CONTRACT NUMBER: **UMA13-40**

PROJECT NUMBER: **12-001588**

SPEEDTYPE NUMBER: **144753**

The Commonwealth of Massachusetts

University of Massachusetts Amherst

CONTRACT FOR

Chancellor's House, West Entrance Renovation

SPECIAL ATTENTION TO BIDDERS

- **Bids must be made on the enclosed form.**
- **Fill in all applicable blank spaces on all pages of this form.**
- **Return complete form intact.**

Attention Contractors
(Effective July 1st, 2012)

The University of Massachusetts Amherst will be posting **all addenda** to the procurement website:

http://www.umass.edu/procurement/constructionprojects.htm

Effective July 1st 2012 the university will not be sending out hard copies of the addenda. Notification will be sent via e-mail to all plan holders of record once an addendum has been posted to the website.

It is the sole responsibility of the Bidder to ascertain the existence of any addenda issued by the Awarding Authority, whether or not the same are mailed to, or received by, Bidder. Copies of addenda will be made available for inspection at the locations listed in the Advertisement where the Contract Documents are on file.

UNIVERSITY OF MASSACHUSETTS

INVITATION TO BID AND BID FORM

PROJECT NAME: Chancellor's House, West Entrance Renovation

PROJECT NO. 12-001588

A pre-bid meeting will be held on April 2, 2013 at 11:00 a.m. at the Chancellor's House, 150 Chancellors Drive, UMASS Amherst.

Questions on the specifications will be addressed at that time. Any additional pre-bid questions can be directed to the Facilities Planning Division, Physical Plant Building, 360 Campus Way, Amherst, MA 01003 at the University of Massachusetts at Amherst, to be received at least five (5) calendar days before the bid opening date, Attn: Marty Smith at telephone number (413) 545-6496, by FAX at 413-545-3684.

The University will prepare addenda which will be posted to the Procurement website:

http://www.umass.edu/procurement/constructionprojects.htm

The University has designated, or a designee thereof, as the University's Representative for the contract. Said Representative Marty Smith may be contacted by telephone at (413) 545-6496.

Please submit bid covering the work described here in a sealed envelope showing bidder's name, address and project number to: **UMASS Procurement Department, 407 Goodell Bldg, 140 Hicks Way, University of Massachusetts, Amherst, Massachusetts 01003**

By 2:00 P.M. on April 10, 2013

at which time bid will be publicly opened and read.

Bids will be received at Procurement Office, 4th Level, 407 Goodell Building, 140 Hicks Way, University of Massachusetts at Amherst MA 01003, no later than the time and date specified and will forthwith be publicly opened and read aloud. Any bid time-stamped into the Procurement Office after the date and time specified will not be considered.

The bid shall contain all information requested including insertions in blanks in this document. A Complete description including any drawings or substantiating data covering design, construction, operation, dimensions, performance, weight and pertinent properties shall be submitted as required. For additional information contact:

The work of the accepted bidder is to commence within Five (5), days of receipt of a letter of agreement and acceptance from the Office of the Treasurer and be continued with regularity until completion.

Minimum rates of wages to be paid on the project have been determined by the Commissioner of Labor & Industries under the provisions of Sections 26 & 27, Chapter 149 of the General Laws. Wage rates are listed in the contract form portion of specification book.

All bids for this project are subject to the provisions of either or both Massachusetts General Laws, Chapter 30, Section 39M as amended and Massachusetts General Laws, Chapter 149, Sections 44A - 441 inclusive.

Each General Bid proposal must be secured by an accompanying deposit of 5% of the total bid. Deposits shall be in the form of a BID BOND, CERTIFIED, TREASURER'S or CASHIER'S CHECK payable to the University of Massachusetts. Deposits shall be returned in accordance with the law.

The Awarding Authority reserves the right to waive any informality in or to reject any and all bids if it is in the public interest to do so.

Messenger and other type of pickup and delivery services are the agent of the bidder and the University assumes no responsibility for delivery or receipt of the documents.

The Bidding Documents may be obtained at the Procurement Department, 407 Goodell Bldg, 140 Hicks Way, University of Massachusetts, Amherst MA or viewed on the Procurement website:

http://www.umass.edu/procurement/constructionprojects.htm

John O. Martin

Director of Procurement

BID FORM (THIS PART SHALL BE COMPLETED BY THE BIDDER)

The undersigned hereby declares to have carefully examined these documents and the location of the proposed work and agrees to complete all work specified by ***September 1, 2013****, Saturdays, Sundays and legal holidays excluded, after notification of selection as successful bidder and receipt of notice to proceed, for the proposed contract price of*

dollars, ($) including all taxes.

For alternate No._____ Add $_____ Subtract $_____

If a foreign corporation, the successful bidder agrees to comply with the provisions of the General Laws, Chapter 181, Section 3 and 5 as amended before the contract execution date.

The undersigned also declares that he is the only person interested in this proposal, that it is made in good faith without any direct or indirect connection, influence or collusion with any persons bidding this work or representing any other corporation or the Commonwealth of Massachusetts.

The receipt of the following Addenda are hereby acknowledged*:*

Addenda #

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all elements of labor employed or to be employed on the work. The undersigned certifies under penalties of perjury that his bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

_____

NAME OF BIDDER BUSINESS ADDRESS

_____

AUTHORIZED SIGNATURE DATE

_____

SIGNER'S NAME TITLE

UNIVERSITY OF MASSACHUSETTS
GENERAL CONTRACT CONDITIONS

UNIVERSITY REPRESENTATIVE / SCHEDULING AND COORDINATION

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Bidders are encouraged to visit the Amherst campus of the University of Massachusetts to familiarize themselves with the conditions affecting the required work. Site visits shall be scheduled through the University Representative, at telephone number 413-545-0055.

All work shall be scheduled through the University Representative, or an assigned representative, at telephone number 413-545-0055. The work schedules and work to be performed shall require prior approval from the University Representative, or a designee thereof.

All normal work schedules of the Contractor shall coincide with the Physical Plant's trade shop normal working hours (between the hours of 7 a.m. and 5 p.m., Monday through Friday, excluding legal holidays. All work shall be scheduled and performed in such a manner so as not to interfere with the work of other contractors or University operations.

Work requiring the presence of Physical Plant personnel during off-shift hours, Saturdays, Sundays, or holidays will not be permitted without written approval from the Director of Physical Plant, or a designee thereof.

The work or services shall commence within five (5) working days of the date of receipt, by the Contractor, of a properly executed copy of the contract, unless otherwise agreed upon by the University and the Contractor, or as otherwise directed, in writing, by the University of Massachusetts' Procurement Office. The work- shall continue with regularity and as stated in this document, until completion.

The work is described in and by the following:

All paragraphs and specifications in PART FOUR TECHNICAL SPECIFICATIONS;

All drawings and plans in PART FIVE, DRAWINGS AND PLANS;

All addenda which may have been or may be issued during the bidding period and which are made a part of the contract;

PARKING REGULATIONS

The Contractor's vehicles and vehicles of persons employed by the Contractor will be charged a fee for on-campus parking. It is the Contractor's responsibility to request an on-campus parking fee schedule and parking permits from the University's Parking Office. The fees range from $7.00 per day per vehicle to $758.00 per year per vehicle and shall be included in the contract price. The University's Parking Office is located at the north end of parking lot #25 and the telephone number is 413-545-0065. Vehicles which are not registered with the University's Parking Office or which are not parked at a parking meter or in the unreserved Section of the Campus Center Garage are subject to a parking violation ticket and/or to being towed off-campus.

The Contractor is cautioned that parking regulations are strictly enforced by University police. Any parking violations and related fees, regarding the Contractor's vehicles and/or vehicles of persons employed by the Contractor, shall be the responsibility of the Contractor. Vehicular traffic and parking on campus walkways, lawns, and gardens is prohibited, without exclusive authorization requested for each occurrence, by the Contractor, from the University Parking Office. Vehicles shall not be parked under trees or within tree-branch coverage areas at any time. Vehicles parked in unauthorized areas or parked illegally will be ticketed and towed at the Contractor's expense.

WORKMANSHIP

All work shall be performed by skilled, experienced, and fully qualified personnel. The Contractor shall provide all necessary elements and complete all work in a professional manner, conducted with proper speed and supervision in accordance with all requirements under this document. The Contractor shall accept inspection by the Director of Physical Plant, or a designee, and shall correct any rejected services, at no expense

to the University.

The Contractor shall maintain the work site in a clean and orderly condition at all times. Any debris, rubbish, or waste materials, generated as a result of the services performed under the contract, shall not accumulate and shall be properly disposed of in Contractor provided containers at the end of each work shift. Said debris, rubbish, and waste materials shall be transported to an appropriately designed and University approved off-campus disposal site, at the Contractor's expense. All necessary cutting or patching of existing surfaces shall fit together properly and shall be finished to match the surrounding and adjacent surfaces.

PERFORMANCE STANDARDS

The Contractor shall perform all services and shall be responsible for adherence to and in strict accordance with all rules, regulations, standards, codes, ordinances or laws of Local, State, and Federal authorities having lawful jurisdiction. If any of the work required under this document fails to meet the University's satisfaction and all requirements of all applicable Commonwealth of Massachusetts, Federal, OSHA, and Local laws, ordinances, rules, orders, regulations, and codes, the Contractor shall correct the deficiencies and the University will withhold payment until acceptance of all portions of the work. The Contractor shall be aware that the premises of the University contain permit-required confined spaces in which work may be required and that permit-required confined space entry is allowable only through compliance with a program that complies with OSHA's standard for confined spaces 29CFR1910.146.The Contractor shall use an adequate number of qualified personnel who have been properly trained and who are experienced and completely familiar with the methods required for safe and proper execution of the work under this document. Unsatisfactory or non-performance or unsafe acts or the creation of any hazardous or unsafe condition by the Contractor or any agent or employee thereof, as judged by the University, shall be cause for immediate termination of the contract by the University.

The Contractor shall obtain detailed information from the manufacturers of materials, which are to be furnished and/or installed, as to the proper method of installing same. The Contractor shall also obtain all information, which may be necessary to facilitate the work and the completion of the entire project. The Contractor shall confer with all other trades relative to location of all materials to be installed and all equipment to be used and shall select locations so as not to conflict with work of other trades or contractors. Any conflict shall be referred immediately to the University Representative. All work and materials placed in violation of this clause shall be readjusted to the University's satisfaction, at no expense to the University. The Contractor shall keep fully informed, as to size, shape, and location of all openings required for the passage of any equipment and materials. The Contractor shall refer to all drawings for a full comprehension of the extent and detail of the work to be performed. These drawings are complementary with the specification and any work indicated, mentioned, or required in either is considered as specified by both. Conflicts regarding materials to be installed and/or equipment to be used by the Contractor shall be adjusted to the University's satisfaction, prior to proceeding with the work. Failure of the Contractor to meet all requirements of this Section shall be cause for termination of the contract.

CODES, PERMITS, AND INSPECTIONS

The Contractor shall be responsible for securing all permits and scheduling inspections and tests and shall pay all associated feet, as required by the Commonwealth of Massachusetts Department of Public Safety and any other Federal, State, or Local authority, for the work under this document. All schedules for inspections and tests shall meet the approval of the inspecting and testing authorities and the University.

CONFINED SPACE ENTRY PROGRAM

The Contractor shall be aware that the premises of the University contain permit-required confined spaces in which work may be required. Permit-required confined space entry is allowable only through compliance with a program that complies with OSHA's standard for confined spaces 29CFR1910.146. The Contractor shall provide all personnel, testing, monitoring, and ventilation equipment required for permit-

required confined spaces. The Contractor shall have a confined space program of their own that meets or exceeds the OSHA requirements of 29CFR 1910.146. The Contractor shall provide all personal equipment required for working in high confined spaces, such as harnesses, respirators, retractable life lines, etc.

UNIVERSITY PROPERTY AND SECURITY

The Contractor and employees thereof are prohibited from entering, using or occupying any area of any University building, except for authorized business. Toilet facilities will be designated by the University's representative. The Contractor shall confine contract limits of construction to actual work areas.

The Contractor shall confine contract-related equipment, materials, and operations to areas directed by the University and shall not unreasonably encumber the premises with such. The Contractor is responsible for exercising all necessary care to avoid damage to University property.

The Contractor shall protect finished floors and other surfaces, including sills, jambs, and soffits of openings, used as passageways, in traffic areas of which equipment, materials, parts, and tools are handled, prior to moving said items. The Contractor shall maintain finished surfaces, in the areas affected by the services, in a clean, unmarred condition until acceptance of the respective services by the University. The Contractor shall secure the work area, materials, and equipment at the end of each work day and shall provide hardware and locks, if necessary.

The Contractor's attention is called to the possible existence of concealed water, sewer, storm drain, steam, gas, electric, and/or telecommunications lines beneath any work areas, which may be affected by heavy equipment use, excavation, or any other operations. Any damage occurring due to the services performed under the contract shall be repaired to the satisfaction of and at no expense to the University. The University will 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 exercise caution in placement and storage of equipment and materials.

LIQUIDATED DAMAGES

In the event the work is not completed by a completion date agreed to, in writing, by both the University and the Contractor, the Contractor shall pay the University liquidated damages. Said damages will be assessed on a per-project, per-day basis, based upon the average daily revenue generated from the sale of goods and/or services relative to each revenue-generating project site, or three hundred fifty dollars ($350.00) per day, whichever is greater, as full compensation for the delay. If the Contractor terminates his/her right to proceed with the contract, the resulting damage will consist of liquidated damages until incomplete work or services are completed and accepted.

The assessment of liquidated damages, or any portion thereof, may be waived if the University agrees that the work or services has not been completed within the allotted time frame, due to conditions beyond the Contractor's control.

HEALTH AND SAFETY

The Contractor shall comply with all Federal, State, and Local laws, ordinances, rules, orders, regulations, and codes, ensuring healthful and safe conditions, in the services required under the contract. The Contractor shall be aware that the premises of the University contain permit-required confined spaces in which work may be required and that permit-required confined space entry is allowable only through compliance with a program that conforms to OSHA's standards for confined spaces, under 29CFR1910.146. The Contractor shall be responsible for securing all permits, water, and other utilities required to perform the services under the contract and shall be responsible for all associated charges and/or fees. The Contractor shall comply with and shall assume all responsibility in accordance with all Federal, State, and Local laws, ordinances, rules, orders, regulations, and codes, regarding transporting, handling, storage, removal, and disposal of all flammable, regulated, and/or unregulated materials required for the services under the contract and shall be responsible for all associated fees and/or charges.

The Contractor and all Subcontractors shall take all precautions for preventing injuries to persons and property on or about the work site. The Contractor and all Subcontractors shall immediately report all accidents, injuries, or health hazards to the University's representative, in writing. This shall not obviate any mandatory reporting under the provisions of the Occupational Safety and Health Act of 1970. The Contractor shall not permit smoking by employees in any building. The Contractor shall not allow the use of intoxicating beverages or non-prescription controlled substance drugs upon or about the work site. The Contractor shall assume the defense of, indemnify, and save harmless all officers and employees of the University and all other University associated personnel and/or possessions from all claims, associated with the services required under the contract, relating to:

Labor performed or furnished;
Injuries to any person or corporation received or sustained by or from the Contractor or Subcontractor, or any agents or employees thereof, in performing the required services;
Consequence of any improper materials, implements or labor used in performing the required services;
Any act, omission, or negligence of the Contractor or Subcontractor, or any agents or employees thereof, in performing the required services.

Prior to any work proceeding, any asbestos containing material affecting the required services shall be appropriately abated. Abatement activities will be the responsibility of the University. Any asbestos damage caused by the services performed by the Contractor shall be corrected by the Contractor. The corrective work and any training of employees of the Contractor for such shall be in compliance with all regulations set forth by the Commonwealth of Massachusetts Executive Office of Labor and shall be the sole responsibility of the Contractor.

Any Contractor intending to use a laser ray or beam device, in the services required under the contract, shall notify the University Representative at least two (2) working days prior to the intended date of use. Utilization of such a device shall meet the Commonwealth of Massachusetts Regulations, under 105 CMR 121.000, entitled RULES AND REGULATIONS RELATIVE TO THE USE OF LASER SYSTEMS, DEVICES OR EQUIPMENT TO CONTROL THE HAZARD OF LASER RAYS OR BEAMS.

Any Contractor intending to use liquefied petroleum gas equipment on campus shall secure permits from the University of Massachusetts Division of Environmental Health & Safety (E.H. & S.) and the Local Fire Department for said equipment, prior to commencing use of such, in conformity with the Commonwealth of Massachusetts Fire Prevention Regulations on Liquefied Petroleum Gas and Containers, under 527 CMR 6 and NFPA Standard 58, Sections 3 and 4 (1992) on Liquefied Petroleum Gases.

The Contractor shall provide at least one (1) operable and Underwriter's Laboratories labeled, 20 BC rated, fire extinguisher at each liquefied petroleum gas work site. Prior to performing any Hot Works, including cutting, welding, brazing, etc., the Contractor shall secure a permit from the University Of Massachusetts Division Of Environmental Health & Safety (E.H. & S.) at Draper Hall, room N117. The Division of E.H.& S can be reached at telephone number 413-545-2682. Prior to using a torch or flame-producing device, the Contractor shall secure permits from the University of Massachusetts Division of Environmental Health and Safety (E.H.& S.) and the Local Fire Department and shall provide at least one (1) operable and Underwriter's Laboratories labeled fire extinguisher, rated for the, purpose, at each work site. At least (1) one employee of the Contractor shall remain on the site for one (1) hour after the use of the torch or flame producing device has ceased, to insure against the outbreak of fire. Such work shall be performed in accordance with the Commonwealth of Massachusetts Regulations, under 527 CMR 10.24.3.

Prior to entry for review or work, in any areas storing or using radioactive material, the Contractor shall submit a written request for clearance, to the University of Massachusetts Division of Environmental Health and Safety (E.H.& S.) and the University Representative. No work shall be performed in such areas until a "Radiation Area Job Permit" has been approved, signed, and issued to the Contractor, by an official of E.H.& S. Such areas have the appropriate signs and labels posted at each entrance.

Prior to proceeding with any work, the Contractor shall determine the location .of any heat or smoke

detectors and other types of fire protection system equipment which may be affected by any services performed under the contract. The Contractor shall request isolation or deactivation of such equipment, including any notifications, through the University's Representative. Such isolation, deactivation, and notification shall occur prior to commencing any work. Upon completion of each respective job, the Contractor shall request reactivation of such equipment through the University's Representative. The Contractor shall be responsible for any charges or damages resulting from his failure to act in accordance with this Section.

The Contractor shall provide and maintain in good serviceable condition at all times, warning signs and non-combustible barriers and 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. Bathers 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 through access. Barrier tape and/or sawhorses shall not be used as a means of such access protection.

All salamanders used for heating shall exhibit an approval tag issued by the Commonwealth of Massachusetts Fire Marshall's Office. Any units not displaying said approval tag will be ordered off University premises forthwith.

The Contractor shall provide MATERIAL SAFETY DATA SHEETS for products required under the contract, when requested by the University.

The Contractor shall comply with the Commonwealth of Massachusetts Building Regulations, under 780 CMR 30, during the performance of any services under the contract.

In the event metal trash containers of six (6) cubic yards aggregate capacity or larger ,are to remain at any work site for more than one (1) work day, the Contractor shall secure a permit, for each location, from the Local Fire Department, in accordance with Commonwealth of Massachusetts Regulations, under 527 CMR 34.03.

The Contractor shall secure a permit from the Local Fire Department for storage of more than 2500 cubic feet gross volume of combustible and/or flammable materials within any building.

Usage of tar kettles, by the Contractor, for any work under the contract shall conform to the Commonwealth of Massachusetts Regulations, under 527 CMR 10.03 (12) and shall:

Prohibit the use of tar kettles on the roof of or within any building.
Require the on-site attention of at least one (1) employee of the Contractor at each tar kettle, at all times during active use.
Require that the placement of any tar kettle be away from any building and/or exit ways.
Require that tar kettles be equipped with tight-fitting covers.
Require that all propane-fired tar kettle equipment conforms to NFPA 58 (1992) Regulations.
Require that all propane-fired tar kettle equipment be protected and secured against vandalism at all times.
Require that at least one (1) operable, Underwriter's Laboratories labeled, 60 BC-rated, fire extinguisher be located within thirty (30) feet of each tar kettle, at all times during active use.
Require that at least one (1) operable, Underwriter's Laboratories labeled, 60 BC-rated, fire extinguisher be located at the work site, on the building roof, at all times during roofing operations.

Should the Director of Physical Plant, or a designee thereof, deem that the Contractor is not abiding by the requirements of this Section or that a serious unsafe condition exists which threatens the health, lives, safety, or property of the University community, the Director of Physical Plant, or designee, may order an immediate suspension of operations and said operations will not be allowed to resume until the appropriate corrective action has been taken and is approved by the Director of Physical Plant, or designee.

The Contractor's failure to comply with any of the requirements of this Section shall be cause for immediate termination of the contract.

PROTECTION OF OVERHEAD & UNDERGROUND UTILITIES

Services may be required in areas where utility lines (i.e. electric, gas, sewer, steam, storm drain, telecommunications, and water) and/or associated equipment exist. The Contractor's attention is called to the possible existence of said lines and/or equipment being exposed overhead and/or concealed beneath any work areas, which may be affected by heavy equipment use, excavation, or any other operations. The Contractor shall protect all utility lines and/or equipment from damage. Should damages occur to any utility lines and/or equipment during the performance of services under this document, the Contractor shall immediately contact the University Representative and the appropriate utility department and shall be responsible for all damage claims resulting from such.

If the Contractor has contacted the proper utility department in sufficient time to arrange for any services required of said utility department, costs associated with any delays encountered by the Contractor in waiting for the utility department to complete its work will not be the responsibility of the Contractor. At least seventy-two (72) hours prior to commencing excavation at each project site, the Contractor shall contact the DIG SAFE Office, at Boston, Massachusetts, at telephone number 800-322-4844, to obtain a DIG SAFE permit number. Interruptions of existing utility services- will not be allowed performed without disruptions of existing services and scheduling of the work shall be approved, in writing, by the University Representative, prior to commencing such. The repair, replacement, and/or restoration of any existing utility lines and/or equipment, interfered with by the contractor, shall be completed in accordance with the Commonwealth of Massachusetts regulations and codes for each phase of the work, using experienced, competent labor and materials meeting specifications and current codes.

The Contractor shall research and mark the location of all existing utility lines and/or equipment along the course of the work by such means as the University Representative shall approve and shall preserve such marked locations until the work has progressed to the point where the encountered utility line and/or equipment is fully exposed and protected as required. It shall be the Contractor's responsibility to notify the proper authorities and/or utility company before interfering therewith.

Existing utility lines and/or, equipment that are shown on the drawings or the location of which is made known to the contractor prior to excavation, 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, shall be repaired by the Contractor at the Contractor's expense. Materials below existing utilities which are removed or disturbed during excavation operations shall be carefully replaced during backfilling and thoroughly compacted to prevent future settlement and damage to the utility. Utilities damaged due to the subsequent settlement of the backfill shall be repaired by, or at the expense of the Contractor.

All exposed conduits, wires, and/or cables shall be provided with sufficient support to prevent failure, fraying or damage due to backfilling or other construction operations. Supporting bridgework of two inch (2") timber planking shall be placed under the cable and shall span the entire excavation or void and shall be removed when backfilling.

DEFINITIONS

A. The following words and definitions shall apply to the contract:
Words in the singular shall, also mean and include the plural, and words in the plural shall mean the singular, wherever the context so indicates.
"ACCEPTABLE", "SATISFACTORY", and similar words -- Acceptable or satisfactory to the University representative.
"ADJUST", "ADJUSTMENT", "ADJUSTING", and similar words -- Regulate, settle, bring to proper operational level.
"APPROVED", or "APPROVAL" -- Written approval of the University Representative. "CALIBRATE" or "CALIBRATION" -- Adjust and correct to proper scale of measurement. "CHECK", "TEST", and similar words -- Verify by trial.
"CONTRACTOR" -- The party or parties or the legal representative of said party or parties contracting to perform the work covered by the contract.

"CONTRACTOR'S FACILITY" -- The building or repair shop, including all machinery and equipment, under the ownership of the Contractor, at which the Contractor performs any repair, rebuilding, fabrication, alignment, calibration, machining, and other required work incapable of being performed on-site.
"CORRECT", "NECESSARY", "PROPER", "REASONABLE", and similar words -- Correct, necessary, proper, or reasonable in the judgment of the University Representative.
"DEFECT", "DEFECTIVE", and similar words -- Operation or control system failures, performances below specified ratings, excessive wear, unusual deterioration or aging of materials or finishes, unsafe conditions, the need for excessive maintenance, abnormal noise or vibration, and similar unusual, unexpected, and unsatisfactory conditions.
"DESIGNATED", "DIRECTED", "ORDERED", "PERMITTED", "PRESCRIBED", "REQUIRED", and similar words -- the designation, direction, order, permission, prescription, or requirement of all Federal, State, and Local codes and the University.
"INSPECT", "INSPECTION", and similar words -- Close critical appraisal and submittal of a report of all conditions to the University's Representative.
"INSTALL", "INSTALLED", and similar words -- Furnish, provide, supply, and connect so as to allow the system to be in proper operation upon completion of the work required under the contract.
"MATERIAL" -- Any product, equipment, device, assembly, or item required under the contract, as indicated by trade or brand name, manufacturer's name, standard specifications reference, or to other description.
"ON-SITE" -- The University. of Massachusetts at Amherst Campus and facilities in Belchertown, Hadley, and South Deerfield, Massachusetts, which are under the jurisdiction of the University of Massachusetts at Amherst Campus.
"ON-SITE CREW" -- One (1) mechanic, one (1) millwright, one (1) pipe fitter, one (1) rigger, one (1) laborer, one (1) valve technician, and, as required at the discretion of the University, one (1) hoisting equipment operator (exterior work only), one (certified welder, and/or one (1) certified valve tester, . and all necessary equipment, tools, and vehicles required for each worksite, each of which shall perform services at the locations under the jurisdiction of the University of Massachusetts at Amherst.
"PER CALL/AS NEEDED" -- The Contractor shall provide immediate response for emergency, unscheduled, and scheduled types of work, on a twenty four (24) hour, seven (7) day a week basis, including holidays, and shall respond in accordance with the time frames stated in Section 4.1-2, RESPONSE, under this TECHNICAL SPECIFICATIONS Section.
"PROVIDE", "PROVIDING", "REPLACE", "REPLACING", and similar words -- Furnish and install, connect, supply, erect, construct, or similar terms, unless otherwise indicated in the contract documents.
"REPAIR", "REBUILD", and "OVERHAUL", and similar words -- Services performed to allow each valve and respective component parts the capability of being utilized at their original or intended operational capacity.
"SERVICE" -- The performance by the Contractor, of work in accordance with all requirements specified in this document.
"SPECIFICATIONS" -- All information contained in the bound or unbound volume, including all contract documents defined herein.
"VALVE TECHNICIAN" -- A person who disassembles, removes, transports, reassembles and reinstalls all types of valves and has working knowledge and is capable of using all tools and equipment required for the associated work.
"UNIVERSITY" -- University of Massachusetts or any representative thereof, authorized to administer the work under the contract.

GUARANTY AND WARRANTY

The Contractor guarantees that all work performed and all material and equipment furnished by the Contractor, is in accordance with the specifications and is free from defects in material and craftsmanship for a period of one (1) year from the date of receipt and acceptance by the University.

The Contractor shall provide only new and good quality materials and warrant that their Firm has full title to all Contractor provided materials, supplies, and equipment used in the work under the contract.

All Contractor provided parts, materials, and/or equipment shall meet the University's satisfaction and shall follow the requirements of Section "OR EQUAL UNDERSTANDING" of this GENERAL CONDITIONS Section.

The Contractor shall reimburse the University for all expenses, losses and/or damages incurred as a consequence of any defect, omission, negligence, or error regarding any work performed and/or any material provided by the Contractor or Subcontractor, or any agents or employees thereof.

INSURANCE REQUIREMENTS

Prior to contract award, the Contractor shall provide a certificate of insurance showing that the Firm maintains without deductibility, Contractor's Public Liability and Property Insurance and Contractor's Protective Public Liability and Protective Property Damage Liability Insurance in not less than the following amounts:

Bodily Injury		**Property Damage**	
Each Person	**Each Accident**	**Each Accident**	**Aggregate**
$500,000	**$1,000,000**	**$500,000**	**$1,000,000**

Prior to contract award, the Contractor shall provide a certificate of insurance showing coverage for Worker's Compensation in accordance with the provisions of Massachusetts General Laws, Chapter 438, Acts of 1938.

Prior to contract award, the Contractor shall provide a certificate of insurance showing motor vehicle insurance coverage, for each vehicle, meeting the compulsory limits required by the Commonwealth of Massachusetts.

WAGE REQUIREMENTS

The Contractor shall pay the prescribed wage rates in accordance with the provisions of Massachusetts General Laws, Chapter 149, Sections 26 and 27 and with the MINIMUM WAGE RATES schedule, issued by the Commonwealth of Massachusetts Department of Labor and Workforce Development, which are attached to and made a part of this document.

In the event of conflicts between the schedules for any trade labor classification, the greater amount for the trade labor classification shall prevail as the minimum wage rate.

If the Contractor, during the progress of the work, requires a minimum wage rate for some additional trade labor classification, a written request for such shall be presented to the University. The University will obtain the additional trade labor classification and corresponding minimum wage rate from the Commonwealth of Massachusetts Department of Labor and Workforce Development and advise the Contractor of the same. Said additional trade labor classification and minimum wage rate shall be considered a part of the contract and the Contractor shall have no claim for additional compensation because of the additional trade labor classification and minimum wage rate.

FOREIGN CORPORATIONS

The Contractor shall comply with the requirements of Massachusetts General Laws, Chapter 156D, if the Bidding Contractor is a corporation foreign to the Commonwealth of Massachusetts.

PAYMENT BOND

Upon execution of a contract, the Successful Bidder shall furnish a Payment Bond in the sum of fifty percent (50%) of the contract price. Said Bonds shall be made payable to the University of Massachusetts and shall be of a Surety Company qualified to do business under the laws of the Commonwealth of Massachusetts. The premiums for said Bonds shall be paid by the Contractor and shall be included in the contract price, entered in the BID RESPONSE SECTION, of this document.

REHABILITATION COMPLIANCE

In accordance with Section 504 of the Rehabilitation Act of 1973 and the implementing regulations of that Federal Act (45 CFR. 84), the University of Massachusetts at Amherst does not discriminate on the basis of handicap, in admission or access to, or treatment of employment in, the programs and activities which the University operates. Inquiries concerning the regulations stated in said Federal Act should be directed to the 'Chancellor's Office, at Whitmore Administration Building, at telephone number 413-54572204.

CONTRACT TERMINATION

The University may terminate the contract if the Contractor fails to fulfill the required obligations or fails to comply with the contract provisions by giving written notice to the Contractor at least seven (7) calendar days prior to the effective date of termination stated in the notice. The notice shall state the circumstances of the alleged breach and may state a period during which the alleged breach may be cured, which cure shall be subject to the University's approval.

The University of Massachusetts reserves the right to terminate the contract due to lack of or reduction in financial appropriations that fund the contract.

In the event of contract termination, all finished or unfinished documents, data, studies, and reports prepared by the Contractor, pursuant to the contract, shall become the property of the University.

SUBCONTRACT WORK

The Contractor shall not subcontract any portion of the work under the contract unless approved, in writing, by the Director of Physical Plant, or a designee thereof.

GENERAL

The Successful Bidder shall execute a letter of agreement within five (5) working days of receipt of notification of contract award, from the University.

The Contractor shall furnish shop drawings for approval by the Director of Physical Plant, or a designee thereof, if requested. The University reserves the right to undertake by University forces or other, the same or similar type work as contracted for herein, in the areas covered by the contract, without obligation to the Contract Holder. A reasonable number of sets of specifications and drawings for the contract will be furnished by the University immediately after-signing of the contract. One (1) set of each, together with one (1) copy of all applicable codes, shall be supplied by the Contractor and shall be maintained intact at the work site on the campus, for reference by the Contractor and authorized University representatives. Additional copies of the specifications and drawings will be furnished, if requested, at a cost to the Contractor.

The Contractor shall maintain records pertaining to the services provided, in accordance with University acceptable accounting principles. In the event the University should dispute an invoice, the Contractor's records, pertaining to the disputed invoice, shall be made available to the University or its authorized representative, for review. The University reserves the right to reject any bid proposal that is not in full compliance with the contract specifications; to reject any or all bids wholly, or in part; to waive technicalities; to make awards in a manner deemed in the best interest of the University; and to correct any award erroneously made as a result of a clerical error on the part of the University.

SERVICE REPORTS

Upon completion of the project, the Contractor shall submit a University approved service report to the University Representative. The service report shall state the location, University assigned work order number, contract number, complete details of the service performed, service date, and Contractor's service representative's signature.

OR EQUAL UNDERSTANDING

To follow the name of any maker, vendor, or proprietary product; any trade name, plate or catalog number; any detailed description which is used to define the material, article, assembly, or system required;

To mean any material, article, assembly, or system which, in the opinion of the Director of Physical Plant or a designee thereof, is at least equal in quality, durability, appearance, strength, and design to the material, article, assembly, or system named or described and will perform, at least equally, the functions imposed by the general design. The words "or equal" shall not be construed to permit substantial departures from the detailed requirements of the prints, drawings, plans, and/or specifications for any material, article, assembly, or system or of any component parts thereof;

If the initial and secondary submittal to the Director of Physical Plant, or designee, of a material, article, assembly, or system both fail to meet the requirements of the previous paragraph, the Director, or designee, may reject the material, article, assembly, or system and may refuse to permit a resubmittal, providing the Director, or designee, notifies the Contractor in writing as to the specific reasons for rejections. The Contractor may appeal, in writing, said rejections to the Director, or designee, but the Director, or designee, may reject said appeal without a hearing, provided said appeal is not in the possession of the Director, or designee, within seven (7) calendar days from the date of receipt, by the Contractor, of the original written rejection. The appeal shall state, in detail, the basis and reasons thereof. Both the written rejection and appeal thereto shall be transmitted by registered mail, with a mail carrier return receipt.

BASIS OF PAYMENT

All costs for each project will be based upon each applicable cost figure, as entered in Section 2.2 of the INVITATION TO BID AND BID FORM and in the BID RESPONSE SECTION of this document.

The figures entered in Section 2.2 of the INVITATION TO BID AND BID FORM and in the BID RESPONSE SECTION of this document shall accurately reflect all charges for labor at the prevailing wage, travel expenses, vehicles, equipment, consumable and incidental materials, parts, shipping, tools, fringe benefits, overhead, bonds, insurance, and profit and must be an accurate representation of actual charges (the University is tax exempt). The Contractor will be reimbursed for services as directed by the University, in accordance with the figures entered in Section 2.2 of the INVITATION TO BID AND BID FORM and in the BID RESPONSE SECTION of this document in accordance with Section 3.0-28, METHOD OF PAYMENT, of this GENERAL CONDITIONS Section; and in accordance with this Section 3.0-27, BASIS OF PAYMENT.

Prior to payment, but not more than thirty (30) calendar days after completion of a specific project, the Contractor shall submit project specific Weekly Payroll Report Forms, service reports, and invoices in such detail as the University may reasonably require. In the event the Contractor will be unable to submit said forms, reports, and invoices within said thirty (30) calendar day period, the Contractor shall submit written notification, stating the reason for such anticipated delay, to the University Representative within said thirty (30) calendar day period. Said forms, reports, and invoices shall be fully and legibly filled out.

The Weekly Payroll Report Forms, service reports, and invoices shall show, as a minimum, the contract number, the name(s) and trade labor classification(s) of the individual(s) performing the services, the dates, hours, description, and location of the work or services performed, units of measurement, unit prices, the total cost for each project, an itemized list of all materials and all other information pertinent to each associated form, report, and invoice.

Repeated forms, reports, and invoices submittal delays or repeated requests for such delays will be unacceptable and will be cause for contract termination, by the University.

A copy of each SERVICE REPORT, having received the approval of the University Representative, shall be submitted with each invoice. (Refer to this GENERAL CONDITIONS Section under Section 3.0-25; SERVICE REPORTS and to the TECHNICAL SPECIFICATIONS, under Section 4.2, PROJECT FORMS.) Payment will not be made for any invoice that does not have the approval signature of the University Representative on each associated report and form.

All invoices shall be submitted on University Payment Voucher forms.

All invoices, Weekly Payroll Report Forms, and. copies of service reports, shall be submitted to:

UNIVERSITY OF MASSACHUSETTS
FACLITIES PLANNING DIVISION
PHYSICAL PLANT BUILDING
360 CAMPUS WAY
AMHERST, MA 01003-9248

The University will withhold payment until completion of the respective project, including receipt of all test and inspection reports and receipt of all submittals, as required under all sections of this document, and upon approval of the respective work or services, by the University Representative.

The Contractor shall maintain records pertaining to the services provided, in accordance with University acceptable accounting principles. In the event the University should dispute an invoice, the Contractor's records, pertaining to the disputed invoice, shall be made available to the University or its authorized representative, for review.

METHOD OF PAYMENT

The Contractor will be reimbursed for services, as directed by the University, in accordance with the figures entered in Section 2.2 of the INVITATION TO BID AND BID FORM and in the BID RESPONSE SECTION of this document; in accordance with Section 3.0-27, BASIS OF PAYMENT, of this GENERAL CONDITIONS Section; and in accordance with this Section 3.0-28, METHOD OF PAYMENT.

A copy of each SERVICE REPORT, having received the approval of the University Representative, shall be submitted with each invoice. (Refer to this GENERAL CONDITIONS Section under Section 3.0-25, SERVICE REPORTS and to the TECHNICAL SPECIFICATIONS, under Section 4.2, PROJECT FORMS.) Payment will not be made for any invoice that does not have the approval signature of the University Representative on each associated report and form.

The University will withhold payment until completion of the respective project, including receipt of all test and inspection reports and receipt of all submittals, as required ~ under all sections of this document, and upon approval of the respective work; by the University Representative.

All invoices shall be submitted on University Payment Voucher forms.

All invoices, Weekly Payroll Report Forms, and copies of service reports, shall be submitted to:

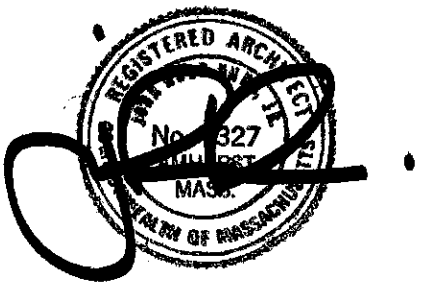
UNIVERSITY OF MASSACHUSETTS
FACLITIES PLANNING DIVISION
PHYSICAL PLANT BUILDING
360 CAMPUS WAY
Attn: Shirley Ortiz/(413)577-1733
AMHERST, MA 01003-9248

THE UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

SPECIFICATIONS FOR
UMA PROJECT NO. UMA 13-40
CHANCELLORS HOUSE, WEST ENTRANCE RENOVATION

DATE: March 21, 2013

KUHN RIDDLE ARCHITECTS
Architect-of-Record



END OF SEALS

UNIVERSITY OF MASSACHUSETTS
FACILITIES PLANNING DIVISION

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. Asbestos and Hazardous Materials Discovery.

V. Special Requirements.

W. List of Drawings.

1.3 WORK UNDER THIS CONTRACT

A. The work to be done under this contract consists of executing and completing all work required for UMA 13-40, CHANCELLORS HOUSE, WEST ENTRANCE RENOVATION, UNIVERSITY OF MASSACHUSETTS AMHERST
   1. General Information

      a. The project consists of the construction of a new entrance porch, entrance stairs and paving and collateral site and miscellaneous work outside of the building. The work shall be constructed so as to meet all requirements of the Massachusetts State Building Code, current edition, in addition to all other applicable codes and regulations.
      b. The renovated entrance will serve the Chancellors House which is a wood framed single family residence.

B. The scope of work, without limiting the generality thereof, includes all labor, materials, equipment and services required to perform the work described fully in the Drawings and Specifications and includes, but is not limited to the following major work:

   1. Construction of a new entry porch and stairs including, but not limited to:
      a. Masonry and concrete work.
      b. Carpentry, waterproofing, dampproofing, caulking.
      c. Roofing.
      d. Mechanical and electrical.
      e. Sitework
   2. Construction shall be classified as single family dwelling.

C. Schedule:
   1. Work shall commence on July 15, 2013.
   2. The foundation, rough framing, roofing, and connections to the existing house and sun porch shall be completed on or before August 11, 2013.
   3. All work including sitework and sodding shall be completed on or before September 1, 2013.

D. Reference To Drawings: The work to be done under this Contract is shown on the Drawings listed at the end of this Section.

E. Work will include all site removal and new construction for the Chancellors House, West Entry Renovation as required. The General Contractor will provide a schedule for completion of the project to the Owner within the required construction period.

F. The Massachusetts Standard Labor Wage rates, as outlined in the exhibits, will be used in the construction of this project.

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. Bidders may only visit the site during the scheduled pre bid conference.

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. UMA 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; any further questions subsequent to the submission of the bid shall be directed to: John Kuhn, Kuhn Riddle Architects, 413-259-1630. jkuhn@kuhnriddle.com**

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 which will be posted to the Procurement website: http://www.umass.edu/procurement/constructionprojects.htm. Any information provided by other than the designated contact person identified above should be disregarded in the preparation of Bids.

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 University of Massachusetts Amherst (UMA)

B. The General Contractor shall furnish a competent Massachusetts licensed superintendent satisfactory to the UMA Project Manager 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 UMA 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 area shown on the site drawing(s). 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 except when expressly permitted by the UMA Project Manager. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
3. Areas outside the Construction Fence or Immediate Work Area: The Contractor is responsible for clean-up of all debris, dirt and sediment resulting from the construction work.
4. **The General Contractor and his/her Sub Contractors shall not store materials on site, except in a designated paved area between the dates of July 15 and August 11, 2013. At all other times all materials shall be stored off site. Debris must be removed from the site daily.**

B. Schedule and perform work to afford minimum interruption to normal and continuous operation of utility systems. The General Contractor shall submit to UMA and the Designer for approval, a proposed schedule for performing work.

C. The General Contractor shall be aware of the sensitivity of the inhabitants to noise, dust, debris, vibration, and site maintenance and take appropriate precautions to avoid conflict.

D. Damage to existing work, if caused by the General Contractor's operations under this Contract, shall be repaired at the General Contractor's expense.

E. 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 UMA Project Manager one week prior to work.

1. Deliveries: **Between July 15 and August 11, 2013, deliveries may be made between 6:00AM and 6:00 PM if the Contractor is present to receive delivery. At all other**

times, deliveries shall not be made before 10:00 AM or after 5:00 PM and the Contractor must be present to receive delivery.

2. General Access: **Between July 15 and August 11, 2013 the Contractor may work on site during daylight hours seven (7) days a week. At all other times, the Contractor may work only between the hours of 9:00 AM and 6:00 PM Monday through Friday.**

F. General Contractor shall supervise the use of the site related to construction and be responsible for correcting any damage identified by the UMA Project Manager to the UMA Project Manager's satisfaction.

G. All available existing utilities adjacent to the construction site will be available for use during construction unless indicated otherwise. Temporary connections to these utilities and their associated costs will be the responsibility of the Contractor.

1. Utilities Available for use During Construction: **Water and Electricity**

H. The Contractor 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.

I. The University of Massachusetts, Amherst 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.

J. Parking: Parking spaces on Campus are very limited and the University will provide space for two vehicles in the drive for the Contractor's use. For additional vehicles, the Contractor shall contact Parking Services (545-0065) to 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 UMA 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.

K. Radios, tape players, "boom boxes", or other audio entertainment equipment, including personal entertainment devices, shall not be allowed on the project site.

L. 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. Starting July 1, 2013, the University of Massachusetts will prohibit tobacco use everywhere on campus, inside buildings and throughout the grounds. This policy applies to everyone and anyone on campus, including students, staff, faculty, contractors, and visitors. For the purpose of this policy, 'tobacco' refers to any and all tobacco products, whether inhaled or ingested, as well as electronic cigarettes.

1. The use of tobacco will be prohibited in all buildings and vehicles owned or leased by UMass Amherst, regardless of location.
2. The use of tobacco will also be prohibited on all University grounds and in any outdoor area controlled by the University. This includes all University land, parking lots and parking ramps, athletic fields, tennis courts, and recreational areas.
3. The use of tobacco will be prohibited inside any vehicle located on University grounds.

4. When any person enters the grounds of the University, any smoking material shall be extinguished and disposed of in an appropriate receptacle at the perimeter of the grounds of the University.

M. The Contractor shall not allow the use of intoxicating beverages or non-prescription controlled substance drugs upon or about the work site

N. 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.

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 UMA Project manager 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 UMA 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 UMA. 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.

B. The General Contractor shall survey and submit exact dimensional layouts as required.

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. A pre-construction conference to review the work will be conducted by the UMA Project Manager.

B. Representatives of the following shall be required to attend this conference:

1. UMA
2. Designer
3. General Contractor

C. The pre-construction conference is to be held within five days of Notice to Proceed, or as otherwise determined by UMA.

D. Contact List: The Contractor shall provide to the Designer and UMA 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. 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.
3.

E. Agenda: Discuss items of significance that affect progress, including the following:
1. Tentative construction schedule.
2. Phasing.
3. Critical work sequencing.
4. Designation of responsible personnel. The Contractor shall identify a contractor safety representative to interface with the University Construction Safety Officer (CSO).
5. Procedures for processing field decisions and Change Orders.
6. Procedures for processing Applications for Payment.
7. Distribution of the Contract Documents.
8. Submittal procedures.
9. Use of the premises.
10. Safety. The UMA CSO will attend the pre-construction meeting for the purpose of orienting the contractor to policies specific to the University, discuss the contractor's site specific safety plan, as well as to emphasize recognized safety practices expected on

campus. The Contractor Safety Representative is responsible to ensuring this information is disseminated to all contractor/ subcontractor employees. If the UMA CSO is unable to attend, the UMA CSO may send a designee to cover this portion of the meeting or the UMA CSO and UMA Project Manager will schedule a separate time when this review may be completed.

11. Responsibility for temporary facilities and controls.
12. Parking and construction limits.
13. 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. Payment procedures and Schedule of Values.
21. Material deliveries.

F. Reporting: Minutes of the meeting shall be prepared by the Designer or designated representative and shall be distributed to each party present.

1.12 PROJECT MEETINGS

A. Project meetings shall be held on a weekly basis and as required subject to the discretion of the UMA Project Manager.

B. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress

C. 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.

D. 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

E. Project meetings shall be chaired by the Designer.

F. Minutes of the project meetings shall be prepared by the Designer and shall be distributed to all present. The Designer's meeting minutes shall be the only official meeting record. . 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 UMA 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 UMA 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 UMA 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 UMA'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 and UMA's Resident Engineer of such inspections at least three (3) business days in advance (longer if so required in the various Sections of the Specifications), so they may arrange to observe.
3. The 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 UMA, and shall notify the Designer and UMA's Resident Engineer of such

inspections at least three (3) business days in advance of all such testing or inspection, so they may arrange to observe.

5. Where Inspecting Authorities require corrective work for conformance with applicable Codes and Authorities, the 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. Prior to the start of construction, the General Contractor shall complete applicable applications, permits, and notifications to the MADEP, such as the Demolition/Construction form BWP AQ-06, and the asbestos notification form ANF-001, and pay the required fees. These forms must be submitted at least 10 working days in advance of any regulated activity on the site. Demolition permits must be submitted for any work involving demolition, new construction and renovation. The University EHS office must be provided copies of any and all notifications.

H. 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).

I. 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.

J. 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.

K. The Contractor is required to obtain trenching permits from UMA EH&S for any excavations or trenches that are greater than 36 inches in depth three working days prior to start of work.

L. 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.

B. Performance:

1. Execute cutting and patching by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
   a. In general, where mechanical cutting is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings through concrete work.
2. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.
3. Restore work which has been cut or removed; install new products matching existing to provide completed Work in accordance with requirements of Contract Documents.

4. 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.
5. 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.
6. 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.

C. Dig-Safe:
1. If excavation, staking or any other scarifying existing grade to a depth greater than 6 inches is required, the Contractor shall follow the standard DIG-SAFE procedures as described in Massachusetts General Laws (CMMR 82:Secction 40). Contractor shall review the following procedures with the UMA Project Manager prior to initiating DIG-SAFE procedures to insure that there have not been changes.
2. The Contractor shall pre-mark all areas to the full extent of proposed excavation(s) with white paint. Use florescent pink paint when snow cover is present. Maintain complete visibility of paint for entire DIG-SAFE period.
3. After marking the site, apply for a DIG-SAFE permit on-line through UMA Physical Plant, website: http://www.umass.edu/physicalplant/index.html.
4. After marking the site, and at least 7 days before an excavation, the Contractor shall notify DIG-SAFE by calling 811 or online at http://www.digsafe.com.
5. On the same day as the DIG-SAFE request is made, the Contractor shall deliver to the Physical Plant DIG-SAFE Coordinator (Tel. No. 413-545-4903) a site plan indicating the DIG-SAFE Quick-Ticket Number and displaying all relevant areas and pre-marked limits of the proposed excavation(s).
6. If the Contractor is informed of issues regarding the proposed excavation, the Contractor shall resolve those issues to the satisfaction of the UMA DIG-SAFE Coordinator. Issues that may require changes in the project design shall be brought to the attention of the Designer and UMA Project Manager immediately for resolution. If no issues are raised by the DIG-SAFE Coordinator that require the design of the project to change, the Contractor may proceed with the proposed excavation(s) commencing seven (7) working days after submission of the site plan and Quick-Ticket Number to the DIG-SAFE Coordinator.
7. Prior to the “Dig-Safe” notification, the Owner requires General Contractors to provide their Superintendent with current “Dig-Safe” regulations, and a copy of Massachusetts General Laws, Chapter 82, Section 40.

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 UMA 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 UMA 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 EMERGENCY PROCEDURES

A. The Contractor shall thoroughly familiarize himself (review with U.M.A. Project Manager, E.H. & S., and Public Safety) with U.M.A. Emergency Procedures and inform all subcontractors of same. Note that on campus:

B. Dialing “911”may reach Amherst Police or UMass Police depending on the phone used. Therefore, always identify your location as being as UMass Amherst including the project/building address and/or names of adjacent roads and or buildings.

C. Dialing 5-2121 on a campus phone or 413-545-2121 on an outside phone reaches the UMass Police (General Business). UMass Police can facilitate obtaining necessary services for the emergency.

D. Emergencies: In the event of an emergency on-site, telephone for emergency services (ambulance, fire department or police assistance)

E. Telephone for Emergency Service (See 1.20A above)

F. Call 911 or 545-2121 and inform them if confined space rescue equipment is required or if hazardous material is involved.

G. If live steam, electricity, or other utilities need to be shut off, call the U.M.A. Physical Plant switchboard (545-0600) and ask them to contact the appropriate shop.

H. If live steam, electricity, or other utilities need to be shut off, call the U.M.A. Physical Plant switchboard (545-0600) and ask them to contact the appropriate shop.

I. Make the scene safe.

J. Render First-Aid if possible.

K. Preserve evidence.

L. Call the UMA Project Manager.

M. Call the UMA Project Manager and UMA EH&S (413-545-2682) for significant incidents/injuries beyond first aid, including situations that have the potential to cause significant personal injury or damage to UMass property. All spills of hazardous materials regardless of quantity shall be reported to EH&S. The University EHS office is responsible for notifying MADEP if appropriate, and any necessary outside responders, unless the contractor has specified their own responder.

N. Contact the appropriate outside agencies as required by law, including OSHA for fatalities or injuries requiring hospitalization of three or more individuals (by Contractor). All regulatory notifications required for environmental events shall be made by UMA EH&S. Contractors shall report any incident involving a radiographic source to UMA EH&S, the Mass Dept of Public Health (DPH) and The US Nuclear Regulatory Commission (NRC). Ensure the UMA EHS office is contacted as well for any of these circumstances.

1.18 SAFETY REGULATIONS

A. This project is subject to compliance with Public Law 91 596 "Occupational Safety and Health Act" latest edition (OSHA 29 CFR 1926), with respect to all rules and regulations pertaining to construction, including Volume 36, numbers 75 and 105, of the Federal Register, as amended, and as published by the U.S. Department of Labor.

B. Submit the name of the General Contractor's safety officer to the UMA Project Manager. Submit copies of safety reports to the UMA Project Manager monthly.

C. Each Contractor/ subcontractor will be responsible to submit a written Safety Program, prior to starting construction, outlining measures they take to cover their operations and protect their employees. Construction Projects will also submit a Site Specific Safety Plan specific to their operations at the University and which address their plan of action for identified and potential environmental, health and safety issues that may arise prior to start of construction. Maintain a written hazard communication program in accordance with OSHA 29CFR 1910.1200. Keep MATERIAL SAFETY DATA SHEETS (MSDS) on site and upon request provide MSDS sheets for materials used in the construction

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

E. The Contractor shall immediately notify UMA EH&S if an OSHA, DEP or EPA regulator visits the site.

F. UMA and EH&S personnel shall have the authority to exercise on-site compliance audits on the construction site. Deficiencies discovered during site inspections and visits will be relayed to the contractor's company safety representative and the UMA Project Manager. The contractor will communicate back to the UMA Project Manager and Environmental Health and Safety on the course of corrective action to be taken and the timeline for completion. If during such an audit, in his or her professional opinion, there exists an imminent danger or serious violation of established environment, health and safety standards that could lead to death or serious physical harm, damage to university property or the environment, the University representative has the right to request the immediate halt of such operations.

G. Hazardous Waste Generation: Any work generating Hazardous or so-called Universal Wastes will comply with all requirements of 310 CMR 30.000. The proper storage, use and disposal of any hazardous chemicals or substances brought on site by the Contractor are the responsibility of Contractor. The University will not be responsible for any hazardous materials left on site, the cost to remove these materials will be the Contractor's responsibility. All hazardous wastes generated as a result of demolition and remodeling shall be contained, collected, segregated, labeled per all applicable federal EPA, Massachusetts DEP, and Federal DOT regulations or other applicable local, state or federal hazardous waste regulations, pending the appropriate disposition. Contractor shall provide for properly packaging hazardous waste, preparing the proper shipping papers, identifying a permitted disposal site, and contacting EH&S at least 24 hours prior to shipment of the waste. EH&S will review the hazardous waste shipment and sign the paperwork. EH&S must keep the "Generator" copies of the manifest on file in the EH&S office.

H. The contractor must inform EH&S if they intend to store any type of oil in 55 gallons or larger quantities so that such storage can be included in the UMass SPCC plan, this includes oil for equipment, form oil, cutting oil, diesel, gasoline, etc. Spills of any oil outside to soil, water or ambient air shall be reported to EH&S. Oil is also considered to be a hazardous waste in the state of MA when it is disposed. All waste oil must be managed in accordance with the hazardous waste section of this document.

I. Non Destructive Testing: The Contractor shall notify the U.M.A. Project Manager and the Environmental Health and Safety Department 3 days prior to the use of a radiography or x-ray equipment. The Contractor shall demonstrate safety procedures acceptable to the University and also provide sufficient personnel to maintain the safety zone perimeter as required by code. UMA EHS must be contacted to review all radiography to be performed on campus property before it takes place. In the event of a failed source, it is the contractor's responsibility to recover a damaged radiography source, moisture density gauge or other radioactive source used in the construction industry and to decontaminate any soil, equipment or other university property contaminated by a failed source.

J. Any salamanders used must exhibit an approval tag from the Massachusetts State Fire Marshal and any Contractor intending to utilize a salamander shall meet the requirements of 527CMR 20 and obtain a permit from the local Fire Department.

K. All Hot Works, including cutting, welding, brazing, etc., requires a permit from the UMA Environmental Health and Safety Dept. (EH&S), located at Draper Hall,, (545 2682). A Hot Works permit is not required for work performed outside (unless it is in a temporary enclosure

such as a tent). Contractor must provide a minimum of one operable fire extinguisher approved by a recognized testing laboratory and rated for the intended purpose near each Hot Work operation. At least one employee of the contractor shall remain on the site for one hour after the hot work has ceased to ensure against the outbreak of fire.

L. Use of Liquefied Propane Gas (LPG) and containers on site must be approved by and a permit must be secured through the local Fire Department.
   1. Conformance to State Fire Prevention Regulations 527 CMR 6 and National Fire Protection Association standard on LPG: NFPA 58 1998.
   2. Contractor must provide a minimum of one operable 20 BC rated fire extinguisher approved by a recognized testing laboratory near each LPG operation.

M. Use of torches or other flame producing devices for the removal of paint from buildings, or the application or removal of roofing materials must conform with the State Fire Marshal's regulations (527 CMR 10.24).
   1. Permit must be secured through the local Fire Department and UMA EH&S..
   2. An approved and operable fire extinguisher must be kept in the work area
   3. At least one (1) workman must remain at the work area for (1) hour after the use of the torch or flame producing device has ceased.

N. All construction will comply strictly with the Massachusetts State Building Code Article 30 (780 CMR 30): Required fencing, sidewalk sheds, storage of flammables, portable fire extinguishers, fire standpipe operation and rubbish removal will be enforced by Environmental Health & Safety.

1.19 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 UMA's Project Manager and OSHA inspectors. Fines imposed for non-compliance shall be promptly paid by the General Contractor at no additional expense to UMA. 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.

1.20 DAMAGE RESPONSIBILITY

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

1.21 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

1.22 UMA OCCUPANCY

A. Use and Occupancy: When the project is Substantially Complete (with all work affecting health, safety, and function totally completed, and with less than one percent (<1%) of the contract value remaining) and ready for Use and Occupancy as determined by the Designer, the UMA Project Manager and the Operating Agency, then the UMA will take control of their building area(s) and be responsible for operating costs and security.

1.23 ASBESTOS AND HAZARDOUS MATERIALS DISCOVERY

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

B. The UMA Project Manager and UMA EHS will work with the Contractor to initiate removal or encapsulation of the asbestos. An extension of the completion date may be granted equal to the time lost. Proper notification must be made to the MADEP through the ANF-001 form, and the UMA EH&S.

1.24 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.

1.25 LIST OF DRAWINGS

G1.0 COVER SHEET
A1.1 SITE PLAN
A1.2 ELEVATIONS
A1.3 PLANS
A1.4 SECTIONS
A1.5 DETAILS
A1.6 DETAILS

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

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

1.4 CONSTRUCTION SCHEDULE

A. General Contractor shall prepare and submit for Designer and UMA's information, a Critical Path Method (CPM) Progress Schedule for the work of the project.

1.5 CRITICAL PATH METHOD SCHEDULING

A. General Contractor's Schedule Requirements are contained herein, and are to be provided to UMA by the General Contractor.

1. General Schedule Requirements
   a. Upon the finalization of the agreement, signified by issuance of the UMA Notice to Proceed with Construction, the General Contractor shall develop a network plan to demonstrate complete fulfillment of all Working Documents and Construction contract requirements. The General Contractor shall keep the network plan up to date in accordance with the progress and logic update requirements stated herein,

and shall utilize the network plan in planning, coordinating and performing the work of this project (including all activities of Designer, Subcontractors, equipment vendors and suppliers).

2. Critical Path Method (CPM) Scheduling Requirements
   a. The Critical Path Method (CPM) schedule shall show the sequence and interdependence of activities required and shall reflect the manner in which actual work will be performed. The number of activities shown on the Critical Path schedule must be at least equal and related to the number of items listed in the Schedule of Values, however the General Contractor must submit a detailed explanation that identifies what each activity includes. In preparing the Critical Path schedule, the General Contractor shall break up the work into activities. All activities shall be logically tied to one common end date.

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), weather protection (if applicable) 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 UMA 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.

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 UMA Project Manager, samples may be used in construction of project if not retained for comparison.
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. All other Samples shall be delivered at the field office of the UMA Resident Engineer with Sample identification tag attached and properly filled in. Transmittal notice of Samples so delivered with the General Contractor's stamp of approval, shall be mailed concurrently to the Designer and the UMA Project Manager to confirm their receipt thereof.
6. 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.
7. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of Samples whether or not specified in the Specifications, at no additional cost to the Commonwealth.

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. Coordinate each submittal with requirements of Contract Documents.

C. 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 UMA Project Manager.

D. Notify the Designer in writing at the time of submission, of deviations in submittals from requirements of Contract Documents or previous submissions.

E. Work that requires submittals shall not commence unless submitted with Designer's stamp and initials or signature indicating review and approval, and UMA 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 UMA Project Manager.

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 UMA 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 Civil, Structural, and 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 UMA (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 UMA review and acceptance of the Designer's recommendation.
    b. The approval of UMA 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 UMA 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 UMA 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 SCHEDULE OF VALUES

A. Prior to the first request for payment, the General Contractor shall submit to the Designer and the UMA 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 UMA 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 UMA 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

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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. UMA.
2. The Designer (the Architect-of-Record or Engineer-of-Record as applicable).
3. The UMA Project Manager.
4. The UMA Resident Engineer.
5. 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 UMA 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.

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. Weather Protection.
3. Heating During Construction.
4. Temporary Power.
5. Hoisting Equipment and Machinery.
6. Staging.
7. Maintenance of Access.
8. Dust Control.
9. Noise Control.
10. Indoor Air Quality (IAQ) Management.
11. Enclosures.
12. Cleaning During Construction.
13. Field Offices.
14. Telephone Service.
15. Sanitary Facilities.
16. Construction Barriers.
17. Parking.
18. Debris Control and Removal.
19. Safety Protection.
20. Vehicle and Equipment Protection.
21. Shoring.
22. Construction Fence.
23. Project Identification Sign.
24. Delivery of Materials.
25. Shut Down Notice.
26. Construction Cores.
27. Covered Walkways
28. Excavations and Field Survey Requirements

1.3 TEMPORARY WATER

A. Temporary hoses and temporary pipe lines used for transporting water shall not be run unattended or unprotected across parking areas, parking area entrance, walkways, plazas, or steps.

B. 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.

C. Use of the water may be discontinued by the Commonwealth if, in the opinion of the UMA Project Manager, it is wastefully used.

1.4 WEATHER PROTECTION – NOT USED

1.5 HEATING DURING CONSTRUCTION – NOT USED

1.6 TEMPORARY POWER

A. The contractor shall maintain power cords in safe working condition and shallnot leave cords unattended or unprotected on the site.

1.7 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 UMA Resident Engineer prior to commencement of such erecting and dismantling work.

B. Review Drawings for hoisting requirements and openness of traffic access routes to installed destinations of specified equipment and furnishings.

1.8 STAGING

A. All staging, planking and scaffolding, exterior and interior, required for the proper execution of the work .

   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 UMA Resident Engineer prior to commencement of such erecting and dismantling work.

1.9 MAINTENANCE OF ACCESS – NOT USED

1.10 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.

1.11 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 U.M.A. Project Manager to be excessively noisy may be required to be done during non-normal working hours and at no additional expense to the University.

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.

1.12 INDOOR AIR QUALITY (IAQ) MANAGEMENT – NOT USED

1.13 ENCLOSURES – NOT USED

1.14 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. Maintain project in accordance with all local, Commonwealth of Massachusetts, and Federal Regulatory Requirements.

D. Store volatile wastes in covered metal containers, and remove from premises.

E. Prevent accumulation of wastes which create hazardous conditions.

F. Provide adequate ventilation during use of volatile or noxious substances.

G. 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.

H. Use only those materials which will not create hazards to health or property and which will not damage surfaces.

I. Use only those cleaning materials and methods recommended by manufacturer of surface materials to be cleaned.

J. 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.

K. Provide on-site containers for collection of waste materials, debris, and rubbish.

L. Remove waste materials, debris and rubbish form the site periodically and dispose of at legal disposal dump site (DEP approved).

M. Handle material in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.

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

1.15 FIELD OFFICES – NOT USED

1.16 TELEPHONE SERVICE - NOT USED

1.17 SANITARY FACILITIES

A. The Contractor shall provide a chemical toilet between July 15 and August 11 2013. Toilets in the residence will not be available to the Contractor and his/her employees.

B. Chemical toilets and their maintenance shall meet requirements of state and local health regulations and ordinances and shall be subject to the approval the Resident Engineer and Designer.

1.18 CONSTRUCTION BARRIERS

A. Proper construction barriers shall be provided around the contract work areas as defined by the Contract Drawings or as directed by the Resident Engineer.

B. Construction barriers shall consist of traffic cones, ribbons, tapes, secure fencing, trench covers, wood barriers, warning signs, directional signs, and other traffic materials to keep traffic and people from area of construction and maintain ongoing operations.

C. Barriers shall be erected at such approved locations as are necessary, sufficiently cross-braced and supported adequately from floors and ceilings as required.

1.19 PARKING – REFER TO SECTION 011000 SUMMARY

1.20 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 UMA prior to start of demolition. During disposal process, copies of daily receipts from dumpsite shall be submitted on a regular basis.

1.21 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.

1.22 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.

1.23 SHORING

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

1.24 CONSTRUCTION FENCE – NOT USED

1.25 PROJECT IDENTIFICATION – NOT USED

1.26 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 University personnel, either on site or at the University's shipping and receiving dock.

1.27 SHUT DOWN NOTICE – NOT USED

A. The Contractor shall notify the U.M.A. Project Manager or Resident Engineer, at least fourteen (14) working days in advance, of the need for University personnel to shut down or modify any utilities or building systems. If, due to University 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.

1.28 CONSTRUCTION CORES – NOT USED

1.29 COVERED WALKWAYS – NOT USED

1.30 EXCAVATIONS AND FIELD SURVEY REQUIREMENTS – NOT USED

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 017419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 GENERAL PROVISIONS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for recycling and disposing of construction waste.

B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
   1. SECTION 020800 LEAD CONTAINING PAINT HANDLING

1.3 DEFINITIONS

A. Asphalt Pavement, Brick, and Concrete (ABC) Rubble: Rubble that contains only weathered (cured) asphalt pavement, clay bricks and attached mortar normally used in construction, or concrete that may contain rebar. The rubble shall not be mixed with, or contaminated by, another waste or debris.

B. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, and/or installation of new materials as part of remodeling, renovation, or repair operations. Construction waste includes packaging.

   1. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations prior to renovations or remodeling.

C. Disposal: Removal off-site of construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE REQUIREMENTS

A. General: Develop a Waste Management Plan that states as its objective to attain at project completion a recycling rate of 75 percent or more by weight of the total waste generated by the Work.

B. Recycling Requirements:

1. Maximize recycling of non-hazardous construction waste including the following materials:
   a. Site-clearing waste.
   b. Masonry and CMU.
   c. Lumber, wood sheet materials, and wood trim.
   d. Metals.
   e. Roofing.
   f. Insulation.
   g. Glass.
   h. Plastics.
   i. Gypsum board, refer to paragraph below.
   j. Acoustical ceiling panels.
   k. Carpet and pad.
   l. Piping.
   m. Wire and cable.
   n. Electrical conduit.
   o. Packaging: 100 percent of the following uncontaminated packaging materials: Paper, cardboard, boxes, plastic sheet and film, polystyrene packaging, wood crates, plastic pails.

1.5 SUBMITTALS

A. Waste Management Plan (WMP): Submit 3 copies of Plan within 30 days of date established for the Notice to Proceed, in a format acceptable to the UMA Project Manager.

B. Waste Management Progress Reports: Concurrent with each Application for Payment, submit three copies of report. The following information shall be included:

1. Material category.
2. Generation point of waste.
3. Total quantity of waste in tons.
4. Quantity of waste recycled, both estimated and actual in tons.
5. Total quantity, of waste recovered (recycled) as a percentage of total waste.

C. Waste Management Calculations: Before submitting a request for Substantial Completion, submit three copies of calculated final rates for recycling and disposal as a percentage of total waste generated by the Work.

D. Facility Permitting Information: For landfill and/or incinerator facilities, provide a copy of the facility's current solid waste management facility permit in accordance with 310 CMR 19.000.

E. Record Keeping for Recycling and Landfill and/or Incinerator Disposal: Documentation to be submitted by the General Contractor shall include the following:

1. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, and/or receipts.
2. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, and/or receipts.

F. Facility Permitting Information: For ABC rubble crushing and/or recycling facilities, provide a statement from the facility that references its specific exemption from the solid waste regulations (per 310 CMR 16.05 (3) (e)) or provide a copy of the facility's current solid waste management facility permit in accordance with 310 CMR 19.000.

G. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

H. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

I. LEED Submittals: The Designer shall prepare a Letter in accordance with LEED guidelines, which shall be signed by the General Contractor. The General Contractor shall provide all information required which includes a tabulation of total waste material, quantities diverted, and means by which it is diverted.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction, including but not limited to, Massachusetts solid waste regulations contained in 310 CMR 16.00 and 310 CMR 19.000.

1.7 WASTE MANAGEMENT PLAN

A. General: Develop plan consisting of waste identification, and waste reduction, handling, transportation, and recycling/disposal procedures. Include separate sections in plan for recycling and disposal of construction waste. Indicate quantities by weight throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Program: List each type of waste and whether it will be recycled or disposed in a landfill or incinerator. Include points of waste generation, total quantity by weight of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
3. Donated Materials: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt. Include names, addresses, and telephone numbers.

4. Sold Materials: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt. Include names, addresses, and telephone numbers.

D. Handling and Transportation Procedures: Include methods that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location(s) on Project site where separated materials will be stockpiled.

E. Waste Management Coordinator: Identify General Contractor employee who will be the Waste Management Coordinator for the project. The Waste Management Coordinator will be responsible for implementing, monitoring, and reporting status of waste management activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement Waste Management Plan as approved by the Designer. Provide containers, storage, signage, transportation, and other items as required to implement WMP for the entire duration of the Contract.

B. The General Contractor shall conduct a Waste Management Meeting at the Site. The General Contractor shall review methods and procedures related to waste management including, but not limited to, the following:

1. Distribute approved WMP to everyone concerned within three days of approved submittal return.
2. Clearly identify the Waste Management Coordinator and explain the Coordinator's responsibilities.
3. Review WMP with each subcontractor when they first begin work on-site. Review plan procedures and locations established for recycling and disposal.
4. Review and finalize procedures for material separation and verify availability of containers and bins needed to maintain production.
5. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
6. Provide recycling educational literature for all workers, Subcontractors and suppliers engaged in on-site activities.
7. Provide appropriate recycling signage for containers and workspaces.

C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walkways, and other adjacent occupied facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be recycled, reused, donated, sold, and disposed.
2. Comply with project requirements for controlling dust and dirt, environmental protection, and noise control.

3.2 RECYCLING CONSTRUCTION WASTE, GENERAL

A. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical. For waste, which cannot be separated at Project site, co-mingle only with waste, which is to be separated later at a recycling facility. The General Contractor will address contamination of recycling containers with trash or other contaminants and who will be solely responsible for payment of all fines and penalties.

1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin. 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 off User Agency's property and transport to recycling receiver or processor.

B. On-site crushing of asphalt pavement, brick, and concrete (ABC) rubble as described in 310 CMR 16.05, is not allowed. All ABC waste must be transported off-site to an asphalt batching plant or to an ABC crushing or recycling operation facility that is either conditionally exempt from 310 CMR 16.00 or has been sited and permitted in accordance with 310 CMR 16.00 and 310 CMR 19.000, respectively.

3.3 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: To the extent feasible, require shippers 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. Site-Clearing Wastes: Chip brush, branches, and trees on-site.

C. Concrete: Deposit all debris in designated containers to be transported to approved aggregate recycling facility to be crushed and screened for use as satisfactory soil for fill or sub-base.

D. Masonry: Deposit all masonry debris in designated containers to be transported to approved aggregate recycling facility to be crushed and screened for use as satisfactory soil for general fill or satisfactory soil for fill or sub-base. Clean and stack undamaged whole masonry units on wood pallets.

E. Wood Materials:

1. Clean Cut-Offs of Lumber: Deposit into designated clean wood container to be transported to designated recycling facility for use as mulch or bio-fuel.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

F. Metals: Separate metals by material type if practical. Stack salvageable structural steel members according to size, type of member, and length.

G. Asphalt Shingle Roofing: Deposit asphalt shingles in designated containers for off-site reuse. Nails, staples acceptable, flashing trim and accessories shall be recycled as metals.

H. Glass: Deposit glass debris into designated containers to be transported to approved glass-recycling facility.

I. Plastics: Deposit plastic containers and debris into designated containers to be transported to approved plastic recycling facility.

J. General: Recycle paper and beverage containers used by on-site workers.

3.4 DISPOSAL OF WASTE

A. Except for items or materials to be 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.
3. For solid waste disposal facilities located in the Commonwealth of Massachusetts, dispose of materials only in facilities which currently comply with applicable state regulations, including requirements of 310 CMR 16.00 {Site Assignment for Solid Waste Facilities} and 310 CMR 19.000 {Solid Waste Management}, and local bylaws.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION

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 to 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. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces as acceptable to the UMA Project Manager.

J. Broom clean exterior paved surfaces and rake clean other surfaces of the grounds.

K. Leave all architectural metals, hardware, and fixtures in undamaged polished conditions.

L. 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.

1.3 LANDSCAPE REPAIRS

A. All lawn areas damaged during the project shall have the topsoil removed, the subsoil shall be loosened to 12" below finished grade, the topsoil shall be replaced and sod shall be laid to provide a continuous lawn.

1.4 CLOSEOUT REQUIREMENTS AND SUBMITTALS

A. Procedural Requirements: Punch List:

1. During the course of the project, the General Contractor shall make frequent inspections with Subcontractors, the Designer, and the UMA Project Manager, so as to progressively check for and correct faulty work.
2. 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 a DPS inspection
   a. *NOTE: Substantially Complete means that 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.
3. 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 UMA 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 a DPS inspection, Town of Amherst Electrical and other required inspections through UMA EH &S or as directed by UMA Project Manager.

1.5 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.

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 UMA, and without additional expense to UMA, 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, UMA 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 UMA or the User Agency if directed by UMA.

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 warrantees 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

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SECTION 020800

LEAD CONTAINING PAINT HANDLING

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

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

B. Equality of material, article, assembly or system other than those named or described in this Section shall be determined in accordance with the provisions of Article III, Paragraph 1 of the CONTRACT AND GENERAL CONDITIONS.

1.2 DESCRIPTION OF THE WORK

A. The scope and intent of this project is not a lead paint abatement but rather an effort to repair/replace limited portions of the existing sun porch/building so a new sun porch addition can be constructed. Specific Massachusetts Department of Public Health or HUD lead abatement will not be required however, the USEPA's Renovation, Repair and Painting Final Rule (RRP) (40 CFR 745) is applicable to any firms performing renovation, repair and painting that disturbs lead-based paint in pre-1978 homes, child care facilities and schools certified by EPA. The RRP rule is intended to encourage building owners to utilize certified renovators who are trained by EPA-approved training provides to follow lead-safe work practices.

The presence of lead associated with various painted surfaces tested did identify lead above detection limits. The OSHA Lead in Construction standard (29 CFR 1926.62) considers any level of lead (values > 0.0 mg/cm^2) to be potentially harmful to workers when disturbed during construction related activities. OSHA approved work practices and worker protection requirements are mandated depending on the nature of the disturbance.

B. The Contractor shall provide labor, materials, and equipment to complete the work specified in this Section including, but not limited to, the handling and lawful disposal of Lead Containing Paint. Generally, the management of these materials shall include, but not be limited to:

1. File all necessary notices, obtain all permits and licenses, and pay all governmental taxes, fees, and other costs in connection with the work. Obtain all necessary approvals of all governmental departments having jurisdiction.

2. Perform all sampling and testing required to properly profile the material for waste disposal. This shall also include all testing required by the disposal or recycling facility.

3. All costs for the testing shall be borne by the Contractor.

4. Comply with the Contractor's submitted Health and Safety Plan.

B. ECS has provided (for general knowledge of various painted surfaces) the following data table (Table 1) detailing analytical results of materials sampled during a limited lead paint inspection previously performed at the Chancellors House. **NOTE- All painted surfaces related to this sun porch addition project shall be deemed lead containing as no sampling or testing was performed as part of this project**.

TABLE 1
LEAD CONTAINING PAINT RESULTS
THE UNIVERSITY OF MASSACHUSETTS
CHANCELLORS HOUSE
150 CHANCELLORS WAY
AMHERST, MASSACHUSETTS

Lead Analysis in Paint using SW846-7420/3051 Method				
Sample Number	Color	Substrate and location	Result Percent Weight	Result Reporting Limit
1	White/ Yellow	Cedar Siding, 2nd Floor East side	47	0.0071
2	White/ Yellow	Cedar Siding North Side Above Double Doors	49	0.0082
3	White/ Yellow	Cedar Siding, West Side Balcony	49	0.011
4	Black	Metal Bulkhead, East Side	0.042	0.039
5	Black	Wood Floor, East Entrance	0.27	0.015
6	Gray	Wood Lattice Under Western porch	0.15	0.040
7	White	South Side of house at porch entrance wood wall	0.83	0.016
8	White	Wood Garage Door	0.029	0.023
9	White	Wooden Handrail, East Entrance	2.5	0.0083
10	White	Metal Flashing, on Southern Lower Roof	15	0.041
11	Yellow /Green	Metal Roofing Components	0.023	0.012
NOTES: See Limitations Section for areas not inspected or included as part of this inspection.				

1.3 SCHEDULING AND SEQUENCING

A. The proposed Work will be performed in one phase.

B. The Contractor and the Designer shall develop a materials handling schedule for each phase of the work at the Pre-Construction Conference. The Owner may chose to alter the work sequence as they see fit.

C. The Contractor shall update the schedule and submit any schedule changes for review by the Designer and Owner at the weekly construction meetings.

1.4 LOCATION OF WORK

A. Location of work areas, descriptions, estimated types and quantities of materials are detailed in site drawings/plans prepared by the Owner. If additional materials are encountered, the Contractor shall notify Owner immediately.

B. The site drawings/plans identify materials encountered and enumerated during the survey. The quantities are provided for general guidance and may not correspond exactly to the quantity to be handled. The Contractor is responsible to investigate all areas for the presence of all materials. The Contractor shall determine quantities of materials for bidding purposes.

C. Handling, containerizing, packaging, re-handling, hauling and disposal of all items identified are to be included in the lump sum bid item of the Contract.

1.5 REFERENCES

A. The Contractor is advised to thoroughly review the documents referenced in this Section. Strict adherence to the hazardous materials, noise, air and water pollution regulations and requirements is required.

1. Code of Federal Regulations

a. 29 CFR 1910, “Occupational Safety and Health Standards” (General Industry Standards)

b. 29 CFR 1910.20, “Access to Employee Exposure and Medical Records

c. 29 CFR 1910.134, “Respiratory Protection”

d. 29 CFR 1910.146 “Permit Required Confined Space”

e. 29 CFR 1910.1025 “Lead”

f. 29 CFR 1910.1200, “Hazard Communication”

g. 29 CFR 1926, “Safety and Health Regulations for Construction” (Construction Industry Standards)

h. 29 CFR 1926.62, “Lead-Construction”

i. 40 CFR 50, “National Primary and Secondary Ambient Air Quality Standards”

j. 40 CFR 60, “Standards of Performance for New Stationary Sources,” Appendix B, “Test Methods”

k. 40 CFR 117, “Determination of Reportable Quantities for Hazardous Substances”

l. 40 CFR 122, "EPA Administered Permit Program: The National Pollutant Discharge Elimination System"

m. 40 CFR 172, "Hazardous Waste Transportation"

n. 40 CFR 261, "Identification and Listing of Hazardous Waste"

o. 40 CFR 262, "Standards Applicable to Generators of Hazardous Waste"

p. 40 CFR 263, "Standards Applicable to Transporters of Hazardous Waste"

q. 40 CFR 268, "Land Disposal Restrictions"

r. 40 CFR 300, "National Oil and Hazardous Substances Pollution Contingency Plan"

s. 40 CFR 302, "Designation, Reportable Quantities, and Notification"

t. USEPA's Renovation, Repair and Painting Final Rule (RRP) (40 CFR 745)

2. Occupational Safety and Health Administration OSHA Booklet 3126 "Working with Lead in the Construction Industry"

3. National Institute for Occupational Health and Safety

a. NIOSH Method 7082, "Lead"

4. American Society for Testing and Materials

a. ASTM D3335, "Test Method for Low Concentration for Lead, Cadmium, and Cobalt in Paint by Atomic Absorption Spectroscopy"

5. EPA (Environmental Protection Agency) Publications

a. SW-846, "Test Methods for Evaluating Solid Waste – Physical/Chemical Methods"

b. EPA Method 3050, "Acid Digestion of Sediments, Sludges, and Soils"

6. Steel Structures Painting Council

a. SSPC Guide 61 (CON) Guide for Containing Debris Generated During Paint Handling Operations

b. SSPC Guide 71 (DIS) Guide for the Disposal of Lead Contaminated Surface Preparation Debris

7. Commonwealth of Massachusetts Department of Environmental Protection

   a. 310 CMR 40 Massachusetts Contingency Plan

   b. 310 CMR 30 Hazardous Waste Regulations

   c. 310 CMR 1-7 Clean Water Act

   d. 310 CMR 16, 19 Solid Waste Regulations

   e. 314 CMR 7-8 Clean Air Act

8. Other

   a. 454 CMR 10-23 Division of Industrial Safety

1.6 SUBMITTALS

A. The Contractor shall submit each item in this Article according to the Conditions of the Contract and Section 013300, for information only, unless otherwise indicated.

B. The Contractor shall submit a Waste Management Plan as specified in Section 017418. The Plan shall include identification of the proposed waste hauler and disposal facility with copies of all applicable licenses, registrations and approvals.

C. The Contractor shall provide copies of all worker certifications associated with OSHA 40 Hour Hazardous Waste Site Health and Safety Training in accordance with 29 CFR 1910.120.

D. The Contractor shall provide Owner with all required documentation relating to the proper handling and disposal of any hazardous or regulated waste that leaves the site in accordance with the Waste Management Plan.

E. After completion of the hazardous materials handling, provide a final report documenting handling, transportation and disposal activities. The document shall include copies of manifests, shipping slips, permits, and licenses for this Project.

1.7 QUALITY ASSURANCE

A. Examination of Existing Conditions: The Contractor shall examine the Contract Drawings for material identification, handling, and disposal requirements and provisions for new work.

B. Hazardous Waste Handling and Transportation Firm Qualifications: An experienced firm that has specialized in hazardous waste work similar in material and extent to that indicated for this Project.

C. Regulatory Requirements: Comply with governing EPA and DEP notification regulations before beginning handling of any hazardous waste materials. Comply with hauling and disposal regulations of authorities having jurisdiction.

PART 2 – MATERIALS

2.1 PROTECTIVE EQUIPMENT

A. Provide health and safety equipment required to protect workers and to comply with the Health and Safety Plan.

2.2 DISPOSAL BAGS

A. Disposal Bags: Provide 6 mil (0.15 mm) thick leak-tight polyethylene bags.

2.3 DRUMS

A. DOT Hazardous Waste Disposal Drums: Provide DOT 17-H Open -Top Drums *(55* gallon) in accordance with DOT regulations title 49 CFR Parts 173, 178, and 179.

2.4 LABELS

A. DOT Hazardous Waste Labels: in accordance with DOT regulations, Title 49 CFR parts 173, 178, and 179.

PART 3 – EXECUTION

3.1 GENERAL WORK AREA SET UP

A. Signage: Prior to the preparation for work that will disturb regulated materials, the Contractor shall place warning signs immediately outside all entrances and exits to the area.

B. Access to Work Areas: The Contractor shall allow only authorized personnel into the work area. Barrier tape shall be used to limit access to the exterior work area.

3.2 GENERAL HAZARDOUS WASTE MANAGEMENT

A. Do not mix potentially hazardous waste streams. Where feasible, separate each type of hazardous waste from other types of hazardous wastes, from painted/coated waste and from construction waste.

B. Segregate, package, label, transport and dispose of Hazardous Waste in accordance with DOT, EPA, State and Local regulations.

C. The following wastes are designated as Hazardous Wastes and are non-salvageable:

1. Waste Type C lead base paint debris to include containers of paint (if applicable) and paint chips/debris.

D. In the event of an apparent conflict between the requirements of these specifications and the requirements of the Massachusetts Hazardous Waste Regulations (310 CMR 30.000) the Contractor shall bring the apparent conflict to the attention of the Designer for resolution. The Contractor shall not seek to review the apparent conflict with other parties prior to resolution with the Designer.

3.3 HAZARDOUS WASTE PACKAGING AND LABELING

A. Package Hazardous Waste Type C in specified containers as follows:

1. Waste Type C to be packaged in DOT 17-H Open-Top Drums. Fill to capacity only with Waste Type C (do not mix waste stream types). Install gasket on lid, apply lock ring, and seal. Apply Hazardous Waste Label to drum side. Enter DOT Shipping Data as follows: RQ Hazardous Waste Solid, NOS, 9, NA3 077, PG-III, (~D009). Adjacent to each label, enter the date indicating when waste was first placed in each drum.

B. Maintain all containers in a continuously sealed condition after they have been filled. Do not reopen sealed containers or place additional waste in previously sealed containers.

3.4 LEAD-BASED AND OTHER METALS PAINT

A. Lead-based and other metals paint is present on various surfaces throughout the Site. **The Contractor shall assume that all painted surfaces contain lead-based and other metals paint as no sampling or testing was performed as part of this project.** Any of the Contractor activities that may generate dust or impact a leaded or other metals surface shall be responsible for regulating his work area so that dust migration is contained properly within the regulated area. Once the work is complete, the Contractor shall be responsible for the proper clean up and disposal of leaded or other metals dust and materials.

B. All lead based and other metals paint work must be reflected in the lump sum bid of this contract.

C. Contractor shall handle and lawful disposal of Lead Containing Paint from areas as indicated in the drawings/plans. Clean up and drum materials utilizing wet methods and negative air filtration.

D. Work Areas Affected - In general, the following activities are minimum requirements of this Section and affect the demolition performed on the painted components:

1. No torch cutting, mechanical sanding or stripping or abrasive methods shall occur on painted surfaces without the use of HEPA vacuum attachments.

2. No demolition activities may occur that increase the workers' exposure above applicable Action Levels. The contractor is responsible for compliance with the following OSHA Construction Regulations: Cadmium in Construction Regulation 1926.1127, Chromium in Construction Regulation 1926.1126, and Lead in Construction Regulation 1926.62 when abrasive blasting, welding, cutting, burning on structures, manual scraping or sanding, and manual demolition of structures or any other activity that may produce an exposure above the action level for any of the identified metals. The work practices described in the following sections are intended to adequately protect the workers from exposure to metal hazards, provide a safe workplace, and protect the environment.

3. Workers shall be informed of the components to be demolished that have been identified as containing lead and other metals.

4. Worker protection, at a minimum, shall comply with the above Standards and Worker Right to Know and Health and Safety Standards of 1926.62 shall also apply to the work of this Section.

5. Separation of Trades: Unprotected, untrained workers or trades shall not perform any related work within the same vicinity as demolition involving components identified as containing lead and other metals.

6. Cleanup Activities: The Contractor shall maintain the demolition work zones free of accumulated debris and materials containing lead and other metals.

E. Disposal of Lead and other metals contaminated material.

1. The Contractor must comply fully with SSPC – Guide 71 (DIS) as well as all current regulations concerning the testing, handling, hauling, labeling, and disposal of all paint waste generated during this project.

a. At a minimum, **the Contractor shall collect and submit** samples for Toxicity Characteristic Leaching Procedure (TCLP) Method 1311 in accordance with Appendix II of 40 CFR 261 to a Massachusetts Certified Laboratory. The Contractor shall collect at least one sample from each media scheduled for disposal.

b. All painted or coated building components shall be disposed of off-site.

c. Lead and other materials that exceed the TCLP criteria shall be disposed in accordance with applicable hazardous waste regulations.

3.5 TRANSPORTATION, DISPOSAL AND/OR RECYCLING OF WASTES

A. Continuously maintain custody of all hazardous material generated at the work site. Provide security, short-term storage, transportation and disposition until custody is transferred to an approved properly permitted disposal site or recycling center. Document continuous chain-of custody.

B. Do not remove, or cause to be handled, hazardous waste from the Owner's property without a legally executed Uniform Hazardous Waste manifest.

C. At completion of hauling and disposal of each load submit copy of waste manifest, chain of custody form, and landfill receipt to the Designer.

D. Recycling and Recovery: Where accessible, turn over waste that contains materials for which recovery and/or recycling is possible to an approved recycling center. Materials subject to recycling include:

1. Metal components

END OF SECTION

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Factory finished steel pipe railings.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:
1. Railing brackets.

B. Shop Drawings: Include plans, finish systems, elevations, sections, details, and attachments to other work.

C. Samples: For each type of exposed finish required.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Handrails and Top Rails of Guards:

a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.

2.2 METALS, GENERAL

A. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

1. Provide type of bracket with predrilled hole for exposed bolt anchorage and that provides 1-1/2-inch (38-mm) clearance from inside face of handrail to finished wall surface.

2.3 STEEL AND IRON

A. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.

1. Provide shop finished railings, with primer and epoxy finish.

2.4 FASTENERS

A. General: Provide the following:

1. Ungalvanized-Steel Railings: Type 304 stainless steel fasteners.

2.5 MISCELLANEOUS MATERIALS

A. Shop Primers: Provide primers that are suitable for the substrate and the specified finish.

2.6 FABRICATION

A. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

B. Form work true to line and level with accurate angles and surfaces.

C. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove flux immediately.
4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

D. Form changes in direction by bending or by inserting prefabricated elbow fittings.

E. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

F. Close exposed ends of railing members with prefabricated end fittings.

G. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated.

H. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

2.7 STEEL AND IRON FINISHES

A. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

B. Primer Application: Apply shop primer to prepared surfaces of railings unless otherwise indicated. Comply with requirements in SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.

C. High-Performance Coating: Apply epoxy intermediate and polyurethane topcoats to prime-coated surfaces. Comply with coating manufacturer's written instructions and with requirements in SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," for shop painting. Apply at spreading rates recommended by coating manufacturer.

1. Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
2. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (6 mm in 3.5 m).

B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

3.2 ATTACHING RAILINGS

A. Attach railings to wall with wall brackets, except where end flanges are used. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

B. Secure wall brackets and railing end flanges to building construction as follows:
1. For wood stud partitions, use hanger or lag bolts set into studs or wood backing between studs. Coordinate with carpentry work to locate backing members.

3.3 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.

END OF SECTION 055213

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Wood blocking, cants, and nailers.
4. Wood sleepers and furring.
5. Plywood sheathing
6. Fasteners
7. Framing Anchors

B. Related Sections:
1. Composite Decking: Section 061533 – Wood Patio Decking
2. Trim, Soffit, Railings, Siding, other finish work: Section 062013 – Finish Carpentry

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product as follows:

1. Preservative Treatment: Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements
2. Engineered Wood Products
3. Plywood
4. Fasteners
5. Metal Framing Anchors

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Non-Treated Lumber: 15 percent for 2-inch nominal thickness or less, 19 percent for more than 2-inch nominal thickness unless otherwise indicated.

C. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground or in contact with concrete which is in contact with the ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat items indicated on Drawings, and the following:
1. All rough carpentry below the West Entry Finished Floor Elevation, and
2. All rough carpentry in contact with the ground or in contact with concrete or masonry which is in contact with the ground.

2.3 DIMENSION LUMBER

A. Miscellaneous lumber not listed below: Construction or No. 2 grade Spruce-Pine-Fir
B. Rafters: No. 1 or No. 2 grade Spruce-Pine-Fir
C. Joists: No. 2 Southern Yellow Pine
D. Ledgers: No. 1 or No. 2 grade Spruce-Pine-Fir
E. Beams out of Dimension Lumber: No. 2 Southern Yellow Pine
F. Posts: No. 1 Southern Yellow Pine

2.4 ENGINEERED WOOD PRODUCTS

A. Laminated-Veneer-Lumber: Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559.

1. Extreme Fiber Stress in Bending, Edgewise: 2900 psi
2. Modulus of Elasticity, Edgewise: 2,000,000 psi.

3. Structural Properties: Provide units with depths and design values not less than those indicated.
4. Provide units complying with APA PRI-400, factory marked with APA trademark indicating nominal joist depth, joist class, span ratings, mill identification, and compliance with APA standard.
5. Material: All-veneer product glued-laminated wood or product made from any combination solid lumber, wood strands, and veneers.

2.5 PLYWOOD

A. All plywood: DOC PS 1, Exterior, AC, in thickness indicated.

2.6 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact or pressure-preservative treated lumber, provide fasteners of Type 304 stainless steel.

2. All other: Bright steel finish

B. Power-Driven Fasteners: NES NER-272.

C. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers. Materials:
1. Type 304 stainless steel exposed to weather, in ground contact or pressure-preservative treated lumber
2. Cadmium plated elsewhere.

2.7 METAL FRAMING ANCHORS

A. Basis-of-Design Products: Subject to compliance with requirements, provide the following products, or equivalent products by one of the listed manufacturers.
1. Ledger Attachment: Simpson StrongTie ¼” SD Screws, into centerline of wall studs. Verify that stud spacing is max. 16” o.c.
2. Rafter Hangers: Simpson StrongTie LU28.
3. Post Caps:
   a. At Roof Level: Simpson StrongTie CCQ 44
   b. At level of West Entry: Simpson StrongTie 4.62-5.5
4. Post Bases:
   a. At level of West Entry: Simpson StrongTie CCQ 4.62-3.62 w/ Straps up post
   b. At Concrete Pier Footings: Simpson StrongTie CBSQ66
5. Anchor Straps: Simpson StrongTie H6
6. Stair Stringer Hangers: Simpson Strong Tie AZM-93

B. Manufacturers:

1. Cleveland Steel Specialty Co.
2. KC Metals Products, Inc.
3. Phoenix Metal Products, Inc.
4. Simpson Strong-Tie Co., Inc.
5. USP Structural Connectors.

C. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those of basis-of-design products by the manufacturers listed. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.8 MISCELLANEOUS MATERIALS

A. Anchor at Base of Stringers at Stair: 3” x 3” x 3/8” Type 304 stainless steel angle, 6” long.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking,and similar supports to comply with requirements for attaching other construction.

B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

D. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

E. Do not splice structural members between supports unless otherwise indicated.

F. Screw attach multi-element beam members together as indicated on the Drawings, using pairs of SD screws, top and bottom, max. ¾” from top and bottom edge, max. 24” o.c., screw length selected to ensure with min. 1-1/4” penetration into last opposite framing member, and pre-drilled to ensure slippage at first framing member(s).

G. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

H. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. NES NER-272 for power-driven fasteners.
2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

3.2 PROTECTION

A. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes sufficiently wet that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

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SECTION 061533 – WOOD PATIO DECKING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Composite decking and stair treads

B. Related Sections:
   1. Section 061000 – Rough Carpentry: Framing for Composite Decking
   2. Section 062013 – Finish Carpentry: Composite and Cellular PVC trim, stair risers, railings

1.2 ACTION SUBMITTALS

A. Product Data: For composite decking.

PART 2 - PRODUCTS

2.1 COMPOSITE DECKING

A. Composite Plastic Lumber, General: Products acceptable to authorities having jurisdiction with current model code evaluation reports that show compliance with building code in effect for Project for indicated type of construction.

B. Composite Plastic Lumber: Solid shapes made from a mixture of cellulose fiber and polyethylene or polypropylene.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Transcend series, by Trex Company, Inc. or equivalent product by one of the following:
      a. CertainTeed Corporation.
      b. Fiberon, LLC.
      c. Rhino Deck.
      d. TimberTech+

   2. Decking Standard: ICC-ES AC109 or ICC-ES AC174.
   3. Surface Texture and Color: To be selected by Architect from manufacturer’s full production range.

2.2 FASTENERS

A. General: Provide fasteners of size and type indicated, acceptable to authorities having jurisdiction, and that comply with requirements specified in this article for material and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than 1-1/2 inches into wood substrate.

1. Use Type 304 stainless steel screws throughout unless otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit work to other construction; scribe and cope as needed for accurate fit.

B. Install composite lumber to comply with manufacturer's written instructions.

C. Secure decking to framing with screws. Countersink for screws so that heads are precisely flush with deck surface. Align screws accurately, parallel to deck perimeter.

1. ICC-ES AC70 for power-driven fasteners.
2. "Fastener Schedule for Structural Members" and "Alternate Attachments" in ICC's International Residential Code for One- and Two-Family Dwellings.

D. Do not splice structural members between supports unless otherwise indicated.

3.2 STAIR INSTALLATION

A. Treads: Secure by screwing to carriages. Countersink fastener heads. Extend treads over carriages with bullnose leading edge.

B. Risers: Cellular PVC. See Section 062013 – Finish Carpentry

END OF SECTION 061533

SECTION 062013 - EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Composite Trim and Soffits
2. Cellular PVC Trim
3. Hollow PVC Railings.
4. Lap Siding
5. Latticework, Equipment Screen, and other misc. finish woodwork.

B. Related Requirements:

1. Section 061533 "Wood Patio Decking" for composite decking, stair treads and risers

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

B. Shop Drawings:
1. Composite Trim (all special shapes)
2. Cellular PVC Trim (all special shapes and assemblies)
3. Hollow PVC Railings (all components and assemblies)
4. Latticework.

C. Samples:
1. Composite Trim (all special shapes)
2. Cellular PVC Trim (all special shapes and assemblies)
3. Hollow PVC Railings (rail & balluster assembly)
4. Latticework.
5. Lap Siding: Min. four 24” lengths of siding, illustrating full range of quality to appear in the finished work.

D. Color Samples: For each type of product involving selection of colors, profiles, or textures.

1.3 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:
1. Cellular PVC trim.

PART 2 - PRODUCTS

2.1 EXTERIOR TRIM

A. Composite Trim and Beadboard: Exterior Synthetic Polyash Trim

1. Basis of Design Product: Subject to compliance with requirements, provide Boral Trim, by Boral Composites, Inc., Roswell, GA.
   a. Sizes and shapes indicated, using full range of manufacturer's production sizes. Special shapes milled in millwork shop prior to delivery.
   b. Beadboard: Manufacturer's standard profile, ½" thick.
   c. Exposed texture: Smooth.
   d. Finish: Factory primed with 100% acrylic low VOC primer, all four sides. Color: White.

B. Cellular PVC Trim:
1. Basis of Design Product: Subject to compliance with requirements, provide Azek Trim and/or Azek Moulding, by Azek Building Products, Scranton, PA.
   a. Sizes and shapes indicated, using full range of manufacturer's production sizes if practicable, or custom shapes if production shapes aren't acceptable to the Architect.
   b. Exposed texture: Smooth.
   c. Finish: Factory primed with 100% acrylic low VOC primer, all four sides. Color: White.

C. Hollow PVC Railings:
1. Basis of Design Product: Subject to compliance with requirements, provide Azek Premier Rail, AZEK Building Products, Inc., Scranton, PA, or equivalent systems by one of the following, subject to the approval of the Architect.

   a. Fiberon
   b. CertainTeed Corporation; CertainTeed Restoration Millwork.
   c. Ex-Cel Manufacturing, Inc.; Plasticlad.
   d. Fypon Ltd.; Fypon PVC.
   e. Gossen Corporation; WeatherReady Building Materials.
   f. Kleer Lumber, LLC; Kleer Trimboard.
   g. Kommerling USA, Inc.; Koma.
   h. Ply-Trim, Inc.; DuraBoard.
   i. Royal Mouldings Limited; Pro Series Exterior Mouldings.
   j. Vi-Lux Plastics Inc.; Cellular PVC.
   k. Wolfpac Technologies, Inc.; Versatex.

2. Provide railings in the configuration illustrated in the Drawings. Match profile and detail of similar railings nearby in the existing building as closely as practical.
3. Provide all anchors, brackets and other fasteners required to firmly affix the railings in place.

2.2 LAP SIDING

A. Provide kiln-dried lumber siding complying with DOC PS 20, factory coated all four sides with exterior primer compatible with topcoats specified.

B. Species and Grade: Grade A western red cedar; NLGA, WCLIB, or WWPA.

C. Factory Milling: Plain Bevel Siding ½" x 6".

2.3 LATTICEWORK

A. Custom fabricated and shop-primed prior to assembly, in millwork shop conditions out of Western Red Cedar, as specified for Siding.

2.4 MISC. FINISH WOODWORK

A. Western Red Cedar, shop or field primed all four sides, as specified for Siding.

2.5 MISCELLANEOUS MATERIALS

A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches into wood substrate.

1. Comply with product manufacturer's published installation instructions.
2. Provide Type 304 stainless-steel fasteners throughout.

B. Sealants: Complying with applicable requirements in Section 079200 "Joint Sealants," and recommended by sealant manufacturer and manufacturer of substrates for intended application.

PART 3 - EXECUTION

3.1 PREPARATION

A. Field prime all cut edges. Comply with requirements in Section 099113 "Exterior Painting."

3.2 INSTALLATION, GENERAL

A. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment. Match appearance and alignment of like existing work.

1. Scribe and cut exterior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.

2. Accurately align new work with like existing work.

3. Match profile of like existing work as closely as possible.

3.3 STANDING AND RUNNING TRIM INSTALLATION

A. Install composite trim, cellular PVC railings and siding to comply with manufacturer's written instructions.

B. Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 96 inches long except where necessary.

1. Use scarf joints for end-to-end joints.
2. Stagger end joints in adjacent and related members.

C. Fit exterior joints to exclude water. Cope at returns and miter at corners.

3.4 SIDING INSTALLATION

A. Install siding to comply with manufacturer's written instructions.

B. Substrate: Verify soundness and suitability of sheathing substrate.

C. Siding: Apply starter strip along bottom edge of sheathing or sill. Install first course of siding with lower edge at least 1/8 inch (3 mm) below starter strip and subsequent courses lapped min. 1” over course below. Nail at each stud. Do not allow nails to penetrate more than one thickness of siding.

D. Coursing: Accurately align with surrounding existing siding.

E. Installation: Use no pieces shorter than 96” except where necessary. Scarf butt joints. Seal at juncture with corner boards, window and door casings and other vertical elements. Conceal all fasteners to the greatest extent practical.

F. Flashing: Provide custom formed coated coil stock aluminum flashing at the head of windows and other openings, extending to outside faces of casings, or restore existing flashing to the satisfaction of the Architect.

END OF SECTION 062013

SECTION 076200 - SHEET METAL ROOFING, FLASHING AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Flat-seam soldered sheet metal roofing.
   2. Formed roof-drainage sheet metal fabrications.
   3. Formed low-slope roof sheet metal fabrications.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For sheet metal roofing, flashing, trim, gutters and downspout.

   1. Show installation layouts, expansion joint locations, fixed points, and keyed details. Distinguish between shop- and field-assembled work.
   2. Include pattern of seams and details of termination points, expansion joints, direction of expansion, roof penetrations, edge conditions, special conditions, and connections to adjoining work.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.4 QUALITY ASSURANCE

A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal roofing, flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Roofing Performance: Sheet metal roofing system including, but not limited to, metal roof panels, cleats, anchors and fasteners, sheet metal flashing integral with sheet metal roofing, fascia panels, trim, underlayment, and accessories, shall comply with requirements without failure due to defective manufacture, fabrication, or installation, or due to other defects in construction. Sheet metal roofing shall remain watertight.

B. General: Sheet metal flashing and accessories shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

C. Sheet Metal Standard for Roofing, Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual", SMACNA's "Architectural Sheet Metal Manual" and Revere Copper's "Copper and Common Sense" requirements for dimensions and profiles shown unless more stringent requirements are indicated on Drawings.

D. Sheet Metal Standard for Copper: Comply with CDA's "Copper in Architecture Handbook." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

E. SPRI Wind Design Standard: Manufacture and install copings and roof edge flashings capable of resisting the design wind pressure specified in the Massachusetts State Building Code, 780 CMR.

F. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.

B. Copper Sheet: ASTM B 370, cold-rolled copper sheet, H00 or H01 temper.

1. Nonpatinated Exposed Finish: Mill.

2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Hussey Copper Ltd.
b. Revere Copper Products, Inc.

3. Weight (Thickness):
a. Roofing: 20 oz.
b. Other products: As specified below.

4. Nonpatinated Exposed Finish: Mill.

2.3 UNDERLAYMENT MATERIALS

A. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. (0.16 kg/sq.) minimum.

B. Self-Adhering, High-Temperature Sheet: Minimum 30 mils thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified

asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.

2.4 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal unless otherwise indicated.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal.

1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.

   a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
   b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
   c. Spikes: Same material as scupper.

2. Fasteners for Copper Sheet: Copper, hardware bronze or passivated Series 300 stainless steel.

C. Solder:

1. For Copper: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead with maximum lead content of 0.2 percent.

D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.

E. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight, and in conformance with Section 079200.

F. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.

G. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.

2.5 ROOFING ACCESSORIES

A. Sheet Metal Accessories: Provide components required for complete sheet metal roofing assembly including trim, copings, fasciae, corner units, clips, flashings, sealants, gaskets, fillers,

metal closures, closure strips, and similar items. Match material and finish of sheet metal roofing unless otherwise indicated.

1. Cleats: Intermittent and continuous attachment devices for mechanically seaming into joints and formed from the following materials and thicknesses unless otherwise indicated:
   a. Copper Roofing: 16-oz./sq. ft. (0.55-mm) copper sheet.

2. Expansion-Type Cleats: Cleats of a design that allows longitudinal movement of roof panels without stressing panel seams; of same material as other cleats.
3. Backing Plates: Plates at roofing splices, fabricated from material recommended by SMACNA.
4. Flashing and Trim: Formed from same material and with same finish as sheet metal roofing, minimum 0.018 inch (0.46 mm) thick.

2.6 ROOFING FABRICATION

A. General: Custom fabricate sheet metal roofing to comply with details shown and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions (panel width and seam height), geometry, metal thickness, and other characteristics of installation. Fabricate sheet metal roofing and accessories in shop to greatest extent possible.

1. Flat-Seam Roofing: Form flat-seam panels from metal sheets 20 by 28 inches (510 by 710 mm) with 1/2-inch (13-mm) notched and folded edges.

B. Form exposed sheet metal work to fit substrates with little oil canning; free of buckling and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.

1. Form and fabricate sheets, seams, stripS, edge treatments, integral flashings, and other components of metal roofing to profiles, patterns, and drainage arrangements indicated on Drawings and as required for leakproof construction.

C. Sheet Metal Accessories: Custom fabricate flashings and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item required. Obtain field measurements for accurate fit before shop fabrication.

2.7 FLASHING AND TRIM FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.

1. Obtain field measurements for accurate fit before shop fabrication.
2. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.

3. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

B. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.

1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.

C. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.

D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

E. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.

F. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

2.8 SHEET METAL FABRICATIONS

A. Downspout: 3” x 4” Corrugated rectangular complete with machine-crimped smooth-curve elbows, manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.
1. Copper: 16 oz./sq. ft. (0.55 mm thick).

B. Gutters: Manufactured in uniform section lengths not exceeding 12 feet (3.6 m), with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch (25 mm) above front edge. Furnish flat-stock gutter straps, gutter brackets, expansion joints, and expansion-joint covers fabricated from same metal as gutters.
1. Copper Sheet: 20 oz./sq. ft. (0.68 mm thick).
2. Gutter Profile: As indicated on the Drawings, and in accordance with Detail C, from Copper and Common Sense".
3. Corners: Factory mitered and soldered or mechanically clinched and sealed watertight.
4. Gutter Supports: Brass hangers and 20 oz. gutter braces..
5. Gutter Accessories: Continuous screened leaf guard with sheet metal frame Bronze wire ball downspout strainer Flat ends.

C. Conductor Heads: Fabricate conductor heads with flanged back and stiffened top edge and of dimensions and shape required, complete with outlet tubes. Fabricate from the following materials:

1. Copper: 24 oz./sq. ft.

PART 3 - EXECUTION

3.1 ROOFING - EXAMINATION AND PREPARATION

A. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that tops of fasteners are flush with surface.

B. Lay out panel arrangement before installation of sheet metal roofing.

1. Space fasteners not more than 18 inches (460 mm) o.c.

3.2 ROOFING - UNDERLAYMENT INSTALLATION

A. Apply slip sheet, wrinkle free, before installing sheet metal roofing and related flashing.

3.3 ROOFING - INSTALLATION, GENERAL

A. General: Install sheet metal roofing to comply with details shown and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to installation characteristics required unless otherwise indicated on Drawings. Install fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required for complete roofing system and as recommended by fabricator for sheet metal roofing.

1. Install sheet metal roofing true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
2. Anchor sheet metal roofing and other components of the Work securely in place, with provisions for thermal and structural movement.
3. Field cutting of sheet metal roofing by torch is not permitted.
4. Flash and seal sheet metal roofing at eaves, rakes, and perimeter of all openings. Fasten with self-tapping screws.
5. Locate and space fastenings in uniform vertical and horizontal alignment. Predrill panels for fasteners.
6. Locate roofing splices over, but not attached to, structural supports. Stagger roofing splices and end laps to avoid four-panel lap splice condition. Install backing plates at roofing splices.
7. Lap metal flashing over sheet metal roofing to direct moisture to run over and off roofing.

B. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.

C. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating, by applying self-adhering sheet underlayment to each contact surface, or by other permanent separation as recommended by sheet metal manufacturer or SMACNA.

D. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

3.4 ROOFING - ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for complete sheet metal roofing assembly including trim, copings, seam covers, flashings, sealants, gaskets, fillers, metal closures, closure strips, and similar items.

B. Flashing and Trim: Comply with performance requirements herein, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and install units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

3.5 ROOFING - CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder.

C. Clean off excess sealants.

D. Remove temporary protective coverings and strippable films as sheet metal roofing is installed unless otherwise indicated in manufacturer's written installation instructions.

3.6 FLASHING AND TRIM INSTALLATION , GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
3. Space cleats not more than 12 inches (300 mm) apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
5. Torch cutting of sheet metal flashing and trim is not permitted.

B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
   1. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet (3 m) with no joints within 24 inches (600 mm) of corner or intersection.

   1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.
   2. Use lapped expansion joints only where indicated on Drawings.

D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.

E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

F. Seal joints as required for watertight construction. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."

G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets with solder to width of 1-1/2 inches (38 mm); however, reduce pre-tinning where pre-tinned surface would show in completed Work.
   1. Do not use torches for soldering.
   2. Heat surfaces to receive solder, and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
   3. Copper Soldering: Tin edges of uncoated sheets, using solder for copper.

3.7 ROOF-DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof-drainage items to produce complete roof-drainage system according to cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.

B. Downspouts: Join sections with 1-1/2-inch (38-mm) telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches (1500 mm) o.c.

C. Conductor Heads: Anchor securely to wall, with elevation of conductor head rim at minimum of 1 inch (25 mm) below gutter discharge.

3.8 ROOF FLASHING INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

3.9 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder.

C. Clean off excess sealants.

D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

END OF SECTION 076200

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SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Silicone joint sealants.
2. Urethane joint sealants.

1.2 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

1.3 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Color of Exposed Joint Sealants: White.

2.2 SILICONE JOINT SEALANTS

A. Single-component, neutral curing Silicone Sealant:

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. Dow Corning Corporation: 790
   b. GE Silicones: SilPruf LM SCS2700.
   c. Tremco Inc.: Spectrem 1
   d. Pecora Corp: 86
2. Use: Joints in exterior vertical and soffit surfaces.

B. Multicomponent Pourable Urethane Sealant:

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. Bostik Findley: Chem-Calk 550
   b. Meadows, W.R., Inc.: POURTHANE
   c. Pecora Corp.: Urexpan NR-200
   d. Tremco Inc.: THC-901
2. Use: Joints in exterior horizontal surfaces.

2.3 JOINT-SEALANT BACKING

A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) Type O (open-cell material) Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

   a. BASF Construction Chemicals, LLC, Building Systems.
   b. Construction Foam Products, a division of Nomaco, Inc.

B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.4 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove laitance and form-release agents from concrete.
2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces.

3.2 INSTALLATION OF JOINT SEALANTS

A. General: Comply with ASTM C 1193 and joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

1. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

END OF SECTION 079200

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SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on the following exterior substrates:
   1. Wood.
   2. Composition Trim
   3. Cellular PVC
   4. PVC Railings

1.2 DEFINITIONS

A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

C. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

D. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

E. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

F. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Product List: For each product indicated. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

1.4 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: 1 gal. of each finish product and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide one of the products Scheduled in other Part 2 articles for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

B. 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.

C. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.

D. Colors: As selected by Architect from manufacturer's full range. Intent is to match colors at surrounding existing construction.

PART 3 - EXECUTION

3.1 SCOPE

A. The scope of work includes field preparation and painting of all new work installed under this contract, all existing work modified or damaged under this contract, and all existing painted surfaces needed to extend newly painted surfaces out to reasonable perimeter edges.

B. New surfaces to be painted include composition trim, cellular PVC trim, PVC railings, siding, latticework and misc. new exterior woodwork. See Exterior Painting Schedule at the end of this Section.

C. New surfaces not to be painted include composite decking, coated coil stock and copper roofing and flashing and accessories, and factory-finished items.

3.2 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Wood: 15 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.3 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.

B. Comply with manufacturer’s written instructions for field coating of composition trim and cellular PVC t rim, and PVC railings.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

3.4 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

B. Comply with manufacturer’s written instructions for field coating of composition trim, cellular PVC and PVC railings.

C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.5 CLEANING AND PROTECTION

A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

A. Composition Trim, Cellular PVC and PVC railings:

1. Primer: Touch up cut edges and damaged shop coating with primer recommended by the substrate manufacturer.
2. Finish: Gloss Level 3-4, MPI # 15, 2 coats of either:
   a. Duron Weathershield Exterior Acrylic
   b. Glidden Premium Satin
   c. Sherwin-Williams Duration Premium Exterior Coating

B. Siding and Misc. Woodwork:
1. Primer: Touch up cut edges and damaged shop coating with primer recommended by the substrate manufacturer.
2. Finish: Gloss Level 3-4, MPI # 15, 2 coats of either:
   a. Duron Weathershield Exterior Acrylic
   b. Glidden Premium Satin
   c. Sherwin-Williams Duration Premium Exterior Coating

END OF SECTION 099113

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

Prevailing Wage Rates

DEVAL L. PATRICK
Governor
TIMOTHY P. MURRAY
Lt. Governor

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

JOANNE F. GOLDSTEIN
Secretary
HEATHER E. ROWE
Director

Awarding Authority: University of Massachusetts Amherst

Contract Number: UMA13-40 **City/Town:** AMHERST

Description of Work: Chancellor's House, West Entrance Renovation - General Building Construction

Job Location: UMASS Amherst

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.
- Awarding authorities 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.
- 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. Once a contractor has been selected by the awarding authority, the wage schedule shall be made a part of the contract for that project. The wage schedule must be posted in a conspicuous place at the work site during 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 regardless of whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- 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, he/she must be paid the "total rate" listed on the wage schedule regardless of experience or skills.
- 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. 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 directly to the awarding authority 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 *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	12/01/2012	$30.45	$8.91	$8.00	$0.00	$47.36
(3 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	12/01/2012	$30.52	$8.91	$8.00	$0.00	$47.43
(4 & 5 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	12/01/2012	$30.64	$9.07	$8.00	$0.00	$47.71
ADS/SUBMERSIBLE PILOT *PILE DRIVER LOCAL 56 (ZONE 3)*	08/01/2012	$82.32	$9.80	$17.67	$0.00	$109.79
	08/01/2013	$85.47	$9.80	$17.67	$0.00	$112.94
	08/01/2014	$88.62	$9.80	$17.67	$0.00	$116.09
	08/01/2015	$91.77	$9.80	$17.67	$0.00	$119.24
AIR TRACK OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.80	$7.10	$10.19	$0.00	$45.09
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$27.24	$7.10	$9.88	$0.00	$44.22
	06/01/2013	$27.74	$7.10	$9.88	$0.00	$44.72
	12/01/2013	$28.24	$7.10	$9.88	$0.00	$45.22
	06/01/2014	$28.74	$7.10	$9.88	$0.00	$45.72
	12/01/2014	$29.24	$7.10	$9.88	$0.00	$46.22
	06/01/2015	$29.74	$7.10	$9.88	$0.00	$46.72
	12/01/2015	$30.24	$7.10	$9.88	$0.00	$47.22
	06/01/2016	$30.74	$7.10	$9.88	$0.00	$47.72
	12/01/2016	$31.49	$7.10	$9.88	$0.00	$48.47
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS WORKER (PIPES & TANKS) *ASBESTOS WORKERS LOCAL 6 (SPRINGFIELD)*	12/01/2012	$26.17	$10.40	$5.45	$0.00	$42.02
	06/01/2013	$26.89	$10.40	$5.45	$0.00	$42.74
	12/01/2013	$27.61	$10.40	$5.45	$0.00	$43.46
	06/01/2014	$28.42	$10.40	$5.45	$0.00	$44.27
	12/01/2014	$29.23	$10.40	$5.45	$0.00	$45.08
	06/01/2015	$30.09	$10.40	$5.45	$0.00	$45.94
	12/01/2015	$30.94	$10.40	$5.45	$0.00	$46.79
ASPHALT RAKER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$26.74	$7.10	$9.88	$0.00	$43.72
	06/01/2013	$27.24	$7.10	$9.88	$0.00	$44.22
	12/01/2013	$27.74	$7.10	$9.88	$0.00	$44.72
	06/01/2014	$28.24	$7.10	$9.88	$0.00	$45.22
	12/01/2014	$28.74	$7.10	$9.88	$0.00	$45.72
	06/01/2015	$29.24	$7.10	$9.88	$0.00	$46.22
	12/01/2015	$29.74	$7.10	$9.88	$0.00	$46.72
	06/01/2016	$30.24	$7.10	$9.88	$0.00	$47.22
	12/01/2016	$30.99	$7.10	$9.88	$0.00	$47.97
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
AUTOMATIC GRADER-EXCAVATOR (RECLAIMER) *OPERATING ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2012	$30.67	$9.70	$9.92	$0.00	$50.29
BARCO-TYPE JUMPING TAMPER *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
BATCH/CEMENT PLANT - ON SITE *OPERATING ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2012	$30.14	$9.70	$9.92	$0.00	$49.76
BLOCK PAVER, RAMMER / CURB SETTER *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/03/2012	$27.80	$7.10	$10.19	$0.00	$45.09
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$27.24	$7.10	$9.88	$0.00	$44.22
	06/01/2013	$27.74	$7.10	$9.88	$0.00	$44.72
	12/01/2013	$28.24	$7.10	$9.88	$0.00	$45.22
	06/01/2014	$28.74	$7.10	$9.88	$0.00	$45.72
	12/01/2014	$29.24	$7.10	$9.88	$0.00	$46.22
	06/01/2015	$29.74	$7.10	$9.88	$0.00	$46.72
	12/01/2015	$30.24	$7.10	$9.88	$0.00	$47.22
	06/01/2016	$30.74	$7.10	$9.88	$0.00	$47.72
	12/01/2016	$31.49	$7.10	$9.88	$0.00	$48.47
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER *BOILERMAKERS LOCAL 29*	01/01/2010	$37.70	$6.97	$11.18	$0.00	$55.85

Apprentice - *BOILERMAKER - Local 29*

Effective Date - 01/01/2010

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	$24.51	$6.97	$11.18	$0.00	$42.66
2	65	$24.51	$6.97	$11.18	$0.00	$42.66
3	70	$26.39	$6.97	$11.18	$0.00	$44.54
4	75	$28.28	$6.97	$11.18	$0.00	$46.43
5	80	$30.16	$6.97	$11.18	$0.00	$48.31
6	85	$32.05	$6.97	$11.18	$0.00	$50.20
7	90	$33.93	$6.97	$11.18	$0.00	$52.08
8	95	$35.82	$6.97	$11.18	$0.00	$53.97

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) *BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)*	03/04/2013	$35.91	$10.18	$15.99	$0.00	$62.08
	09/02/2013	$36.81	$10.18	$16.06	$0.00	$63.05
	03/03/2014	$37.37	$10.18	$16.06	$0.00	$63.61
	09/01/2014	$38.27	$10.18	$16.13	$0.00	$64.58
	03/02/2015	$38.83	$10.18	$16.13	$0.00	$65.14
	08/31/2015	$39.73	$10.18	$16.20	$0.00	$66.11
	02/29/2016	$40.30	$10.18	$16.20	$0.00	$66.68
	09/05/2016	$41.20	$10.18	$16.28	$0.00	$67.66
	02/27/2017	$41.77	$10.18	$16.28	$0.00	$68.23

Apprentice - *BRICK/PLASTER/CEMENT MASON - Local 3 Springfield/Pittsfield*

Effective Date - 03/04/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$17.96	$10.18	$15.99	$0.00	$44.13
2	60	$21.55	$10.18	$15.99	$0.00	$47.72
3	70	$25.14	$10.18	$15.99	$0.00	$51.31
4	80	$28.73	$10.18	$15.99	$0.00	$54.90
5	90	$32.32	$10.18	$15.99	$0.00	$58.49

Effective Date - 09/02/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.41	$10.18	$16.06	$0.00	$44.65
2	60	$22.09	$10.18	$16.06	$0.00	$48.33
3	70	$25.77	$10.18	$16.06	$0.00	$52.01
4	80	$29.45	$10.18	$16.06	$0.00	$55.69
5	90	$33.13	$10.18	$16.06	$0.00	$59.37

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/POWER SHOVEL/TREE SHREDDER /CLAM SHELL*OPERATING* *ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2012	$30.67	$9.70	$9.92	$0.00	$50.29
CAISSON & UNDERPINNING BOTTOM MAN *LABORERS - FOUNDATION AND MARINE*	12/01/2012	$33.45	$7.10	$12.60	$0.00	$53.15
	06/01/2013	$34.20	$7.10	$12.60	$0.00	$53.90
	12/01/2013	$34.95	$7.10	$12.60	$0.00	$54.65
	06/01/2014	$35.70	$7.10	$12.60	$0.00	$55.40
	12/01/2014	$36.45	$7.10	$12.60	$0.00	$56.15
	06/01/2015	$37.20	$7.10	$12.60	$0.00	$56.90
	12/01/2015	$37.95	$7.10	$12.60	$0.00	$57.65
	06/01/2016	$38.70	$7.10	$12.60	$0.00	$58.40
	12/01/2016	$39.70	$7.10	$12.60	$0.00	$59.40
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING LABORER *LABORERS - FOUNDATION AND MARINE*	12/01/2012	$32.30	$7.10	$12.60	$0.00	$52.00
	06/01/2013	$33.05	$7.10	$12.60	$0.00	$52.75
	12/01/2013	$33.80	$7.10	$12.60	$0.00	$53.50
	06/01/2014	$34.55	$7.10	$12.60	$0.00	$54.25
	12/01/2014	$35.30	$7.10	$12.60	$0.00	$55.00
	06/01/2015	$36.05	$7.10	$12.60	$0.00	$55.75
	12/01/2015	$36.80	$7.10	$12.60	$0.00	$56.50
	06/01/2016	$37.55	$7.10	$12.60	$0.00	$57.25
	12/01/2016	$38.55	$7.10	$12.60	$0.00	$58.25
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN *LABORERS - FOUNDATION AND MARINE*	12/01/2012	$32.30	$7.10	$12.60	$0.00	$52.00
	06/01/2013	$33.05	$7.10	$12.60	$0.00	$52.75
	12/01/2013	$33.80	$7.10	$12.60	$0.00	$53.50
	06/01/2014	$34.55	$7.10	$12.60	$0.00	$54.25
	12/01/2014	$35.30	$7.10	$12.60	$0.00	$55.00
	06/01/2015	$36.05	$7.10	$12.60	$0.00	$55.75
	12/01/2015	$36.80	$7.10	$12.60	$0.00	$56.50
	06/01/2016	$37.55	$7.10	$12.60	$0.00	$57.25
	12/01/2016	$38.55	$7.10	$12.60	$0.00	$58.25
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
For apprentice rates see "Apprentice- LABORER"						
CARPENTER *CARPENTERS LOCAL 108 - HAMPDEN HAMPSHIRE*	03/04/2013	$31.04	$7.20	$13.36	$0.00	$51.60
	09/02/2013	$31.79	$7.20	$13.36	$0.00	$52.35
	03/03/2014	$32.54	$7.20	$13.36	$0.00	$53.10
	09/01/2014	$33.29	$7.20	$13.36	$0.00	$53.85
	03/02/2015	$34.09	$7.20	$13.36	$0.00	$54.65
	08/31/2015	$34.89	$7.20	$13.36	$0.00	$55.45
	02/29/2016	$35.64	$7.20	$13.36	$0.00	$56.20

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CARPENTER - Local 108 Hampden Hampshire*

Effective Date - 03/04/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$15.52	$7.20	$1.12	$0.00	$23.84
2	60	$18.62	$7.20	$1.12	$0.00	$26.94
3	70	$21.73	$7.20	$10.00	$0.00	$38.93
4	75	$23.28	$7.20	$10.00	$0.00	$40.48
5	80	$24.83	$7.20	$11.12	$0.00	$43.15
6	80	$24.83	$7.20	$11.12	$0.00	$43.15
7	90	$27.94	$7.20	$12.24	$0.00	$47.38
8	90	$27.94	$7.20	$12.24	$0.00	$47.38

Effective Date - 09/02/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$15.90	$7.20	$1.12	$0.00	$24.22
2	60	$19.07	$7.20	$1.12	$0.00	$27.39
3	70	$22.25	$7.20	$10.00	$0.00	$39.45
4	75	$23.84	$7.20	$10.00	$0.00	$41.04
5	80	$25.43	$7.20	$11.12	$0.00	$43.75
6	80	$25.43	$7.20	$11.12	$0.00	$43.75
7	90	$28.61	$7.20	$12.24	$0.00	$48.05
8	90	$28.61	$7.20	$12.24	$0.00	$48.05

Notes: Pre-6/09 Step1$23.47/2$25.02/3$39.18/4$42.29/5$45.39/6$46.94
** 1: 1-5/2: 6-8/3:9-11/Steps: 6 mos (600 hrs)/rates by step
7$48.50/8$50.05

Apprentice to Journeyworker Ratio:**

CEMENT MASONRY/PLASTERING *BRICKLAYERS LOCAL 3 (SPRINGFIELD/PITTSFIELD)*	03/04/2013	$31.51	$10.50	$18.61	$1.30	$61.92
	09/02/2013	$32.45	$10.50	$18.61	$1.30	$62.86
	03/03/2014	$32.99	$10.50	$18.61	$1.30	$63.40
	09/01/2014	$33.93	$10.50	$18.61	$1.30	$64.34
	03/02/2015	$34.48	$10.50	$18.61	$1.30	$64.89
	08/31/2015	$35.42	$10.50	$18.61	$1.30	$65.83
	02/29/2016	$35.97	$10.50	$18.61	$1.30	$66.38
	09/05/2016	$36.92	$10.50	$18.61	$1.30	$67.33
	02/27/2017	$37.47	$10.50	$18.61	$1.30	$67.88

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CEMENT MASONRY/PLASTERING - Springfield/Pittsfield*

Effective Date - 03/04/2013

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

Notes: Apprentice wages shall be no less than the following Steps;
1$45.35/2$51.13/3$54.28/4$57.42/5$60.56/6$63.71/7$68.99
Steps are 6000 hours

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
For apprentice rates see "Apprentice- LABORER"						
COMPRESSOR OPERATOR *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$30.14	$9.70	$9.92	$0.00	$49.76
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CRANE/BACKHOE/FRONT-END LOADER OPERATOR *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$30.67	$9.70	$9.92	$0.00	$50.29
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) *PAINTERS LOCAL 35 - ZONE 3*	01/01/2013	$45.01	$7.80	$15.60	$0.00	$68.41

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 01/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.51	$7.80	$0.00	$0.00	$30.31
2	55	$24.76	$7.80	$3.52	$0.00	$36.08
3	60	$27.01	$7.80	$3.84	$0.00	$38.65
4	65	$29.26	$7.80	$4.16	$0.00	$41.22
5	70	$31.51	$7.80	$13.68	$0.00	$52.99
6	75	$33.76	$7.80	$14.00	$0.00	$55.56
7	80	$36.01	$7.80	$14.32	$0.00	$58.13
8	90	$40.51	$7.80	$14.96	$0.00	$63.27

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2011	$31.80	$7.10	$12.45	$0.00	$51.35
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2011	$32.80	$7.10	$12.45	$0.00	$52.35
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS *LABORERS - ZONE 3 (BUILDING & SITE)*	12/01/2011	$32.55	$7.10	$12.45	$0.00	$52.10
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: CONCRETE CUTTER/SAWYER *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2011	$32.80	$7.10	$12.45	$0.00	$52.35
DEMO: JACKHAMMER OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2011	$32.55	$7.10	$12.45	$0.00	$52.10
DEMO: WRECKING LABORER *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/01/2011	$31.80	$7.10	$12.45	$0.00	$51.35
DIVER *PILE DRIVER LOCAL 56 (ZONE 3)*	08/01/2012	$54.88	$9.80	$17.67	$0.00	$82.35
	08/01/2013	$56.98	$9.80	$17.67	$0.00	$84.45
	08/01/2014	$59.08	$9.80	$17.67	$0.00	$86.55
	08/01/2015	$61.18	$9.80	$17.67	$0.00	$88.65
DIVER TENDER *PILE DRIVER LOCAL 56 (ZONE 3)*	08/01/2012	$54.88	$9.80	$17.67	$0.00	$82.35
	08/01/2013	$56.98	$9.80	$17.67	$0.00	$84.45
	08/01/2014	$59.08	$9.80	$17.67	$0.00	$86.55
	08/01/2015	$61.18	$9.80	$17.67	$0.00	$88.65
DIVER TENDER (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 3)*	08/01/2012	$58.80	$9.80	$17.67	$0.00	$86.27
	08/01/2013	$61.05	$9.80	$17.67	$0.00	$88.52
	08/01/2014	$63.30	$9.80	$17.67	$0.00	$90.77
	08/01/2015	$65.55	$9.80	$17.67	$0.00	$93.02
DIVER/SLURRY (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 3)*	08/01/2012	$82.32	$9.80	$17.67	$0.00	$109.79
	08/01/2013	$85.47	$9.80	$17.67	$0.00	$112.94
	08/01/2014	$88.62	$9.80	$17.67	$0.00	$116.09
	08/01/2015	$91.77	$9.80	$17.67	$0.00	$119.24
ELECTRICIAN (Including Core Drilling) *ELECTRICIANS LOCAL 7*	03/01/2013	$35.36	$9.05	$9.21	$0.00	$53.62
	07/01/2013	$36.36	$9.05	$9.24	$0.00	$54.65
	12/30/2013	$36.86	$9.05	$9.26	$0.00	$55.17

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ELECTRICIAN - Local 7*

Effective Date - 03/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$14.14	$4.00	$0.42	$0.00	$18.56
2	45	$15.91	$4.00	$0.48	$0.00	$20.39
3	50	$17.68	$9.05	$5.18	$0.00	$31.91
4	55	$19.45	$9.05	$5.23	$0.00	$33.73
5	65	$22.98	$9.05	$6.34	$0.00	$38.37
6	70	$24.75	$9.05	$7.39	$0.00	$41.19

Effective Date - 07/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$14.54	$4.00	$0.44	$0.00	$18.98
2	45	$16.36	$4.00	$0.49	$0.00	$20.85
3	50	$18.18	$9.05	$5.20	$0.00	$32.43
4	55	$20.00	$9.05	$5.25	$0.00	$34.30
5	65	$23.63	$9.05	$6.36	$0.00	$39.04
6	70	$25.45	$9.05	$7.41	$0.00	$41.91

Notes: Pre-5/31/11 1$27.26/2$29.08/3$35.55/4$37.37/5$41.64/6$43.64
Steps 1-2 are 1000 hrs; Steps 3-6 are 1500 hrs.

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

ELEVATOR CONSTRUCTOR
ELEVATOR CONSTRUCTORS LOCAL 41
01/01/2012 $47.37 $8.78 $6.96 $0.00 $63.11

Apprentice - *ELEVATOR CONSTRUCTOR - Local 41*

Effective Date - 01/01/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.69	$8.78	$6.96	$0.00	$39.43
2	55	$26.05	$8.78	$6.96	$0.00	$41.79
3	65	$30.79	$8.78	$6.96	$0.00	$46.53
4	70	$33.16	$8.78	$6.96	$0.00	$48.90
5	80	$37.90	$8.78	$6.96	$0.00	$53.64

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

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER
ELEVATOR CONSTRUCTORS LOCAL 41
01/01/2012 $33.16 $8.78 $6.96 $0.00 $48.90

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$26.74	$7.10	$9.88	$0.00	$43.72
	06/01/2013	$27.24	$7.10	$9.88	$0.00	$44.22
	12/01/2013	$27.74	$7.10	$9.88	$0.00	$44.72
	06/01/2014	$28.24	$7.10	$9.88	$0.00	$45.22
	12/01/2014	$28.74	$7.10	$9.88	$0.00	$45.72
	06/01/2015	$29.24	$7.10	$9.88	$0.00	$46.22
	12/01/2015	$29.74	$7.10	$9.88	$0.00	$46.72
	06/01/2016	$30.24	$7.10	$9.88	$0.00	$47.22
	12/01/2016	$30.99	$7.10	$9.88	$0.00	$47.97
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FIELD ENG.INST/ROD-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 98*	06/01/1999	$18.84	$4.80	$4.10	$0.00	$27.74
FIELD ENG.PARTY CHIEF:BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 98*	06/01/1999	$21.33	$4.80	$4.10	$0.00	$30.23
FIELD ENG.SURVEY CHIEF-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 98*	06/01/1999	$22.33	$4.80	$4.10	$0.00	$31.23
FIRE ALARM INSTALLER *ELECTRICIANS LOCAL 7*	03/01/2013	$35.36	$9.05	$9.21	$0.00	$53.62
	07/01/2013	$36.36	$9.05	$9.24	$0.00	$54.65
	12/30/2013	$36.86	$9.05	$9.26	$0.00	$55.17
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING*ELECTRICIANS LOCAL 7*	03/01/2013	$35.36	$9.05	$9.21	$0.00	$53.62
	07/01/2013	$36.36	$9.05	$9.24	$0.00	$54.65
	12/30/2013	$36.86	$9.05	$9.26	$0.00	$55.17
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$30.14	$9.70	$9.92	$0.00	$49.76

Apprentice - *OPERATING ENGINEERS - Local 98 Class 3*

Effective Date - 12/01/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$18.08	$9.70	$9.92	$0.00	$37.70
2	70	$21.10	$9.70	$9.92	$0.00	$40.72
3	80	$24.11	$9.70	$9.92	$0.00	$43.73
4	90	$27.13	$9.70	$9.92	$0.00	$46.75

Notes:

Steps 1-2 are 1000 hrs.; Steps 3-4 are 2000 hrs.

Apprentice to Journeyworker Ratio:1:6

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FLAGGER & SIGNALER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$20.50	$7.10	$9.88	$0.00	$37.48
	06/01/2013	$20.50	$7.10	$9.88	$0.00	$37.48
	12/01/2013	$20.50	$7.10	$9.88	$0.00	$37.48
	06/01/2014	$20.50	$7.10	$9.88	$0.00	$37.48
	12/01/2014	$20.50	$7.10	$9.88	$0.00	$37.48
	06/01/2015	$20.50	$7.10	$9.88	$0.00	$37.48
	12/01/2015	$20.50	$7.10	$9.88	$0.00	$37.48
	06/01/2016	$20.50	$7.10	$9.88	$0.00	$37.48
	12/01/2016	$20.50	$7.10	$9.88	$0.00	$37.48
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
FLOORCOVERER *FLOORCOVERERS LOCAL 2168 ZONE II*	03/01/2013	$36.30	$9.80	$16.71	$0.00	$62.81
	09/01/2013	$36.30	$9.80	$16.71	$0.00	$62.81
	03/01/2014	$36.30	$9.80	$16.71	$0.00	$62.81

Apprentice - *FLOORCOVERER - Local 2168 Zone II*

Effective Date - 03/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.15	$9.80	$1.79	$0.00	$29.74
2	55	$19.97	$9.80	$1.79	$0.00	$31.56
3	60	$21.78	$9.80	$11.34	$0.00	$42.92
4	65	$23.60	$9.80	$11.34	$0.00	$44.74
5	70	$25.41	$9.80	$13.13	$0.00	$48.34
6	75	$27.23	$9.80	$13.13	$0.00	$50.16
7	80	$29.04	$9.80	$14.92	$0.00	$53.76
8	85	$30.86	$9.80	$14.92	$0.00	$55.58

Effective Date - 09/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.15	$9.80	$1.79	$0.00	$29.74
2	55	$19.97	$9.80	$1.79	$0.00	$31.56
3	60	$21.78	$9.80	$11.34	$0.00	$42.92
4	65	$23.60	$9.80	$11.34	$0.00	$44.74
5	70	$25.41	$9.80	$13.13	$0.00	$48.34
6	75	$27.23	$9.80	$13.13	$0.00	$50.16
7	80	$29.04	$9.80	$14.92	$0.00	$53.76
8	85	$30.86	$9.80	$14.92	$0.00	$55.58

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

FORK LIFT *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$30.36	$9.70	$9.92	$0.00	$49.98
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATORS/LIGHTING PLANTS *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$26.91	$9.70	$9.92	$0.00	$46.53

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) *GLAZIERS LOCAL 1333*	06/01/2012	$33.78	$8.90	$7.25	$0.00	$49.93

Apprentice - *GLAZIER - Local 1333*

Effective Date - 06/01/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$16.89	$8.90	$1.00	$0.00	$26.79
2	56	$19.00	$8.90	$1.00	$0.00	$28.90
3	63	$21.11	$8.90	$1.50	$0.00	$31.51
4	69	$23.22	$8.90	$1.50	$0.00	$33.62
5	75	$25.34	$8.90	$2.00	$0.00	$36.24
6	81	$27.45	$8.90	$2.00	$0.00	$38.35
7	88	$29.56	$8.90	$7.25	$0.00	$45.71
8	94	$31.67	$8.90	$7.25	$0.00	$47.82

Notes:

Apprentice to Journeyworker Ratio:1:3

GRADER/TRENCHING MACHINE/DERRICK *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$30.67	$9.70	$9.92	$0.00	$50.29
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
HVAC (DUCTWORK) *SHEETMETAL WORKERS LOCAL 63*	01/01/2013	$31.56	$8.64	$12.93	$1.59	$54.72
	07/01/2013	$32.31	$8.64	$12.93	$1.62	$55.50
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) *ELECTRICIANS LOCAL 7*	03/01/2013	$35.36	$9.05	$9.21	$0.00	$53.62
	07/01/2013	$36.36	$9.05	$9.24	$0.00	$54.65
	12/30/2013	$36.86	$9.05	$9.26	$0.00	$55.17
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) *SHEETMETAL WORKERS LOCAL 63*	01/01/2013	$31.56	$8.64	$12.93	$1.59	$54.72
	07/01/2013	$32.31	$8.64	$12.93	$1.62	$55.50
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) *PLUMBERS & PIPEFITTERS LOCAL 104*	09/17/2012	$35.16	$8.30	$13.65	$0.00	$57.11
	03/17/2013	$35.81	$8.30	$13.75	$0.00	$57.86
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC *PLUMBERS & PIPEFITTERS LOCAL 104*	09/17/2012	$35.16	$8.30	$13.65	$0.00	$57.11
	03/17/2013	$35.81	$8.30	$13.75	$0.00	$57.86
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HYDRAULIC DRILLS (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$27.24	$7.10	$9.88	$0.00	$44.22
	06/01/2013	$27.74	$7.10	$9.88	$0.00	$44.72
	12/01/2013	$28.24	$7.10	$9.88	$0.00	$45.22
	06/01/2014	$28.74	$7.10	$9.88	$0.00	$45.72
	12/01/2014	$29.24	$7.10	$9.88	$0.00	$46.22
	06/01/2015	$29.74	$7.10	$9.88	$0.00	$46.72
	12/01/2015	$30.24	$7.10	$9.88	$0.00	$47.22
	06/01/2016	$30.74	$7.10	$9.88	$0.00	$47.72
	12/01/2016	$31.49	$7.10	$9.88	$0.00	$48.47
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
INSULATOR (PIPES & TANKS) *ASBESTOS WORKERS LOCAL 6 (SPRINGFIELD)*	09/01/2012	$33.17	$10.65	$11.50	$0.00	$55.32
	09/01/2013	$34.77	$10.65	$11.50	$0.00	$56.92
	09/01/2014	$36.77	$10.65	$11.50	$0.00	$58.92

Apprentice - *ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Springfield*

Effective Date - 09/01/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$16.59	$10.65	$8.60	$0.00	$35.84
2	60	$19.90	$10.65	$9.18	$0.00	$39.73
3	70	$23.22	$10.65	$9.76	$0.00	$43.63
4	80	$26.54	$10.65	$10.34	$0.00	$47.53

Effective Date - 09/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$17.39	$10.65	$8.60	$0.00	$36.64
2	60	$20.86	$10.65	$9.18	$0.00	$40.69
3	70	$24.34	$10.65	$9.76	$0.00	$44.75
4	80	$27.82	$10.65	$10.34	$0.00	$48.81

Notes:
Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER *IRONWORKERS LOCAL 7 (SPRINGFIELD AREA)*	09/16/2012	$28.05	$7.70	$18.10	$0.00	$53.85

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *IRONWORKER - Local 7 Springfield*

Effective Date - 09/16/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$16.83	$7.70	$18.10	$0.00	$42.63
2	70	$19.64	$7.70	$18.10	$0.00	$45.44
3	75	$21.04	$7.70	$18.10	$0.00	$46.84
4	80	$22.44	$7.70	$18.10	$0.00	$48.24
5	85	$23.84	$7.70	$18.10	$0.00	$49.64
6	90	$25.25	$7.70	$18.10	$0.00	$51.05

Notes:
Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:

JACKHAMMER & PAVING BREAKER OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
For apprentice rates see "Apprentice- LABORER"						
LABORER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.05	$7.10	$10.19	$0.00	$44.34

Apprentice - *LABORER - Zone 3 Building & Site*

Effective Date - 12/03/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$16.23	$7.10	$10.19	$0.00	$33.52
2	70	$18.94	$7.10	$10.19	$0.00	$36.23
3	80	$21.64	$7.10	$10.19	$0.00	$38.93
4	90	$24.35	$7.10	$10.19	$0.00	$41.64

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$26.49	$7.10	$9.88	$0.00	$43.47
	06/01/2013	$26.99	$7.10	$9.88	$0.00	$43.97
	12/01/2013	$27.49	$7.10	$9.88	$0.00	$44.47
	06/01/2014	$27.99	$7.10	$9.88	$0.00	$44.97
	12/01/2014	$28.49	$7.10	$9.88	$0.00	$45.47
	06/01/2015	$28.99	$7.10	$9.88	$0.00	$45.97
	12/01/2015	$29.49	$7.10	$9.88	$0.00	$46.47
	06/01/2016	$29.99	$7.10	$9.88	$0.00	$46.97
	12/01/2016	$30.74	$7.10	$9.88	$0.00	$47.72

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *LABORER (Heavy & Highway) - Zone 3*

Effective Date - 12/01/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$15.89	$7.10	$9.88	$0.00	$32.87
2	70	$18.54	$7.10	$9.88	$0.00	$35.52
3	80	$21.19	$7.10	$9.88	$0.00	$38.17
4	90	$23.84	$7.10	$9.88	$0.00	$40.82

Effective Date - 06/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$16.19	$7.10	$9.88	$0.00	$33.17
2	70	$18.89	$7.10	$9.88	$0.00	$35.87
3	80	$21.59	$7.10	$9.88	$0.00	$38.57
4	90	$24.29	$7.10	$9.88	$0.00	$41.27

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER: CARPENTER TENDER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.05	$7.10	$10.19	$0.00	$44.34
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.64	$7.10	$9.60	$0.00	$44.34
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$28.05	$7.10	$10.19	$0.00	$45.34
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$26.74	$7.10	$9.88	$0.00	$43.72
	06/01/2013	$27.24	$7.10	$9.88	$0.00	$44.22
	12/01/2013	$27.74	$7.10	$9.88	$0.00	$44.72
	06/01/2014	$28.24	$7.10	$9.88	$0.00	$45.22
	12/01/2014	$28.74	$7.10	$9.88	$0.00	$45.72
	06/01/2015	$29.24	$7.10	$9.88	$0.00	$46.22
	12/01/2015	$29.74	$7.10	$9.88	$0.00	$46.72
	06/01/2016	$30.24	$7.10	$9.88	$0.00	$47.22
	12/01/2016	$30.99	$7.10	$9.88	$0.00	$47.97
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.05	$7.10	$10.19	$0.00	$44.34
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.05	$7.10	$10.19	$0.00	$44.34

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
This classification applies to the wholesale removal of standing trees including all associated trimming of branches and limbs, and applies to the removal of branches at locations not on or around utility lines. For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
LASER BEAM OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$26.74	$7.10	$9.88	$0.00	$43.72
	06/01/2013	$27.24	$7.10	$9.88	$0.00	$44.22
	12/01/2013	$27.74	$7.10	$9.88	$0.00	$44.72
	06/01/2014	$28.24	$7.10	$9.88	$0.00	$45.22
	12/01/2014	$28.74	$7.10	$9.88	$0.00	$45.72
	06/01/2015	$29.24	$7.10	$9.88	$0.00	$46.22
	12/01/2015	$29.74	$7.10	$9.88	$0.00	$46.72
	06/01/2016	$30.24	$7.10	$9.88	$0.00	$47.22
	12/01/2016	$30.99	$7.10	$9.88	$0.00	$47.97
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
MARBLE & TILE FINISHERS *BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE*	03/04/2013	$29.28	$10.18	$15.70	$0.00	$55.16
	09/02/2013	$30.19	$10.18	$15.76	$0.00	$56.13
	03/03/2014	$30.75	$10.18	$15.76	$0.00	$56.69
	09/01/2014	$31.66	$10.18	$15.82	$0.00	$57.66
	03/02/2015	$32.22	$10.18	$15.82	$0.00	$58.22
	08/31/2015	$33.13	$10.18	$15.88	$0.00	$59.19
	02/29/2016	$33.70	$10.18	$15.88	$0.00	$59.76
	09/05/2016	$34.61	$10.18	$15.95	$0.00	$60.74
	02/27/2017	$35.18	$10.18	$15.95	$0.00	$61.31

Apprentice - *MARBLE-TILE-TERRAZZO FINISHER-Local 3 Marble/Tile (Spr/Pitt)*

Effective Date - 03/04/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$14.64	$10.18	$15.70	$0.00	$40.52
2	60	$17.57	$10.18	$15.70	$0.00	$43.45
3	70	$20.50	$10.18	$15.70	$0.00	$46.38
4	80	$23.42	$10.18	$15.70	$0.00	$49.30
5	90	$26.35	$10.18	$15.70	$0.00	$52.23

Effective Date - 09/02/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$15.10	$10.18	$15.76	$0.00	$41.04
2	60	$18.11	$10.18	$15.76	$0.00	$44.05
3	70	$21.13	$10.18	$15.76	$0.00	$47.07
4	80	$24.15	$10.18	$15.76	$0.00	$50.09
5	90	$27.17	$10.18	$15.76	$0.00	$53.11

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MARBLE MASONS,TILELAYERS & TERRAZZO MECH *BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE*	03/04/2013	$35.91	$10.18	$15.99	$0.00	$62.08
	09/02/2013	$36.81	$10.18	$16.06	$0.00	$63.05
	03/03/2014	$37.37	$10.18	$16.06	$0.00	$63.61
	09/01/2014	$38.27	$10.18	$16.13	$0.00	$64.58
	03/02/2015	$38.83	$10.18	$16.13	$0.00	$65.14
	08/31/2015	$39.73	$10.18	$16.20	$0.00	$66.11
	02/29/2016	$40.30	$10.18	$16.20	$0.00	$66.68
	09/05/2016	$41.20	$10.18	$16.28	$0.00	$67.66
	02/27/2017	$41.77	$10.18	$16.28	$0.00	$68.23

Apprentice - *MARBLE-TILE-TERRAZZO MECH - Local 3 Marble/Tile (Spr/Pitt)*

Effective Date - 03/04/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$17.96	$10.18	$15.99	$0.00	$44.13
2	60	$21.55	$10.18	$15.99	$0.00	$47.72
3	70	$25.14	$10.18	$15.99	$0.00	$51.31
4	80	$28.73	$10.18	$15.99	$0.00	$54.90
5	90	$32.32	$10.18	$15.99	$0.00	$58.49

Effective Date - 09/02/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.41	$10.18	$16.06	$0.00	$44.65
2	60	$22.09	$10.18	$16.06	$0.00	$48.33
3	70	$25.77	$10.18	$16.06	$0.00	$52.01
4	80	$29.45	$10.18	$16.06	$0.00	$55.69
5	90	$33.13	$10.18	$16.06	$0.00	$59.37

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$30.67	$9.70	$9.92	$0.00	$50.29
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANIC/WELDER/BOOM TRUCK *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$30.14	$9.70	$9.92	$0.00	$49.76
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 3) *MILLWRIGHTS LOCAL 1121 - Zone 3*	04/01/2011	$30.25	$8.67	$15.61	$0.00	$54.53

Apprentice - *MILLWRIGHT - Local 1121 Zone 3*

Effective Date - 04/01/2011

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$15.13	$8.67	$11.64	$0.00	$35.44
2	55	$16.64	$8.67	$11.64	$0.00	$36.95
3	60	$18.15	$8.67	$13.23	$0.00	$40.05
4	65	$19.66	$8.67	$13.23	$0.00	$41.56
5	70	$21.18	$8.67	$14.02	$0.00	$43.87
6	75	$22.69	$8.67	$14.02	$0.00	$45.38
7	80	$24.20	$8.67	$14.82	$0.00	$47.69
8	85	$25.71	$8.67	$14.82	$0.00	$49.20

Notes:

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
For apprentice rates see "Apprentice- LABORER"						
OILER *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$25.83	$9.70	$9.92	$0.00	$45.45
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS VI *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$23.85	$9.70	$9.92	$0.00	$43.47
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) *PAINTERS LOCAL 35 - ZONE 3*	01/01/2013	$45.01	$7.80	$15.60	$0.00	$68.41

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 01/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.51	$7.80	$0.00	$0.00	$30.31
2	55	$24.76	$7.80	$3.52	$0.00	$36.08
3	60	$27.01	$7.80	$3.84	$0.00	$38.65
4	65	$29.26	$7.80	$4.16	$0.00	$41.22
5	70	$31.51	$7.80	$13.68	$0.00	$52.99
6	75	$33.76	$7.80	$14.00	$0.00	$55.56
7	80	$36.01	$7.80	$14.32	$0.00	$58.13
8	90	$40.51	$7.80	$14.96	$0.00	$63.27

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2013	$28.88	$7.80	$11.80	$0.00	$48.48

* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 3*

Apprentice - *PAINTER Local 35 Zone 3 - Spray/Sandblast - New*

Effective Date - 01/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$14.44	$7.80	$0.00	$0.00	$22.24
2	55	$15.88	$7.80	$1.43	$0.00	$25.11
3	60	$17.33	$7.80	$1.56	$0.00	$26.69
4	65	$18.77	$7.80	$1.69	$0.00	$28.26
5	70	$20.22	$7.80	$11.02	$0.00	$39.04
6	75	$21.66	$7.80	$11.15	$0.00	$40.61
7	80	$23.10	$7.80	$11.28	$0.00	$42.18
8	90	$25.99	$7.80	$11.54	$0.00	$45.33

Notes:

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) *PAINTERS LOCAL 35 - ZONE 3*	01/01/2013	$26.20	$7.80	$11.80	$0.00	$45.80

Apprentice - *PAINTER Local 35 Zone 3 - Spray/Sandblast - Repaint*

Effective Date - 01/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$13.10	$7.80	$0.00	$0.00	$20.90
2	55	$14.41	$7.80	$1.43	$0.00	$23.64
3	60	$15.72	$7.80	$1.56	$0.00	$25.08
4	65	$17.03	$7.80	$1.69	$0.00	$26.52
5	70	$18.34	$7.80	$11.02	$0.00	$37.16
6	75	$19.65	$7.80	$11.15	$0.00	$38.60
7	80	$20.96	$7.80	$11.28	$0.00	$40.04
8	90	$23.58	$7.80	$11.54	$0.00	$42.92

Notes:

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2013	$27.48	$7.80	$11.80	$0.00	$47.08

* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 3*

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER - Local 35 Zone 3 - BRUSH NEW*

Effective Date - 01/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$13.74	$7.80	$0.00	$0.00	$21.54
2	55	$15.11	$7.80	$1.43	$0.00	$24.34
3	60	$16.49	$7.80	$1.56	$0.00	$25.85
4	65	$17.86	$7.80	$1.69	$0.00	$27.35
5	70	$19.24	$7.80	$11.02	$0.00	$38.06
6	75	$20.61	$7.80	$11.15	$0.00	$39.56
7	80	$21.98	$7.80	$11.28	$0.00	$41.06
8	90	$24.73	$7.80	$11.54	$0.00	$44.07

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT) *PAINTERS LOCAL 35 - ZONE 3*	01/01/2013	$24.80	$7.80	$11.80	$0.00	$44.40

Apprentice - *PAINTER Local 35 Zone 3 - BRUSH REPAINT*

Effective Date - 01/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$12.40	$7.80	$0.00	$0.00	$20.20
2	55	$13.64	$7.80	$1.43	$0.00	$22.87
3	60	$14.88	$7.80	$1.56	$0.00	$24.24
4	65	$16.12	$7.80	$1.69	$0.00	$25.61
5	70	$17.36	$7.80	$11.02	$0.00	$36.18
6	75	$18.60	$7.80	$11.15	$0.00	$37.55
7	80	$19.84	$7.80	$11.28	$0.00	$38.92
8	90	$22.32	$7.80	$11.54	$0.00	$41.66

Notes:
Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$26.49	$7.10	$9.88	$0.00	$43.47
	06/01/2013	$26.99	$7.10	$9.88	$0.00	$43.97
	12/01/2013	$27.49	$7.10	$9.88	$0.00	$44.47
	06/01/2014	$27.99	$7.10	$9.88	$0.00	$44.97
	12/01/2014	$28.49	$7.10	$9.88	$0.00	$45.47
	06/01/2015	$28.99	$7.10	$9.88	$0.00	$45.97
	12/01/2015	$29.49	$7.10	$9.88	$0.00	$46.47
	06/01/2016	$29.99	$7.10	$9.88	$0.00	$46.97
	12/01/2016	$30.74	$7.10	$9.88	$0.00	$47.72

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

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PANEL & PICKUP TRUCKS DRIVER *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	12/01/2012	$30.28	$9.07	$8.00	$0.00	$47.35
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) *PILE DRIVER LOCAL 56 (ZONE 3)*	03/04/2013	$35.17	$9.80	$17.67	$0.00	$62.64
	09/02/2013	$36.30	$9.80	$17.67	$0.00	$63.77
	03/03/2014	$36.67	$9.80	$17.67	$0.00	$64.14
	09/01/2014	$37.80	$9.80	$17.67	$0.00	$65.27
	03/02/2015	$38.20	$9.80	$17.67	$0.00	$65.67
	08/31/2015	$39.35	$9.80	$17.67	$0.00	$66.82
PILE DRIVER *PILE DRIVER LOCAL 56 (ZONE 3)*	03/04/2013	$35.17	$9.80	$17.67	$0.00	$62.64
	09/02/2013	$36.30	$9.80	$17.67	$0.00	$63.77
	03/03/2014	$36.67	$9.80	$17.67	$0.00	$64.14
	09/01/2014	$37.80	$9.80	$17.67	$0.00	$65.27
	03/02/2015	$38.20	$9.80	$17.67	$0.00	$65.67
	08/31/2015	$39.35	$9.80	$17.67	$0.00	$66.82

Apprentice - *PILE DRIVER - Local 56 Zone 3*

Effective Date - 03/04/2013

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

Notes: Apprentice wages shall be no less than the following Steps;
(Same as set in Zone 1)
1$47.07/2$50.99/3$54.91/4$56.87/5$58.83/6$58.83/7$62.75/8$62.75

Apprentice to Journeyworker Ratio:1:3

PIPELAYER *LABORERS - ZONE 3 (BUILDING & SITE)* For apprentice rates see "Apprentice- LABORER"	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
PIPELAYER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$26.74	$7.10	$9.88	$0.00	$43.72
	06/01/2013	$27.24	$7.10	$9.88	$0.00	$44.22
	12/01/2013	$27.74	$7.10	$9.88	$0.00	$44.72
	06/01/2014	$28.24	$7.10	$9.88	$0.00	$45.22
	12/01/2014	$28.74	$7.10	$9.88	$0.00	$45.72
	06/01/2015	$29.24	$7.10	$9.88	$0.00	$46.22
	12/01/2015	$29.74	$7.10	$9.88	$0.00	$46.72
	06/01/2016	$30.24	$7.10	$9.88	$0.00	$47.22
	12/01/2016	$30.99	$7.10	$9.88	$0.00	$47.97
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
PLUMBER & PIPEFITTER *PLUMBERS & PIPEFITTERS LOCAL 104*	09/17/2012	$35.16	$8.30	$13.65	$0.00	$57.11
	03/17/2013	$35.81	$8.30	$13.75	$0.00	$57.86

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PLUMBER/PIPEFITTER - Local 104*

Effective Date - 09/17/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$15.82	$8.30	$8.30	$0.00	$32.42
2	50	$17.58	$8.30	$8.30	$0.00	$34.18
3	60	$21.10	$8.30	$8.30	$0.00	$37.70
4	70	$24.61	$8.30	$8.30	$0.00	$41.21
5	80	$28.13	$8.30	$13.65	$0.00	$50.08

Effective Date - 03/17/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$16.11	$8.30	$8.40	$0.00	$32.81
2	50	$17.91	$8.30	$8.40	$0.00	$34.61
3	60	$21.49	$8.30	$8.40	$0.00	$38.19
4	70	$25.07	$8.30	$8.40	$0.00	$41.77
5	80	$28.65	$8.30	$13.75	$0.00	$50.70

Notes:
Steps are 2000 hrs.

Apprentice to Journeyworker Ratio:1:5

PNEUMATIC CONTROLS (TEMP.) *PLUMBERS & PIPEFITTERS LOCAL 104*	09/17/2012	$35.16	$8.30	$13.65	$0.00	$57.11
	03/17/2013	$35.81	$8.30	$13.75	$0.00	$57.86
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$26.74	$7.10	$9.88	$0.00	$43.72
	06/01/2013	$27.24	$7.10	$9.88	$0.00	$44.22
	12/01/2013	$27.74	$7.10	$9.88	$0.00	$44.72
	06/01/2014	$28.24	$7.10	$9.88	$0.00	$45.22
	12/01/2014	$28.74	$7.10	$9.88	$0.00	$45.72
	06/01/2015	$29.24	$7.10	$9.88	$0.00	$46.22
	12/01/2015	$29.74	$7.10	$9.88	$0.00	$46.72
	06/01/2016	$30.24	$7.10	$9.88	$0.00	$47.22
	12/01/2016	$30.99	$7.10	$9.88	$0.00	$47.97
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$28.05	$7.10	$10.19	$0.00	$45.34
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$27.49	$7.10	$9.88	$0.00	$44.47
	06/01/2013	$27.99	$7.10	$9.88	$0.00	$44.97
	12/01/2013	$28.49	$7.10	$9.88	$0.00	$45.47
	06/01/2014	$28.99	$7.10	$9.88	$0.00	$45.97
	12/01/2014	$29.49	$7.10	$9.88	$0.00	$46.47
	06/01/2015	$29.99	$7.10	$9.88	$0.00	$46.97
	12/01/2015	$30.49	$7.10	$9.88	$0.00	$47.47
	06/01/2016	$30.99	$7.10	$9.88	$0.00	$47.97
	12/01/2016	$31.74	$7.10	$9.88	$0.00	$48.72
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
PUMP OPERATOR (CONCRETE) *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$30.67	$9.70	$9.92	$0.00	$50.29
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$30.14	$9.70	$9.92	$0.00	$49.76
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER *TEAMSTERS LOCAL 404*	05/01/2008	$19.13	$6.59	$5.15	$0.00	$30.87
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.*CARPENTERS LOCAL 108 - HAMPDEN HAMPSHIRE*	03/04/2013	$22.21	$7.20	$5.35	$0.00	$34.76
	09/02/2013	$22.96	$7.20	$5.35	$0.00	$35.51
	03/03/2014	$23.71	$7.20	$5.35	$0.00	$36.26
	09/01/2014	$24.46	$7.20	$5.35	$0.00	$37.01
	03/02/2015	$25.26	$7.20	$5.35	$0.00	$37.81
	08/31/2015	$26.06	$7.20	$5.35	$0.00	$38.61
	02/29/2016	$26.81	$7.20	$5.35	$0.00	$39.36
As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.						
RIDE-ON MOTORIZED BUGGY OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
For apprentice rates see "Apprentice- LABORER"						
ROLLER OPERATOR *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$29.53	$9.70	$9.92	$0.00	$49.15
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Coal tar pitch) *ROOFERS LOCAL 248*	01/01/2013	$26.85	$8.55	$12.10	$0.00	$47.50
For apprentice rates see "Apprentice- ROOFER"						
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) *ROOFERS LOCAL 248*	01/01/2013	$26.35	$8.55	$11.60	$0.00	$46.50

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ROOFER - Local 248*

Effective Date - 01/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$15.81	$8.55	$0.00	$0.00	$24.36
2	65	$17.13	$8.55	$11.60	$0.00	$37.28
3	70	$18.45	$8.55	$11.60	$0.00	$38.60
4	75	$19.76	$8.55	$11.60	$0.00	$39.91
5	80	$21.08	$8.55	$11.60	$0.00	$41.23
6	85	$22.40	$8.55	$11.60	$0.00	$42.55
7	90	$23.72	$8.55	$11.60	$0.00	$43.87
8	95	$25.03	$8.55	$11.60	$0.00	$45.18

Notes:

Steps are 750 hrs.Roofer(Tear Off)1:1; Same as above

Apprentice to Journeyworker Ratio:1:3

ROOFER SLATE / TILE / PRECAST CONCRETE *ROOFERS LOCAL 248* For apprentice rates see "Apprentice- ROOFER"	01/01/2013	$26.85	$8.55	$12.10	$0.00	$47.50
SCRAPER *OPERATING ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2012	$30.14	$9.70	$9.92	$0.00	$49.76
SELF-POWERED ROLLERS AND COMPACTORS (TAMPERS) *OPERATING ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2012	$29.53	$9.70	$9.92	$0.00	$49.15
SELF-PROPELLED POWER BROOM *OPERATING ENGINEERS LOCAL 98* For apprentice rates see "Apprentice- OPERATING ENGINEERS"	12/01/2012	$26.91	$9.70	$9.92	$0.00	$46.53
SHEETMETAL WORKER *SHEETMETAL WORKERS LOCAL 63*	01/01/2013	$31.56	$8.64	$12.93	$1.59	$54.72
	07/01/2013	$32.31	$8.64	$12.93	$1.62	$55.50

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *SHEET METAL WORKER - Local 63*

Effective Date - 01/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$14.20	$5.65	$3.33	$0.00	$23.18
2	50	$15.78	$5.93	$3.70	$0.00	$25.41
3	55	$17.36	$6.20	$6.66	$0.91	$31.13
4	60	$18.94	$6.47	$6.66	$0.96	$33.03
5	65	$20.51	$6.74	$6.66	$1.02	$34.93
6	70	$22.09	$7.01	$6.66	$1.07	$36.83
7	75	$23.67	$7.28	$6.66	$1.13	$38.74
8	80	$25.25	$7.55	$12.19	$1.35	$46.34
9	85	$26.83	$7.83	$12.19	$1.41	$48.26
10	90	$28.40	$8.10	$12.19	$1.46	$50.15

Effective Date - 07/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	$14.54	$5.65	$3.33	$0.00	$23.52
2	50	$16.16	$5.93	$3.70	$0.00	$25.79
3	55	$17.77	$6.20	$6.66	$0.92	$31.55
4	60	$19.39	$6.47	$6.66	$0.98	$33.50
5	65	$21.00	$6.74	$6.66	$1.03	$35.43
6	70	$22.62	$7.01	$6.66	$1.09	$37.38
7	75	$24.23	$7.28	$6.66	$1.15	$39.32
8	80	$25.85	$7.55	$12.19	$1.37	$46.96
9	85	$27.46	$7.83	$12.19	$1.42	$48.90
10	90	$29.08	$8.10	$12.19	$1.48	$50.85

Notes:

Apprentice to Journeyworker Ratio:1:3

SIGN ERECTOR *PAINTERS LOCAL 35 - ZONE 3*	06/01/2012	$25.37	$6.82	$6.85	$0.00	$39.04
	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 3*

Effective Date - 06/01/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$12.69	$6.82	$0.00	$0.00	$19.51
2	55	$13.95	$6.82	$2.35	$0.00	$23.12
3	60	$15.22	$6.82	$2.35	$0.00	$24.39
4	65	$16.49	$6.82	$2.35	$0.00	$25.66
5	70	$17.76	$6.82	$6.85	$0.00	$31.43
6	75	$19.03	$6.82	$6.85	$0.00	$32.70
7	80	$20.30	$6.82	$6.85	$0.00	$33.97
8	85	$21.56	$6.82	$6.85	$0.00	$35.23
9	90	$22.83	$6.82	$6.85	$0.00	$36.50

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 *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	12/01/2012	$30.74	$8.91	$8.00	$0.00	$47.65
SPECIALIZED EARTH MOVING EQUIP > 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	12/01/2012	$31.03	$8.91	$8.00	$0.00	$47.94
SPRINKLER FITTER *SPRINKLER FITTERS LOCAL 676*	01/01/2010	$40.50	$7.80	$8.40	$0.00	$56.70

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *SPRINKLER FITTER - Local 676*

Effective Date - 01/01/2010

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$16.20	$7.80	$8.40	$0.00	$32.40
2	45	$18.23	$7.80	$8.40	$0.00	$34.43
3	50	$20.25	$7.80	$8.40	$0.00	$36.45
4	55	$22.28	$7.80	$8.40	$0.00	$38.48
5	60	$24.30	$7.80	$8.40	$0.00	$40.50
6	65	$26.33	$7.80	$8.40	$0.00	$42.53
7	70	$28.35	$7.80	$8.40	$0.00	$44.55
8	75	$30.38	$7.80	$8.40	$0.00	$46.58
9	80	$32.40	$7.80	$8.40	$0.00	$48.60
10	85	$34.43	$7.80	$8.40	$0.00	$50.63

Notes:

Apprentice to Journeyworker Ratio:1:1

TELECOMMUNICATION TECHNICIAN *ELECTRICIANS LOCAL 7*	03/01/2013	$35.36	$9.05	$9.21	$0.00	$53.62
	07/01/2013	$36.36	$9.05	$9.24	$0.00	$54.65
	12/30/2013	$36.86	$9.05	$9.26	$0.00	$55.17

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *TELECOMMUNICATION TECHNICIAN - Local 7*

Effective Date - 03/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$14.14	$4.00	$0.42	$0.00	$18.56
2	45	$15.91	$4.00	$0.48	$0.00	$20.39
3	50	$17.68	$9.05	$5.18	$0.00	$31.91
4	55	$19.45	$9.05	$5.23	$0.00	$33.73
5	65	$22.98	$9.05	$6.34	$0.00	$38.37
6	70	$24.75	$9.05	$7.39	$0.00	$41.19

Effective Date - 07/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$14.54	$4.00	$0.44	$0.00	$18.98
2	45	$16.36	$4.00	$0.49	$0.00	$20.85
3	50	$18.18	$9.05	$5.20	$0.00	$32.43
4	55	$20.00	$9.05	$5.25	$0.00	$34.30
5	65	$23.63	$9.05	$6.36	$0.00	$39.04
6	70	$25.45	$9.05	$7.41	$0.00	$41.91

Notes: Pre-5/31/11 1$35.41/2$37.23/3$39.06/4$40.87/5$42.69/6$44.52
Steps are 800 hours

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS *BRICKLAYERS LOCAL 3 (SPR/PITT) - MARBLE & TILE*	03/04/2013	$29.28	$10.18	$15.70	$0.00	$55.16
	09/02/2013	$30.19	$10.18	$15.76	$0.00	$56.13
	03/03/2014	$30.75	$10.18	$15.76	$0.00	$56.69
	09/01/2014	$31.66	$10.18	$15.82	$0.00	$57.66
	03/02/2015	$32.22	$10.18	$15.82	$0.00	$58.22
	08/31/2015	$33.13	$10.18	$15.88	$0.00	$59.19
	02/29/2016	$33.70	$10.18	$15.88	$0.00	$59.76
	09/05/2016	$34.61	$10.18	$15.95	$0.00	$60.74
	02/27/2017	$35.18	$10.18	$15.95	$0.00	$61.31

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MARBLE-TILE-TERRAZZO FINISHER-Local 3 Marble/Tile (Spr/Pitt)*

Effective Date - 03/04/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$14.64	$10.18	$15.70	$0.00	$40.52
2	60	$17.57	$10.18	$15.70	$0.00	$43.45
3	70	$20.50	$10.18	$15.70	$0.00	$46.38
4	80	$23.42	$10.18	$15.70	$0.00	$49.30
5	90	$26.35	$10.18	$15.70	$0.00	$52.23

Effective Date - 09/02/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$15.10	$10.18	$15.76	$0.00	$41.04
2	60	$18.11	$10.18	$15.76	$0.00	$44.05
3	70	$21.13	$10.18	$15.76	$0.00	$47.07
4	80	$24.15	$10.18	$15.76	$0.00	$50.09
5	90	$27.17	$10.18	$15.76	$0.00	$53.11

Notes:

Apprentice to Journeyworker Ratio:1:5

TEST BORING DRILLER *LABORERS - FOUNDATION AND MARINE*	12/01/2012	$37.30	$7.10	$12.60	$0.00	$57.00
	06/01/2013	$34.45	$7.10	$12.60	$0.00	$54.15
	12/01/2013	$35.20	$7.10	$12.60	$0.00	$54.90
	06/01/2014	$35.95	$7.10	$12.60	$0.00	$55.65
	12/01/2014	$36.70	$7.10	$12.60	$0.00	$56.40
	06/01/2015	$37.45	$7.10	$12.60	$0.00	$57.15
	12/01/2015	$38.20	$7.10	$12.60	$0.00	$57.90
	06/01/2016	$38.95	$7.10	$12.60	$0.00	$58.65
	12/01/2016	$39.95	$7.10	$12.60	$0.00	$59.65

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER *LABORERS - FOUNDATION AND MARINE*	12/01/2012	$32.42	$7.10	$12.60	$0.00	$52.12
	06/01/2013	$33.17	$7.10	$12.60	$0.00	$52.87
	12/01/2013	$33.92	$7.10	$12.60	$0.00	$53.62
	06/01/2014	$34.67	$7.10	$12.60	$0.00	$54.37
	12/01/2014	$35.42	$7.10	$12.60	$0.00	$55.12
	06/01/2015	$36.17	$7.10	$12.60	$0.00	$55.87
	12/01/2015	$36.92	$7.10	$12.60	$0.00	$56.62
	06/01/2016	$37.67	$7.10	$12.60	$0.00	$57.37
	12/01/2016	$38.67	$7.10	$12.60	$0.00	$58.37

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING LABORER *LABORERS - FOUNDATION AND MARINE*	12/01/2012	$32.30	$7.10	$12.60	$0.00	$52.00
	06/01/2013	$33.05	$7.10	$12.60	$0.00	$52.75
	12/01/2013	$33.80	$7.10	$12.60	$0.00	$53.50
	06/01/2014	$34.55	$7.10	$12.60	$0.00	$54.25
	12/01/2014	$35.30	$7.10	$12.60	$0.00	$55.00
	06/01/2015	$36.05	$7.10	$12.60	$0.00	$55.75
	12/01/2015	$36.80	$7.10	$12.60	$0.00	$56.50
	06/01/2016	$37.55	$7.10	$12.60	$0.00	$57.25
	12/01/2016	$38.55	$7.10	$12.60	$0.00	$58.25
For apprentice rates see "Apprentice- LABORER"						
TRACTORS *OPERATING ENGINEERS LOCAL 98*	12/01/2012	$29.53	$9.70	$9.92	$0.00	$49.15
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	12/01/2012	$31.32	$8.91	$8.00	$0.00	$48.23
TUNNEL WORK - COMPRESSED AIR *LABORERS (COMPRESSED AIR)*	12/01/2012	$44.58	$7.10	$13.00	$0.00	$64.68
	06/01/2013	$45.33	$7.10	$13.00	$0.00	$65.43
	12/01/2013	$46.08	$7.10	$13.00	$0.00	$66.18
	06/01/2014	$46.83	$7.10	$13.00	$0.00	$66.93
	12/01/2014	$47.58	$7.10	$13.00	$0.00	$67.68
	06/01/2015	$48.33	$7.10	$13.00	$0.00	$68.43
	12/01/2015	$49.08	$7.10	$13.00	$0.00	$69.18
	06/01/2016	$49.83	$7.10	$13.00	$0.00	$69.93
	12/01/2016	$50.83	$7.10	$13.00	$0.00	$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) *LABORERS (COMPRESSED AIR)*	12/01/2012	$46.58	$7.10	$13.00	$0.00	$66.68
	06/01/2013	$47.33	$7.10	$13.00	$0.00	$67.43
	12/01/2013	$48.08	$7.10	$13.00	$0.00	$68.18
	06/01/2014	$48.83	$7.10	$13.00	$0.00	$68.93
	12/01/2014	$49.58	$7.10	$13.00	$0.00	$69.68
	06/01/2015	$50.33	$7.10	$13.00	$0.00	$70.43
	12/01/2015	$51.08	$7.10	$13.00	$0.00	$71.18
	06/01/2016	$51.83	$7.10	$13.00	$0.00	$71.93
	12/01/2016	$52.83	$7.10	$13.00	$0.00	$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR *LABORERS (FREE AIR TUNNEL)*	12/01/2012	$36.65	$7.10	$13.00	$0.00	$56.75
	06/01/2013	$37.40	$7.10	$13.00	$0.00	$57.50
	12/01/2013	$38.15	$7.10	$13.00	$0.00	$58.25
	06/01/2014	$38.90	$7.10	$13.00	$0.00	$59.00
	12/01/2014	$39.65	$7.10	$13.00	$0.00	$59.75
	06/01/2015	$40.40	$7.10	$13.00	$0.00	$60.50
	12/01/2015	$41.15	$7.10	$13.00	$0.00	$61.25
	06/01/2016	$41.90	$7.10	$13.00	$0.00	$62.00
	12/01/2016	$42.90	$7.10	$13.00	$0.00	$63.00
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - FREE AIR (HAZ. WASTE) *LABORERS (FREE AIR TUNNEL)*	12/01/2012	$38.65	$7.10	$13.00	$0.00	$58.75
	06/01/2013	$39.40	$7.10	$13.00	$0.00	$59.50
	12/01/2013	$40.15	$7.10	$13.00	$0.00	$60.25
	06/01/2014	$40.90	$7.10	$13.00	$0.00	$61.00
	12/01/2014	$41.65	$7.10	$13.00	$0.00	$61.75
	06/01/2015	$42.40	$7.10	$13.00	$0.00	$62.50
	12/01/2015	$43.15	$7.10	$13.00	$0.00	$63.25
	06/01/2016	$43.90	$7.10	$13.00	$0.00	$64.00
	12/01/2016	$44.90	$7.10	$13.00	$0.00	$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL *TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*	12/01/2012	$30.74	$8.91	$8.00	$0.00	$47.65
WAGON DRILL OPERATOR *LABORERS - ZONE 3 (BUILDING & SITE)*	12/03/2012	$27.30	$7.10	$10.19	$0.00	$44.59
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) *LABORERS - ZONE 3 (HEAVY & HIGHWAY)*	12/01/2012	$26.74	$7.10	$9.88	$0.00	$43.72
	06/01/2013	$27.24	$7.10	$9.88	$0.00	$44.22
	12/01/2013	$27.74	$7.10	$9.88	$0.00	$44.72
	06/01/2014	$28.24	$7.10	$9.88	$0.00	$45.22
	12/01/2014	$28.74	$7.10	$9.88	$0.00	$45.72
	06/01/2015	$29.24	$7.10	$9.88	$0.00	$46.22
	12/01/2015	$29.74	$7.10	$9.88	$0.00	$46.72
	06/01/2016	$30.24	$7.10	$9.88	$0.00	$47.22
	12/01/2016	$30.99	$7.10	$9.88	$0.00	$47.97
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WATER METER INSTALLER *PLUMBERS & PIPEFITTERS LOCAL 104*	09/17/2012	$35.16	$8.30	$13.65	$0.00	$57.11
	03/17/2013	$35.81	$8.30	$13.75	$0.00	$57.86
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - West						
EQUIPMENT OPERATOR *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42*	08/31/2008	$35.04	$5.70	$5.80	$0.00	$46.54
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42*	08/31/2008	$22.67	$5.70	$1.18	$0.00	$29.55
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN / TRUCK DRIVER *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42*	08/31/2008	$30.92	$5.70	$4.93	$0.00	$41.55
For apprentice rates see "Apprentice- LINEMAN"						
HEAVY EQUIPMENT OPERATOR *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42*	08/31/2008	$37.10	$5.70	$6.11	$0.00	$48.91
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42*	08/31/2008	$41.22	$5.70	$7.74	$0.00	$54.66

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *LINEMAN (Outside Electrical) - West Local 42*

Effective Date - 08/31/2008

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$24.73	$5.70	$0.74	$0.00	$31.17
2	65	$26.79	$5.70	$0.80	$0.00	$33.29
3	70	$28.85	$5.70	$7.37	$0.00	$41.92
4	75	$30.92	$5.70	$7.43	$0.00	$44.05
5	80	$32.98	$5.70	$7.49	$0.00	$46.17
6	85	$35.04	$5.70	$7.55	$0.00	$48.29
7	90	$37.10	$5.70	$7.61	$0.00	$50.41

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42*	07/16/2012	$26.33	$4.18	$2.79	$0.00	$33.30
TELEDATA LINEMAN/EQUIPMENT OPERATOR *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42*	07/16/2012	$24.78	$4.18	$2.74	$0.00	$31.70
TELEDATA WIREMAN/INSTALLER/TECHNICIAN *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42*	07/16/2012	$24.78	$4.18	$2.74	$0.00	$31.70
TRACTOR-TRAILER DRIVER *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42*	08/31/2008	$35.04	$5.70	$5.80	$0.00	$46.54
TREE TRIMMER *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42* This classification applies only to the trimming of branches on and around utility lines.	02/01/2009	$16.59	$2.42	$0.00	$0.00	$19.01
TREE TRIMMER GROUNDMAN *OUTSIDE ELECTRICAL WORKERS - WEST LOCAL 42* This classification applies only to the trimming of branches on and around utility lines.	02/01/2009	$14.64	$2.42	$0.00	$0.00	$17.06

Additional Apprentice Information:

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

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

All steps are six months (1000 hours) unless otherwise specified.

* Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof.
** 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.

Form ST-5C
Contractor's Sales Tax Exempt Purchase Certificate

Rev. 5/01
Massachusetts Department of Revenue

Part A. To be completed by governmental body, agency or IRC Section 501(c)(3) certified exempt organization

Exempt number: E 043 – 167 – 352

Contract number:

Name of exempt organization: University of Massachusetts

Authorizing signature: John O'Martin

Date: Director of Procurement

Part B. To be completed by purchasing contractor or subcontractor claiming exemption under MGL Ch. 64H, sec. 6(d), (e), (f) or (tt)

Purchaser (☐ contractor ☐ subcontractor)

Address

Date

Vendor registration number (if applicable)

Contract/subcontract number | Contract/subcontract date | Estimated date of completion

Part C. To be completed by purchasing contractor or subcontractor claiming exemption. See instructions. I claim the exemption corresponding to the box checked below, and certify as follows (check appropriate box below):

1. ☐ *Exemption under MGL Ch. 64H, sec. 6(d) or (e): Contractor as Agent of Exempt Entity.* I certify that the purchaser is a contractor or subcontractor engaged in the performance of the above described contract and that the purchaser is acting as an agent of one the entities described below (check appropriate box) in purchasing tangible personal property (other than building materials and supplies described in MGL Ch. 64H, sec. 6(f)):

☐ Governmental body or agency described in MGL Ch. 64H, sec. 6(d) (local public school, city/town government, state agency, etc.). Attach Form ST-2, Certificate of Exemption. If Form ST-2 is not available, enter agency's exemption number.

☐ Tax exempt organization (under IRC Section 501(c)(3)) as described in MGL Ch. 64H, sec. 6(e) (parochial school, Scout troop, PTO, etc.). Attach Form ST-2, Certificate of Exemption. If Form ST-2 is not available, enter agency's exemption number.

To the best of my knowledge and belief, the quantities of tangible personal property noted on the reverse side are exempt from the sales/use tax under the provisions of MGL Ch. 64 H, sec. 6(d) or (e) as they are purchased by a purchaser acting as an agent for either a Massachusetts governmental body or for a tax-exempt organization under IRC section 501(c)(3).

2. ☐ *Exemption under MGL Ch. 64H, sec. 6(f): Building Materials and Supplies.* I certify that the purchaser is a contractor or subcontractor engaged in the performance of a contract for the construction, reconstruction, alteration, remodeling or repair of a building or structure for a governmental body or agency or for a certified IRC Section 501(c)(3) exempt organization or other project described in MGL Ch. 64H, sec. 6(f). To the best of my knowledge and belief, the described quantities of building materials and supplies noted on the reverse side are exempt from sales/use tax under the provisions of MGL Ch. 64H, sec. 6(f), and the described quantities of these materials and supplies are being purchased for use exclusively in the above contract.

3. ☐ *Exemption under MGL Ch. 64H, sec. 6(tt): Consulting/Operating Contractor as Agent of Governmental Entity.* I certify that the purchaser is a consulting or operating contractor or subcontractor as defined in MGL Ch. 64H, sec. 6(tt) and that the purchaser is authorized and acting as an agent of, and providing "qualified services," as defined in MGL Ch. 64H, sec. 6(tt), to a governmental body or agency described in MGL Ch. 64H, sec. 6(d). Attach Form ST-2. If Form ST-2 is not available, enter agency's exemption number. To the best of my knowledge and belief, the quantities of tangible personal property noted on the reverse side are exempt from the sales/use tax under the provisions of MGL Ch. 64 H, sec. 6(tt). The purchaser has been authorized under the above contract by a governmental body.

Regardless of the exemption claimed, I will maintain adequate records to show the disposition of all property purchased under this certificate. I understand that I am fully liable for the payment of any sales/use tax due in the event that the property purchased under this certificate is used in a non-exempt manner.

Signed under the penalties of perjury.

Signature | Title

Location and description of project and description of kind and quantity of property or receipts/invoices must be attached or noted on the back of this form. This form is approved by the Commissioner of Revenue and may be reproduced.

Part D. Location and description of project

Part E. Description of kind and quantity of property purchased

Date	Description	Quantity	Cost
			$
			$
			$
			$
			$
			$
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			$
			$
			$
			$
			$
			$
			$
			$
		Total cost	$

Additional information about the use of this form may be obtained from: **Massachusetts Department of Revenue, Bureau of Desk Audit, Exempt Organization Unit, 200 Arlington Street, Chelsea, MA 02150; (617) 887-6970.**

ST-2

MASSACHUSETTS DEPARTMENT OF REVENUE

CERTIFICATE OF EXEMPTION

Certification is hereby made that the organization herein named is an exempt purchaser under General Laws, Chapter 64H, Sections 6(d) and (e). All purchases of tangible personal property by this organization are exempt from taxation under said chapter to the extent that such property is used in the conduct of the business of the purchaser. Any abuse or misuse of this certificate by any tax-exempt organization or any unauthorized use of this certificate by any individual constitutes a serious violation and will lead to revocation. Willful misuse of this Certificate of Exemption is subject to criminal sanctions of up to 1 year in prison and $10,000 ($50,000 for corporations) in fines. (See reverse side).

University of Massachusetts
Goodell Building
Amherst, MA 01003

EXEMPTION NUMBER E 043-167-352

ISSUE DATE 11/18/92

CERTIFICATE EXPIRES ON NONE

NOT ASSIGNABLE OR TRANSFERABLE

COMMISSIONER OF REVENUE
Mitchell Adams

Massachusetts General Laws, Chapter 64H, Section 6(e), as amended by Chapter 233 of the Acts of 1983, states as follows: The certificate of exemption issued by the commissioner under clause (2) shall be effective for a period of five years from the date of its issuance.....provided that ninety days prior to said date the commissioner shall notify such corporation, foundation, organization or institution, of the expiration date of said certificate. Such corporation, foundation, organization or institution must obtain from the commissioner a renewal of such certificate in order to be entitled to a continuance of such exemption beyond the expiration date of any existing certificate.