows.

1. Operating manuals and operating instructions for each model and type of equipment in each of the various systems. Include operating instructions for systems integrating several pieces of equipment.
 2. Catalog data sheets for each item of mechanical or electrical or equipment actually installed including performance curves, rating data and parts lists.
 3. Catalog sheets, maintenance manuals, and approved shop drawings of all mechanical or electrical equipment controls and fixtures with all details clearly indicated, including size of lamps and other maintenance supplies.
 4. Operating procedures, including startup, shutdown, seasonal and weekend operations.
 5. Description of controls and sequence of operations.
 6. Maintenance Data:
 - a. Manufacturer's information, including list of spare parts.
 - b. Name, address, and telephone number of Installer or supplier.
 - c. Maintenance procedures.
 - d. Maintenance and service schedules for preventive and routine maintenance.
 - e. Maintenance record forms.
 - f. Sources of spare parts and maintenance materials.
 - g. Copies of maintenance service agreements.
 - h. Copies of warranties and bonds.
 - i. Name, address and telephone numbers of repair and service companies for each of the systems installed.
 7. Names, addresses and telephone numbers of all Subcontractors and suppliers, together with repair and service companies for each of the major systems installed under this contract.
 8. Provide a steel cabinet for storage of manuals and operating instructions.
- B. Non-Availability of operating and maintenance manuals or inaccuracies therein may be grounds for cancellation and postponement of any scheduled final inspection by the Owner's Project Manager until such time as the discrepancy has been corrected.

1.6 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct University's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
1. Provide instructors experienced in operation and maintenance procedures.
 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 3. Schedule training with Physical Plant personnel with at least fourteen (14) days' advance notice.
 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
1. System design and operational philosophy.
 2. Review of documentation.
 3. Operations.
 4. Adjustments.
 5. Troubleshooting.
 6. Maintenance.
 7. Repair.

1.7 CLOSEOUT REQUIREMENTS AND SUBMITTALS

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

1. During the finishing stages of the project, the General Contractor shall make frequent inspections with Subcontractors, the Designer, and the Owner, so as to progressively check for and correct faulty work.
2. During the course of construction of the project, the General Contractor shall procure and maintain test records and certificates that will be required prior to issuance of the Certificate of Occupancy.
3. When the General Contractor determines that he/she is Substantially Complete*, he/she shall prepare for submission to the Designer a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the General Contractor to complete all work in accordance with contract Documents. The General Contractor's list shall be accompanied with certificates that will be required as prerequisites for applying for an inspection
 - a. *NOTE: Substantially Complete means that the building has obtained a (permanent or temporary) Certificate of Occupancy and less than one percent (1%) of all contract work, including change orders, remains to be done, and that none of the remaining work will affect health, safety, or function.
4. Upon receipt of the General Contractor's list of items to be completed or corrected, the Designer will promptly make a thorough inspection, together with representatives of Owner and the Operating Agency, and prepare a "punch list", setting forth in accurate detail any items on the General Contractor's list and additional items that are not acceptable. Concurrently, the General Contractor will arrange for an inspection, Fire Department, Town of Quincy Electrical and other required inspections through Owner's Project Manager.
5. When the punch list has been prepared, and any Inspector comments have been included, the Designer will arrange a meeting with the General Contractor and Subcontractors, and the Owner's Project Manager, to identify and explain all punch list items and answer questions on the Work that must be done before Final Acceptance.
 - a. If an inspector requires modifications and/or additions that were not included in the construction documents, the Designer should review the applicable code(s) and provide written interpretation to the Owner's Project Manager together with his/her recommendations.
6. The General Contractor shall immediately correct all punch list items that affect health, safety or function (as determined by the Designer, completion of which is required before issuance of a Owner's Certificate of Agency Use and Occupancy).
7. Upon receipt of the Owner's Certificate of Agency Use and Occupancy, and its adjunct monetized punch list, the General Contractor shall cause the completion of all of the other punch list items within the timeframe required by said certificate, but not more than 45 calendar days if the timeframe is not indicated on the said certificate.
8. There is a history of specific items that are essential to the Use and Occupancy, but are frequently overlooked. Some things to watch for are:
 - a. Provide properly colored and positioned exit signs.
 - b. Properly located emergency lighting fixtures.
 - c. Complete or, by agreement, schedule personnel training.
 - d. Final cleaning.
 - e. Ventilating systems:
 - 1) Clean permanent filters and replace disposable filters if units were operated during construction.
 - 2) Clean ducts, blowers, and coils if units were operated without filters during construction.

- 3) Leave pipe and duct spaces, plenums, furred spaces and the like clean of debris and materials subject to decay.
 - f. Assure that exterior and interior fire rated and egress doors are operating properly and have the proper hardware.
 - g. Assure that fire-rating labels are on doors and frames that are supposed to have them.
 - h. Assure that smoke barriers are properly installed and located.
 - i. Assure that the spare set of each type of sprinkler head and a head removal tool have been provided.
 - j. Assure that floors drain properly.
 - k. Assure that proper hot water temperatures are provided. Unless otherwise specified or required by a User Agency, the temperature set on building master controllers of hot water shall apply:
 - 1) HW to toilet rooms and janitors closets shall be 140°F.
 - 2) HW to individual tubs or showers shall be controlled, in addition to the master controller above, with thermostatic valves set to furnish HW at a temperature not exceeding 110°F and equipped with anti-scald feature.
 - 3) HW rinse water to dishwashers shall be controlled at 180°F.
 - l. Assure that proper water pressure is provided for the sprinkler system.
 - m. Assure that low-consumption (LC) toilets have been installed (1.6 gpf or less).
 - n. Re-lamp if permanent lighting system was used during construction.
 - o. As-built marked-up drawings should be completed and transferred over to the Designer.
 - p. Make final changeover of permanent locks and cores. Advise Owner's Project Manager of changeover in security provisions.
 - q. Perform landscape repairs.
- B. Prerequisites for Certificate of Inspection and/or Certificate of Occupancy: Prior to requesting an inspection, the General Contractor shall provide (via transmittal to the Owner) the following "closeout submittals:"
1. Project record documents and as-built marked-up drawings.
 2. Recycling and Landfill records per Section 017419 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
 3. Approved operating and maintenance (O & M) data.
 4. Extended guarantees and warranties.
 - a. General Contractor's General Guarantee shall effectively include:
 - 1) A written guarantee, for one (1) year from date of Substantial Completion of the project, against defective workmanship, material, installation and equipment for all work of the project. Repair or replacement of defective workmanship, material, installation or equipment that develop within this period shall be accomplished promptly upon notification to the General Contractor, to the satisfaction of the Operating Agency, at no cost.
 - 2) Replace or repair material or equipment that requires excessive service during the guarantee period.
 - 3) Guarantee shall include 24-hour service of complete system(s) during guarantee period at no additional cost.
 - 4) Provide manufacturer's engineering and technical staff at site promptly to analyze and rectify problems that develop during guarantee period. If problems cannot be rectified promptly, to the satisfaction of the User Agency, advise the Designer in writing; describe efforts to rectify situation and provide analysis of cause of problem.
 - b. Manufacturer's Guarantee or Warranty
 - 1) In addition to guarantee requirements above, obtain manufacturers' written installation, equipment, and material warranties for time periods indicated in the various Specification Sections of the Contract Documents. Such

manufacturers' warranties contained within the Specification Sections, together with any other warranties offered in manufacturers' published data, are to be transferred to the User Agency.

- c. Keys and keying schedule.
 - d. Spare parts and maintenance materials ("attic stock"),
 - e. Evidence of compliance with requirements of governing authorities including, without limitations, the following:
 - 1) Certificate of Inspection, in form of signed permits from the electrical, plumbing, gas, fire department, boiler, and any other required inspectors.
 - 2) Certification from the local fire department to the effect that all detection, alarm and suppression systems, and other equipment or systems under fire department jurisdiction are approved.
 - 3) A letter from the Plumbing Subcontractor. that the potable water supply has been sanitized.
 - 4) Pressurized vessel certifications from the boiler inspector obtained through the Mechanical Subcontractor.
 - 5) When air balancing is required, the air balancing report prepared by the Mechanical Subcontractor (or commissioning agent, when applicable), and accepted by the design Registered Professional Engineer.
 - 6) When smoke control/fire emergency ventilation system is required, the test report prepared by the Mechanical Subcontractor (or commissioning agent, when applicable), and accepted by the design Registered Professional Engineer.
 - 7) Evidence of test and approval for Department of Environmental Protection (DEP) and Department of Public Health (DPH), when applicable.
- C. Prerequisites for Department of Public Safety (DPS) Certificate of Inspection and/or Certificate of Occupancy: Prior to requesting a Department of Public Safety (DPS) inspection, the Designer shall provide (via transmittal to the Owner's Resident Engineer) the following "closeout submittals:"
- 1. Certification, from the design Registered Professional Engineer, stating that the fire protection systems have been installed in accordance with the approved fire protection construction documents and meet the requirements of 780 CMR 903.1.
 - 2. Certification, from the design Registered Professional Engineer, stating that the emergency lighting and power systems have been installed in accordance with the approved electrical construction documents.
- D. Upon completion of the Work for which a permit has been issued, the DPS building official shall conduct a final inspection pursuant to 780 CMR 115.5.
- E. Beneficial and Temporary Occupancy:
- 1. Beneficial (partial) Occupancy:
 - a. Owner may allow beneficial (partial) occupancy of portions of a building in order to allow a User Agency to set up and test their own operational equipment in select building areas. It does not allow for use and/or occupancy of the general public when, in fact, the building cannot function for the use(s) it is intended to accommodate, nor when there are outstanding items that effect health, safety and/or function.
 - b. It is Owner's policy to disallow beneficial occupancy if the fire alarm and suppression systems are inoperative.
 - c. Beneficial occupancy of building areas shall not constitute Substantial Completion, or Final Acceptance of work by Owner, and shall not institute the guarantee period for any work.

- d. A punch list will be developed for building areas to receive beneficial occupancy and the building areas will be photographed prior to such occupancy of said portion or portions of the work.
2. Temporary Occupancy:
- a. When, according to 780 CMR 120.3 – Temporary Occupancy upon the request of the holder of a permit, a Temporary Certificate of Occupancy (TCO) may be issued before the completion of the entire work covered by the permit, provided that such portion or portions shall be occupied safely prior to full completion of the building or structure without endangering life or public welfare. The Building Official may consult with all Subcontractor Inspectors for issues pertaining to life safety and shall consult with the Fire Official pertaining to issues of adequacy of fire protection systems prior to the issuance of a Temporary Certificate.
 - b. The Building Official may issue a Temporary Certificate of Occupancy (TCO) that can allow public use and occupancy of said portion or portions of the work, subject to punch list(s) being established prior to such occupancy.
 - c. Issuance of a Department of Public Safety (DPS) Temporary Certificate of Occupancy (TCO) does not relieve the General Contractor of the Owner's requirements of the contract and does not constitute Substantial Completion of the project.
 - d. Temporary Occupancy of building areas will institute the guarantee period for completed work of all Divisions except 21 through 28 of the Specifications for those building areas so used and occupied, exclusive of remaining work indicated on associated punch lists. Use of systems provided under Divisions 21 through 28 of the Contract Documents for temporary services and facilities shall not constitute Substantial Completion, or Final Acceptance of work by Owner, and shall not institute the guarantee period.
 - (1) If it is determined that there are no items on the punch list that affect health, safety or function and it is agreed by the Building Official, the Designer and the Owner's Project Manager that the entire building can be granted a Temporary Certificate of Occupancy (TCO), the work of all Divisions including 21 through 28 of the Specifications for the entire building so used and occupied, exclusive of remaining work indicated on associated punch lists, will institute the guarantee period for completed work of all Divisions including the systems provided under Divisions 21 through 28.
 - (2) Whereas a User Agency cannot properly maintain building systems without operating and maintenance documentation, subcontractors for Divisions 21 through 28 will be responsible for maintaining their respective building systems at no additional cost to the contract until the project is substantially complete and Operating and Maintenance (O & M) manuals, reviewed and approved by the Designer, are provided to the Owner's Project Manager.
 - (3) Issuance of a Temporary Certificate of Occupancy (TCO) may require remaining punch list work to be completed during irregular work hours. Such work will be performed at no additional cost to the contract.
 - e. The following Owner criteria, and any other criteria that may be imposed by the Building Official, are required for a DPS Temporary Certificate of Occupancy (TCO):
 - (1) Upon receipt of the General Contractor's list of items to be completed or corrected, the Designer will promptly make a thorough inspection, together with representatives of Owner and the Operating Agency, and prepare a "punch list", setting forth in accurate detail any items on the General Contractor's list and additional items that are not acceptable. The Designer and Owner Project Manager will identify and tag (by asterisk) all items that, in their opinion, affect health, safety or function. The Building Official may

- include additional items that, in her/his opinion, affect items that endanger life or public welfare.
- (2) When the punch list has been prepared, and all DPS Inspector comments* have been included, the General Contractor shall immediately correct all punch list items that affect health, safety or function (all asterisked items). This work must be completed before the issuance of a DPS Temporary Certificate of Occupancy (TCO).
- f. Exclusive of other items that the DPS inspector may impose, there is a history of specific items that are essential for, temporary occupancy. These items include, but are not limited to the following:
- (1) Properly colored and positioned exit signs.
 - (2) Properly located emergency lighting fixtures.
 - (3) Clean ducts, blowers, and coils if units were operated without filters during construction.
 - (4) Install permanent filters and replace disposable filters if units were operated during construction.
 - (5) Properly working lock for the medical environmental closets (if applicable).
 - (6) Assure that exterior and interior fire rated and egress doors are operating properly and have the proper hardware.
 - (7) Assure that smoke barriers are properly installed and located.
 - (9) Assure that proper hot water temperatures are provided. Unless otherwise specified or required by a User Agency, the temperature set on building master controllers of hot water shall apply:
 - (a) HW to toilet rooms and janitors closets shall be 140° F.
 - (b) HW to individual tubs or showers shall be controlled, in addition to the master controller above, with thermostatic valves set to furnish HW at a temperature not exceeding 110° F and equipped with anti-scald feature.
 - (c) HW rinse water to dishwashers shall be controlled at 180° F.
- g. Evidence of compliance with requirements of governing authorities including, without limitations, the following:
- 1) Certificate of Inspection, in form of signed permits from the electrical, plumbing, gas, fire department, boiler, and any other required inspectors.
 - 2) Certification from the local fire department to the effect that all detection, alarm and suppression systems, and other equipment or systems under fire department jurisdiction are approved.
 - 3) When carpeting and/or draperies are provided, a flame, smoke and fuel-rating certificate provided by the supplying General Contractor.
 - 4) Elevator certification(s) from the elevator inspector obtained through the General Contractor's elevator subcontractor.
 - 5) A letter from the Plumbing Subcontractor that the potable water supply has been sanitized.
 - 6) Septic system certification obtained from the town by the General Contractor (when applicable).
 - 7) Pressurized vessel certifications from the boiler inspector obtained through the Mechanical Subcontractor.
 - 8) When air balancing is required, the air balancing report prepared by the Mechanical Subcontractor (or commissioning agent, when applicable).
 - 9) When smoke control/fire emergency ventilation system is required, the test report prepared by the Mechanical Subcontractor (or commissioning agent, when applicable).
 - 10) Evidence of test and approval for Department of Environmental Protection (DEP) and Department of Public Health (DPH), when applicable.

- F. Prerequisites for Owner's Certificate of Final Inspection, Release, and Acceptance: Owner Final Certificate of Final Inspection, Release, and Acceptance. Upon receipt of the Owner's Certificate of Agency Use and Occupancy, and its adjunct monetized punch list, the General Contractor shall cause the completion of all of the other punch list items within timeframe required by said certificate, but not more than 45 calendar days if the timeframe is not indicated on the said certificate.
1. If the General Contractor fails to pursue completion of the remaining monetized punch list work, on a continual basis, within the timeframe required by the certificate, Owner may, after seven (7) calendar days written notice, elect to complete the work with separate forces and charge the work against the General Contractor.
 2. At the end of the General Contractor's one (1) year guarantee period, the General Contractor shall transfer manufacturers' equipment and material warranties that are still in force to the Operating Agency.

1.8 GUARANTEES AND WARRANTIES

- A. Submit to the Designer all extended guarantees and warranties that have been specified in various, individual Sections of the Specifications. Guarantees shall be assembled by Specification No. and Section in accordance with Specifications Table of Contents.
1. Guarantees and warranties shall be enforceable in the Commonwealth of Massachusetts and subject to interpretation in accordance with the laws of the Commonwealth of Massachusetts.
 2. Guarantees and warranties shall begin at the date of Substantial Completion of the Project. Guarantees and warranties which start at the date of shipment from the factory, or from the completion date of an individual portion of the project, are not acceptable.
- B. Unless more stringent requirements are otherwise specified, guarantee all work against defects of materials, equipment and workmanship for one year from the date of Substantial Completion or the date of issue of Certificate of Use and Occupancy for the building or portion thereof, whichever occurs first.
- C. If, within any guarantee period, repairs or changes are required in connection with guaranteed work, General Contractor shall promptly upon receipt of notice from Owner, and without additional expense to Owner, within ten business days:
1. Place in satisfactory condition in every particular all guaranteed work and correct all defects.
 2. Make good all damage to building, site equipment, or contents thereof, including redecoration which, in the opinion of the Designer, results from the use of material, equipment or workmanship which are inferior, defective or not in accord with the terms of the Contract.
- D. If General Contractor, after such notice, fails to proceed immediately to comply with terms of guarantee, Owner may correct defects and hold General Contractor liable for all expenses incurred.
- E. Promptly after completion of the work, obtain from each Subcontractor where a guarantee is required, a warranty addressed to and in favor of Owner or the User Agency if directed by Owner.
- F. Delivery of any warranty required does not relieve the General Contractor from any obligation assumed under other provisions of the Contract.

- G. Deliver guarantees and warranties to the Designer before or with the application for Final Payment.
- H. The general warranty set forth in the General Conditions is in addition to, exclusive of, and not in substitution of such guarantees as may be required in the Specifications.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 024119 SELECTIVE DEMOLITION

PART 1 GENERAL

1.00 GENERAL PROVISIONS

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

1.01 WORK INCLUDED

- A. Selectively demolish and remove materials, systems, equipment, and structures indicated on the Drawings, and as required to make way for new work.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 - 1. Division 22, PLUMBING
 - 2. Division 23, HEATING, VENTILATING AND AIR CONDITIONING.
 - 3. Division 26, ELECTRICAL.

1.03 SUBMITTALS

- A. The following shall be submitted:
 - 1. Permit for transport and legal disposal off-site of demolition material and debris.
 - 2. Selective demolition procedures and operational sequence for review and acceptance by Architect.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.04 JOB CONDITIONS

- A. Occupancy: The existing building will be occupied during work of the Contract.
- B. Condition of Items and Structures: The Owner assumes no responsibility for the actual condition of items and structures to be demolished.
- C. Partial Demolition and Removal: Items indicated to be removed but of salvable value to the Contractor may be removed from the building as work progresses. Transport items from site as they are removed. Sale or storage of items at the site will not be permitted.

1.05 PROTECTION

- A. Prevent movement or settlement of adjacent structures. Provide and place bracing or shoring and be responsible for safety and support of structures. Assume liability for such movement, settlement, damage, or injury.
- B. Cease operations and notify Architect immediately if safety of adjacent facilities or structures appears to be endangered. Take precautions to properly support structures. Do not resume operations until safety is restored.

- C. Temporary Protections: Provide temporary barricades and other forms of protection as required to for protection of personnel from injury due to selective demolition operations.
 - 1. Provide shoring and bracing as required to prevent collapse of existing systems and adjacent facilities or work to remain.
 - 2. Protect existing finish work that is to remain from damage from demolition operations.
 - 3. Remove temporary protections at completion of the work.
- D. Utility Services: Maintain existing utilities serving occupied or used facilities.

PART 2 PRODUCTS

2.01 SALVAGING

- A. Materials indicated to be salvaged for reinstallation, shall be carefully removed, cleaned, and stored for future reinstallation.
- B. Materials indicated on the Drawings or designated in the field by the Owner to be salvaged shall be carefully removed and delivered to the Owner at locations determined by Owner.
- C. Mechanical and electrical items to be salvaged shall be protected from the weather.

PART 3 EXECUTION

3.01 INSPECTION

- A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Note or photograph existing conditions which could be misconstrued as damaged resulting from selective demolition work.

3.02 PREPARATION

- A. Cover and protect existing finishes, fixtures and equipment to remain. Protect from soiling, dust, or damage during demolition work.
- B. Erect and maintain dust and noise proof partitions.
- C. Locate, identify, stub-off, and disconnect utility services that are indicated not to remain. Provide by-pass services as necessary to maintain continuity of service to occupied areas.

3.03 SELECTIVE DEMOLITION

- A. Perform selective demolition work in a systematic manner. Items indicated to be removed shall be completely removed.
- B. Remove debris from site, and dispose of legally. Comply with requirements of Section 017419, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

3.04 SALVAGE MATERIALS

- A. Where items are indicated to be salvaged, carefully remove indicated items, clean items, and deliver to storage area until time for reinstallation.

3.05 DISPOSAL OF MATERIALS

- A. Material resulting from selective demolition and not identified for salvaging shall become the property of the Contractor and shall be legally transported and disposed of off-site. Disposal shall be performed as promptly as possible and not left until the final clean up.

END OF SECTION

SECTION 061000 - ROUGH CARPENTRY

PART 1 GENERAL

1.00 GENERAL PROVISIONS

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

1.01 WORK INCLUDED

- A. Provide all rough carpentry work, as indicated on the Drawings and as specified herein. Rough carpentry shall include but not be limited to:
 - 1. Rough hardware, inserts, and related metal components.
 - 2. Rough carpentry sleepers, blockings, edgings, grounds, nailers, and furring.
 - 3. Construction panels.

1.02 QUALITY ASSURANCE

- A. Provide lumber and plywood bearing the grade-trademark of the association under the rules or standards of which it was produced. Grade-trademarks shall conform to the rule or standard under which the material is produced, including requirements for qualifications and authority of the inspection organization, usage of authorized identification, and information included in the identification.
 - 1. Grades specified are the minimum acceptable. Lumber grades shall be determined in accordance with ASTM D 245.
 - 2. Lumber shall bear the grade mark of an American Lumber Standards Committee, Board of Review-approved agency. Lumber shall conform to USDC PS 20.
 - 3. Lumber shall bear a mark of mill identification.
 - 4. Plywood shall comply with APA Ref. 1 grading requirements, USDC PS 1, and ANSI A199.1.

1.03 SUBMITTALS

- A. Product Data: Submit product data consisting of manufacturers product description and specifications.
- B. Certificates: Submit certificates of grading, treatment, and conformance to specified standards. Certifications shall state date of treatment, conformance with Specifications, and agency grading of wood.

1.04 COORDINATION

- A. Coordinate the work of this Section with the work of other Sections to assure the steady progress of all the work of the Contract.

1.05 PRODUCT DELIVERY AND STORAGE

- A. Stack and store materials above ground under protective coverings, or indoors in such a manner to insure proper drainage, ventilation, and protection. Do not place kiln dried materials in the building until concrete and masonry work have been completed, and are sufficiently dry.
- B. Store rough carpentry materials stickered in elevated piles to allow for air circulation below. Wrapped lumber completely, including bottoms, in waterproof tarps. Tie tarps down to protect against wind blow-off. Stored lumber in covered storage trailers during project delays.

PART 2 PRODUCTS

2.01 LUMBER

- A. Scope: Provide lumber for miscellaneous wood framing, blocking, cant strips, nailers, etc. for all work of the Project, including, but not limiting to, handrails, railings, casework, wall hung fixtures, and the like.
- B. Provide new lumber of consistent size, free of stains and mildew, kiln dried to a moisture content of not more than 19% by weight. Where exposed or semi-exposed, provide wood members selected for best possible appearance from the grade of stock specified.
- C. Provide lumber in longest practical lengths. Use single length pieces wherever possible.
- D. General Carpentry Material Schedule shall be as follows:

<u>Item</u>	<u>Grade</u>	<u>Species</u>
Lumber 2 in. nominal thickness or greater	Construction Grade	Spruce-Pine-Fir
Lumber less than 2 in. nominal thickness	Construction Grade	Spruce-Pine-Fir

- E. Fire Retardant Treated Lumber: Provide lumber located at interior of building fire retardant treated complying with AWPA C20, Type A. Provide fire retardant treatment which, yields a flame spread rating of not more than 25 when tested in accordance with ASTM E 84 kiln dried after treatment to maximum moisture content of 19%.

2.02 CONSTRUCTION PANELS

- A. Scope: Construction panels required to complete the work of this Section include, but is not limited to the following:
 1. Plywood sheathing.

- B. Comply with USDC PS 1 and APA Ref. 1 as applicable. Factory mark each panel with APA trademark showing compliance with requirements.

2.03 MISCELLANEOUS MATERIALS

- A. Inserts, Anchors, and Fasteners: Provide inserts, anchors, anchor bolts, lag bolts, screws, washers, nuts, nails, and other rough hardware. Assist other trades as necessary in the placement of inserts and anchor bolts in concrete and masonry. Furnish full instructions regarding locations, sizes, and other requirements to ensure proper preparation. Provide rough hardware which complies with requirements of the governing laws and codes.

PART 3 EXECUTION

3.01 ROUGH CARPENTRY WORK, GENERAL

- A. Refer to Drawings to determine the major extent of the rough carpentry work required.
- B. The Contractor shall be responsible for structural integrity, connections, and anchorage of rough carpentry work.
- C. Discard units of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned, or too small to fabricate.
- D. Set rough carpentry work to required levels and lines, with members plumb and true to line, cut and fitted.
- E. Provide wood blockings, edgings, grounds, nailers, and furring where required for screeding or attachment of other work. Coordinate locations with other work to be supported.
- F. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces.
- G. Provide permanent grounds of dressed, preservative treated, key-beveled lumber not less than 1-1/2 in. wide, and of thickness required.
- H. Unless indicated otherwise, blockings, nailers, etc., of 2 in. nominal thickness or greater shall be bolted to back-up material with 1/2 in. bolts located 4 in. from ends and splices, and spaced not greater than 32 in. on center along lengths of the members.
- I. Butt joints in wood shall be flush to provide smooth, uniform line with no irregularities. Built-up blocking shall have butt joints staggered 4 in. minimum layer to layer. The minimum length of any individual piece of lumber shall be 12 in. Lengths of lumber shall have a minimum of four fasteners.
- J. Construct all rough carpentry work plumb, level, and true with tight, close fitting joints, securely attached and braced to surrounding construction. Counterbore for

bolt heads, nuts, and washers where required to avoid interference with other materials.

- K. Install all wood grounds at gypsum wallboard work, including those required by other trades, to properly attach their work, such as grounds to assure proper lines and levels and for attachment of fixtures, louvers, grilles, registers, diffusers, casework, wall hung items, etc.
- L. Repair all damage caused by puncturing of conduits, pipes, ducts, etc. When nailing, drilling, or powder-driving into concrete or masonry.

END OF SECTION

SECTION 062000 - FINISH CARPENTRY

PART 1 GENERAL

1.00 GENERAL PROVISIONS

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

1.01 WORK INCLUDED

- A. Provide all finish carpentry and millwork as indicated on the Drawings and as specified herein. Include, but do not limit to:
1. Solid surface vanities and countertops.
 2. Plastic laminate work.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
1. Division 22, PLUMBING.
 2. Division 26, ELECTRICAL.

1.03 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirement shall govern.
1. National Electric Manufacturers Association (NEMA):

LD 3	High Pressure Decorative Laminates
------	------------------------------------
 2. The Architectural Woodwork Institute (AWI):

Quality Standards	Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program
-------------------	--

1.04 SUBMITTALS

- A. Certifications: Provide certifications stating that materials and fabrication complies with specification requirements.
- B. Shop Drawings: Provide large scale shop drawings for fabrication, installation and erection of all parts of the work. Provide large scale detailed plans, elevations, and details of anchorages, connections and accessory items.
- C. Field Measurements: Take accurate field measurements before preparation of shop drawings and fabrication. Do not delay job progress; allow for field cutting and fitting where

taking field measurements before fabrication is not possible.

- D. Verification Samples: Submit at least two fully finished representative samples of each material that is to be exposed in the finished work, showing the full range of color and finish variations expected. Provide samples having minimum area of 144 square inches.

1.05 QUALITY STANDARDS

- A. Quality Standard: Provide work complying with applicable requirements of AWI Quality Standards. Where not otherwise indicated, fabricator may choose among options permitted by AWI for grade of work specified.
 - 1. Fire Performance: All concealed work in this section shall be UL labeled fire-retardant treated. Exposed woodwork shall have a flame spread of less than 200 when tested in compliance with ASTM E 84.
- B. Solid Wood and Wood Veneers: All solid woods and wood veneers for Project, for each species, despite trade, regardless of use, must be coordinated with the Contractor, and be purchased from the same vendor and flitch selection.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials and products only after wet work has been completed and environmental conditions similar to those of the finished work are established and maintained. Store and handle work to prevent deterioration and damage. Comply with AWI Quality Standards and recommendations. Sequence deliveries to avoid delays, but minimize on-site storage.

1.07 PROJECT CONDITIONS

- A. Maintain optimum environmental conditions to prevent woodwork from shrinkage, swelling and all other forms of damage.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY, GENERAL

- A. Do not deliver materials to site until building has been closed in, wet work is completed and sufficiently dry, and building is continuously maintained at a temperature above 65°F. Obtain Architect's approval before delivering materials or fabricated items. Store materials off the floor, fully protected from damage.
- B. Provide fasteners and hardware required to complete the work. Use concealed fastenings wherever possible. Provide cadmium plated or zinc chromate plated fasteners at concealed locations; stainless steel or chrome plated at exposed interior locations.
- C. Provide materials and products which meet or exceed the requirements of the indicated AWI Quality Standards specified for each type of work.
- D. Provide solid lumber, kiln-dried to moisture content of 5% to 10% by weight, with average not to exceed 8%.
- E. Furnish lumber in longest practical lengths. Use single-length pieces wherever possible.

- F. Take necessary field measurements before starting fabrication of built-in work.
- G. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.
 - 1. Use wood glue that has a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- H. Installation Adhesive: Product recommended for indicated use by manufacturer.
 - 1. Use adhesive that has a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- I. Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.
 - 1. Use adhesive that has a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.02 PLASTIC LAMINATE WORK

- A. Laminate Manufacturers: Provide plastic laminate materials that meet or exceed specified requirements from one of the following manufacturers, or provide Architect approved equals:
 - 1. Formica Corporation.
 - 2. Abet Lamimati.
 - 3. Wilsonart.
- B. Provide laminate complying with NEMA LD 3, and the following:
 - 1. Horizontal Surfaces: Grade HGS.
 - 2. Vertical Surfaces: Grade VGS.
 - 2. Color/Texture/Pattern: Provide colors as follows:
 - a. LAM-1: Vertical Grade laminate, color as scheduled on Drawings.
- C. Scope: Plastic laminate work includes, but is not limited to:
 - 1. Face of vanities.
- D. Cores: Marine Grade, A faced plywood.

2.03 SOLID SURFACING MATERIAL

- A. Solid Surface Type SS-1: Homogeneous solid sheets of filled plastic resin complying with ANSI SS1.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following, or approved equal:

- a. E. I. du Pont de Nemours and Company.
2. Colors and Patterns: As scheduled on Drawings.
- B. Configuration: Provide countertops as indicated on Drawings.
- C. Fabrication: Fabricate tops in one piece with shop-applied edges and backsplashes unless otherwise indicated. Comply with solid-surface-material manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.
 1. Fabricate with loose backsplashes for field assembly.

PART 3 EXECUTION

3.01 WORKMANSHIP AND INSTALLATION REQUIREMENTS

- A. Dressed and sand finish carpentry work free from machine and tool marks, abrasions, raised grain, or other defects on surfaces exposed to view.
- B. Provide tight joints formed to conceal shrinkage. Fit butt joints with concealed spline. Glue and dowel shop miters which are four inches or greater. Glue and spline miters less than 4 in., with spline concealed.
- C. Blind nail finish work to the greatest extent possible. Where surface nailing is used, set and fill nails to match adjacent wood.
- D. Wherever nailing into concrete is done, care shall be taken to protect pipes or conduits embedded in the slab. No puncturing of pipes or conduits will be allowed. Damage to embedded work shall be corrected without further cost to Owner. Inserts and anchor bolts shall be placed before the pouring of concrete.
- E. Secure work to prevent checks or warps. Finish carpentry work shall be properly framed, closely fitted, and accurately set to the required lines and levels and shall be rigidly secured in place.

3.02 SPECIFIC INSTRUCTIONS

- A. Important Note: No attempt is made in the following specific instructions to list all elements of finish carpentry and architectural woodwork required on this project. It is the responsibility of the Contractor to determine for himself from the Drawings the scope and nature of the work required. These specific instructions are intended only to provide additional instructions regarding those portions of the finished carpentry and architectural woodwork for which information beyond that given on the Drawings or covered in the AWI Quality Standards seems needed to properly describe the work. Where the scope of a category is listed it is done in a general manner to assist the Contractor in determining the general nature of work he shall look for as being required in said category, and not to limit the work.

3.04 FINISH CARPENTRY WORK

- A. Fabricate and install finish carpentry work in accordance with the Drawings, the specifications, and AWI Quality Standards applicable or referenced to this work.

- B. Miscellaneous Items: Install all required standing and running trim and other miscellaneous items throughout, as indicated on the Drawings and as required to satisfactorily complete the entire work, whether or not each and every required piece is specifically indicated on the Drawings. Trim shall be of same material and finish as the larger member to which applied.

3.05 COMPLETION

- A. Just prior to completion of work of this Section, inspect work in the company of Architect and make adjustments and corrections to work leaving operating parts in perfect operating condition, all jointing to adjacent material tight, all surfaces without blemishes or stains, all work properly executed and complete, and all defects and damaged work replaced or corrected.

END OF SECTION

SECTION 079200 JOINT SEALANTS

PART 1 - GENERAL

1.00 GENERAL PROVISIONS

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

1.01 WORK INCLUDED

- A. Caulk and seal joints as indicated on the Drawings and as specified. Include, but do not limit to:
 - 1. Sealing of interior perimeter joints at door frames, other wall openings and between dissimilar materials.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 - 1. Section 092900, GYPSUM BOARD ASSEMBLIES; Concealed acoustical sealants.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data, specifications, standard details, installation instructions, use limitations and recommendations for each sealant material used. Provide certifications that sealant materials comply with specified requirements.
- B. Initial Selection Samples: Submit samples manufacturer's color charts showing complete range of colors, textures, and finishes available for each material used.
- C. Verification Samples: Submit actual representative samples of each sealant material that is to be exposed in the completed work. Show full color ranges and finish variations expected. Provide sealant samples having minimum size of 4 in. long.
- D. Test Reports: Provide certified reports for all specified tests.

1.04 COMPATIBILITY

- A. Provide sealant and sealant joint backing materials suitable for the use intended and compatible with the materials with which they will be in contact. Compatibility of sealant and accessories shall be verified by the sealant manufacturer.

1.05 QUALITY ASSURANCE:

- A. Source: For each sealant material type required for the work of this section, provide primary materials which are the product of one manufacturer. Provide secondary or accessory materials which are acceptable to the manufacturers of the primary materials.
- B. Installer: A firm with a minimum of five years experience in type of work required by this

Section and which is acceptable to the manufacturers of the primary materials.

1.06 PROJECT CONDITIONS

- A. Substrates: Proceed with work only when substrate construction and penetration work is complete.

1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Materials under this Section shall be delivered to, and stored at, the job site in unbroken factory sealed containers with labels intact.

1.08 WARRANTY

- A. Furnish joint sealant manufacturer's written single-source performance warranty that joint sealant work will be free of defects related to workmanship or material deficiency for five years from date of Substantial Completion of the Project.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Before installation check each sealant for compatibility with adjacent materials and surfaces and with indicated exposures. Select sealers which are recommended by manufacturer for each application indicated. Where exposed to pedestrian or vehicular traffic, provide sealants which are non-tracking and are strong enough to withstand the traffic without damage.
- B. Provide colors as selected by Architect from manufacturer's standard and special (Tremco Fastpak) colors. Where specifically requested, provide custom color matches.
- C. VOC Content of Interior Sealants: Provide interior sealants and sealant primers that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Sealants: 250 g/L.
 - 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 - 3. Sealant Primers for Porous Substrates: 775 g/L.

2.02 SELF-LEVELING POLYURETHANE SEALANT (Sealant Type 1)

- A. Provide two or more part, self-leveling, polyurethane based elastomeric sealant, complying with ASTM C 920, Fed. Spec. TT-S-00227E Type 1 Class A, having Shore A hardness of not less than 30 when tested according to ASTM C 920, cured modulus of elasticity at 100% elongation of not more than 150 psi when tested according to ASTM D 412, and tear resistance of not less than 50 lbs./inch when tested according to ASTM D 624.
- B. Where joint surfaces contain bituminous materials, provide modified sealants which are compatible with bituminous materials encountered.
- C. Provide one of the following products that meet or exceed specified requirements:
 - 1. Pecora Urexpan NR-200.
 - 2. Mameco Vulkem 245 or 255.
 - 3. Sika 2C, SL.
 - 4. Sonneborn Sonolastic PvJtSt.

5. Tremco THC 900.

- D. Extent: Provide self-leveling polyurethane sealant for paving and floor joints not indicated to be sealed with another type of sealant.

2.03 ACRYLIC LATEX SEALANT (Sealant Type 2)

- A. Provide permanently flexible, latex rubber modified acrylic emulsion sealant, complying with ASTM C 834.

- B. Provide one of following products that meet or exceed specified requirements:

1. Pecora AC-20
2. Tremco Acrylic Latex 834
3. Sonneborn Sonolac

- C. Extent: Provide acrylic latex sealant for use at exposed acoustical sealant, between door frames and partitions, and for interior joints at partitions and dissimilar materials.

2.04 INTERIOR SILICONE RUBBER SEALANT (Sealant Type 3)

- A. Provide one part, silicone rubber based elastomeric sealant, complying with ASTM C 920 Type S, Class 25, Grade NS and Fed. Spec. TT-S-001543A Class A.

- B. Provide mold and mildew resistant, sanitary interior type sealant.

- C. Provide one of the following products that meet or exceed specified requirements:

1. Dow 786.
2. General Electric 1702 Sanitary.
3. Pecora 863.
4. Rhodorsil 6b White.
5. Sonneborn OmniPlus.
6. Tremco Proglaze.

- D. Extent: Provide silicone rubber sealant for interior joints around plumbing fixtures and tile to tile joints in ceramic tile work.

2.05 MISCELLANEOUS MATERIALS

- A. Primer: Provide primer recommended by sealant manufacturer for surfaces to be adhered to.

- B. Bond Breaker Tape: Provide polyethylene or other plastic tape recommended by sealant manufacturer to prevent three-sided adhesion.

- C. Backer Rod: Provide compressible rod of durable nonabsorptive material recommended by sealant manufacturer for compatibility with sealant. Provide products of one of the following manufacturers:

1. Backer Rod Manufacturing and Supply Co.
2. Dow Chemical Co.
3. W. R. Meadows, Inc.
4. Williams Products, Inc.
5. Woodmont Products, Inc.

- D. Joint backing for general use at joints in horizontal surfaces shall consist of two rows of butyl rubber or neoprene foam rod in contact with one another, and each compressed to approximately 2/3 original width when in place.
- E. Provide miscellaneous materials of type that will not bleed through sealant, discolor surface, or produce other deleterious effects. Select size to provide compression to approximately 2/3 original width when in place. Provide backing material profile concave to the rear of the sealant, and equipped with a bond-breaking film.

PART 3 EXECUTION

3.01 INSPECTION

- A. The Installer shall examine substrates and conditions under which this work is to be performed and notify Contractor, in writing, of conditions detrimental to proper completion of work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning of sealant work means Installer's acceptance of joint surfaces and conditions.

3.02 PREPARATION

- A. Strictly comply with manufacturers' instructions and recommendations, except where more restrictive requirements are specified in this Section.
- B. Clean joint surfaces immediately before installation of sealants, primers, tapes and fillers. Remove substances which could interfere with bond.
- C. Unless otherwise indicated, use of sealants shall conform to the following: ASTM C 790 for latex sealants and ASTM C 1193 for other sealants.
- D. Tape or mask adjoining surfaces to prevent spillage and migration problems.
- E. Prime surfaces as recommended by sealant manufacturer.

3.03 INSTALLATION

- A. Provide backer rods for liquid sealants except where specifically recommended against by sealant manufacturers.
- B. Prevent three sided adhesion by use of bond breaker tapes or backer rods.
- C. Force sealant into joints to provide uniform, dense, continuous ribbons free from gaps and air pockets. Completely wet both joint surfaces equally on opposite sides.
- D. Except in hot weather, make sealant surface slightly concave. Install sealants so that compressed sealants do not protrude from joints. Dry tool sealants to form a smooth dense surface. At horizontal joints form a slight cove to prevent trapping water.
- E. Provide sealants to depths indicated, or if not indicated, follow manufacturer's recommendations.

3.04 EXTENT OF SEALANT WORK

- A. General Extent: Seal joints indicated, and all interior joints, seams, and intersections between dissimilar materials. Provide sealant installation with backer rod in all interior control joints.

B. Interior Sealing: Without limitation, the work of this Section includes sealing the following:

1. Perimeters of door frames.
2. Metal to gypsum drywall joints.
3. Top of wall base along irregular walls.
4. Between acoustical ceiling edge angle and irregular walls.
5. Exposed acoustical sealants, at tops and bottoms of stud partition walls, and at other acoustic partitions as indicated.
6. Acoustical sealants all HVAC, plumbing, fire protection and electrical penetrations through acoustical partitions at all exposed to view locations, and at all concealed locations above suspended ceilings.

3.05 CURING

A. Cure sealants in strict compliance with 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.

3.06 CLEANING AND PROTECTION

- A. Remove smears from adjacent surfaces immediately, as the work progresses. Exercise particular care to prevent smearing or staining of surrounding surfaces which will be exposed in the finished work, and repair any damage done to same as result of this work without additional cost to Owner.
- B. Remove and replace work that is damaged or deteriorated.
- C. Clean adjacent surfaces using materials and methods recommended by sealant manufacturer. Remove and replace work that cannot be successfully cleaned.
- D. Provide temporary protection to ensure work being without damage or deterioration at time of final acceptance. Remove protection immediately before final acceptance.

END OF SECTION

SECTION 081113 - HOLLOW METAL FRAMES

PART 1 GENERAL

1.00 GENERAL PROVISIONS

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

1.01 WORK INCLUDED

- A. Provide steel hollow metal frames and related items as indicated on Drawings and as specified herein.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 - 1. Section 081416, FLUSH WOOD DOORS.
 - 2. Section 087100, FINISH HARDWARE; Templates and hardware schedules.
 - 3. Section 099100, PAINTING; Field finishing of steel frames.

1.03 DEFINITIONS

- A. Steel Sheet Thicknesses: Thickness dimensions specified herein, are minimums as defined in referenced ASTM standards for both uncoated steel sheet and the uncoated base metal of metallic-coated steel sheets.

1.04 SUBMITTALS

- A. Product Data: For each type of hollow metal frame indicated, include frame designation, type, level and model, material description, construction details, label compliance, sound and fire-resistance ratings, and finishes.
- B. Shop Drawings: Show the following:
 - 1. Elevations of each frame design.
 - 2. Frame details for each frame type including dimensioned profiles.
 - 3. Details and locations of reinforcement and preparations for hardware.
 - 4. Details of each different wall opening condition.
 - 5. Details of anchorages, accessories, joints, and connections.
 - 6. Coordination of glazing frames and stops with glass and glazing requirements.
- C. Hollow Metal Frame Schedule: Use same reference designations indicated on Drawings in preparing schedule for frames.

1.05 QUALITY ASSURANCE

- A. Hollow Metal Frame Standard: Comply with ANSI A 250.8, unless more stringent requirements are indicated.
- B. Fire-Rated Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow metal frames cardboard-wrapped or crated to provide protection during transit and job storage..
- B. Inspect hollow metal frames on delivery for damage, and notify shipper and supplier if damage is found. Minor damages may be repaired provided refinished items match new work and are acceptable to Architect. Remove and replace damaged items that cannot be repaired as directed.
- C. Store hollow metal frames at building site under cover. Place units on minimum 4-inch high wood blocking. Avoid using nonvented plastic or canvas shelters that could create a humidity chamber. If packaging becomes wet, remove cartons immediately. Provide minimum 1/4-inch spaces between stacked frames to permit air circulation.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with requirements, provide products of one of the following:
 - 1. Amweld Building Products, Inc.
 - 2. Benchmark Commercial Doors; a division of General Products Co., Inc.
 - 3. Ceco Door Products; a United Dominion Company.
 - 4. Copco Door Co.
 - 5. Curries Company.
 - 6. Deansteel Manufacturing, Inc.
 - 7. Kewanee Corporation (The).
 - 8. Mesker Door, Inc.
 - 9. Pioneer Industries Inc.
 - 10. Republic Builders Products.
 - 11. Steelcraft; a division of Ingersoll-Rand.

2.02 MATERIALS

- A. Hot-Rolled Steel Sheets: ASTM A 569/A 569M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- B. Cold-Rolled Steel Sheets: ASTM A 366/A 366M, Commercial Steel (CS), or ASTM A 620/A 620M, Drawing Steel (DS), Type B; stretcher-leveled standard of flatness.

2.03 FRAMES

- A. General: Provide steel frames for doors, windows, and other openings that comply with ANSI A250.8 and with details indicated for type and profile. Conceal fastenings, unless otherwise indicated.
 - 1. Frames of 0.053-inch (16 Gage) thick steel sheet for:
 - a. Interior openings less than 48 inches.
 - 2. Frames of 0.067-inch (15 Gage) thick steel sheet for:
 - a. Interior openings more than 48 inches.
- B. Door Silencers: Except on weather-stripped frames, fabricate stops to receive three silencers on strike jambs of single-door frames and two silencers on heads of double-door frames.
- C. Plaster Guards: Provide 0.016-inch thick, steel sheet plaster guards or mortar boxes to close off interior of openings; place at back of hardware cutouts where mortar or other materials might obstruct hardware operation.
- D. Supports and Anchors: Fabricated from not less than 0.042-inch (18 Gage) thick, electrolytic zinc-coated or metallic-coated steel sheet.
 - 1. Wall Anchors in Masonry Construction: 0.177-inch diameter, steel wire complying with ASTM A 510 may be used in place of steel sheet.
- E. Inserts, Bolts, and Fasteners: Manufacturer's standard units. Where zinc-coated items are to be built into exterior walls, comply with ASTM A 153/A 153M, Class C or D as applicable.

2.04 FABRICATION

- A. General: Fabricate steel hollow metal frame units to comply with ANSI A250.8 and to be rigid, neat in appearance, and free from defects including warp and buckle.
- B. Hardware Preparation: Prepare door frames to receive mortised and concealed hardware according to final door hardware schedule and templates provided by hardware supplier. Comply with applicable requirements in ANSI A250.6 and ANSI A115 Series specifications for door frame preparation for hardware.
- C. Frame Construction: Fabricate frames to shape shown.
 - 1. Fabricate frames with mitered or coped and continuously welded corners and seamless face joints.
 - 2. Provide welded frames with temporary spreader bars.
- D. Reinforce door frames to receive surface-applied hardware. Drilling and tapping for surface-applied hardware may be done at Project site.

- E. Locate hardware as indicated on Shop Drawings or, if not indicated, according to ANSI A250.8.

2.05 FINISHES

- A. Prime Finish: Manufacturer's standard, factory-applied coat of rust-inhibiting primer complying with ANSI A250.10 for acceptance criteria.

PART 3 EXECUTION

3.01 INSTALLATION

- A. General: Install steel hollow metal frames, and accessories according to Shop Drawings, manufacturer's data, and as specified.
- B. Placing Frames: Comply with provisions in SDI 105, unless otherwise indicated. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.
 1. Place frames before construction of enclosing walls and ceilings.
 2. In existing concrete or masonry construction, provide at least three completed opening anchors per jamb; install adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Set frames and secure to adjacent construction with bolts and masonry anchorage devices.
 3. In metal-stud partitions, provide at least three wall anchors per jamb; install adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Attach wall anchors to studs with screws.
 4. Install fire-rated frames according to NFPA 80.
 5. For openings 90 inches or more in height, install an additional anchor at hinge and strike jambs.

3.02 ADJUSTING AND CLEANING

- A. Prime-Coat Touchup: Immediately after installation, sand smooth any rusted or damaged areas of prime coat and apply touch up of compatible air-drying primer.

END OF SECTION

SECTION 081416 - FLUSH WOOD DOORS

PART 1 GENERAL

1.00 GENERAL PROVISIONS

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

1.01 WORK INCLUDED

- A. The work of this section includes, but is not limited to, the following:
 - 1. Solid core flush wood doors with veneer faces.
 - 2. Prefitting and premachining of wood doors.
 - 3. Factory finishing of wood doors.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect Work of this Section. Other Specification Sections that directly relate to Work of this Section include, but are not limited to:
 - 1. Section 017419, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
 - 2. Section 018113, SUSTAINABLE DESIGN REQUIREMENTS.
 - 3. Section 081113, HOLLOW METAL FRAMES.
 - 4. Section 087000, DOOR HARDWARE.

1.02 SUBMITTALS

- A. Shop Drawings: Submit drawings indicating location and size of each door, details of construction, elevations for each door type, location and extent of hardware blocking, fire ratings, and other pertinent data.
 - 1. Coordinate locations and sizes of undercuts with Mechanical Drawings and floor finish / transition requirements; show dimension and locations in Door Schedule.
- B. Samples: Submit cutaway door samples of top corner at head/jamb to Architect for approval showing core construction, cross banding, and face veneer of each door type.
 - 1. Factory-Finished Doors: Stepped Finish Sample, 8x10-inch, show and label each layer with printed step-by-step process for each finish system; list products and techniques used.
- C. Product Data: Submit complete manufacturer's product data to Architect for approval, consisting of complete product description and specifications, details of core and edge construction, fire test results, trim for openings and louvers, complete installation instructions, and other pertinent technical data required for complete product and product use information.

D. LEED Submittals:

1. Certificates for Credit MR 6: Certificates indicating rapidly renewable materials.
2. Certificates for Credit MR 7: Chain-of-custody certificates indicating that flush wood doors comply with forest certification requirements. Include documentation that manufacturer is certified for chain of custody by an FSC-accredited certification body. Include statement indicating cost for each certified wood product.
3. Product Data for Credit IEQ 4.4: For adhesives and composite wood products, documentation indicating that product contains no added urea formaldehyde.

1.04 QUALITY ASSURANCE

- A. Doors shall conform to ANSI/NWWDA I.S. 1 and AWI Quality Standards Section 1300-G-3.
- B. Mark each flush door with NWWDA Wood Flush Door Certification Hallmark certifying compliance with ANSI/NWWDA I.S. 1.

1.05 WARRANTIES

- A. Provide written manufacturer's warranties in Owner's name for materials furnished under this Section where such guarantees are offered in published product data, in addition to, and not instead of, other liabilities established by law and other provisions of Contract Documents.
- B. Include, but do not limit to, standard manufacturer's warranties as follows:
 1. Life of installation for solid core flush interior doors;

1.06 PRODUCT STORAGE AND HANDLING

- A. Doors shall be properly packaged by manufacturer and fully protected during shipment, unloading, and storage, in conformance with NWMA Ref. 1.
- B. Doors shall not be delivered to job site until building has thoroughly dried out. Doors shall be stored flat, above floors, in dry area(s) until installation. Doors shall be stored and hung in buildings that maintain a humidity range of between 30 and 60%.

PART 2 PRODUCTS

2.00 DOOR CONSTRUCTION, GENERAL

- A. WDMA I.S.1-A Performance Grade: Extra Heavy Duty.

2.01 ACCEPTABLE MANUFACTURERS

- A. Non-rated interior flush-type solid core wood doors shall be as manufactured by Algoma Hardwoods Inc.; Eggers Industries; VT Industries; or Marshfield Door Systems, Architectural Door Division.

2.02 SOLID CORE WOOD DOORS

- A. General: AWI PC-5 construction as specified in AWI Quality Standards Section 1300-G-3. Core, stiles, and rails shall be glued together before sanding. Wood for stiles and rails shall be thoroughly seasoned, kiln-dried stock with 5% to 8% moisture content.
1. Core for non-fire-rated doors: Manufacturer's standard Glued-Wood Stave Core.
 2. Crossbands shall be 1/16 in. thick hardwood, full width of door, with grain at right angle to face veneer grain.
 3. Faces for Transparent-Finished Doors: -
 - a. Grade: Premium, with Grade AA faces.
 - b. Species: White Maple.
 - c. Cut: Plain sliced (flat sliced).
 - d. Match between Veneer Leaves: Slip match.
 - e. Assembly of Veneer Leaves on Door Faces: Center-balance match.
 - f. Pair and Set Match: Provide for doors hung in same opening.
 - g. Room Match: Provide door faces of compatible color and grain within each separate room or area of building.
 - h. Exposed Vertical and Top Edges: Same species as faces - edge Type A.
 - i. Core: Particleboard.
 - j. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering.
- B. Solid Core Flush Interior Wood Doors: Flush type, five-ply construction with crossband and veneers bonded to both faces. Doors shall be 1-3/4 in. thick.

2.03 FACTORY FINISHING OF WOOD DOORS

- A. Finish wood doors at factory.
- B. Comply with AWI's "Architectural Woodwork Quality Standards," and with other requirements specified.
1. Finish faces and all four edges of doors, including mortises and cutouts. Stains and fillers may be omitted on bottom edges, edges of cutouts, and mortises.
- C. Transparent Finish:
1. Grade: Premium.
 2. Finish: AWI's, AWMAC's, and WI's "Architectural Woodwork Standards" System 11, catalyzed polyurethane.
 3. Staining: Match Architect's sample.
 4. Sheen: Satin.

PART 3 EXECUTION

3.01 DELIVERY AND STORAGE

- A. Deliver wood doors to Project site. Protect during shipment to prevent damage. Store in interior areas fully protected from moisture and damage.

3.02 COORDINATION

- A. Examine steel door frame installations. Verify that frames meet tolerances and other requirements of wood door manufacturer, for type, size, and swing characteristics.
- B. Submit list of conditions detrimental to wood door installation and do not begin door installation until such conditions are corrected.

3.03 PREPARATION

- A. Condition doors to ambient temperature and humidity at points of installation before hanging.

3.04 PREFITTING AND PREPARATION FOR HARDWARE

- A. Prefit and premachine wood doors at factory.
- B. Comply with tolerance requirements of AWI Quality Standards for prefitting. Machine doors for hardware requiring cutting of doors with templates provided under Section 087100, DOOR HARDWARE. Comply with final hardware schedules and door frame submittals and other information required to ensure proper fit of doors and hardware.
- C. Take accurate field measurements of hardware mortises in metal frames to verify dimensions and alignment before proceeding with machining in factory.
 - 1. Non-rated doors: provide clearances of 1/8 in. at jambs and heads; 1/16 in. per leaf at meeting stiles for pairs of doors; and 1/8 in. from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4 in. clearance from bottom of door to top of threshold.
 - 2. For fire-rated doors, provide clearances complying with NFPA 80.
 - 3. Bevel non-rated doors 1/8 in. in 2 in. at lock and hinge edges.
 - 4. Bevel fire-rated doors 1/8 in. in 2 in. in lock edge; trim stiles and rails only to extent permitted by labeling agency.

3.05 INSTALLATION

- A. Installations shall conform to approved submittals, including manufacturer's published instructions, to AWI Quality Standards, and to NWWDA recommendations.
- B. Hang doors plumb and true. Apply door hardware so that opening and closing movement of doors is smooth and free.

3.06 ADJUSTMENT AND CLEANING

- A. Protection Removal: Immediately prior to final inspection, remove protective plastic wrappings from prefinished doors.
- B. Final Adjustments: Check and readjust operating finish hardware items, leaving doors and frames undamaged and in complete and proper operating conditions, in coordination with work of Section 087100, DOOR HARDWARE.

3.07 CLEAN-UP

- A. Remove cartons and debris as work progresses and leave work areas in broom clean conditions at completion of work of this Section.

3.08 COMPLETION

- A. Before completion of work of this Section inspect work in company of Architect. Make adjustments and corrections to work leaving operating parts in perfect operating condition, jointing to adjacent material tight, surfaces without blemishes or stains, work properly executed and complete, and defects and damaged work replaced or corrected.
- B. Rehang or replace doors that cannot be made to operate properly, as directed by Architect.

END OF SECTION

SECTION 092216 - NON-STRUCTURAL METAL FRAMING**PART 1 - GENERAL****1.1 GENERAL PROVISIONS**

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Non-load-bearing steel framing systems for interior gypsum board assemblies.
 - 2. Suspension systems for interior gypsum soffits.

1.3 SUBMITTALS

- A. Product Data: For each type of product.

PART 2 - PRODUCTS**2.1 PERFORMANCE REQUIREMENTS**

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 FRAMING SYSTEMS

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G40 (Z120) hot-dip galvanized unless otherwise indicated.
- B. Studs and Runners: ASTM C 645. Use either steel studs and runners or dimpled steel studs and runners.
 - 1. Steel Studs and Runners:
 - a. Minimum Base-Metal Thickness: 0.0346 inch (0.88 mm).
 - b. Depth: As indicated on Drawings.
- C. Slip-Type Head Joints: Where indicated, provide one of the following:

1. Single Long-Leg Runner System: ASTM C 645 top runner with 2-inch- (51-mm-) deep flanges in thickness not less than indicated for studs, installed with studs friction fit into top runner and with continuous bridging located within 12 inches (305 mm) of the top of studs to provide lateral bracing.
 2. Double-Runner System: ASTM C 645 top runners, inside runner with 2-inch- (51-mm-) deep flanges in thickness not less than indicated for studs and fastened to studs, and outer runner sized to friction fit inside runner.
 3. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
 - a. Products: Subject to compliance with requirements, provide one of the following:
 - 1) Dietrich Metal Framing; SLP-TRK Slotted Deflection Track.
 - 2) MBA Building Supplies; FlatSteel Deflection Track or Slotted Deflecto Track.
 - 3) Steel Network Inc. (The); VertiClip SLD or VertiTrack VTD Series.
 - 4) Superior Metal Trim; Superior Flex Track System (SFT).
 - 5) Telling Industries; Vertical Slip Track or Vertical Slip Track II.
- D. Firestop Tracks: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Fire Trak Corp.; Fire Trak System attached to studs with Fire Trak Posi Klip.
 - b. Grace Construction Products; FlameSafe FlowTrak System.
 - c. Metal-Lite, Inc.; The System.
- E. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
1. Minimum Base-Metal Thickness: 0.0346 inch (0.88 mm).
- F. Cold-Rolled Channel Bridging: Steel, 0.053-inch (1.34-mm) minimum base-metal thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
1. Depth: As indicated on Drawings.
 2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches (38 by 38 mm), 0.068-inch- (1.72-mm-) thick, galvanized steel.
- G. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
1. Minimum Base-Metal Thickness: 0.033 inch (0.84 mm).
 2. Depth: As indicated on Drawings.
- H. Resilient Furring Channels: 1/2-inch- (13-mm-) deep, steel sheet members designed to reduce sound transmission.
1. Configuration: Asymmetrical or hat shaped.

- I. Cold-Rolled Furring Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
 - 1. Depth: As indicated on Drawings].
 - 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum uncoated-steel thickness of 0.033 inch (0.8 mm).
 - 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- (1.59-mm-) diameter wire, or double strand of 0.048-inch- (1.21-mm-) diameter wire.

- J. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches (32 mm), wall attachment flange of 7/8 inch (22 mm), minimum uncoated-metal thickness of 0.0346 inch (0.88 mm), and depth required to fit insulation thickness indicated.

2.3 SUSPENSION SYSTEMS

- A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- (1.59-mm-) diameter wire, or double strand of 0.048-inch- (1.21-mm-) diameter wire.

- B. Hanger Attachments to Concrete:
 - 1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching wire hangers and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by an independent testing agency.
 - a. Type: Postinstalled, chemical anchor.
 - 2. Powder-Actuated Fasteners: Suitable for application indicated, fabricated from corrosion-resistant materials with clips or other devices for attaching hangers of type indicated, and capable of sustaining, without failure, a load equal to 10 times that imposed by construction as determined by testing according to ASTM E 1190 by an independent testing agency.

- C. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.16 inch (4.12 mm) in diameter.

- D. Flat Hangers: Steel sheet, in size indicated on Drawings.

- E. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.053 inch (1.34 mm) and minimum 1/2-inch- (13-mm-) wide flanges.
 - 1. Depth: As indicated on Drawings.

- F. Furring Channels (Furring Members):
 - 1. Cold-Rolled Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges, 3/4 inch (19 mm) deep.
 - 2. Steel Studs and Runners: ASTM C 645.
 - a. Minimum Base-Metal Thickness: 0.027 inch (0.68 mm)] [0.033 inch (0.84 mm).
 - b. Depth: As indicated on Drawings.

3. Dimpled Steel Studs and Runners: ASTM C 645.
 - a. Minimum Base-Metal Thickness: 0.025 inch (0.64 mm).
 - b. Depth: As indicated on Drawings.
4. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch (22 mm) deep.
 - a. Minimum Base-Metal Thickness: 0.033 inch (0.84 mm).
5. Resilient Furring Channels: 1/2-inch- (13-mm-) deep members designed to reduce sound transmission.
 - a. Configuration: Asymmetrical or hat shaped.
 - b. =

2.4 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.

3.3 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.
 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.

- D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.4 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
 - 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 - 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (13-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 - 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 - 4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
 - 5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
 - 6. Curved Partitions:
 - a. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.
 - b. Begin and end each arc with a stud, and space intermediate studs equally along arcs. On straight lengths of no fewer than two studs at ends of arcs, place studs 6 inches (150 mm) o.c.
- E. Direct Furring:
 - 1. Screw to wood framing.

2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (610 mm) o.c.

F. Z-Furring Members:

1. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (610 mm) o.c.
2. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches (305 mm) from corner and cut insulation to fit.

- G. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

3.5 INSTALLING SUSPENSION SYSTEMS

- A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

1. Hangers: 48 inches (1219 mm) o.c.
2. Carrying Channels (Main Runners): 48 inches (1219 mm) o.c.
3. Furring Channels (Furring Members): 16 inches (406 mm) o.c.

- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.

- C. Suspend hangers from building structure as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 - a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.
3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
4. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
5. Do not attach hangers to steel roof deck.

6. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
 7. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
 8. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- D. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.
- E. Seismic Bracing: Sway-brace suspension systems with hangers used for support.
- F. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.
- G. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet (3 mm in 3.6 m) measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION

SECTION 092900 - GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.00 GENERAL PROVISIONS

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

1.01 WORK INCLUDED

- A. Furnish and install gypsum drywall work, as indicated on the Drawings and as specified. Include, but do not limit to:
 - 1. Gypsum wallboard finishes.
 - 2. Acoustical sealing and acoustical insulation of gypsum wallboard finishes at steel stud framed partitions and furrings where indicated.
 - 3. Other gypsum drywall work called for on the Drawings or reasonably required to complete the Project intent.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 - 1. Section 061000, ROUGH CARPENTRY; Wood blocking, furring, grounds, etc., except fixture support blocking.
 - 2. Section 092216, NON-STRUCTURAL METAL FRAMING.
 - 3. Section 099100, PAINTING; Painting.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions.

1.04 QUALITY ASSURANCE

- A. Reference Standards: Conform to governing laws, building code and manufacturer's printed standards.
- B. Sound Transmission Performance: Provide shaft wall assemblies with minimum STC ratings as indicated on Drawings. Provide drywall partitions with minimum STC ratings indicated on Drawings tested in conformance with ASTM E 90.
- C. Fire Resistance Ratings: Where indicated provide materials and assemblies identical to those tested and rated by testing and inspecting organization acceptable to authorities that have jurisdiction

1.05 COORDINATION

- A. Work of this Section shall be coordinated with the work of other Sections to assure the

steady progress of all the work of the Contract. Obtain complete information regarding wall and ceiling mounted fixtures, grilles, registers, equipment, accessories, etc. to be used on the work from other trades. In no case shall work of other Sections be concealed until it has been inspected.

1.08 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver all manufactured materials to site in original packages, containers, or bundles bearing the manufacturer's name and brand names, type of material, and contents.
- B. Store materials in interior spaces, above floors, under cover, away from sweating walls and other damp surfaces, and with good ventilation.
- C. Handle gypsum boards to prevent damage to edges, ends, or surfaces. Protect metal corner beads, casing beads, and trim from being bent or damaged.

PART 2 PRODUCTS

2.01 MATERIALS, GENERAL

- A. Compatibility: Provide acoustical joint sealants, adhesives, and other related materials that are compatible with one another and with substrates under conditions of service and application, as demonstrated by manufacturer, based on testing and field experience.

2.02 MANUFACTURERS

- A. Gypsum Boards and Related Products: Provide materials, products, and systems from one of the following manufacturers that meet or exceed specified requirements:
 - 1. American Gypsum Co.
 - 2. G-P Gypsum Corp.
 - 3. Lafarge North America Inc.
 - 4. National Gypsum Company.
 - 5. United States Gypsum Co.

2.03 GYPSUM BOARDS

- A. Gypsum Wallboard: Indicated thickness(es) by 48 in. width by lengths as required, tapered edge, paper finish, conforming to ASTM C 36. Where used in fire-rated assemblies, provide Type X fire resistant type.
- B. Moisture- and Mold-Resistant Gypsum Board: Fiberglass-Mat Faced Gypsum Board:
 - 1. Thickness: 5/8 inch.
 - 2. Edges: Tapered.
 - 3. Surfacing: Coated fiberglass mat on face, back, and long edges.
 - 4. Flexural Strength, Parallel (ASTM C473, ASTM C1658): Not less than 80 lbf.
 - 5. Flexural Strength, Perpendicular (ASTM C473, ASTM C1658): Not less than 100 lbf.
 - 6. Humidified Deflection (ASTM C473, ASTM C1658): Not more than 1/4 inch.
 - 7. Water Absorption (ASTM C630, ASTM C1396, ASTM C1658): Less than 5 percent of weight.
 - 8. Mold Resistance (ASTM D3273): 10, in a test as manufactured.

9. Microbial Resistance (ASTM D6329, EPA 12-week protocol): Will not support microbial growth.
 10. Acceptable Products:
 - a. 5/8 inch DensArmor Plus Interior Panel, Georgia-Pacific Gypsum.
 - b. 5/8 inch DensArmor Plus Fireguard C, Georgia-Pacific Gypsum.
- C. Joint Treatment Materials: Joint treatment materials shall conform to ASTM C 475.
1. Laminating Adhesive and Joint Finishing Compound: As recommended by gypsum wallboard manufacturer, interior type for interior general use, exterior type for use at water resistant gypsum backer board.
 2. Joint Tape: 2 in. to 2-1/2 in. wide paper tape, as recommended by gypsum wallboard manufacturer.

2.04 FASTENERS

- A. Screws for Attachment of Gypsum Wallboard to Steel Framing and Furring Members: Self-drilling, Type S, bugle head screws, conforming to ASTM C 1002, with bugle-type Phillips-head, appropriate size and length in each case as recommended by manufacturer.
- B. Screws for Attachment of Gypsum Wallboard to Wood Blocking: Self-drilling Type W screws conforming to ASTM C 1002, with bugle-type Phillips-head. Screw length and size in each case shall be as recommended by gypsum wallboard manufacturer.

2.05 METAL TRIM AND ACCESSORIES

- A. General: Provide metal trim and accessories conforming to ASTM C 840.
- B. Control Joint: Galvanized steel, "Vee" type, with perforated flanges, for compound finishing.
- C. Corner Bead: 1 in. by 1 in. perforated flange, standard type, Galvanized steel, for compound finishing.
- D. Metal Trim: Galvanized steel, with perforated flanges, for compound finishing.
- E. Preformed reveals and corners for gypsum wallboard partitions shall be equal to Fry Reglet standard extrusions. Shapes shall be extruded 6063-T5 aluminum alloy 1/8 in. thick, minimum (profile areas). Shapes shall be primed; plaster and paints shall be capable of bonding to primed surface. Fire rating shall be Class A. Provide all required shapes and radii indicated or required to complete the work.
 1. Reveal, 1/2 in. wide by 5/8 in. deep Reveal Molding: Fry Reglet Model No. DRM-625-50;
 2. Reveal, 1/2 in. wide by 5/8 in. deep F Reveal: Fry Reglet Model No. DRMF-625-50;
 3. Reveal, 1/2 in. wide by 5/8 in. deep Reveal Channel Screed: Fry Reglet Model No. DCS-625-50;
 4. Heavy-Duty Metal Corner Trim: Fry Reglet Model No. DMCT-1250.
- F. Acoustical Blanket/Batt Insulation: Indicated thicknesses by 16-1/8 in. and 24-1/8 in. wide, as appropriate, equal to "AFBt Insulation", manufactured by Roxul, or approved equal.

- G. Packing Wool Insulation: Fiberglas or mineral wool packing insulation, equal to products manufactured by U.S. Gypsum Co. or Owens- Corning Fiberglas Corp.
- H. Fire Safing Insulation: Mineral fiber fire-rated fire safing insulation in conformance with the governing laws and building code, manufactured by U.S. Gypsum Co. or approved equal.
- I. Acoustical Compound for Application Between Multiple Layers of Drywall: Green Glue Compound, as manufactured by Green Glue Company.
- J. Acoustical Sealant: Noiseproofing Sealant, as manufactured by Green Glue Company.

PART 3 EXECUTION

3.01 INSPECTION AND COORDINATION

- A. Inspect job conditions and related work and report to Architect in writing, all conditions interfering with the proper installation of work of this Section. Commencement of work in any given area shall constitute acceptance of conditions in that area as acceptable to receive work of this Section.
- B. Change and adjust work of this Section to accommodate work of other Sections, providing cutting and patching until it has been inspected.

3.02 GENERAL REQUIREMENTS

- A. Provide work conforming to published specifications and installation instructions of each manufacturer, the approved shop drawings, above-referenced quality assurance standards, the governing laws and code. Refer to Drawings to determine location of fire-resistive, fire-protective, and acoustically-rated work, and construct this work to conform to the specifications and installation instructions of UL or other testing agency(ies). Also refer to the Drawings to determine the number of layers of gypsum board, thickness of board, etc., for each of the installations.
- B. Erect gypsum drywall work, rigidly supported, and securely fastened in place, in such a manner that plumb, level, and true finished lines and surfaces will result in the finished work in accordance with the requirements of ASTM C 754 and ASTM C 840.
- C. Construct gypsum drywall work only after all windows and door openings are enclosed and a temperature of not less than 55°F. is maintained during and up to completion of the drywall work.

3.03 GYPSUM WALLBOARD APPLICATION

- A. Unless otherwise indicated, application of gypsum wallboard shall conform to ASTM C 840.
- B. Apply thicknesses and layers of gypsum wallboard at ceilings, walls, partitions, column and beam enclosures as indicated. Stagger joints in each layer. Locate joints in first layer on opposite sides of partitions to occur on different studs. Apply wallboard at ceilings with long dimension perpendicular to furring channels, with each end occurring over a framing member. Install wallboard at walls and partitions with long dimension vertical, and with each end and edge lying over a framing member.

1. At double layer installations apply second layer by combination of laminating adhesive and mechanical fastenings (through first layer into the steel framing and/or furring member behind), in strict accordance with manufacturer's printed recommendations for each project condition.
- C. To minimize end joints, use maximum practical lengths. Bring gypsum wallboard panels into contact, but do not force into place. Fit abutting ends and edges neatly. Provide slots for sealant at top, bottom, ends, and corners of wallboard at all walls and partitions indicated to receive acoustical insulation, as indicated. Also provide slots for sealant where wallboard abuts other finish materials, as specified hereinbelow.
- D. Spacing and installation of drywall screws for the various applications and fire-rating requirements shall conform to the printed standards of the manufacturer.
- E. Set heads of fasteners flush with surface of the paper, but not breaking the paper. Where attached loosely to a framing or furring member, a second fastener shall be installed within 1-1/2 in.
- F. Cut gypsum wallboard neatly at corners, edges, etc., and for pipes, electrical outlets, electrical conduit and raceway, recessed cabinets, and other projections.

3.04 ACOUSTICAL INSULATION

- A. Walls and partitions indicated on the Drawings with STC Rating or indicated to receive acoustical insulation shall have a single, continuous layer of insulation installed as indicated and specified, filling the entire open space between the framing members. Carry insulation behind backs of all electric boxes and similar appurtenances. Provide mechanical attachment to prevent future settlement.
- B. Refer to descriptions of shaft wall and furred wall construction, above, for further description of insulation work.

3.05 INSTALLATION OF WALLBOARD ACCESSORIES

- A. Install accessories at gypsum wallboard installations, as follows, in strict accordance with manufacturer's instructions.
 1. Install joint reinforcement tape at all joints, and at all internal corners where abutting surfaces are both gypsum wallboard construction.
 2. Install corner beads at all external wallboard corners.
 3. Install casing bead wherever finish wallboard abuts dissimilar materials and other places where specifically called for on the Drawings.
 4. Install control joints generally over (and under) centers of all major wall openings (those greater than 40% of wall height, measured floor to ceiling), over all door frames, over control joints in back-up materials, and at maximum distance of 30 ft. in walls, 60 ft. or to limit areas to not more than 2400 sq. ft., at ceilings (except where lesser distance is indicated), and other places specifically called for on the Drawings. Interrupt furring and/or framing behind the control joints. Specific locations of control joints shall be as indicated or as directed by Architect; submit proposed locations of control joints to Architect for approval before beginning work.
 5. Install preformed reveals corners where indicated in accordance with the manufacturer's recommendations.

3.06 JOINT FINISHING

- A. Finish all corners, joints, and edges of gypsum wallboard and gypsum soffit board work, and all corner beads, casing beads, control joints and other trim to provide complete finishing of all exposed wallboard surfaces, in strict accordance with manufacturer's printed instructions and ASTM C 840. Finish to absolutely flush, true surface showing no irregularity when tested by light source parallel to the plane of the nominal wallboard face.
1. Finish wallboard to receive ceramic tile and other adhesive-applied finishes in similar manner.
- B. Finish all concealed joints in wallboard above ceiling finishes flush with tape and a minimum of two coats of compound to provide a continuous, uninterrupted plane for acoustical and fire-resistive performance. Concealed joints may be left in rough condition without finish sanding.
- C. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- D. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- E. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- F. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:
1. Level 1 in Ceiling Plenums and Concealed Areas: Embed tape at joints in ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.
 2. Level 4 for Panels to Receive Flat Paints: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges at surfaces receiving flat paints.
 3. Level 5 for Panels Scheduled for Semigloss Paints and Surfaces subject to Severe Lighting, where scheduled: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges, and apply skim coat of joint compound over entire surface scheduled to receive gloss and semigloss enamels and surfaces subject to severe lighting.

3.07 ACOUSTICAL SEALING

- A. Walls and partitions designated on the Drawings with an STC Rating and/or indicated to receive acoustical or thermal insulation, including interior faces of exterior steel framed curtain walls, do all sealing work required, as indicated on the Drawing and generally as listed below.
1. Seal all joints between the gypsum wallboard and surrounding construction.
 2. Seal full perimeters of all frames, sleeves, ducts, and other items set into, or passing through, gypsum wallboard construction.
 3. Seal full perimeters of all projections through the gypsum wallboard construction, such

as pipes, conduits, etc.

4. Seal all control joints in the gypsum wallboard work.
 5. Seal all joints between gypsum wallboard and adjoining gypsum wallboard panels at corners and intersections.
 6. Seal all joints between gypsum wallboard and adjoining door and window frames in exterior walls.
 7. Do all other sealing called for on the Drawings or reasonably required to produce maximum thermal and sound transmission reduction through the walls and partitions.
- B. Seal joints in partitions continuing above suspended ceilings, in similar manner, for acoustical purposes.
- C. Sealing shall be done using sealant of type specified hereinbefore, in strict accordance with manufacturer's printed instructions and applicable requirements of ASTM C 919. Sealant shall thoroughly fill void for a complete sound and thermal seal, and shall be tooled to dense, smooth, concave finish.
1. Except as may be otherwise specifically called for on the Drawings, in two layer wallboard work seal only the outer layer.
 2. Penetrations of Partitions: Duct and pipe penetrations of partitions are similar to one another. The gypsum board shall be held back around the penetrating element by the width of a nominal caulk joint. The gap shall be packed with acoustical batt insulation and then sealed with acoustical sealant to form an air tight seal.
 3. Heads of partitions shall have a bead of sealant if the underside of the structure is uniform and straight like for a flat slab. If the underside of the structure is complex, like a fluted steel deck, run the main gypsum board sheet to the underside of the deck and then apply a narrow strip of gypsum board (perhaps 8 in. to 10 in. wide) that has been precut to the form of the deck (castle cut) . Then the joint between the gypsum board and the deck shall be caulked air tight.

3.08 PROTECTION AND CLEANING

- A. Protect the work of other Sections and work of this Section already installed against soiling and damage by the exercise of reasonable care and precautions. Repair or replace any work so damaged or soiled.

END OF SECTION

SECTION 093000 - TILING**PART 1 GENERAL****1.01 WORK INCLUDED**

- A. Work of this Section includes but is not limited to:
1. Wall tile.
 2. Base tile.
 3. Cementitious backer board.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
1. Section 079200, JOINT SEALANTS; Sealing of control joints.
 2. Section 092900, GYPSUM BOARD ASSEMBLIES.
 3. Section 102813, TOILET ACCESSORIES; Toilet room accessories.

1.03 SUBMITTALS

- A. Shop Drawings: Submit complete shop drawings to Architect for approval showing all finishes, layout plans, bedding, jointing and details, and the dimensions and setting number of each special piece, such setting number to be applied to the rear of such piece.
- B. Samples: Submit samples of all finish materials specified under this Section to the Architect for selection and approval.
1. Tile: Duplicate samples mounted on rigid panels, at least 12 in. by 12 in., for each requested color or range. Samples shall show full range of color variation that can be expected in the finish work.
 2. Wall Base: Duplicate samples for each size, color, shape and finish.
 3. Grout: Samples showing manufacturer's standard grout colors.
- C. Manufacturer's Product Data: Submit manufacturer's product data for each type of tile and tile accessory, threshold, and tile setting/waterproofing materials.

1.04 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size used on the Project.
 2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color used on Project.

1.05 QUALITY ASSURANCE

- A. The work of this Section shall conform to the governing laws and building code and the TCA Handbook.
- B. Manufacturer of waterproof materials shall have been regularly engaged in the production of these materials for a minimum of ten years and shall have three similar installations with a minimum of five years of service at each installation.
- C. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockup of each type of floor tile installation.
 - 2. Build mockup of each type of wall tile installation.
 - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Tile shall be properly packaged and brought to the site in original unopened containers with grade seals, as specified hereinbelow, intact and unbroken.
- B. Packaged mortar materials shall be delivered in original, unopened containers marked with type and quality of product.
- C. Containers, sacks, and bulk storage shall be stored inside the building at area(s) designated by the Contractor, raised above floor level, covered and protected until ready for use.

1.07 COORDINATION

- A. Coordinate work of this Section with that of other Sections that affect or are affected by, this work, as necessary to ensure steady progress of work under Contract.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Source Limitations for Tile: Obtain tile of each type and color or finish from single source or producer.
 - 1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.
- B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from single manufacturer and each aggregate from single source or producer.
 - 1. Obtain setting and grouting materials, except for unmodified Portland cement and aggregate, from single manufacturer.

- C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer:
1. Stone thresholds.
 2. Waterproof membrane.
 3. Crack isolation membrane.
 4. Cementitious backer units.

2.02 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
1. Provide tile complying with Standard grade requirements.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.
- C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.
- D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.
1. Where tile is indicated for installation in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.

2.03 TILE PRODUCTS

- A. Ceramic Tile Type CT-1: Provide DalTile "Ceramic Tile". Color and size as scheduled on Drawings.
- B. Tile Base CTB-1: Provide 6 in. high tile base to match Wall Tile Type CT-1.
- C. Ceramic Tile Type CT-2: Provide DalTile "Bullnose Tile". Color and size as scheduled on Drawings.
- D. Porcelain Tile Type PT-1: Provide DalTile "Porcelain Tile". Color and size as scheduled on Drawings.
- E. Cementitious Backerboard for ceramic tile and for direct-applied finish system shall be "Durock" tile backerboard manufactured by United States Gypsum, Chicago, IL 60606; or approved equal.
1. Backer board shall be constructed of a concrete core with fiber glass mesh reinforcement and high density Portland cement surface.
 2. Thickness of board shall be as indicated on the Drawings.

2.04 SETTING MATERIALS

A. Manufacturers:

1. Bonsal, W. R., Company.
2. Bostik.
3. LATICRETE International Inc.
4. MAPEI Corporation.

B. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4, consisting of the following:

1. Prepackaged dry-mortar mix combined with acrylic resin or styrene-butadiene-rubber liquid-latex additive, with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D.
 - a. For wall applications, provide nonsagging mortar that complies with Paragraph F-4.6.1 in addition to the other requirements in ANSI A118.4.
 - b. For glass tile, provide polymer modified Portland cement premixed white mortar specially designed and manufactured for setting and grouting glass tile.

C. Joint Grout: Factory packaged, precolored latex-Portland cement grout mixes conforming to ANSI A118.6, equal to "Hydroment Ceramic Tile Grout", and "Hydroment Dry Tile Grout", manufactured by the Upco Company; or equivalent products manufactured by Laticrete International, Inc., L&M-Surco Mfg., Inc., or equal product by manufacturer licensed by Tile Council of America, as approved by Architect. Grout-mixes must be complete as packaged, with only addition of acrylic latex grout additive required. Color shall be as scheduled on Drawings.

D. Waterproofing and Uncoupling Membrane: Provide crack suppression/waterproofing membrane product that complies with ANSI A118.10. Provide one of the following, or approved equal:

1. Nobleseal TS; The Noble Company.
2. KERDI; Schluter Systems LP;
3. DITRA; Schluter Systems LP.

E. Grout Sealer: Manufacturer's standard silicone product for sealing grout joints and that is compatible with grout, and does not change color or appearance of grout.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Bonsal American; an Oldcastle company; Grout Sealer.
 - b. Bostik, Inc.; CeramaSeal Grout & Tile Sealer; Magic Seal; Silox 8; Siloxane 220.
 - c. C-Cure; Penetrating Sealer 978.
 - d. MAPEI Corporation; KER 003, Silicone Spray Sealer for Cementitious Tile Grout; 004, Keraseal Penetrating Sealer for Unglazed Grout and Tile.
 - e. TEC; a subsidiary of H. B. Fuller Company; TA-256 Penetrating Silicone; TA-257 Silicone Grout Sealer.

PART 3 EXECUTION

3.01 PREPARATION OF SURFACES

- A. Initial Preparation under other Sections: Surfaces to receive materials under this Section shall be turned over to this trade, true, plumb, and level (or uniformly sloped to required pitch) and shall be clean, free of loose dirt, and dust, grease, oil, paint, mastics, and other deleterious materials, and sufficiently cured and dried, ready to receive the finish materials.
- B. Final Preparation under this Section: Thoroughly examine all surfaces to receive work of this Section, and notify Architect in writing of all conditions which would adversely affect this work. Do not commence work in any area where such notice of adverse conditions has been filed, until corrective work has been completed or waived. Starting of work without issuance of such notice shall constitute acceptance of conditions as being satisfactory to properly receive the work of this Section.
1. Do final cleaning of surfaces just prior to installation of tile, removing all dust, dirt, and other loose particles.

3.02 CEMENTITIOUS BACKER BOARD INSTALLATION

- A. Installation of cementitious backerboard shall conform to ASTM C 840 and as recommended by cementitious backerboard manufacturer.
1. Wall framing substrate: Do not install cement board directly over protrusions from stud plane such as heavy brackets or fastener heads.
 2. Use blocking where these protrusions are unavoidable.
 3. Make necessary cut-outs. Install cement board horizontally leaving 1/8 inch to 3/16 inch space at all joints, including joints with dissimilar materials.
 4. Stagger board joints with those of adjacent rows.
 5. Fasten cement board with 1-1/4 inch length type S bugle head screw. Fasten boards every 8-inches on center in field and along edges. At edge conditions, locate fasteners between 1/2-inch to 2 inches from board edge.
 6. At all joints and corners, fill gap solidly with dry-set or latex-modified, portland cement mortar and imbed 2 inch mesh fiberglass table and smooth material over joint and corner.

3.03 INSTALLATION

- A. Install and grout tile in accordance with the provisions of the standard specification and published details hereinbefore listed, generally as follows, in accordance with TCA "Recommended Uses":
1. Wall Tile and Base on Cement backer board. Latex-Portland Cement Mortar,
Applied to Cementitious Tile
Backerboard, TCA Method W244,
with Latex Portland Cement Grout..
 2. Floor Tile, Thinset: Dry-Set Mortar or Latex-Portland
Cement Mortar, TCA Method F125A,
with proprietary Commercial Grout
over uncoupling/waterproof membrane.

- B. Room temperatures where ceramic material are installed shall be maintained at temperatures of not less than 40°F. for a period of at least 48 hours prior to commencement of tile work, during the tile work, and from that time until completion of Project. Refer to Section 015000, TEMPORARY FACILITIES AND CONTROLS for temporary heating provisions.
- C. Where possible, lay out work so that no tiles less than half size occur. Maintain plumb and true finish surfaces. Maintain joints straight, true, level, plumb. All joints shall be straight and continuous in both directions.
- D. Make tile cuts straight and true. Discard improperly cut tile. Maintain consistent joint width, including joints between adjoining sheets and joints at cut tile. Maintain true and proper planes, levels, and slopes. Remove and replace all tile work which does not comply with specification requirements.
- E. Grouting: Grout tile joints with proprietary grout mixes as specified hereinbefore. Do not commence grouting until 24 hours after tile installation. Follow instructions of the manufacturer and the aforementioned standard specifications. Wet tile where necessary. Damp cure grout joints at least three consecutive days commencing immediately after joints have set. After grouting, protect tile work from traffic for at least seven days.
- F. Remove all work not conforming to specification requirements and replace with acceptable work.
- G. Grout Sealer: Apply grout sealer to cementitious grout joints in tile floors according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

3.04 CLEANING

- A. After grout has set, polish tile free of all dirt and mortar or grout stains with clean, white cloths, using sponges and clean water. Rinse thoroughly and polish with clean, white cloths. Leave work clean and spotless. Acid cleaners will not be permitted.

3.05 PROTECTION AND FINAL CLEANING

- A. After the placing, curing, and initial cleaning, of the work of this Section, the work shall be protected from damage until time of Substantial Completion of the Project. Provide all necessary protective barriers, non-staining protective covers, etc., as required to carry out such protection.
- B. Final Cleaning: Final cleaning shall be done by Contractor at time of Substantial Completion in accordance with Section 017700, CLOSEOUT PROCEDURES.

END OF SECTION

SECTION 095113 - ACOUSTICAL PANEL CEILINGS**PART 1 - GENERAL****1.00 GENERAL PROVISIONS**

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

1.01 WORK INCLUDED

- A. Provide suspended acoustical ceilings as indicated on Drawings and as specified. Work of this Section includes, but is not limited to:

1. Acoustical panel lay-in ceiling with exposed suspension system as specified in this Section.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that relate directly to work of this Section include, but are not limited to:

1. Section 092900, GYPSUM BOARD ASSEMBLIES; Gypsum drywall ceilings.
2. Division 23, HVAC and Division 26, ELECTRICAL; Mechanical and electrical fixtures and appurtenances at acoustical ceilings, including independent suspension.

1.03 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.

1. American Society for Testing and Materials (ASTM):

A 641	Zinc-Coated (Galvanized) Carbon Steel Wire
C 423	Sound Absorption and Sound Absorption Coefficients by the Reverberation Ram Method
C 523	Light Reflectance of Acoustical Materials by the Integrating Sphere Reflectometer
C 635	Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings
C 636	Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels
E 84	Surface Burning Characteristics of Building Materials

E 119 Fire Tests of Building Construction and Materials

E 580 Application of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Requiring Seismic Restraint

2. Ceilings and Interior Systems Contractors Association (CISCA):

Handbook Ceiling Systems Handbook

3. Federal Specifications (Fed. Spec.):

SS-S-118 Sound Controlling (Acoustical) Tiles and Panels

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product data, installation instructions, use limitations and recommendations for each material used. Provide certifications that materials comply with requirements.
- B. Initial Selection Samples: Submit samples showing complete range of colors, textures, and finishes available for each material used.
- C. Verification Samples: Submit representative samples of each material to be exposed in the finish work, showing full range of color and finish work, showing full range of color and finish variations expected. Provide minimum 12 in. x 12 in. samples of panels and tiles. Provide minimum 12 in. long samples of exposed suspension systems.
- D. Test Reports: Submit certified reports for tests required.
- E. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Suspended ceiling components.
 - 2. Structural members to which suspension systems will be attached.
 - 3. Size and location of initial access modules for acoustical panels.
 - 4. Items penetrating finished ceiling including the following:
 - a. Lighting fixtures.
 - b. Air outlets and inlets.
 - c. Speakers.
 - d. Sprinklers.
 - e. Access panels.
 - 5. Perimeter moldings.

1.05 MAINTENANCE MATERIAL SUBMITTAL

- A. Provide packaged, wrapped and labeled maintenance stock equal to 2% of the actual quantity installed for the following items of work:

1. Each type of ceiling tile and panel.
2. Each type of suspension system component.

1.06 QUALITY ASSURANCE

- A. Comply with governing laws and building codes as well as to CISCA Handbook and ASTM C 636.
- B. Installer: A firm with minimum three years experience in work of type required by this Section, and which is authorized, certified or licensed by the manufacturers of the primary materials.
- C. Source: For each type of material required for the work of this Section, provide primary materials which are the products of a single manufacturer. Provide secondary materials which are acceptable to the manufacturers of primary materials.

1.07 TESTS

- A. Fire Resistance: Where fire-resistance ratings are indicated or required by authorities having jurisdiction, provide materials and construction which are identical to assemblies whose fire-resistance ratings have been tested in compliance with ASTM E 119 by independent agencies acceptable to the Architect and authorities having jurisdiction.
- B. Burning Characteristics: Provide materials whose surface burning characteristics, when tested in compliance with ASTM E 84 are Class A.

1.08 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing manufacturer's name, brand names, type of material, and contents.
- B. Store materials in interior spaces, above floors, under cover, away from sweating walls and other damp surfaces. Provide ventilation.

1.09 PROJECT CONDITIONS, SEQUENCING AND SCHEDULING

- A. Environment: Perform work only when temperature and humidity conditions are within the limits established by manufacturers of the materials and products used.
- B. Conference: Convene a pre-installation conference to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.
 1. Proceed with installation of ceiling only when construction above ceilings and penetrating work is complete. Delay installation of ceiling tiles or panels until near time of Substantial Completion.
 2. Perform work of this Section coordinated with the layout of light fixtures, HVAC equipment and fixtures, fire suppression system components and all other related work. In general, every penetration shall occur at the center of a ceiling tile or panel.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: Comply with ASTM E 1264 for Class A materials.
 - 2. Smoke-Developed Index: 50 or less.

2.02 ACOUSTICAL PANELS, GENERAL

- A. Source Limitations:
 - 1. Acoustical Ceiling Panel: Obtain each type from single source from single manufacturer.
 - 2. Suspension System: Obtain each type from single source from single manufacturer.
- B. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
- C. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances unless otherwise indicated.
 - 1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches (400 mm) away from test surface according to ASTM E 795.
- D. Acoustical Panel Colors and Patterns: Match appearance characteristics indicated for each product type.
 - 1. Where appearance characteristics of acoustical panels are indicated by referencing pattern designations in ASTM E 1264 and not manufacturers' proprietary product designations, provide products selected by Architect from each manufacturer's full range that comply with requirements indicated for type, pattern, color, light reflectance, acoustical performance, edge detail, and size.

2.03 ACOUSTICAL PANELS

- A. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products specified or comparable product by one of the following:
 - 1. Armstrong World Industries, Inc.
 - 2. CertainTeed Corp.
 - 3. Chicago Metallic Corporation.
 - 4. DeCoustics.
 - 5. Tectum Inc.
 - 6. USG Interiors, Inc.; Subsidiary of USG Corporation.
 - 7. Ceilings Plus.

- B. Basis-of-Design Product: Subject to compliance with requirements, provide products specified below, or approved equal product by one of other manufacturers listed above:
1. Type ACT-1: Armstrong Ceramaguard Unperforated #607, Size: 24 in. x 24 in.; Square Lay-in; Grid: grid system 15/16 in. w/ hold down clips.

2.04 METAL SUSPENSION SYSTEMS, GENERAL

- A. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
- B. Metal Suspension-System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635/C 635M.
- C. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
- D. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 2. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.135-inch- (3.5-mm-) diameter wire.
- E. Hold-Down Clips: Where indicated, provide manufacturer's standard hold-down clips spaced 24 inches (610 mm) o.c. on all cross tees.

2.05 METAL SUSPENSION SYSTEM

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product specified, or comparable product by one of the following:
1. Armstrong World Industries, Inc.
 2. CertainTeed Corp.
 3. Chicago Metallic Corporation.
 4. USG Interiors, Inc.; Subsidiary of USG Corporation.
 5. Ceilings Plus.
- B. Metal Suspension System: Main and cross runners formed from steel- to produce structural members with 15/15-inch wide flanges.
1. Structural Classification: Heavy-duty system.
 2. Face Design: Flat, flush.
 3. Face Finish: Painted white.

2.06 ACOUSTICAL SEALANT

- A. Acoustical Sealant: Manufacturer's standard sealant complying with ASTM C 834 and effective in reducing airborne sound transmission through perimeter joints and openings in

building construction as demonstrated by testing representative assemblies according to ASTM E 90.

1. Exposed and Concealed Joints: Nonsag, paintable, nonstaining latex sealant.
2. Concealed Joints: Nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant.
3. Acoustical sealant shall [have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24)].

PART 3 EXECUTION

3.01 INSPECTION

- A. The Installer shall examine substrates, supports, and conditions under which this work will be performed and notify Contractor in writing, of conditions detrimental to proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning work means Installer accepts substrates and conditions.

3.02 PREPARATION AND INSTALLATION - GENERAL

- A. General: Strictly comply with manufacturer's recommendations and instructions.
- B. Conditioning: Condition acoustical ceiling materials to temperature and humidity conditions which approximate those that will be present when spaces are occupied by unpackaging and separating material at least 24 hours prior to installation.
- C. Coordination: Coordinate installation with other work to ensure proper locations of related work such as light fixtures, mechanical fixtures, fire protection systems and the like.
- D. Layout: Measure each area and layout ceilings to balance panel widths on opposite edges of each ceiling in both directions. Avoid use of less than 1/2 width ceiling units wherever possible.
- E. Suspension Installation: Erect suspension system in accordance with ASTM C 636, supported only from building structure. Level main suspension members to within tolerance of 1/8 in. in 10 ft. Splay hangers where necessary and countersplay to balance resulting horizontal forces. Cross brace suspension to prevent lateral sway and displacement during full seismic loads prescribed by code.
- F. Install acoustical units flush and level with joints in perfect alignment. Maintain direction of pattern and "mill-run" of acoustical units in one direction.
- G. Finish acoustical ceilings shall be level to within 1/8 in. in 10 ft. with total accumulated error not to exceed 1/2 in. or L/960 of overall ceiling dimension, whichever is smaller, in any room or area.
- H. Use white, clean gloves when handling ceiling materials.

3.03 INSTALLATION OF SUSPENDED EXPOSED "TEE" LAY-IN PANEL SYSTEM

- A. Install exposed "Tee" suspension system where indicated, in accordance with ASTM C 636.

- B. Secure hanger anchors symmetrically to structure above areas to receive "Tee" suspension grid, locating the hangers in rows directly above exposed main "Tees". Install main "Tees" at proper elevation with manufacturer's recommended ties. Install cross "Tees" 2 ft. on center, developing a 2 ft. x 2 ft. grid as indicated. Install wall mouldings at perimeter walls and columns where main or cross "tees" do not occur, or as otherwise called for on the Drawings. Miter corners where wall moulding intersect or install corner caps.
- C. After installation of the exposed "Tee" suspension system, install acoustical panels flush and level, with panel grain in single direction.

3.04 CLEANING

- A. Protect the work of other trades and work of this Section already installed against soiling and damage by the exercise of reasonable care and precautions. Repair or replace any work so damaged or soiled.

END OF SECTION

SECTION 099100 PAINTING

PART 1 - GENERAL

1.00 GENERAL PROVISIONS

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

1.01 WORK INCLUDED

- A. Provide painting and finishing work throughout interior of Project as indicated and scheduled on the Drawings and as specified.
- B. Examine Contract Documents to determine full extent of painting and finishing work required. Materials provided under other Sections that need painting or finishing and are left unfinished under requirements of other Specification Sections, shall be painted and finished to completion under work of this Section, unless specifically scheduled herein to be left unfinished.
- C. Preparatory work of materials and surfaces to receive paint beyond that specified to be done as work of other Sections, shall be included as work of this Section.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that relate directly to work of this Section include, but are not limited to:
1. Section 061000, ROUGH CARPENTRY; Wood preservative treatments.
 2. Section 081113, HOLLOW METAL FRAMES; Prime coat on hollow steel frames.

1.03 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
1. Federal Specifications (Fed. Spec.):

TT-D-65	Drier; Paint, Liquid
TT-T-801	Turpentine, Gum Spirits, Steam Distilled, Sulfate Wood, and Destructively Distilled
 2. Steel Structures Painting Council (SSPC):

SP 2	Hand Tool Cleaning
SP 3	Power Tool Cleaning

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data, specifications, use limitations

and recommendations for each material used. Provide certifications that materials and systems comply with specified requirements.

- B. Initial Color Selection Samples: Submit manufacturer's standard color charts or chips showing complete range of colors, textures, and finishes available for each paint system used.
- C. Verification Samples: After initial selection of colors, submit representative samples of each paint system color that is to be exposed in the completed work. Show full color ranges and finish variations expected. Provide texture to simulate actual conditions. Define each separate coat, including block fillers and primers. Resubmit samples until required sheen, color, and texture have been approved. Provide samples as follows:
 - 1. Paint Samples for Smooth Surfaces: Provide samples of painted finishes on gypsum drywall or Masonite board having minimum size of 144 sq. in.

1.05 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: 3 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

1.06 QUALITY ASSURANCE

- A. Source: Provide primers and undercoat paint produced by same manufacturer of finish coats for each substrate.
- B. Coordination: Review other Specification Sections where primers are provided to ensure compatibility with finish coatings provided under this Section.
- C. Mock-Ups: Prior to commencing work of this Section, provide 50 sq. ft. mock-ups of each color, paint system, and substrate at locations acceptable to the Architect. Obtain Architect's acceptance of visual qualities. Refinish mock-ups until Architect's acceptance is obtained. Maintain acceptable mock-ups throughout the remainder of the work to serve as criteria for acceptance of the work. Acceptable mock-ups may be incorporated into the finish work.

1.07 TESTS

- A. The Owner may employ an independent testing agency to perform tests, evaluations, and certifications of products used. Cooperate and permit samples of materials to be taken as they are used.

1.08 PROJECT CONDITIONS

- A. Weather, Temperature, and Humidity: Perform work only when existing and forecasted weather conditions fall within limits established by manufacturers of materials used.
 - 1. Indoor Temperature: Maintain indoor temperature at 65°F. during application and drying of paints.
- B. Substrates: Proceed with work only when substrate construction and penetration work is complete.

- C. Lighting: Since lighting conditions can alter appearances of finish painting work, perform work of this Section under lighting conditions simulating permanent lighting system to the greatest extent possible.

1.09 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in unopened original containers bearing manufacturer's labels.
- B. Store materials in fully sealed containers, outside the building, preferably in exterior storage shed, well ventilated, and with a minimum ambient temperature of 45°F. Oily rags and waste must be removed from the building every night, and under no circumstances will be allowed to accumulate. Each space containing stored paint materials shall be provided with UL labeled fire extinguisher of suitable type, class, and capacity.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Latex and Alkyd Based Paints: Provide products of one of the following manufacturers:
 - 1. Benjamin Moore and Co. (Moore).
 - 2. Pratt & Lambert. (P & L).
 - 3. The Sherwin Williams Company (S-W)
- B. Materials used shall be best grade products of their respective kinds. The Painting Schedule is based on products the above named manufacturers. These are specified to establish a standard of quality and kind of material desired. Provide these products, or equals as approved by Architect.
- C. Assume full responsibility for proper performance of materials, for method of application, and for compatibility of materials applied over shop coats or other coats previously applied, including but limited to primers, sealers, preservative treatments, etc. Notwithstanding specific schedules in this Section, select primers which have been verified to be appropriate for each of the substrates and finishes encountered.
- D. Provide miscellaneous painting materials such as linseed oil, shellac, turpentine, and thinner of the highest quality.
- E. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

2.02 COLORS

- A. Colors: Match Architect's samples.

PART 3 EXECUTION

3.01 INSPECTION AND GENERAL PREPARATION

- A. Inspect surfaces to receive finishes to ensure they are in proper condition to receive work under this Section.

- B. If surfaces are not thoroughly dry, or if surfaces cannot be put in proper condition to receive paint or other finish by customary cleaning methods, sanding, or spackling, notify Architect in writing.
- C. Commencing work on any surface will be construed as acceptance of the surface as being satisfactory to properly receive the work of this Section.
- D. Furnish and lay drop cloths in all rooms and areas where painting and finishing is being done, to adequately protect flooring and other work from all damage during the painting work.
- E. Remove hardware, accessories, device plates, lighting fixtures, factory finished work, and similar items; or provide ample in-place protection. Use skilled mechanics for removal, resetting, and protection.
- F. Cleaning: Do not paint over dirt, dust, rust, grease, moisture, or other contaminants detrimental to the formation of a durable paint finish. Clean surfaces thoroughly prior to painting in any given area.
- G. Touch up bare or abraded spots on surfaces with shop or existing finishes scheduled to be painted under this Section. Use same material used for shop coat. Substrate shall be smooth, free from raised grain; putty sags, cracks, rust, grease, dirt, or other foreign matter or defect.
- H. Incompatible Shop Primers: Remove incompatible shop primers and reprime surfaces, or provide barrier coats in compliance with finish paint manufacturer's instructions.

3.02 SURFACE PREPARATION

- A. Prepare surfaces to receive work of this Section in strict accordance with manufacturer's instructions applicable to each material, condition, and finish.
- B. Gypsum Wallboard: Fill holes, dents, and similar flaws in gypsum wallboard with plaster of Paris or spackling compound. Cut out and fill cracks. Sand surface of patch smooth and flush with adjacent surfaces. Do not abrade adjacent surfaces. Patched areas shall not be detectable in finished work. Sand surfaces to remove high points or imperfections.
- C. Field-Welded Ferrous Metal: After installation, field-welding, and grinding, and immediately before painting, remove rust, loose mill scale, dirt, weld flux, weld spatter, weld smoke stains, burnt primer, and other foreign material with wire brushes and/or steel scrapers. Power tool clean in accordance with SSPC SP 3. Remove grease and oil by use of solvent recommended by paint manufacturer. Sand exposed surfaces, and between coats, as required to produce smooth, even finishes.
 - 1. Sand smooth and spot prime welded areas, and areas where prime coat has been damaged or abraded, using rust inhibitive primer scheduled in this Section.
- D. Other Ferrous Metal: Remove rust, mill scale, and foreign materials. Wire brush or sand damaged or rusted area to bright metal. Remove grease or dirt with solvents recommended by paint manufacturer just prior to applying paint.
 - 1. Spot prime all areas where shop coat has been damaged or abraded, using same type paint as used for shop coat.
- E. Other Non-Ferrous Metal: Prepare shop primed non-ferrous metals similarly to ferrous

metals, specified above.

1. Prepare unprimed non-ferrous metals by thoroughly cleaning of oil, grease, and temporary protective coatings using solvent recommended by primer manufacturer. Provide additional pretreatment recommended by primer manufacturer to assure permanent adhesion of paint coats.

F. Other Materials: Prepare other materials in strict accordance with recommendations of manufacturers of materials to be finished, and primers and finishes to be applied.

G. Materials Preparation: Mix and prepare paint materials in accordance with manufacturer's printed instructions. Use only thinners approved by paint manufacturer, and only within recommended limits.

3.03 APPLICATION

A. Painting Schedule in this Section lists minimum number of coats required. If specified minimum number of coats does not completely cover or hide base materials, provide additional coats required for coverage and uniform finish appearance, without additional cost to Owner.

B. Apply paint in strict accordance with manufacturer's instructions. Use applicators and techniques best suited for substrates and types of materials being applied. No material shall be thinned in any way except as directed by manufacturer.

C. Apply paints and coatings at coverage rates and dry film thicknesses scheduled at the end of this Section. Each coat applied must be inspected and approved by Architect prior to application of succeeding coat, otherwise no credit for the coat applied will be given and work in question shall be recoated without additional expense to Owner. Notify Architect when each coat is ready for inspection.

D. Additional Coats: Provide additional coats necessary to eliminate show through and bleed through conditions.

E. Drying Time: Allow manufacturer's recommended drying time between successive coats. However, allow each coat to thoroughly dry prior to application of subsequent coat.

F. Sanding: Lightly sand finishes between coats using #00 sandpaper.

G. Tinting: Tint prime coat on gypsum wallboard and plaster to approximate color of final shade.

H. Doors and Panels: Paint all doors, panels, access panels, etc., in the "open" position. Paint all edges, tops, bottoms, and both faces. Paint back face of access panels and removable or hinged covers to match adjacent exposed surfaces.

I. Permanently Fixed Equipment: Paint surfaces behind permanently fixed equipment with prime coat only.

J. Duct Interiors: Paint interior surfaces of ducts where visible through registers, grilles, or louvers with flat black, non-specular paint.

K. Finished work shall be free from runs, sags, hairs, defective brushing, and clogging of lines and angles. Flaws visible in the completed work shall be removed and the area satisfactorily repaired.

- L. Mechanical and Electrical Work: Painting of mechanical and electrical items is limited to items exposed to view in occupied areas.
1. Mechanical items to be painted include, but are not limited to:
 - Ductwork.
 - Heat exchangers.
 - Insulation
 - Motors and mechanical equipment.
 - Piping, hangers, and supports.
 - Tanks and equipment.
 2. Electrical items to be painted include but are not limited to:
 - Conduit and fittings.
 - Switchgear.
- M. Completed Work: Provide finishes that match approved samples and mock-ups for color, texture, and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.

3.04 COMPLETION

- A. Cleaning: At completion of work of this Section, remove paint and other stains caused by this work from exposed surfaces. Leave finishes in a satisfactory condition.
- B. At completion of work of this Section, remove masking materials and other debris. Reinstall or replace fixtures, plates, etc., removed to facilitate application of paint.
- C. Retouching: Touch-up and repair applied finishes which, for any reason have been damaged during construction work. All finished work applied under this Section shall have finished surfaces as approved by finish material manufacturer.
- D. Final Inspection: Protect painted surfaces against damage until date of Substantial Completion. Architect will conduct final inspection of painting work. Areas that do not comply with requirements of these Specifications shall be repainted or retouched to satisfaction of Architect at no additional cost to Owner.

3.05 SURFACES NOT TO BE FINISHED

- A. Finishes for the following items are either included under other appropriate Sections or require no painting, except as otherwise specifically scheduled with subsequent Interior Schedules.
 1. Chrome or nickel plating, stainless steel, bronze, brass, and aluminum other than mill finished, unless otherwise specified.
 2. Factory finished mechanical and electrical equipment, pumps, and machinery, which occur in mechanical or equipment rooms or areas.
 3. Galvanized ducts, pipes, conduits, etc., occurring within mechanical areas or spaces. Also all such items fully concealed from view in the finished work.
 4. Factory finished materials, specialties, and accessories unless otherwise specified.

3.06 PAINT SCHEDULE

- A. Number of coats scheduled is minimum. Refer to Paragraph 3.03A., hereinbefore.

- B. Painting of Interior Surfaces: Important Note: Notwithstanding anything in the following schedule to the contrary, interior painting and finishing shall conform to the applicable laws and building code regarding fire hazard classifications of finish materials.

1. Interior Gypsum Wallboard for Latex Eggshell, or Satin Finish:

- | | |
|----------|--|
| One Coat | <ol style="list-style-type: none"> 1. Benjamin Moore; Eco-Spec Interior Latex Primer: Applied at a dry film thickness of not less than 1.2 mils (0.030 mm). 2. P & L Equal 3. S-W Equal |
|----------|--|

- | | |
|-----------|--|
| Two Coats | <ol style="list-style-type: none"> 1. Benjamin Moore; Eco-Spec Latex Eggshell Enamel: Applied at a dry film thickness of not less than 1.3 mils (0.033 mm). 2. P & L Equal 3. S-W Equal |
|-----------|--|

2. Interior Metals:

- | | |
|----------|--|
| One Coat | <ol style="list-style-type: none"> 1. Approved primer, in shop under other Sections (where specified) |
|----------|--|

- | | |
|----------|---|
| One Coat | Field Primer (only where shop primer is not specified): |
|----------|---|

- | |
|---|
| <ol style="list-style-type: none"> 1. Benjamin Moore; Moore's HP Acrylic Alkyd Metal Primer No. M06: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm). 2. P & L Equal 3. S-W Equal |
|---|

OR, at non-ferrous metals only,

- | |
|---|
| <ol style="list-style-type: none"> 1. Benjamin Moore; SuperSpec HP Acrylic Metal Primer No. P04: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm). 2. P & L Equal 3. S-W Equal |
|---|

Note:	One prime coat only is required at interior metal work, except touch-up of areas which have become rusted or damaged prior to finish painting.
-------	--

- | | |
|-----------|--|
| Two Coats | <ol style="list-style-type: none"> 1. Benjamin Moore; Super Spec HP D.T.M. Semi-Gloss Enamel No. P28: Applied at a dry film thickness of not less than 1.4 mils (0.036 mm). 2. P & L Equal 3. S-W Equal |
|-----------|--|

3. Mechanical and Electrical Work (Paint all exposed items throughout the project except factory finished items with factory-applied baked enamel finishes which occur in mechanical rooms or areas, and excepting chrome or nickel plating, stainless steel, and aluminum other than mill finished. Paint all exposed ductwork and inner portion of all ductwork visible through grilles and registers):

14-446

QUINCY COLLEGE
Saville Hall, Toilet Room Alterations
Quincy, MA

Same as specified for other interior metals, hereinabove.

END OF SECTION

SECTION 102113 - REINFORCED COMPOSITE TOILET COMPARTMENTS

PART 1 GENERAL

1.00 GENERAL PROVISIONS

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

1.01 WORK INCLUDED

- A. The work of this Section consists of all solid phenolic toilet compartments including related accessories, hardware, and related items to complete the work as indicated on the Drawings and as specified herein and includes, but is not necessarily limited to the following:
 - 1. Solid reinforced composite (SCRC) toilet partitions and urinal screens, completely erected.
 - 2. All related mounting brackets, fastening devices, and anchors.
 - 3. All related finish hardware and accessories, as specified.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 - 1. Section 102813, TOILET ACCESSORIES; Toilet room accessories, other than those specified to be provided herein.

1.03 SUBMITTALS

- A. Shop Drawings: Submit shop drawings of work of this Section to Architect for approval, indicating plans, elevations, details of construction, sizes of openings and parts, anchoring details, leveling details, finishes, colors, hardware and accessories, fittings and fastenings, field work required to install, and necessary coordination with work of other trades.
- B. Samples: Submit the following samples in duplicate to the Architect for approval:
 - 1. Each item of hardware, accessories, mounting brackets, and fastening devices if requested by Architect.
 - 2. Laminated plastic color samples.
- C. Certificates: Submit duplicate certificate from the enclosure manufacturer, properly attested, stating that the materials and construction will comply with the requirements of the Drawings and Specifications. The certificates shall be submitted after final approval of shop drawings and before delivery or installation of the enclosures.
- D. Do not order materials or begin fabrication or installation until Architect's approval of submittals has been obtained.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver items in manufacturer's original unopened protective packaging.
- B. Store materials in original protective packaging to prevent soiling, physical damage, or wetting.
- C. Handle so as to prevent damage to finished surfaces.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: 25 or less.
 - 2. Smoke-Developed Index: 450 or less.
- B. Recycled Content of SCRC Panel: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 15 percent.
- C. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for toilet compartments designated as accessible.

2.02 SOLID REINFORCED COMPOSITE TOILET COMPARTMENTS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide toilet partitions manufactured by Bobrick, or comparable product by one of the following:
 - 1. Accurate Partitions Corporation.
 - 2. Bobrick Washroom Equipment, Inc.
 - 3. Bradley Corporation; Mills Partitions.
 - 4. Scranton Products.
- B. Toilet Partitions:
 - 1. Configuration: Overhead-braced partitions.
 - a. Basis-of-Design: Bobrick 1092G.67 SierraSeries Toilet Partitions, vandal resistant, gap free.
 - b. Design: Gap-free interlocking design.
 - c. Hardware: Vandal resistant full-height stainless steel hardware.
 - 2. Colors: SC02, Desert Beige.
- C. Urinal-Screen Style:
 - 1. Basis-of-Design: Bobrick 1085 DuraLineSeries Wall-Hung Urinal Privacy Screens.
 - 2. Brackets: 11 gauge (3 mm), double thickness.

- D. Hardware and Fittings:
 - 1. Metal: Stainless steel, Type 304.
 - 2. Finish: Stainless steel: No. 4 Satin finish.
- E. Leveling Device: Shall be 3/8 in. by 1 in. steel bar.
- F. Fasteners:
 - 1. Hinge and Latch: Shall be factory installed threaded steel inserts and stainless steel one-way machine screws; latch track factory installed thread T-nuts.
 - 2. Door Hardware: Shall be stainless steel one-way sheet metal screws.
 - 3. Mounting Brackets: Shall be stainless steel phillips head sheet metal screws.
 - 4. Leveling Device: Shall be 3/8 in. threaded rod, nuts, and sleeve anchor.
 - 5. Coat Hook: Stainless steel attached to back of door.
- G. Stile Shoes: Shall be one piece, 4 in. high, Type 304, stainless steel with No. 4 Satin finish.

PART 3 EXECUTION

3.01 INSPECTION

- A. Check areas scheduled to receive partitions for correct dimensions, plumbness of walls and soundness of surfaces that would affect installation of holding brackets.
- B. Verify spacing of plumbing fixtures to assure compatibility with installation of partitions.
- C. Do not begin installation of partitions until conditions are satisfactory.

3.02 ERECTION

- A. Erect compartments, hardware, and accessories in a rigid, substantial manner, straight and plumb and with all horizontal lines level, in strict accordance with the approved shop drawings and the manufacturer's printed instructions.
- B. Installation methods shall conform to manufacturer's recommendations for backing and proper support.
- C. Clearance at wall shall be approximately 1 in. for panels, and 1/2 in. for pilasters.
- D. Set bottoms of doors level with bottom of stiles when doors are in closed position.
- E. All evidence of drilling, cutting, and fitting to room finish shall be concealed in the finished work.

END OF SECTION

SECTION 102813 - TOILET ACCESSORIES

PART 1 GENERAL

1.00 GENERAL PROVISIONS

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

1.01 WORK INCLUDED

- A. Furnish and install all toilet accessories as required to complete the work of the Contract, as indicated on the Drawings and as specified herein.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that relate directly to work of this Section include, but are not limited to:
 - 1. Section 092900, GYPSUM BOARD ASSEMBLIES; Wood blocking for fixture supports at gypsum drywall partitions.

1.03 SUBMITTALS

- A. Shop Drawings: Submit complete shop drawings of all work of this Section to Architect for approval, showing all pertinent details of construction and installation, including details of methods of attachment to supporting materials.
- B. Product Data: Submit complete manufacturer's product data of all work of this Section to Architect for approval, consisting of complete product description and specifications, catalog cuts, and other descriptive data required for complete product and product use information.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Accessories shall be manufactured by Bobrick Washroom Equipment Company; American Specialties, Inc.; Bradley Corporation Washroom Specialties Division; Sloan; or approved equal. Bradley and American Specialties catalog designations are specified to establish standards of quality for performance and materials and not to limit competition. Manufacturers' names shall not be visible on exposed surfaces when installed.

2.02 TOILET ACCESSORIES

- A. Furnish and install all toilet accessories indicated and scheduled on the Drawings.

2.03 LOCKS AND KEYS

- A. Provide tumbler locks for all lockable access doors and panels. Locks shall be keyed alike for each room or for entire Project, in accordance with Owner's instructions.

2.04 FASTENINGS, PACKING, AND MARKING

- A. Fastening devices shall be theft-proof, of appropriate type and of adequate capacity for each purpose intended. Exposed heads of fasteners shall be stainless steel with finish to match surrounding surfaces. All metal accessories shall have the required screws, bolts, and other fastenings necessary for proper installation, all of which shall be wrapped in the same package as the accessory item for which it is intended.
- B. Each package shall be clearly labeled indicating the portion of the work for which it is intended.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Before installation of toilet accessories, check openings and recesses to receive recessed units to assure they are of proper size and location, and are plumb and square. Check substrate materials, blockings, and built-in anchor plates for structural adequacy to support the accessories.
- B. Mount recessed accessories securely into wall openings and recesses, tightly anchored into place, and with trim fitted tightly and neatly against the wall surface. Mount surface mounted accessories plumb, level, and true, and securely anchored into place.
- C. After installation, adjust all accessories for proper operation, and clean and polish all exposed surfaces. Protect accessories from damage from all sources whatever.
- D. Deliver to Owner duplicate keys for each lockable accessory door or panel, properly tagged as to location.

END OF SECTION

