



Russo Barr Associates, Inc.

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ADDENDUM NO. 1

TO: Prospective Bidders

PROJECT: MSBA Accelerated Repair Program
Window & Door Replacement Project
Lincoln-Hancock Community School
Quincy, Massachusetts
RBA Project No. 2014071

FROM: Russo Barr Associates, Inc.
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DATE: January 20, 2015

This following corrections, changes, additions, deletions, revisions and/or clarifications are hereby made a part of the Bid Documents. In case of conflicts between this addendum and previously issued documents, this addendum shall take precedence.

This addendum consists of these three (3) pages, plus Drawings SK-1, SK-2, SK-3, A9.1, plus Specification Section 02 08 00.

QUESTIONS/CLARIFICATIONS

Item No. 1 Bidder Question: Dwg A8.4 shows only door schedule for entrances. There is no door schedule of the doors inserted in the Curtain Walls (A8.0 & A8.1). Please clarify dimensions, details and types for these doors (E5, E7, E8, E12).

Response to Item No. 1: Sheet A8.4 (Door Schedule) has a note directing towards the Curtain Wall drawings for additional doors. Sheet Sk-1 (attached) is to be used for clarification of the door dimensions requested (E5, E7, E8, E12). The details shown on the Curtain Wall Drawings are to be used for these doors.

Item No. 2 Bidder Question: Is there any Door Hardware Schedule (with quantities and type of hardware per door type) available? Please clarify.

Response to Item No. 2: A Door Hardware Set List has been added to Section 08 11 00, para. 3.07-A.

Item No. 3 Bidder Question: Can you identify if all windows are to receive window shades, or if it is just the classroom windows?

Response to Item No. 3: Only the classrooms, cafeteria, and any administration/office areas and teacher lounges are to have shades at the new windows. Areas that will NOT have new shades include but are not limited to the following: mechanical/electrical/storage areas, lobbies, restrooms, locker rooms, gymnasium, pool, and stairwells.

Item No. 4 Bidder Question: During the pre-bid walk through meeting, you had indicated that the type 20A window, in the gymnasium, was to receive an automatic operator, similar to Clearline operators. However, there is no mention of this in the window specifications. Can you please confirm if this will be a requirement for these windows?

Response to Item No. 4: Yes, the automatic operators in the gymnasium will be a requirement for the operational windows shown. The owner will run power to the transformer. However, the contractor will be responsible for all additional low voltage electric work required including a keyed power operator (switch), which will include one switch for each side of the gymnasium.

Item No. 5 Bidder Question: During the walk-through there was a question raised about what part of the existing steel frame would remain and whether it would be acceptable to remove the entire existing steel frame in place of removing only a portion of the existing frame.

Response to Item No. 5: The head to the existing steel frame must remain as shown in the details. The existing steel frame is attached via clips and steel angles to existing steel beams, which are located above the ceiling and will not be accessible. The existing steel frame at the head will be needed for fastening of the new aluminum framing. However, the existing steel frame will be allowed to be removed (at the choice of the bidder) from the jamb locations as shown on sheet SK-2 (attached). The steel frame must be removed from the sills as originally shown in the drawing set dated 01.07.15.

Item No. 6 Bid Set Drawings: It has come to our attention that some bidders are having problems opening the complete set of "pdf" bid drawings. If any bidder needs access to individual drawings, send an email to purchasing@quincyma.gov and a link will be provided.

Item No. 7 MBE/WBE Paperwork Requirements: Section 00450 states that bidders shall submit a participation schedule, with letters of intent, with their bid, however Section 000002A states that the schedule of participation is required within 5 days of receipt of bids, from the apparent low bidder. Please be advised that the schedule of participation and letters of intent ARE NOT required with the bid.

Item No. 8 Work Hours: The Form for General Bid, Paragraph H, indicates that all work to be performed after the start of school in September 2015, must be performed Monday through Friday, 3:00 pm to 7:00 pm. Please be advised that the evening work hours will be Monday through Friday, 3:00 pm to 11:00 pm.

CHANGES TO SPECIFICATIONS

1. **SECTION 02 05 00 – DEMOLITION:** Add the following paragraph:

1.02.B.6

6. All demolition work shall be coordinated with the abatement contractor, as specified in Section 02 08 00 – Asbestos Abatement. Specific designation of demolition procedures are identified in Section 02 08 00.

2. **SECTION 02 08 00 – ASBESTOS ABATEMENT:** Remove entire section and insert the attached Section 02 08 00 (Addendum No. 1).

3. **SECTION 08 11 00 – ENTRANCES AND DOORS:** Add the following paragraph:

3.07 HARDWARE SETS

- A. Each Hardware Set listed below represents the complete hardware requirements for one opening (single door or pair of doors). Furnish the quantities required of each set for the work.

HW-1 Double Doors (Eight (x8) Total sets)

2 Continuous Hinges
2 Exit Devices
2 Mortis Cylinders

2 Closers
Weatherstripping Set
2 Stops
Threshold

HW-2 Single Doors (Eleven (x11) Total Sets)

1 Continuous Hinge
1 Exit Device
1 Closer
Weatherstripping Set
1 Stop
Threshold

4. **SECTION 08 51 00 – ALUMINUM WINDOWS:** Add the following paragraphs:

2.12 ELECTRIC WINDOW OPERATORS

- A. Type: Controlled using single keyed switch at each side of the gymnasium, controlling all operable windows on that side of the gymnasium, durable double link chain produces 12 inch of travel, and shall include actuator, control panel and window attachments.
- B. Voltage: 24 VDC via step down power supply from 115 VAC to 20 VDC.
- C. Control wiring run surface mounted in approved conduit, including wiring to keyed switch.
- D. 115 VAC Power wiring to the power supply shall be provided by the Owner.

CHANGES TO DRAWINGS

- 1. Add drawings SK-1, SK-2 and SK-3, attached.
- 2. Substitute Drawing A9.1 (Addendum No. 1) attached.

END OF ADDENDUM

SECTION 02 08 00

ASBESTOS ABATEMENT
(ADDENDUM NO. 1)

PART I - GENERAL

1.01 GENERAL REQUIREMENTS

- A. The General Conditions of the Contract for Construction and the General Requirements are hereby made part of this specification.
- B. A site specific design will be performed by the Asbestos Designer 30-days prior to start of work. The contractor must comply with the design at no additional cost to the Owner.

1.02 SECTION INCLUDES:

- A. The work of this Section consists of the furnishing of all labor, materials, facilities, equipment, services, employee training and testing, permits and agreements necessary to perform the work required for asbestos abatement. All work is to be performed in accordance with these specifications, the drawings, EPA, DLS, DEP, OSHA and/or any other applicable local, state and federal regulations.
- B. Hazardous materials abatement work shall include, but not be limited to the following:
 - 1. Asbestos containing sealant at the existing windows and doors.
- C. The following items, at a minimum, are required to be performed by the Contractor. Refer to Part 3.0 of this Section for specific work procedures and requirements regarding abatement.
 - 1. **FURNISH ALL LABOR**, materials, equipment, and services required for performance of the work included in this specification.
 - 2. **COMPLIANCE WITH ALL** applicable federal, state and local regulations, as well as all requirements of this specification.
 - 3. **REMOVAL AND DISPOSAL** of all hazardous materials, including any necessary containment materials and structures, etc.
 - 4. **DECONTAMINATION AND CLEAN-UP** of all work areas following hazardous material removal activities.
 - 5. **PERFORMANCE OF ANY OTHER WORK** or activities required by this specification, applicable regulations, or as necessary to perform a complete job to the satisfaction of the Owner.

1.03 RELATED WORK

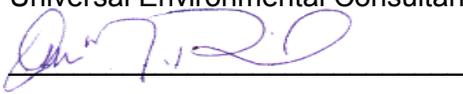
- A. Section 02 05 00 – Demolition
- B. Section 08 11 00 – Entrances & Doors
- C. Section 08 44 00 – Aluminum Curtain wall
- D. Section 08 51 10 – Windows

1.04 POTENTIAL ASBESTOS HAZARD & DEBRIS

- A. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified ACM containing materials, take appropriate continuous measures as necessary to protect all building occupants from the potential hazard of exposure to airborne hazardous materials. Such measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state and local agencies.
- B. If the Contractor failed to comply with the requirements of the specifications, the Owner's Representative (Industrial Hygienist) may present a written stop of work order. The Contractor must immediately and automatically stop all work until authorized in writing by the Industrial Hygienist to commence work. All costs related to delays shall be at the Contractor's expense.

1.05 DEFINITIONS

- A. Abatement: Procedures to control fiber release from ACM. Includes encapsulation, enclosure, and removal.
- B. Air Monitoring: The process of measuring the fiber content of a specific volume of air in a stated period of time.
- C. Area Monitoring: Sampling of asbestos fiber concentrations within the asbestos control area and outside the asbestos control area, which is representative of the airborne concentrations of asbestos fibers, which may reach the breathing zone.
- D. Asbestos: The name given to a number of naturally occurring hydrated mineral silicates that possess a unique crystalline structure are incombustible and are separable into fibers. Asbestos includes Chrysotile, Crocidolite, Amosite, Anthophyllite, and Actinolite.
- E. ACM: Any material containing more than 1% or greater by weight of asbestos of any type or mixture of types. State laws may vary in their definition of asbestos containing material.
- F. Barrier: Any surface that seals off the work area to inhibit the movement of fibers.

- G. Critical Barrier: A solid, asbestos impermeable partition erected so as to constitute a work area closure; the outer perimeter of an asbestos work area, usually erected across corridors or other open spaces to complete containment.
- H. Designer: Commonwealth of Massachusetts licensed Designer Ammar Dieb, Universal Environmental Consultants (AD-900326) Expiring 2/2015.

- I. Enclosure: All herein specified procedures necessary to complete enclosure of all ACM behind airtight, impermeable, permanent barriers.
- J. Friable Asbestos Material: Material that contains more than one percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
- K. HEPA Filter: A High Efficiency Particulate Absolute (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in length.
- L. Industrial Hygienist: An industrial hygienist certified in the Commonwealth of Massachusetts to perform air monitoring.
- M. Removal: All herein specified procedures necessary to strip all ACM from the designated areas and to dispose of these materials at an acceptable site.
- N. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.
- O. Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
- P. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and by afterwards disposing of these cleaning tools as asbestos contaminated waste.
- Q. Work Area: Any area indicated on the Drawings as asbestos abatement areas or as areas containing friable asbestos material.
- R. Worker Decontamination Enclosure System: A decontamination enclosure system for workers, typically consisting of a clean room, a shower room, and an equipment room.

1.06. CONTRACTOR'S USE OF THE EXISTING BUILDING

- A. Keep existing driveways and entrances serving the premises clear and available to the Owner and his employees at all times. Do not use these areas for parking or storage of materials, unless authorized in writing by the Owner.

- B. Smoking or open fires will not be permitted within the building enclosure or on the premises.

1.07 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. Provide a full time Site Supervisor for work under this Section with all appropriate state licenses, who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Competent Person as required by 29 CFR 1926 for the Contractor and is the Contractor's representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to ACM. This person shall have completed a course at an EPA Training Center or equivalent certificate course in asbestos abatement procedures, have had a minimum of two years on the job training and meet all additional requirements set forth in 29 CFR 1926 for a Competent Person.
- B. The Site Supervisor must be certified by the State of Massachusetts. Abatement Contractor shall provide proof of such certification to the Industrial Hygienist not less than 10 days prior to commencing any work.

1.08 SPECIAL REPORTS

- A. Except as otherwise indicated, submit special reports directly to the Industrial Hygienist within one day of occurrence requiring special report, with copies to all others affected by the occurrence.
- B. When an event of unusual and significant nature occurs at the site (examples: failure of negative pressure system, rupture of temporary enclosures, unauthorized entry into work areas), prepare and submit a special report listing date and time of event, chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise the Industrial Hygienist in advance at earliest possible date.
- C. Prepare and submit special reports of significant accidents, at the site and anywhere else work is in progress related to this project. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

1.09 CONTINGENCY PLAN

- A. Prepare a contingency plan for emergencies including fire, accident, power failure or any other event that may require modification of decontamination or work area isolation procedures. Include in the plan specific procedures for decontamination or work area isolation. A copy of the plan shall be submitted to and approved by the Industrial Hygienist prior to any work being done.

- B. Post in the clean room of the decontamination unit and in the Contractor's office trailer telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital and police.

1.10 PERMITS AND NOTIFICATIONS

- A. Secure necessary permits in conjunction with asbestos removal, hauling, and disposition and provide timely notification as may be required by federal, state, regional, and local authorities. Notify the Department of Environmental Protection (DEP) and the Massachusetts Department of Labor and Workforce Development (DLS) and provide copies of the notification to the Industrial Hygienist, Industrial Hygienist and the State Environmental Regulatory Agency 10 working days (Document Submission Date) prior to commencement of the work.
- B. No later than the Document Submission Date, notify the local fire, police and Health Departments, in writing, of proposed asbestos abatement work. Advise the fire department of the nature of the asbestos abatement work, and the necessity that all firefighting personnel who may enter the work site in the case of fire wear self-contained breathing apparatus. Provide one copy of the notices to the Industrial Hygienist prior to commencing the work.
- C. No later than the Document Submission Date, submit proof satisfactory to the Industrial Hygienist that all required permits, site location, and arrangements for transport and disposal of asbestos containing or contaminated materials, supplies, and the like have been obtained.

1.11 SAFETY COMPLIANCE

- A. Comply with laws, ordinances, rules, and regulations of federal, state, regional, and local authorities regarding handling, storing, transporting, and disposing of asbestos waste materials.
- B. Comply with the applicable requirements of the current issue of 29CFR 1926.1101 and 40CFR 61, Subparts A and B. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting the work.

1.12 RESPIRATOR PROGRAM

- A. Establish a respirator program as required by ANSI Z88.2 and 29 CFR 1926.1101 (h), 1926.103, and 1910.134.

1.13 PERSONNEL PROTECTION

- A. Prior to commencement of work, workers shall be instructed in and shall be knowledgeable of the hazards of asbestos exposure; use and fitting of respirators; use of showers; entry and exit from work areas, and all aspects of work procedures and protective measures.

- B. All asbestos abatement workers shall receive training and shall be accredited as required by 40 CFR 763.90(g). Training and accreditation shall be in accordance with 40 CFR 763, Appendix C to Subpart E. Training shall also be provided to meet the requirements of OSHA Regulations contained in 29 CFR 1926.
- C. Prior to the start of work, the Abatement Contractor shall provide medical examinations for all employees in accordance with 29CFR 1926.1101 (m). All employees hired by the Abatement Contractor after start of work shall have medical examinations in accordance with this paragraph before being put to work.
- D. Maintain complete and accurate records of employee's medical examinations, during employment and make records of the required medical examinations available for inspection and copying to: The Assistant Secretary of OSHA, the Director of The National Institute for Occupation Safety and Health (NIOSH), authorized representatives of either of them, and an employee's physician upon the request of the employee or former employee.
- E. Provide personnel exposed to airborne concentrations of asbestos fibers with fire retardant disposable protective whole body clothing, head coverings, gloves, and foot coverings. Provide gloves to protect hands. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape. Abatement Contractor shall require and monitor the use of complete protective clothing. A competent person designated by the Abatement Contractor in accordance with 29CFR 1926.1101 shall periodically examine protective clothing worn by employees in the work area for rips or tears. When rips or tears are detected, they shall be immediately mended or replaced.
- F. Provide goggles to personnel engaged in asbestos operations when the use of a full-face respirator is not required.
- G. Provide authorized visitors with suitable protective clothing, headgear, eye protection and footwear, whenever they are required to enter the work area, to a maximum of 3 changes for 3 visitors per day. One of the sets of protective clothing shall be available for full time use by the Industrial Hygienist.
- H. Provide all persons with personally issued and marked respiratory equipment approved by NIOSH and OSHA. The appropriate respiratory protection shall be selected according to the most recent Massachusetts regulations.
- I. Once all visible asbestos material has been removed during decontamination, cartridge type respirators will be allowed during the final cleanup provided the measured airborne concentrations do not exceed 0.1 fibers per cubic centimeter. Where respirators with disposable filters are employed, provide sufficient filters for replacement as required by the worker or applicable regulation.

- J. If the permissible respirators fail to provide sufficient protection against volatile emitted by any sealant used, the services of a qualified industrial hygienist will be procured, at the Abatement Contractor's expense, to determine proper respiratory protection. The Owner and Industrial Hygienist will not be liable for the cost of increased respiratory protection.
- K. Select respirators from those approved by the Mine Safety and Health Administration (MSHA), Department of Labor, or the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services. All personal wearing negative pressure respirators shall have respirator fit tests within the last six months and signed statements shall be available.

1.14 REFERENCE STANDARDS

- A. Unless otherwise indicated, all referenced standards shall be the latest edition available at the time of bidding. Requirements of this Section shall in no way invalidate the minimum requirements of the referenced standards. Comply with the provisions of the following codes and standards, except as otherwise shown or specified. Where conflict among requirements or with this Section exists, the more stringent requirements shall apply.
- B. U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA) requirements, which govern asbestos abatement work or hauling and disposal of asbestos waste materials.
- C. U.S. Environmental Protection Agency (EPA) requirements, which govern asbestos abatement work or hauling and disposal of asbestos waste materials.
- D. U.S. Department of Environmental Protection (DEP) and the Massachusetts Department of Labor Standards (DLS).

1.15 SUBMITTALS

- A. No work shall commence until the Contractor submit one electronic copy of completed submittals not less than the Document Submission Date.
- B. Submit all required licenses and certification required under MGLC.149 S 44D and 453 CMR 6.00.
- C. Submit a copy of the written respirator program.
- D. Submit manufacturer's certification that vacuums, ventilation equipment, and other equipment required to contain airborne asbestos fibers conform to ANSI Z9.2. Manufacturer's brochures without certifications are not acceptable.

- E. Submit the name, address, and telephone number of the testing laboratory selected for the personal air monitoring of airborne concentrations of asbestos fibers to meet Federal and State OSHA regulations, including Short Term Exposure Limit sampling (STEL). All OSHA required air monitoring should be done in accordance with the most current NIOSH 7400 method.
- F. Submit the negative pressure system. Do not begin work until the Designer approves the submittal. Include in the submittal at a minimum:
 - 1. Number of negative air machines required and the calculations necessary to determine the number of machines.
 - 2. Description of projected airflow within the work area and methods required providing adequate airflow in all portions of the work area.
 - 3. Location of machines in the work area.
 - 4. Location of pressure differential measurement equipment.
 - 5. Manufacturers product data on equipment used to monitor pressure differential.
- G. Submit for approval the form of security and safety log, which will be maintained on the project.
- H. Submit written evidence that the landfill to be used for disposal of asbestos is approved for disposal of asbestos by the Department of Environmental Protection.
- I. Submit proof that training requirements as specified in 29CFR 1926.1101 (k) (3) and by appropriate state agencies has been complied with.
- J. Submit a description of the plans for construction of decontamination enclosure systems and for isolation of the work areas in compliance with this specification and all applicable regulations.
- K. Submit a detailed schedule including work dates, work shift time, number of employees, dates of start and completion of all work activities (including mobilization, work area preparation, asbestos abatement, inspection and clearance monitoring, each phase of refinishing, and final inspections). Schedule shall be updated with each partial payment request.

1.16 REPORTING

- A. Maintain on site a daily log documenting the dates and time of the following items, as well as other significant events:
 - 1. Minutes of meetings: purpose, attendees, and brief discussion
 - 2. Visitations: authorized and unauthorized
 - 3. Personnel: by name, entering and leaving the work area
 - 4. Special or unusual events
 - 5. Personnel air monitoring tests and results
- B. Documentation with confirmation signature of the Industrial Hygienist of the following:

1. Inspection of work area preparation prior to start of removal and daily thereafter.
 2. Removal of any polyethylene barriers.
 3. Removal of waste materials from work area and transport and disposal at approved site.
 4. Decontamination of equipment.
 5. Waste Shipment Records. No final payment will be approved until all above documents have been submitted.
- C. Provide two bound copies of this log to the Industrial Hygienist with the application for final payment.

1.17 AIR MONITORING

- A. Throughout the entire removal and cleaning operations, air monitoring will be conducted to ensure that the Abatement Contractor is complying with the EPA and OSHA regulations and any applicable state and local government regulations. The Owner will provide an Industrial Hygienist (Universal Environmental Consultants) to take air samples at the job site at no cost to the Abatement Contractor.
- B. The Industrial Hygienist will monitor airborne fiber counts in the work area. The purpose of this air monitoring will be to detect airborne fiber counts higher than the Action Level of 0.1- f/cc which may significantly challenge the ability of the work area isolation procedures to protect the balance of the building from contamination by airborne fibers.
- C. The Abatement Contractor shall be responsible for providing his/her own personnel monitoring within the work area as required to meeting CFR 1926.1101.

1.18 AIRBORNE FIBER COUNTS

- A. If any air sample taken outside of the work area exceeds the base line (background) conducted by UEC? Immediately and automatically stop all work. If this air sample was taken inside the building and outside of critical barriers around the work area, immediately erect new critical barriers to isolate the affected area from the balance of the building.
1. Respiratory protection shall be worn in affected area.
 2. Leave critical barriers in place until completion of work and ensure that the operation of the negative pressure system in the work area results in a flow of air from the balance of the building into the affected area.
 3. After certification of visual inspection in the work area, remove critical barriers separating the work area from the affected area.
 4. A final inspection after removal of poly shall be completed by the Abatement Contractor's Supervisor and the Industrial Hygienist.

- B. The following procedure shall be used to resolve any disputes regarding fiber types when work has been stopped due to excessive airborne fiber counts. "Airborne Fibers" referred to above include all fibers regardless of composition as counted in the NIOSH 7400 Procedure. If work has stopped due to high airborne fiber counts, air samples will be secured in the same area by the Industrial Hygienist for analysis by Transmission Electron microscopy (TEM). Airborne Fibers counted in samples analyzed by TEM shall be only asbestos fibers, but of any diameter and length. Subsequent to analysis by TEM the number of "Airborne Fibers" shall be determined by multiplying the number of fibers, regardless of composition, counted by the NIOSH 7400 procedure by a number equal to asbestos fibers counted divided by all fibers counted in the TEM analysis.
- C. If TEM is used to arrive at the basis for determining "Airborne Fiber" counts in accordance with the above paragraph, and if the average of airborne asbestos fibers in all samples taken outside the work area exceeds the base line, then the cost of such sampling and analysis will be born by the Abatement Contractor.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Plastic Sheet: 6 mil minimum thickness, unless otherwise specified, in sizes to minimize the frequency of joints.
- B. Tape: Capable of sealing joints of adjacent sheets of plastic and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under dry and wet conditions, including use of amended water. Provide tape, which minimizes damage to surface finishes.
- C. Cleaning Materials: Use materials recommended by manufacturer of surface to be cleaned. Use cleaning materials only on surfaces recommended by the cleaning material manufacturer.

2.02 EQUIPMENT

- A. Supply the required number of asbestos air filtration units to the site in accordance with these specifications.

2.03 DANGER SIGNS AND LABELS

- A. Display danger signs at each location where airborne concentrations of asbestos fibers may be in excess of 0.01 fibers/cc. Post signs at such a distance from such a location so that an employee may read the signs and take necessary protective steps before entering the area marked by the signs.

- B. The sign shall also contain a pictorial representation of possible danger or hazard, such as a skull and cross bone, or other suitable warning as approved by the Industrial Hygienist. Sign shall meet the requirements of 29CFR 1926.200. A sample of the signs to be used shall be submitted to the Industrial Hygienist for approval prior to beginning work area preparation.
- C. Affix danger labels to all raw materials, mixtures, scrap, waste, debris, and other products containing asbestos fibers, or to their containers.

2.04 PERSONNEL DECONTAMINATION UNIT (Where Applicable)

- A. Prior to any asbestos abatement work, including placement of plastic on walls that will contact or disturb asbestos containing surfaces, or removal of light fixtures or any items on asbestos containing surfaces, construct a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Changing Room, Shower Room, and Equipment Room. Require all persons without exception to pass through this decontamination unit for entry into and exiting from the work area for any purpose.
- B. Build suitable framing or use existing rooms, with the Industrial Hygienist written approval, connected with framed in tunnels if necessary; line with 6 mil plastic; seal with tape at all lap joints in the plastic for all enclosures and decontamination enclosure system rooms. Decontamination units and access tunnels constructed outside shall be constructed with tops made of 5/8" plywood, or approved equal. In all cases, access between contaminated and uncontaminated rooms or areas shall be through an airlock. In all cases, access between any two rooms within the decontamination enclosure systems shall be through a curtained doorway.
- C. Provide a changing (clean) room for the purpose of changing into protective clothing. Construct using polyethylene sheeting, at least 6-mil in thickness, to provide an airtight seal between the Clean Room and the rest of the building. Locate so that access to work area from Clean Room is through Shower Room. Separate Clean Room from the building by a sheet polyethylene flapped doorway.
- D. Require workers to remove all street clothes in this room, dress in clean disposable coveralls, and don respiratory protection equipment. Do not allow asbestos contaminated items to enter this room. Require workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers.
- E. An existing room may be utilized as the changing room if it is suitably located and of a configuration whereby workmen may enter the Clean Room directly from the Shower Room. Protect all surfaces of room with sheet plastic. Authorization for this shall be obtained from the Industrial Hygienist in writing prior to start of construction.
 - 1. Maintain floor of changing room dry and clean at all times. Do not allow overflow water from shower to wet floor in Changing Room.

2. Damp wipe all surfaces twice after each shift change with a disinfectant solution.
 3. Provide a continuously adequate supply of disposable bath towels.
 4. Provide posted information for all emergency phone numbers and procedures.
 5. Provide 1 storage locker per employee.
 6. Provide all other components indicated on the Contract drawings.
- F. Provide a completely water tight operational shower to be used for transit by cleanly dressed workers heading for the work area from the changing room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.
- G. Construct room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into pan. Install a freely draining wooden floor in shower pan at elevation of top of pan.
1. Separate this room from the rest of the building with airtight walls fabricated of 6-mil polyethylene.
 2. Separate this room from the Clean and Equipment Rooms with airtight walls fabricated of 6-mil polyethylene.
 3. Provide showerhead and controls.
 4. Provide temporary extensions of existing hot and cold water and drainage, as necessary for a complete and operable shower.
 5. Provide a soap dish and a continuously adequate supply of soap and maintain in sanitary condition.
 6. Arrange so that water from showering does not splash into the Clean or Equipment Rooms.
 7. Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the work area.
 8. Provide flexible hose shower head.
 9. Pump wastewater to drain and provide 20 micron and 5-micron wastewater filters in line to drain or waste water storage. Locate filter hose inside shower unit so that water lost during filter changes is caught by shower pan and pumped to exterior filtering system.
- H. Provide equipment room for contaminated area; work equipment, footwear and additional contaminated work clothing are to be left here. This is a change and transit area for workers. Separate this room from the work area by a 6-mil polyethylene flap doorway.
1. Separate this room from the rest of the building with airtight walls fabricated of 6-mil polyethylene.
 2. Separate this room from the Shower Room and work area with airtight walls fabricated of 6-mil polyethylene.

- I. Separate work area from the equipment Room by polyethylene barriers. If the airborne asbestos level in the work area is expected to be high, add an intermediate cleaning space between the Equipment room and the work area. Damp wipe clean all surfaces after each shift change.

2.05 EQUIPMENT DECONTAMINATION UNITS (where applicable)

- A. In areas with only one access, it may be impossible to utilize a separate Equipment Decontamination Unit. In this case, all equipment and waste materials will exit through the Personnel Decontamination Chambers.
- B. When two accesses to the work area are available, provide an Equipment Decontamination Unit consisting of a serial arrangement of rooms, Clean Room, Holding Room, Wash Room for removal of equipment and material from work area. Do not allow personnel to enter or exit work area through Equipment Decontamination Unit.
- C. Provide an enclosed shower unit located in work area just outside Wash Room as an equipment, bag and container cleaning station.
- D. Provide Wash Room for cleaning of bagged or containered asbestos containing waste materials passed from the work area. Construct Wash Room of 2 by 4 inch (minimum) wood framing and polyethylene sheeting, at least 6-mil in thickness and located so that packaged materials, after being wiped clean can be passed to the Holding Room. Separate this room from the work area by flaps of 6-mil polyethylene sheeting, or rigid self-closing doors.
- E. Provide Holding Room as a drop location for bagged ACM passed from the Wash Room. Construct Holding Room of 2 by 4 inch (minimum) wood framing and polyethylene sheeting, at least 6-mil in thickness and located so that bagged materials cannot be passed from the Wash Room through the Holding Room to the Clean Room.
- F. Provide Clean Room to isolate the Holding Room from the building exterior. Construct Clean Room of 2 by 4 inch (minimum) wood framing and polyethylene sheeting, at least 6-mil in thickness and locate to provide access to the Holding Room from the building exterior. Separate this room from the exterior by flaps of 6 mil polyethylene sheeting, or rigid self-closing doors.

PART 3 - EXECUTION

3.01 SCOPE OF WORK:

- A. It is anticipated that the abatement project will be performed in several phases. It is the abatement contractor's responsibility to comply with the phasing schedule prepared by the Owner or Engineer. Refer to the drawings for scope of work and quantities.

Specific Notes:

1. Remove and properly dispose of windows, doors, curtain walls system, including but not limited to screens, doors, windows, panels, glass, frames, sash, casings, sills, louvers, sealant, flashing, etc. Remove and properly dispose of all caulking/debris found on the ground of the exterior of the building. Caulking on windows and doors was found to contain asbestos.
2. The contractor shall erect an enclosure inside the school sealing the windows and shall be removed and properly disposed once work and air sampling is complete.
3. Refer to drawings for detailed scope, location and quantities. The contractor shall coordinate the work with other trades.
4. Framing and glazing caulking at the existing windows, storefronts and doors, as well as the unit ventilator grille caulking, are assumed to contain greater than 1 ppm of Polychlorinated Biphenyls (PCBs). The abatement contractor is to be aware that testing of the caulking and glazing for PCBs has not been performed and is not planned. The abatement contractor shall be solely responsible for means & methods and techniques used for demolition, removal, control and disposal of the caulking and glazing. The abatement contractor shall protect the soil and shall collect and control PCB contaminated debris. All work shall conform to the standard set by all Federal, State and Local laws, regulations, ordinances and guidelines. It is understood that the removal and disposal of this caulking as ACM is already included as part of the contract scope of work.
5. All of the work of this Contract shall conform to the standard set by all applicable Federal, State and Local laws, regulations, ordinance and guidelines. The Contractor is solely responsible for means and methods, and techniques used for demolition and control. The Contractor shall collect and control PCB's contaminated debris and soil.
6. The Contractor shall at his own cost and expense comply with all laws, ordinance, rules and regulations of Federal, State, Regional and Local authorities during demolition, prepping, sanding, cutting, burning, scraping, painting over, grinding and regarding handling, storing and disposing of lead, PCB's and PCB's contaminated waste material.
7. Painted surfaces were assumed to contain lead based paint (LBP). All the work of this Contract shall conform to the standard set by all applicable Federal, State and Local laws, regulations, ordinance and guidelines in such from in which they exist at the time of the work on the Contract and as may be required by subsequent regulations. The Contractor is solely responsible for means and methods, and techniques used for demolition and lead control. The Contractor shall collect and control lead contaminated debris and to properly remove and dispose of lead contaminated soil around the building.

3.02 JOB CONDITIONS

- A. Do not commence abatement work until:

- I. Arrangements have been made for disposal of waste at an acceptable site. Submittal shall be made no later than the Document Submission Date.
 2. Arrangements have been made for containing and disposal of wastewater resulting from wet stripping or filtering through a 5-micron filter.
- B. All materials resulting from abatement work, except as specified otherwise shall become the property of the Abatement Contractor and shall be disposed of as specified herein.

3.03 INSPECTION AND PREPARATION

- A. Examine the areas and conditions under which asbestos will be abated and notify the Industrial Hygienist in writing of conditions detrimental to the proper and timely completion of the work.
- B. Before any work commences, post danger signs in and around the Work Area to comply with 29CFR 1926.1101 (k) (l) as required by federal and state regulations, and as specified herein.

3.04 WORK PROCEDURE

- A. Perform abatement related work in accordance with 29CFR 1926.1101. Use wet removal procedures. Personnel shall wear and utilize protective clothing and equipment as specified herein. Personnel of other trades not engaged in the removal and demolition of asbestos shall not be exposed at any time to airborne concentrations of asbestos unless all the personnel protection provisions of this specification are complied with by the trade personnel. Provide and post, in the Equipment Room and the Clean Room, the decontamination and work procedures to be followed by workers, as described hereinafter.
- B. Each worker and authorized visitor shall, upon entering the job site, remove street clothes in the Clean Change Room and put on a respirator and clean protective clothing before entering the equipment room or the work area. All workers shall remove gross contamination before leaving the work area. All clothing (coveralls, head covers, boots, etc.) shall be removed and properly disposed of before leaving equipment room. With the exception of bathing suites and respirators, the workers shall proceed to the Shower Room. Under the shower, respirators shall be removed and cleaned. Cleaned respirators shall be placed in suitable clean plastic bags and carried by employees to Clean Room. Soap, towels, etc., shall be furnished by the Abatement Contractor. The Abatement Contractor shall maintain proper sanitary conditions. The Abatement Contractor's designated competent person shall insure that these practices are being adhered to.

- C. Following showering and drying off, each worker and authorized visitor shall dispose of towels as contaminated waste, and proceed directly to the Clean Change Room and dress in clean clothes at the end of each day's work, or before eating, smoking, or drinking. Before re-entering the work area from the Clean Change Room, each worker and authorized visitor shall put on the applicable respirator and shall dress in clean protective clothing. Contaminated work footwear shall be stored in the equipment room when not in use in the work area. Upon completion of asbestos abatement, dispose of footwear as contaminated waste.
- D. Contaminated work footwear shall be stored in the equipment room when not in use in the work area. Upon completion of asbestos abatement, dispose of footwear as contaminated waste or double bag for use at next site.
- E. Workers removing waste containers from the Equipment Decontamination Enclosure shall enter the holding area from outside wearing a respirator and dressed in clean coveralls. No worker shall use this system as a means to leave or enter the washroom or the work area.
- F. Workers shall be fully protected with respirators and protective clothing immediately prior to the first disturbance of asbestos containing or contaminated materials and until final cleanup is completed. This includes the removal of any equipment in contact with ACM such as lights, HVAC grills, etc.

3.05 MAINTENANCE OF ENCLOSURE SYSTEMS

- A. Ensure that barriers and plastic linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period.
- B. Use smoke methods to test effectiveness of barriers when directed by the Industrial Hygienist.

3.06 ISOLATION OF WORK AREA

- A. Completely separate the work area from other portions of the building, and the outside by sheet plastic barriers at least 6 mil in thickness, or by sealing with duct tape.
- B. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into the work area with duct tape alone or with polyethylene sheeting at least 6-mil in thickness, taped securely in place with duct tape. Maintain seal until all work including work area decontamination is completed. All lighting fixtures shall have had power shut off.
- C. Provide sheet plastic barriers at least 6 mil in thickness as required to completely seal openings from the work area into adjacent areas. Seal the perimeter of all sheet plastic barriers with duct tape.

3.07 REMOVAL OF ASBESTOS CONTAINING MATERIALS

- A. Thoroughly wet ACM to be removed prior to stripping to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal Encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for water or removal Encapsulant to penetrate material thoroughly. If a removal Encapsulant is used, apply in strict accordance with manufacturer's written instructions.
- B. Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.
- C. Remove saturated ACM in small sections from all areas. Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, bend over and seal with minimum three wraps of duct tape. Clean outside and move to wash down station adjacent to material decontamination unit.
- D. For the removal of windows systems at a minimum the following shall be done.
 - 1. Seal off all work areas by installing 2 layers of 6-mil polyethylene sheeting on the inside of the window within one foot or more of each window opening during removal of windows and storefront systems. Remove once work has been completed.
 - 2. Place 2 layers of 6-mil polyethylene sheeting on ground.
 - 3. Remove window assembly including putty, glazing and frames.
 - 4. Remove all perimeter caulking and sealant from the window frames at jambs, heads and sills. All caulking shall be removed from the adjacent surfaces until there is no visible emission.
 - 5. Remove all debris that might be found on the ground.

3.08 DISPOSAL OF ASBESTOS/PCB's CONTAMINATED WASTE

- A. To prevent exceeding available storage capacity on site, remove sealed and labeled containers of hazardous waste and dispose of such containers at an authorized disposal site.
- B. Comply with 29 CFR 1926.1101.
- C. Seal all asbestos and asbestos contaminated waste material with double thickness 6-mil, sealable poly. Label the poly; transport and dispose of all in accordance with the applicable OSHA and EPA regulations.
- D. Transport the waste to the approved waste disposal site. Abatement Contractor shall obtain trip tickets at the landfill to document disposal of asbestos containing materials. A form shall be signed, not initialed, by all parties. Copies of all trip tickets shall be submitted to the Industrial Hygienist.

- E. Consider wastewater from showers and sinks to be contaminated waste and dispose of in accordance with this Section, unless water has been filtered through a 5 micron filter.

3.09 DISPOSAL OF NON-CONTAMINATED WASTE:

- A. Remove from the site all non-contaminated debris and rubbish resulting from demolition operations. Transport materials removed from demolished areas and dispose of off site in a legal manner.
- B. During progress of work, clean site and public properties, and dispose of waste materials, debris, and rubbish. Provide on-site containers for collection of waste materials, debris, and rubbish. Remove waste materials, debris, and rubbish from site and legally dispose of at public or private dumping areas off Owner's property.

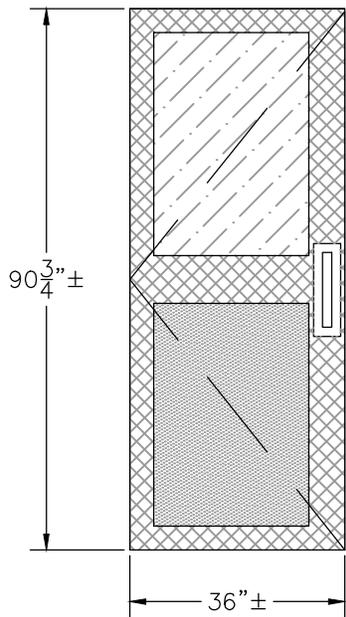
3.10 FINAL CLEAN UP

- A. Employ experienced workers or professional cleaners for final cleaning. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials, from exposed to view interior and exterior finished surfaces. Polish surfaces so designated.

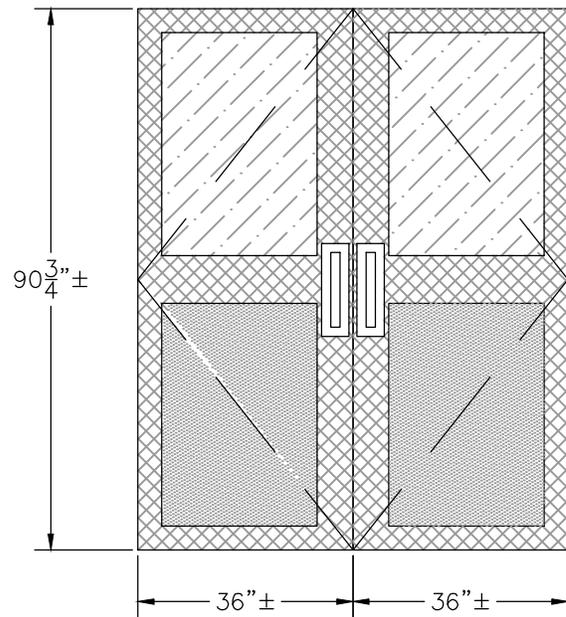
END OF SECTION

NOTE: DETAILS ARE SHOWN ON THE CURTAINWALL
SCHEDULE ON SHEETS A8.0 & A8.1

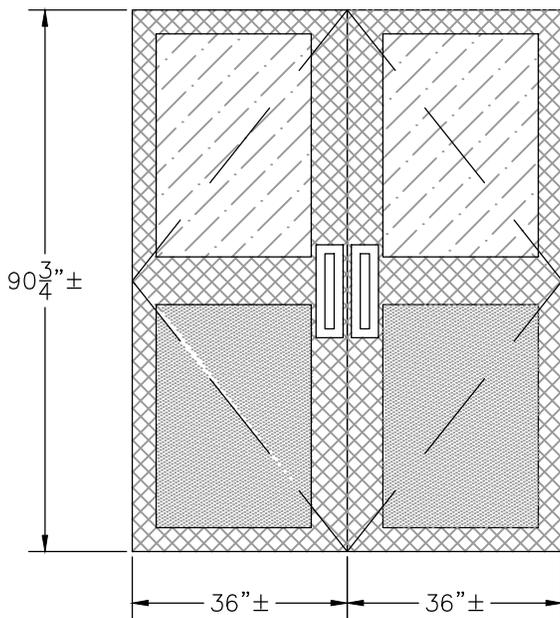
E5



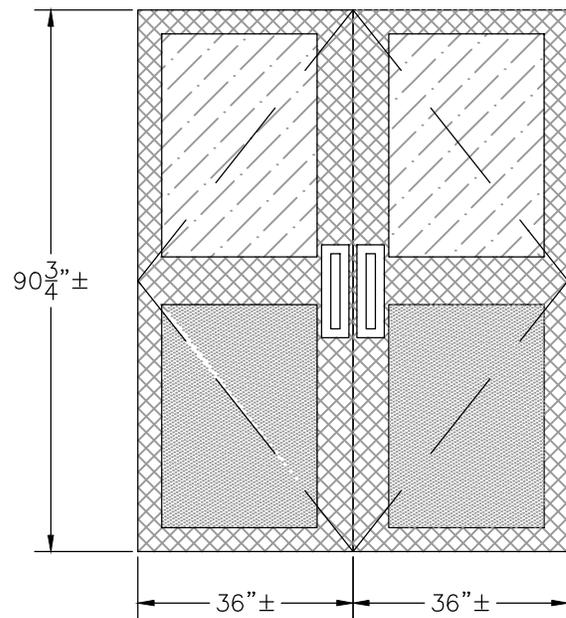
E7



E8



E12



CLARIFICATION OF DOOR SIZES WITHIN CURTAINWALLS

SCALE: $\frac{3}{8}'' = 1'-0''$



33 Center Street, 2nd Floor, Burlington, MA 01803

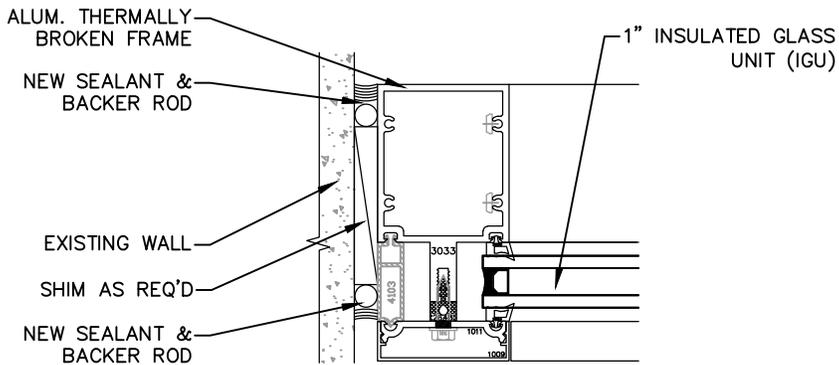
LINCOLN HANCOCK COMMUNITY SCHOOL
MSBA WINDOW & DOOR REPLACEMENT PROJECT
300 GRANITE STREET
QUINCY, MASSACHUSETTS

PROJECT NO. 2014071

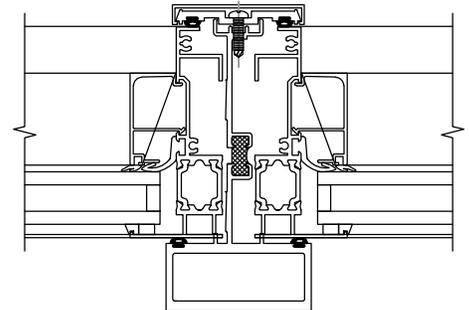
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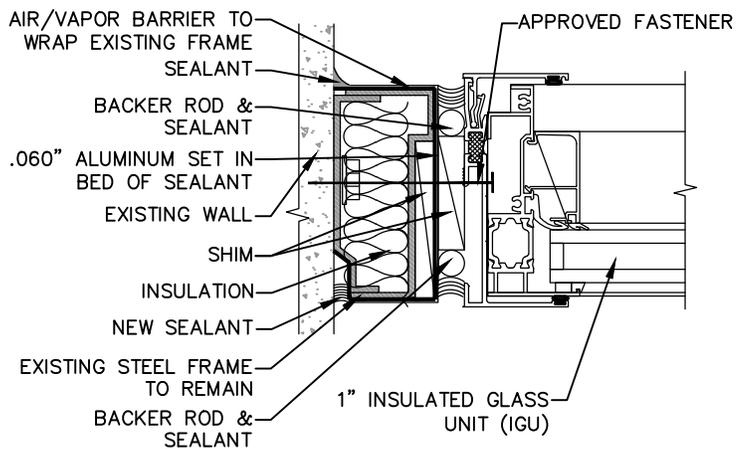
SK-1



CURTAINWALL JAMB W/ REMOVAL OF EXISTING STEEL FRAME



TYPICAL 3-PIECE VERTICAL MULLION



TYPICAL WINDOW JAMB W/ RECEPTOR

TYPICAL WINDOW DETAILS FOR ADDITIONAL REFERENCE
NOT TO SCALE



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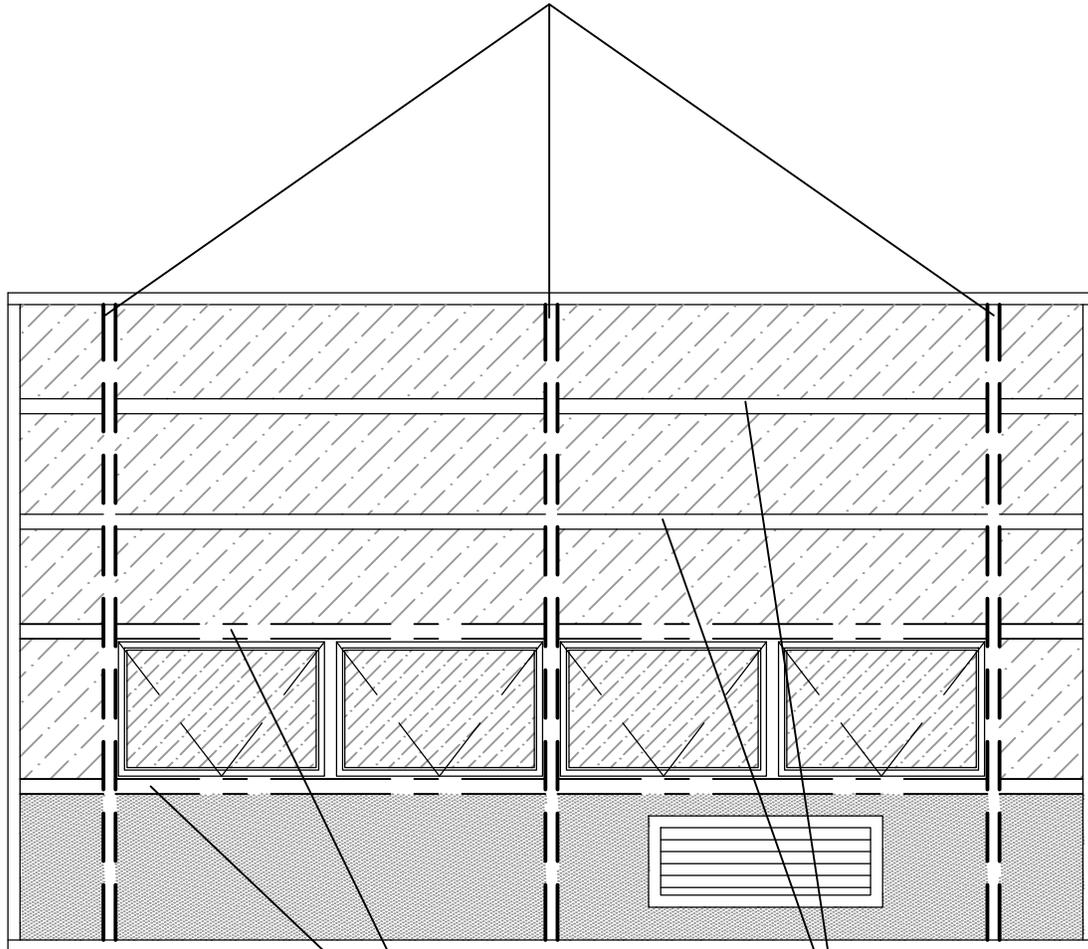
PROJECT NO. 2014071

DATE: 01.20.2015

DRAWING NO.

SK-2

TYPICAL 3-PIECE VERTICAL MULLION



TYPICAL STACK MULLION

TYPICAL INTEGRAL MULLION

TYPICAL MULLION TYPE DIAGRAM

NOT TO SCALE



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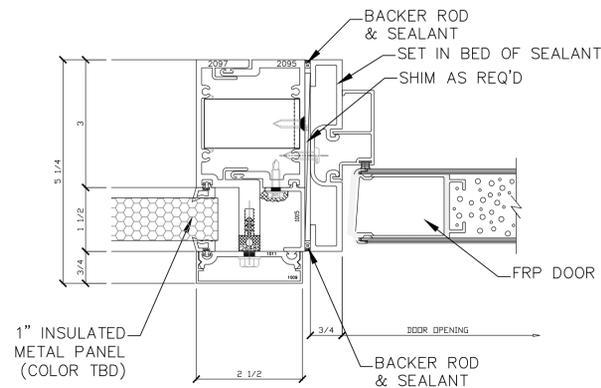
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PROJECT NO.
2014071

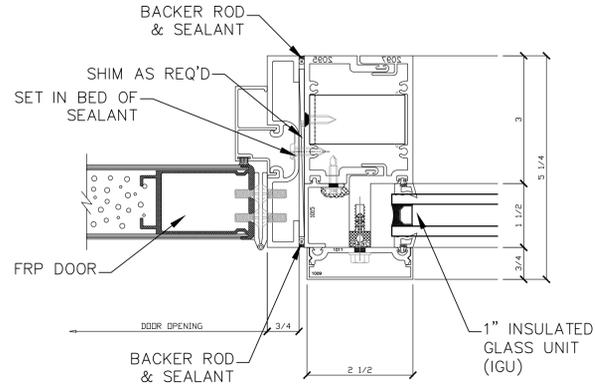
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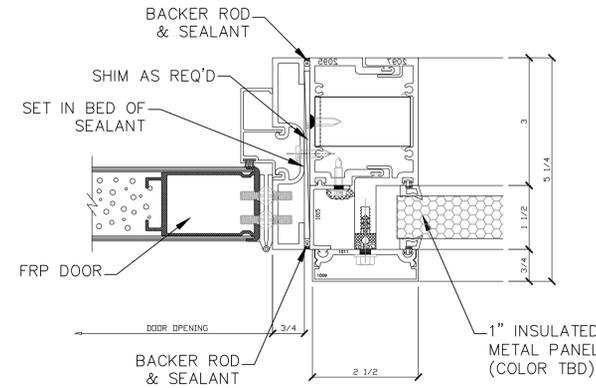
SK-3



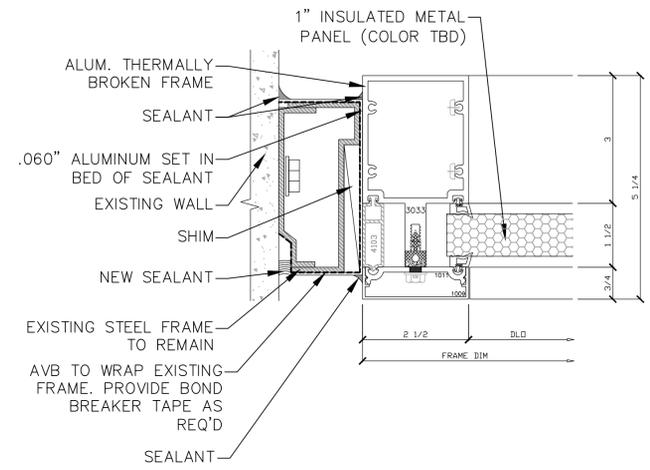
13 PROPOSED CURTAINWALL DOOR JAM
A9.1 SCALE: 6" = 1'=0"



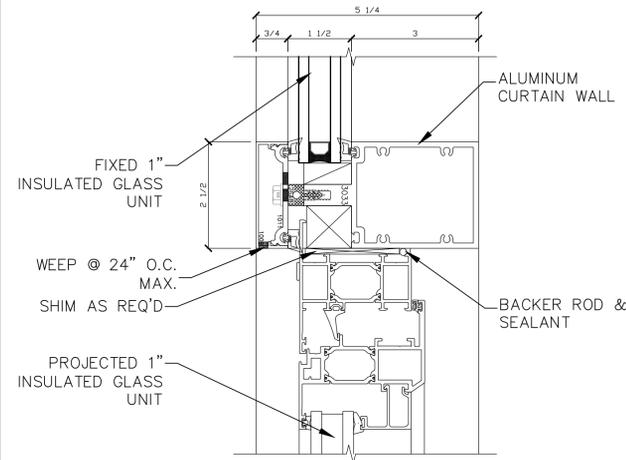
14 PROPOSED CURTAINWALL DOOR JAM
A9.1 SCALE: 6" = 1'=0"



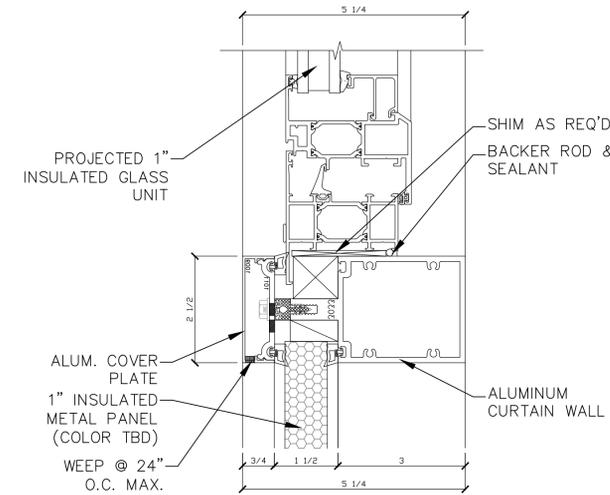
15 PROPOSED CURTAINWALL DOOR JAM
A9.1 SCALE: 6" = 1'=0"



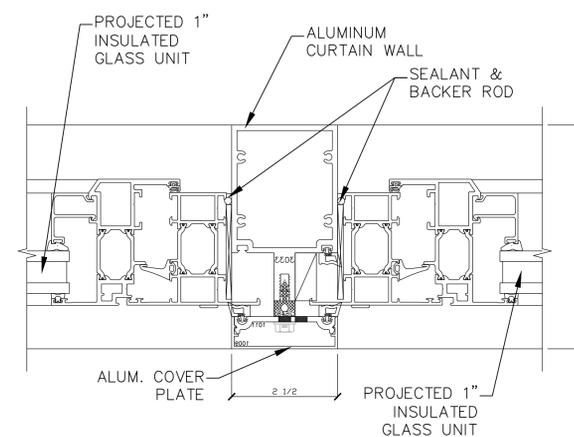
16 PROPOSED CURTAINWALL - JAM
A9.1 SCALE: 6" = 1'=0"



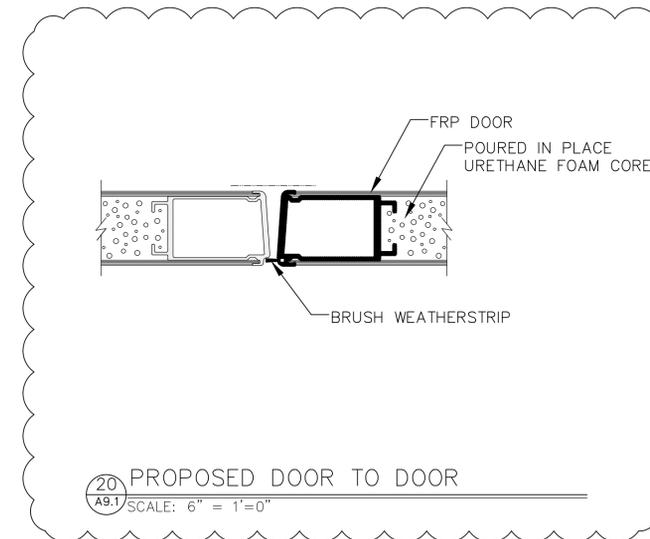
17 PROPOSED CURTAINWALL - FIXED OVER PROJECTED
A9.1 SCALE: 6" = 1'=0"



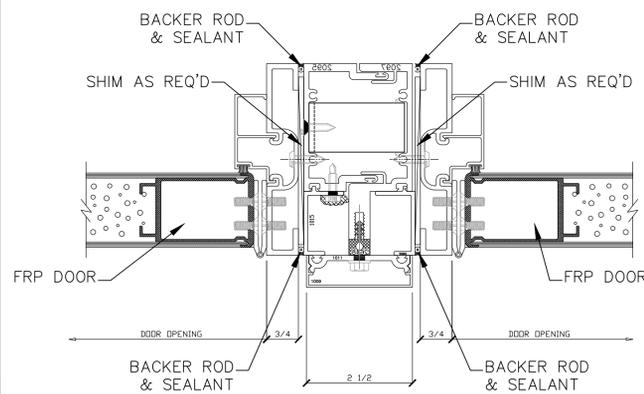
18 PROPOSED CURTAINWALL - PROJECTED OVER PANEL
A9.1 SCALE: 6" = 1'=0"



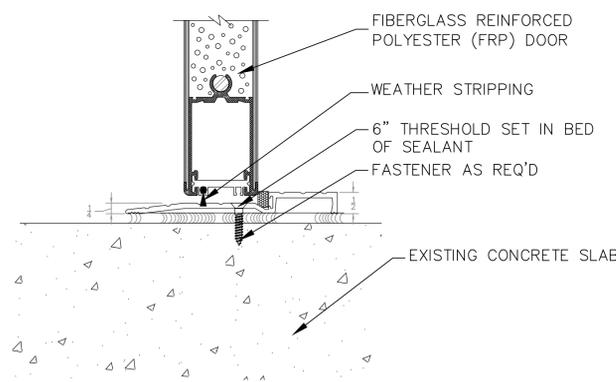
19 PROPOSED CURTAINWALL - PROJECTED TO PROJECTED
A9.1 SCALE: 6" = 1'=0"



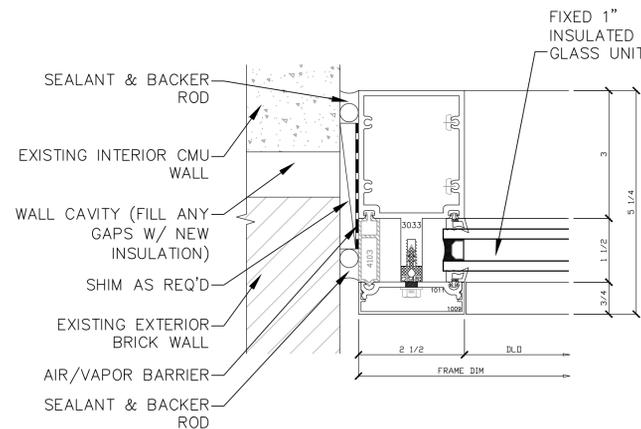
20 PROPOSED DOOR TO DOOR
A9.1 SCALE: 6" = 1'=0"



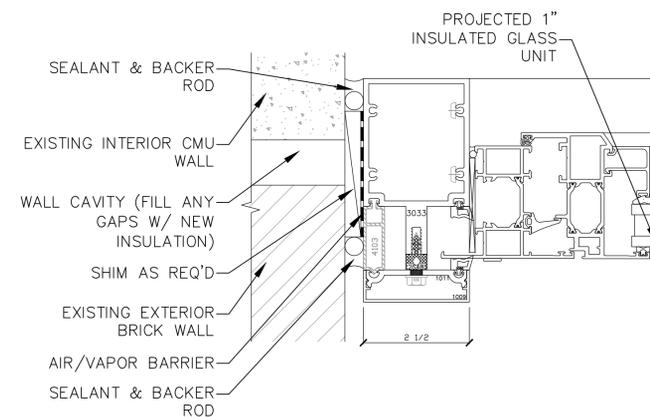
21 PROPOSED CURTAINWALL DOOR JAMS
A9.1 SCALE: 6" = 1'=0"



22 PROPOSED DOOR SILL
A9.1 SCALE: 6" = 1'=0"



23 PROPOSED CURTAINWALL - JAM
A9.1 SCALE: 6" = 1'=0"



24 PROPOSED CURTAINWALL - JAM
A9.1 SCALE: 6" = 1'=0"

NO	DATE	BY	DESCRIPTION
1	01.20.15	RCO	MULLION REMOVED FROM DRAWING



LINCOLN-HANCOCK COMMUNITY SCHOOL
300 GRANITE STREET
QUINCY, MASSACHUSETTS
MSBA WINDOW & DOOR REPLACEMENT PROJECT
DETAILS

DATE	01.07.15
SCALE	AS NOTED
DRAWN BY / CHECKED BY	RCO/ANB
PROJECT NO	2014071
DRAWING NO	

A9.1