The City of WORCESTER

Administration & Finance – Purchasing Division
Christopher J. Gagliastro, MCPPO – Purchasing Director
455 Main Street, Room 201, Worcester, MA 01608
P | 508-799-1220
purchasing@worcesterma.gov

June 9, 2025

To All Proposers:

Subject: **Bid #: 8450-W5, Haz-Mat Remediation – Worcester East Middle School / WPS**

ADDENDUM NO. 2

To Whom It May Concern:

With reference to our proposal request relative to the above subject, please refer to the changes/modifications/clarifications to the original proposal request.

- **PLEAESE SEE ATTACHED ADDITIONAL ABATEMENT SPECIFICATIONS / DESIGN SCOPE**

Bidders are requested to acknowledge and/or include this addendum with submission. All other terms, conditions and specifications remain unchanged.

Very truly yours

Christopher J. Gagliastro
Purchasing Director

DESIGN SCOPE OF WORK FOR ASBESTOS REMOVAL AT

Worcester East Middle School
420 Grafton Street
WORCESTER, MASSACHUSETTS

5/5/2025

Removal work at the **Worcester East Middle School** to be performed by a Massachusetts licensed Asbestos Abatement Contractor and all material shall be removed and disposed of in accordance local, state and federal regulations.

The Asbestos Abatement Contractor shall be responsible for providing all labor, materials, and equipment necessary for the performance of work. In addition, the Asbestos Abatement Contractor shall be responsible for retaining all permits and/or notifications required for performance of the work and pay for all fees associated with such permits and notifications.

Quantity estimates have been provided for bidding purposes. However, it shall be the Asbestos Abatement Contractor's responsibility to verify all quantity estimates in preparation of their bid price. No additional compensation will be allowed for any discrepancies between the quantities provided herein and actual quantities encountered during the site work.

ATLAS Technical Consultants LLC (ATLAS) shall provide technical advisement and project management during the Project. ATLAS's licensed Project Monitor and/or Project Designer, acting as the Owner's Representative, will perform monitoring of the Asbestos Abatement Contractor's work practices and performance, inspection of the worksites, and air sampling and analysis for each phase of the asbestos removal project. The Asbestos Abatement Contractor shall regard ATLAS's direction as authoritative and binding in all matters outlined by this Scope of Work.

All asbestos abatement activities shall be completed in accordance with the final schedule agreed upon by the Owner and ATLAS. ***Worcester Public Schools will remove movable desks, chairs, and tables. The Abatement Contractor shall cover all non-movable objects per Regulations. Fixed items, such as countertops, demising wall systems, appliances, etc. will remain and abatement will be completed to the edges of items so that a straight edge remains (as necessary)***.

The following specific requirements shall be applicable for asbestos abatement work.

If a specific note for an abatement procedure or requirement is not mentioned herein, the Asbestos Abatement Contractor shall perform the removal of such material in accordance with local, state and federal regulations.

1. The Asbestos Abatement Contractor shall coordinate with ATLAS and the Owner as to specific materials and locations where abatement will take place in accordance with this Scope of Work.

2. **Any materials deemed to be asbestos contaminated by the Consultant, prior to the start of work, or as a result of the work, shall be treated as such and disposed of properly by the Asbestos Abatement Contractor**.

3. With regards to the variance from requirements on polyethylene sheeting on "impervious wall" surfaces, the Asbestos Abatement Contractor shall be required to adhere to all requirements outlined by MA DLS and MassDEP regulations governing work area set-up for asbestos abatement. The Asbestos Abatement Contractor shall take full responsibility including all costs

associated with approval and/or denial of such actions (i.e. non-use of polyethylene) if determined to be noncompliant by the Consultant and/or a state or federal agency. If the variance is denied or discontinued by said parties; the Asbestos Abatement Contractor shall proceed with installation of polyethylene sheeting on such surfaces at no additional cost to the Owner.

4. The following requirements shall be applicable for abatement under this Scope of Work:

1. General

a. Perform abatement of asbestos containing ceramic wall tile thinset using negative air filtration techniques (estimated at 1-NAFUs for each containment), decontamination chambers, critical barriers, full 2 layer plastic containment's (2-layers of 6-mil poly on floor, and 2-layer of 4-mil poly for ceilings) and the encapsulation of post removal surfaces unless otherwise specified in this Section. Other similar building materials may be in/proximal to the work area but are no part of this abatement project and are outside of this scope.

b. Ceramic wall tile thinset to be removed from walls using mechanical means leaving existing walls in place.

c. Establish a decontamination unit in accordance with applicable regulations. Properly sealed (double waste-bagged, cleaned, labeled, etc.) waste materials may be transported through the 3-stage decontamination unit to the transport vehicle.

d. Workers shall wear disposable protective suits and respiratory protection for abatement or disturbance of asbestos-containing materials.

e. Consistently and thoroughly wet asbestos containing materials with a fine spray of amended water. Carefully remove (manual hand-methods) and immediately place asbestos in approved and properly labeled 6-mil polyethylene disposal bags or drums. Grinding off mastic with shrouded hand-grinders (estimated 1 unit per area) attached to HEPA filtered vacuums. Diligently scrape or brush asbestos residue materials from surfaces. After brushing and scraping, surfaces shall be free of visible debris and surfaces shall be HEPA vacuumed clean.

f. Any damage caused to the floors, walls, doors or any other items as a result of the abatement work shall be repaired by the Abatement Contractor or compensate the City of Worcester.

g. Comply with requirements for final clearance and release of a work area as described in this Section and as required by applicable regulations prior to tear down of polyethylene and area clean up. Perform Final Clearance Visual Inspections in accordance with the testing requirements outlined in Section 7.

h. Conduct personal 8-hour time weighted average and excursion air sampling on abatement workers in accordance with procedures outlined in OSHA 29 CFR 1926.1101.

i. Maintain the flowing records on-site:

1.) Records on each employee on site including respirator fit-test documentation, training certificates, latest medical surveillance records, a copy of the company respirator program, employee qualifications and company health and safety manual.

2.) Record asbestos waste removed from the site including date, time, quantity (number of bags or cubic yards) destination of waste, name of approved hauler and EPA approved landfill and final chain of custody forms.

3.) Copies of applicable permits and notifications.

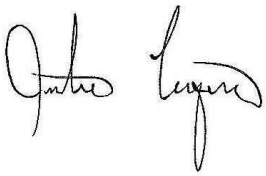
4.) Personal air sampling results.

6. Refer to Attachment A (Table 1.0) for a summary of materials that require abatement. It shall be the Asbestos Abatement Contractor's responsibility to perform all such abatement of those materials in accordance with this Scope of Work as well as applicable local, state and federal regulations. No additional compensation shall be granted to the Asbestos Abatement Contractor for compliance with applicable laws when performing the abatement work at the site.

7. After completion of abatement for each area, ATLAS shall perform a visual inspection and final air clearance testing. The Owner shall pay for one (1) final visual inspection and final air clearance test in the containment areas. Phase Contrast Microscopy (PCM) clearance air testing will be performed to confirm the completion of the abatement activities after successfully meeting visual inspection criteria by the Project Monitor and Abatement Supervisor. All clearance testing shall be performed in accordance with State of Massachusetts and EPA "Asbestos Hazard Emergency Response Act" (AHERA) Regulations. The work areas shall be considered complete if the following criteria are met:

1. Containment's cleared and samples analyzed by Phase Contrast Microscopy (PCM): Maximum airborne fiber concentration of less than or equal to 0.010 fibers per cubic centimeter ($\leq$ 0.010 f/cc) for each sample.

Note: Should results fail the clearance criteria described above, or if the visual inspection fails, the Asbestos Abatement Contractor shall re-clean the entire work area at no additional cost to Owner in accordance with applicable requirements and regulations. The Asbestos Abatement Contractor shall pay for all additional testing and inspections required until the clearance level is achieved.



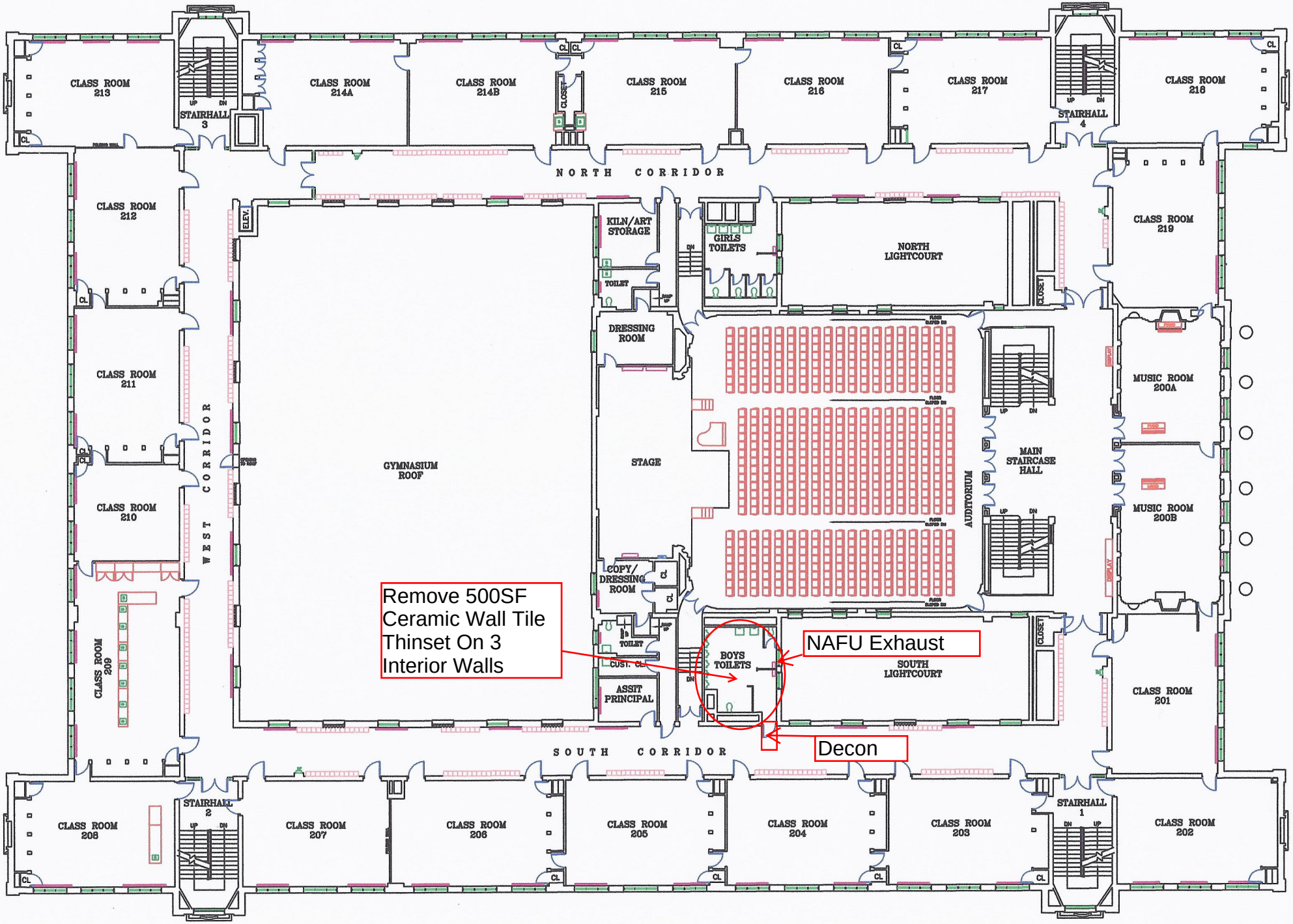
Justin Levesque
Asbestos Project Designer AD#900412

ATTACHMENT A

SUMMARY OF ASBESTOS-CONTAINING MATERIALS

TABLE 1.0 **Worcester East Middle School**			
LOCATION	**MATERIAL**	**QUANTITY**	**ABATEMENT**
2nd Floor Boys Room	Ceramic Wall Tile Thinset	500SF	Full Containment with TEM Air Clearance

- **Removal includes the 3 interior walls that have the "white troweled on" thinset on CMU block walls. The 1 exterior wall containing negative brown adhesive to be done in house by WPS.**



WORCESTER EAST MIDDLE SECOND FLOOR PLAN

SF=35,434.92 (NOT INCLUDING: OPEN AREA ABOVE GYM, NORTH/SOUTH LIGHT COURT)

PAINT REMOVAL SPECIFICATION

FOR

WORCESTER EAST MIDDLE SCHOOL
420 GRAFTON STREET
WORCESTER, MA

2025 ENTRANCE DOORS RENOVATIONS

Prepared by:

ATLAS Technical Consultants, LLC
73 William Franks Drive
West Springfield, MA 01089

April 28, 2025

SECTION 02 08 10

LEAD, CADMIUM & CHROMIUM

PART I - GENERAL

1.01 GENERAL REQUIREMENTS

A. The Owner shall not incur any additional costs due to negligence or regulatory requirements imposed upon this project due to the Contractor failing to abide by the requirements of the specifications and applicable regulations.

1.02 DEFINITIONS

A. Site: Refers to Worcester East Middle School located at 420 Grafton Street, Worcester, Massachusetts as outlined by specifications and drawings herein.

B. Owner: Refers to the Worcester Public Schools and their designated, authorized personnel.

C. Consultant: Refers to ATLAS Technical Consultant, LLC (ATLAS), 73 William Franks Drive, West Springfield, Massachusetts and their designated, authorized personnel.

D. Contractor: Refers to the Contractor who has been awarded the overall contract for hazmat removal and site demolition work outlined by the Contract Documents and Drawings. All references to the Contractor shall also include all sub-contractors working on the project.

1.03 DESCRIPTION OF WORK

A. The Contractor shall be made aware that lead, cadmium and chromium is present within painted entrance door building components which will be impacted by renovation activities on this project.

B. The Contractor shall be required to comply with all aspects of the Occupational Safety and Health Administration (OSHA) Regulations pertaining to lead, cadmium and chromium with regards to disturbance of these materials when performing their work.

C. It shall be the sole responsibility of the Contractor for compliance with this Section, including all costs associated with, but not limited to:

- Compliance with OSHA 29 CFR 1926.62 Lead Regulations.
- Compliance with OSHA 29 CFR 1926.1127 Cadmium Regulations.
- Compliance with OSHA 29 CFR 1926.1126 Chromium Regulations.
- Development and implementation of a Compliance Program.

- Development and implementation of a Respiratory Program.
- Development and implementation of a Medical Monitoring Program.
- Development and implementation of a Hazard Communication Program.
- Performance of any lead, cadmium or chromium testing required on the project.
- Performance of any Negative Exposure Assessments required.
- Providing all medical examinations required.
- Providing all equipment required (Including appropriate PPE)
- Providing all engineering controls and associated work practices.
- Disposing of all demolition material in accordance with local, state and federal regulations

D. Analysis of the paint on the metal entrance door indicated a 33% lead content. The Contractor shall assume any painted components associated with the entrance doors to contain lead, cadmium and chromium and comply with this Section and OSHA Regulations accordingly. The Contractor, at their own discretion may elect to perform testing to confirm the presence of lead, cadmium and chromium on the painted entrance door components. However, all costs associated with additional testing and compliance with this Section shall be borne by the Contractor under the Base Bid.

E. It should be noted that abatement of the paint by a licensed Lead Abatement Contractor shall not be required for performance of the renovation work outlined under this Contract. The building is not considered a residence where children under the age of six (6) reside, therefore, abatement of lead-containing components will not be required as per Massachusetts Department of Public Health (DPH) "Child Lead Poisoning and Prevention Regulations.

F. No additional compensation shall be granted for any engineering control methods employed by the Contractor for compliance with this Section, OSHA or other applicable requirements.

G. OSHA regulates activities that disturb lead, cadmium and chromium by the use of manual techniques. Regulated activities include abrasive blasting, welding, and cutting, burning on structures, manual scraping or sanding, and manual demolition of structures or components. The work practices described in this Section are intended to adequately protect the workers from exposure to lead, cadmium and chromium, provide a safe workplace, and protect the environment. However, it shall be the Contractors responsibility to comply with this Section as well as any other provisions/requirements outlined by OSHA and other applicable regulations.

H. <u>Materials and Equipment:</u> The work of this Section, without limiting the generality thereof, includes the furnishing of labor, materials, tools, equipment, services and incidentals necessary to safely accomplish tasks which will disturb lead, cadmium and chromium.

I. Approvals and Inspections: Temporary facilities, work procedures, equipment, materials, services, and agreements must fully comply with EPA, OSHA, and NIOSH recommendations, standards and guidelines, as well as any other applicable federal, state, and local regulations. Where there exists an overlap of these regulations and guidelines, the most stringent shall apply.

J. Disposal: The Contractor shall dispose of demolition debris and associated materials in accordance with Part 3.06 of this Section.

1.04 SITE WORK DEFINITIONS

A. Action Level: Action Level as defined by OSHA shall refer to employee exposure, without regard to the use of respirators, to an airborne concentration of lead, cadmium or chromium calculated as an 8-hour time-weighted average (TWA).

B. Competent Person: Competent Person shall refer to a person who is capable of identifying existing and predictable hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them.

C. HEPA Filter: HEPA Filter shall refer to a filter capable of filtering out monodispersive particles of 0.3 microns or greater diameter from a body of air at 99.97 percent efficiency or greater.

D. Lead, Cadmium and Chromium Paint: Shall refer to paint found to contain lead, cadmium and chromium in any concentration or paint assumed to contain lead, cadmium and chromium as indicated in this Section.

E. Permissible Exposure Limit (PEL): PEL shall refer to employee exposure, without regard to the use of respirators, to an airborne concentration of lead, cadmium or chromium calculated as an 8 hour time-weighted average.

1.05 PERMITS AND INSPECTIONS

A. Notifications/Approvals: The Contractor shall make, in proper and timely fashion, any necessary notifications to relevant Federal, State, and local authorities and shall obtain and comply with the provisions of all permits or applications required by the work specified, as well as make all required submittals required under those auspices. The Contractor shall indemnify the Owner, their representatives and agents from, and pay for claims resulting from failure to adhere to these provisions. The costs for permits, applications, and the like, are to be assumed by the Contractor.

B. Fees, Permits and Licenses: The Contractor shall pay licensing fees, royalties, and other costs necessary for the use of any copyrighted or patented product, design, invention, or processing the performance of the job specified in this Section. The Contractor shall be solely responsible for costs, damages or losses resulting from any infringement of these patent rights or copyrights. The Contractor shall hold the Owner, Architect and Consultant harmless from any costs, damages, and losses resulting from any infringement of these patent rights or copyrights. If the Specification requests the use of any product, design, invention, or process that requires a licensing fee or royalty fee for use in the performance of the job, the Contractor shall be responsible for the fee or royalty and shall disclose the existence of such rights.

C. Contractor shall be responsible for costs for licensing requirements and notification requirements and other fees related to the ability to perform the work in this Section. The Contractor shall be responsible for securing necessary permits for work under this Section, including removal, materials usage, or any other permits required to perform the specified work.

1.06 SUBMITTALS

A. Pre-Construction Submittals: Prior to the commencement of the required work, the Contractor shall provide the following to the Architect for approval:

- A written description detailing the means and methods to achieve compliance with the OSHA standards as well as the provisions outlined herein.
- A written description detailing the means and methods for properly disposing of all demolition debris in accordance with local, state and federal regulations.

B. Post-Construction Submittals: Final payment to the Contractor shall not be made unless the following items are submitted to the Architect for approval:

- Original Copy of Waste Disposal Manifests acknowledging disposal of any hazardous and non-hazardous waste material from the project showing delivery date, quantity, and appropriate signature of landfill's authorized representative.

1.07 QUALITY CONTROL/ASSURANCE

A. Training Requirements: Workers who will have the potential of lead, cadmium and chromium exposure shall have proof of successfully completing a training course which covers the topics required by OSHA. Contractors are also advised that training in other areas may be required by OSHA and are responsible to ensure that all training requirements for appropriate trades and procedures are met.

B. Specified Supervisor Qualifications: The Contractor shall specify an on-site

Supervisor or Competent Person who is fully qualified in all aspects of safe work practices and procedures, and have (or will have) completed a training course within the previous year prior to the commencement of the work. The training course will cover all topics required by OSHA as well as training in relevant federal, state and local regulatory requirements, procedures and standards, supervisory techniques, and proper disposal procedures.

C. Site Specific Written Compliance Program: The program will be evaluated to ensure the elements required by OSHA are specific to the conditions at the job site.

D. Respiratory Protection Program: The Contractor must provide for review a written respiratory protection program in accordance with 29 CFR 1920.103 if respiratory protection is to be worn during this project.

E. Fit Test Records: If respiratory protection is to be worn as part of this project, records of successful respirator fit testing performed by a qualified individual within the previous 12 months, for each employee to be used on this project with the employee's name and social security number with each record.

F. Medical Surveillance: The Contractor shall provide biological monitoring to workers who have the potential of lead, cadmium and chromium exposure. This monitoring shall be performed in accordance with OSHA. If workers are expected to exceed the action level for more than 30 days in any consecutive 12 months the Contractor shall institute a medical surveillance program in accordance with OSHA. A laboratory approved by OSHA shall conduct Blood level sampling and analysis.

1.08 CODES AND STANDARDS

A. Work shall conform to the standards set by applicable federal, state and local laws, regulations, ordinances, and guidelines in such form in which they exist at the time of the work on the contract and as may be required by subsequent regulations.

B. In addition to any detailed requirements of the Specification, the Contractor shall at his own cost and expense comply with all laws, ordinances, rules and regulations of federal, state, regional and local authorities regarding handling and storing of waste material.

NOTE: Regulations by the above and other governing agencies in their most current version are applicable throughout this project. Where there is a conflict between this Specification and the cited federal, state or local regulations or guidelines, the more restrictive or stringent requirements shall prevail. This Section refers to many requirements found in these references, but in no way is it intended to cite or reiterate all provisions

therein or elsewhere. It is the Contractor's responsibility to know, understand, and abide by all such regulations, guidelines and common practices.

PART 2.0 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. The Contractor shall be responsible for providing all material and protective equipment required for performance of the work. The Contractor shall comply with all local, state and federal regulations pertaining to the selection and use of materials and equipment on this project. The Contractor shall provide a submittal on all materials and equipment to be used for review and approval by the Designer.

PART 3.0 - EXECUTION

3.01 WORKER PROTECTION

A. Initial Determination: The Contractor shall determine, through personal exposure monitoring on the job site or through relevant documentation from other similar jobs, whether workers will be exposed to airborne lead, cadmium or chromium at or above the OSHA Action Level and Permissible Exposure Limit. If exposures at or above the action level are documented, appropriate health and safety procedures identified herein shall be followed. If levels below the action level are documented, the Contractor shall exercise an appropriate level of care to ensure that exposures above the action level do not occur. Whenever there is a chance of equipment, process, control, personnel or a new task has been initiated that may result in additional employees being exposed to lead, cadmium or chromium at or at or above the action level or may result in employees already exposed at or above the action level being exposed above the PEL, the Contractor shall conduct additional monitoring.

Note: The Contractor shall be responsible for performing a negative exposure assessment on each trade subject to the OSHA Regulation. The assessment shall take place during routine work activities, which will simulate employees, actual exposure levels to lead, cadmium and chromium. All assessments shall take place over an 8-hour time period and shall include all appropriate PPE and biological monitoring required as stated herein.

B. Personal Hygiene Practices: Where exposures to airborne lead, cadmium and chromium above the OSHA PEL occurs or may be expected to occur, the Contractor shall enforce and follow good personal hygiene practices. These practices shall be performed until personal exposure sampling indicates that exposures are below the PEL at which time the Contractor has the option to

continue or discontinue the use of personal hygiene facilities. These practices shall include but not be limited to the following:

1. No eating, drinking, smoking, or applying cosmetics in work area. The Contractor will provide a clean space, separated from the work area, for these activities.
2. Workers must wash upon leaving the work area. The Contractor will provide wash facilities. This wash facility will consist of, at least, running potable water, towels, and a HEPA vacuum. Upon leaving the work area, each worker will remove and dispose of work suit, wash and dry face and hands, and vacuum clothes.
3. Disposable clothing, such as TYVEK suits, and other personal protective equipment (PPE) must be donned prior to entering work area. A clean room will be provided for workers to put on suits and other personal protective equipment and to store their street clothes. Disposable suits shall be used once, then properly discarded.
4. A lavatory facility must be provided and located adjacent to the work area. The eating and drinking area, clean room, and the lavatory facility must be maintained in a clean and orderly fashion at all times. The Contractor will provide portable lavatories when needed and disinfect them daily.
5. If air-monitoring data gathered by the Contractor shows that employees' exposure to airborne lead, cadmium or chromium exceeds the PEL, the following conditions apply:

    a. Showers must be provided. Shower water must pass through at least a 5.0 micron filter before returning to the public waste system.
    b. Workers must shower upon leaving work area.
    c. Three-stage decontamination unit must be established consisting of an Equipment Room, Shower, and Clean Room in series.

3.02 WORK AREA SET UP

A. Site Safety: The Contractor is responsible for all safety at the work site. This includes, but is not limited to, electrical safety, mechanical (tool) safety, fire safety, and personnel protective safety. Safety requirements are, for the most part, common sense and sound business practice; however, the Contractor is advised that federal, state, and local regulations exist which govern safety on the work site. Therefore, in addition to the following, the Contractor is responsible for adhering to the most stringent requirements in effect.

B. Signage: Prior to the preparation for work which will disturb lead, cadmium or chromium, the Contractor shall place warning signs immediately outside all entrances and exists to the area, warning that lead, cadmium and chromium work is being conducted in the vicinity. The signs shall be at least 20" x 14" and read:

WARNING:
LEAD, CADMIUM, CHROMIUM WORK AREA
POISON
NO SMOKING, EATING OR DRINKING
ALLOWED IN THE WORK AREA

The signs shall be in bold lettering with lettering not smaller than two inches tall. Should personal exposure monitoring results indicate that exposures are below the Action Level, then the signs will not be required.

C. Access to Work Areas: It will be the Contractor's responsibility to allow only authorized personnel into the work area. Barrier tape shall be used to limit access to the exterior work area. Contractor shall maintain a bound logbook, in which any person entering or leaving the work area must sign and enter the dates and times of entry and departure. Should personal exposure results indicate the exposures are below the Action Level, then a logbook will not be required. The Contractor or competent person will not allow anyone access to the work area unless they have successfully passed an approved training program, and have been fitted and wearing a properly fitted respirator.

D. Dumpsters used to store hazardous waste shall be DOT approved, solid enclosed containers and locked and secured at all times.

E. Containment controls (including critical barriers, protective coverings, HEPA-filtered ventilation and decontamination facilities) may be required for renovation work. The degree of containment shall be appropriate for the anticipated levels of airborne dust. The lower the level of airborne dust, the lesser the requirements necessary to control lead, cadmium and chromium emissions at the job site.

F. The Contractor shall isolate work areas for the duration of work by completely sealing off all openings in the work area. Isolation scaling shall be accomplished by constructing critical barriers where necessary around the work area perimeter. The work area shall be sealed airtight to the greatest extent possible. Solid barriers constructed on the exterior of the building shall be able to withstand inclement weather if to remain overnight. The solid barrier(s) would be constructed so as to ensure the security of the building

G. The Contractor shall erect one or more Decontamination Facilities (if applicable) to serve each work area. The facility will consist of series of two or more connected chambers including, at a minimum, a clean room and a shower/wash room, separated by an air lock. Unless otherwise specified, the shower/wash room shall be contiguous to the work area. Non-contiguous, remote, three-chamber decontamination facilities may be substituted with the Consultant's prior written approval. Three-chamber decontamination facilities shall include an equipment room to be used for removal and temporary storage of contaminated worker clothing, equipment, and other items leaving the work area, prior to decontamination in the shower/wash room of the decontamination facility. In all cases, non-emergency access between contaminated and uncontaminated rooms or areas shall only be through the Decontamination Facility/Wash Room.

H. Ensure that barriers and linings are effectively sealed and taped at all times, and that the Shower/Wash Room floor is completely watertight. Repair damaged barriers, and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period.

I. All renovation work areas shall remain isolated from all other trades on the project and remain inaccessible to the public. Contractor shall monitor the access to the renovation/demolition work areas. The below listed items are <u>required</u> to control the generation of lead, cadmium and chromium containing dust during renovation/demolition activities if worker exposure is <u>above the PEL</u>. The Contractor is ultimately responsible for cleaning all generated dust and debris from renovation/demolition operations and must maintain work areas free from dust generated from renovation/demolition activities.

1. Signs shall be posted at all approaches to the work area warning that work involving lead is being conducted in the vicinity. Signs shall be in bold lettering not smaller than two inches tall.
2. Barriers shall not be removed until the work areas are thoroughly cleaned and approved by the Consultant.

3.03 <u>WORK PROCEDURES</u>

A. The Contractor shall initiate, and continue, sufficient engineering and work practice controls, as described in the Contractor's Compliance Programs, to reduce and

maintain worker exposures to lead, cadmium and chromium at or below the Action Level or Permissible Exposure Limit.

B. The following work practices are specifically required by these specifications:

1. All persons except those directly involved in the work shall be excluded from the work area. Physical barriers shall be used, where necessary, to limit access to the work area for the duration of the renovation activities. (Warning signs may need to be posted in accordance with applicable regulations.)
2. All personnel in the work area shall wear disposable suits. Disposable suits shall be removed upon exiting the work area. Provide hand washing facilities and assure that all workers thoroughly wash their hands and face upon exiting the work area. Workers shall pay careful attention to cleanse the hands and face when decontaminating (Provide hygiene facilities, including shower, as required based on initial assessment and continued monitoring.)
3. All equipment used by the workers inside the work area shall be either left in the work area or thoroughly decontaminated before being removed from the area. Extra work clothing (in addition to the disposable suits supplied by the Contractor) shall be left in the clean area until the completion of work in that area. The clean area shall be cleaned of all visible debris and disposable materials daily.
4. Under no circumstances shall workers or supervisory personnel eat, drink, smoke, chew gum, or chew tobacco in the work area; to do so shall be grounds for the Engineer to stop all demolition operations. Only in the case of life threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators, if applicable, while in the work area. In this situation, respirators are to be removed for as short a duration as possible.
5. Feasible engineering controls shall be implemented by the Contractor to minimize the possibility of contamination of areas adjacent to the work area. Use adequate ventilation to control personnel exposure to lead in accordance with OSHA Regulation 29 CFR 1926.57. Local exhaust ventilation systems, if used, shall be connected to HEPA filters or other collection systems.
6. Use procedures and equipment required to limit occupational and environmental exposure to lead when lead-containing paint is removed in accordance with 29 CFR 1926.62, except as specified herein. Dispose of removed paint chips and associated waste in compliance with federal, state, and local requirements.
7. Remove paint on components associated with entrance doors in order to completely expose the substrate. Take whatever precautions are necessary to minimize damage to the underlying substrate.
8. Indoor Lead Paint Removal: Select paint removal processes to minimize contamination of work areas with lead-contaminated dust or other lead

contaminated debris/waste. This paint removal process should be described in the lead-containing paint removal plan.

9. Mechanical Paint Removal and Blast Cleaning: Perform mechanical paint removal and blast cleaning in lead control areas using negative pressure full containments with HEPA filtered exhaust. Collect paint residue and spent grit (used abrasive) from blasting operations for disposal in accordance with federal, state and local requirements.
10. Outside Lead Paint Removal: Select removal processes to minimize contamination of work areas with lead-contaminated dust or other lead contaminated debris/waste. This paint removal process should be described in the lead-containing paint removal plan.
11. Workers shall be informed of the components to be impacted during renovation work that are identified as containing lead, cadmium and chromium.
12. Separation of Trades: Unprotected, untrained workers or trades shall not perform any related work within the same areas as demolition involving components identified as containing lead, cadmium and chromium. Other trades may not enter these areas until clean-up procedures are completed.

3.04 AIR SAMPLING – CONTRACTOR

A. Personal Exposure Monitoring: The Contractor shall perform personal exposure sampling to monitor personal exposure levels to airborne lead, cadmium and chromium. Samples shall be taken for the duration of the work shift or for eight hours, whichever is greater. Personal samples need not be taken every day after the first day if working conditions remain unchanged, but must be taken every time there is a change in the removal operation, either in terms of the location or the type of work. Sampling will be used to determine eight-hour Time-Weighted-Averages (TWA). The Contractor is responsible for personal sampling as outlined in the OSHA Standards.

B. Frequency: Air monitoring frequency will be established in accordance with the requirements set forth the OSHA Standards.

3.05 CLEAN-UP PROCEDURES

A. When work is in progress, the work site shall be cleaned at end of each day's activities. The buildings shall be secured to prevent entry by any person after termination of workday. Durable equipment, such as power and hand tools, generators, and vehicles shall be cleaned monthly.

B. Equipment shall be cleaned by HEPA vacuuming. Surfaces shall be maintained as free as practicable of accumulations of dust and debris. Clean up of dust and debris shall be accomplished with a HEPA vacuum or wet methods. The debris shall be misted with water with an airless type sprayer and collected with a mop or broom.

3.06 DISPOSAL OF WASTE MATERIAL

A. General:

All costs associated with proper disposal of the waste materials (whether hazardous, non-hazardous or regulated) shall be borne by the Contractor under the Base Bid. All materials, whether hazardous, non-hazardous or regulated shall be disposed of in accordance with all laws, and the provisions of this Section and any or all other applicable federal, state county or local regulations and guidelines. It shall be the sole responsibility of the Contractor to assure compliance with all laws and regulations relating to disposal.

B. Non-Hazardous Materials: The Contractor shall contact the regional EPA, State and local authorities to determine disposal requirements for construction and demolition debris that contains lead, cadmium or chromium (non-hazardous). The Contractor shall be responsible for providing all dumpsters/containers required for collection and disposal of such material as well as disposal in an approved landfill.

C. Hazardous Waste/Regulated Materials: All materials which are determined to be hazardous waste or regulated waste for lead, cadmium or chromium shall be disposed of by the Contractor as specified herein. The Contractor shall perform representative Toxicity Characteristic Leaching Procedure (TCLP) tests of demolition debris to ensure the material is properly profiled for disposal. This shall also include all testing required by the disposal or recycling facility. All costs associated with TCLP testing to profile the waste material shall be borne by the Contractor. If the material is found to be hazardous waste or regulated waste, the Contractor shall provide appropriate drums/containers for use. The Contractor shall properly handle and transport all hazardous waste or regulated waste material into the drums/containers provided.

D. All TCLP sampling and analysis shall be subject to approval by the Owner. A submittal shall be provided by the Contractor which details the procedures for the sampling including the name of the sampler, methodology for sample collection, sample preparation and chain-of-custody procedures. The laboratory to be used shall be certified by the State of Massachusetts and the American Industrial Hygiene Association (AIHA).

E. No demolition or recyclable material shall be removed from the site unless approved by the Owner. The Contractor shall provide the name of the transporter and disposal facility for each type of waste (i.e. hazardous, non-hazardous, regulated or recyclable) for review and approval by the Owner.

F. Recyclable/Salvaged Materials (Non-Hazardous): The Contractor shall note that any demolition material deemed to be recyclable or salvageable by the Contractor

may contain lead, cadmium or chromium which could result in the recycling or salvage facility rejecting acceptance regardless of the lead, cadmium or chromium content or TCLP result. The Contractor is hereby notified of this fact and shall bear all responsibilities and costs associated with acceptance and/or rejection of such materials in a C&D landfill, waste disposal facility and/or a recycling/salvage facility under their Base Bid.

G. The following materials are considered Hazardous Waste (Lead, Cadmium or Chromium) if they are generated in a form by themselves and shall be disposed of as such:

1. Paint chip and paint chip debris

H. The Contractor shall be responsible for proper disposal of all materials outlined herein. In addition, all costs associated with worker protection or environmental protection requirements for such work shall be the responsibility of the Contractor.

END OF SECTION

ASBESTOS PROJECT DESIGN

FOR

WORCESTER EAST MIDDLE SCHOOL
420 GRAFTON STREET
WORCESTER, MA

ASBESTOS ABATEMENT PROJECT DESIGN
2025 ENTRANCE DOORS RENOVATIONS

Prepared by:

ATLAS Technical Consultants, LLC
73 William Franks Drive
West Springfield, MA 01089

April 4, 2025

ASBESTOS ABATEMENT SPECIFICATION

PART I - GENERAL

1.01 DESCRIPTION OF WORK

A. The work includes the abatement and disposal of all asbestos window glazing associated with the entrance doors and associated windows/transoms from the Worcester East Middle School located at 420 Grafton Street, Worcester, MA . Estimates are provided to assist the abatement contractor but in no way relieve them of their responsibility to verify types, amounts, and conditions for asbestos abatement. The material estimate table is located in Appendix A of the design specification. The asbestos abatement supervisor and project monitor shall verify quantities removed.

B. The Contractor shall furnish all labor, materials, services, training, insurance, and equipment as needed to complete abatement of the asbestos-containing materials. The Contractor shall follow all Federal, State and local ordinances, regulations and rules pertaining to asbestos, including its storage, transportation and disposal.

The abatement procedures shall adhere to the following Federal and State Regulations including State of Massachusetts DLS & DEP regulations. Any variances to the procedures described in the Regulation shall be the responsibility of the Contractor to obtain, including any fees which may be required. All variances to this Specification shall require written approval by the Owner.

1.02 DOCUMENTS

A. The current issue of each document incorporated by reference herein shall govern. Where conflict among requirements or with this specification exists, the more stringent requirements shall apply.

B. OSHA regulations. Provide special attention to the following:

1. 29 CFR 1910 (general industry).
2. 29 CFR 1910.1001 (asbestos)
3. 29 CFR 1910.134 (respiratory protection).
4. 29 CFR 1910.1200 (hazard communication).
5. 29 CFR 1926 (construction safety).
6. 29 CFR 1926.1101 (asbestos).
7. 29 CFR 1926.59 (hazard communication).
8. 29 CFR 1926.450-452 (ladders and scaffolding).

C. EPA regulations. Provide special attention to the following:

1. NESHAP. Asbestos National Emission Standards for Hazardous Air Pollutants. 40 CFR 61, Subparts A (General Provisions, Sections 01-10) and M (Asbestos, Sections 140-157).
2. AHERA. Asbestos Hazard Emergency Response Act, 40 CFR Part 763 - Asbestos

3. RCRA. Resource Conservation and Recovery Act regulations. 40 CFR 260-299. Provide special attention to the following:

    a. 40 CFR 261 (hazardous waste identification).
    b. 40 CFR 262-266 (disposal requirements).
    c. 40 CFR 262.34(c)(1) (waste accumulation).
    d. 40 CFR 262.12 (waste generation, EPA identification number, responsibilities).
    e. 40 CFR 262.20-23 (waste manifesting).
    f. 40 CFR 262.30-33 (waste packaging, labeling, marking and placarding).

D. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) regulations (40 CFR 300-399). Provide special attention to the following:

1. 40 CFR 302.4 (reporting releases).

E. DOT regulations. Provide special attention to the Hazardous Materials Regulations, 49 CFR 171-180, in particular:

1. 49 CFR 171.14(b)(4) (placarding).
2. 49 CFR 172.300-308, 324 (marking).
3. 49 CFR 172.400, 466 (labeling).
4. 49 CFR 172.500, 504, 560 (placarding).

F. State of Massachusetts Regulation

1. Commonwealth of Massachusetts Department of Environmental Protection (DEP) – 310 CMR 7.02, 7.09 and 7.15
2. Commonwealth of Massachusetts Department of Labor Standards (DLS) 454 CMR 28.00.

G. American Society for Testing and Materials.

1. ASTM Standard E 1368. Practice for Visual Inspection of Asbestos Abatement Projects.

1.03 SUBMITTALS

A. In addition to items required by this and other sections of the Project Manual, the following items shall be submitted prior to commencement of the Project:

1. Plan(s) of Action, as applicable
2. Any additional information required by the Owner or Designer

B. In addition to items required by other sections of the Project Manual, the following submittals are required for final payment:

1. Insurance Certificate indicating specified coverages
2. Copy of Massachusetts Asbestos Abatement Contractor's License
3. Copies of certifications, notifications and all applicable licenses

4. Written Respirator Program including fit test records for employees assigned to this project.
5. Written Medical Surveillance Program including the Physicians' written opinion for employees assigned to the project in accordance with OSHA 29 CFR 1926.1101(m).
6. Written Hazardous Communications Program including MSDS sheets for materials to be brought on-site.
7. Copy of Training Records for Employees assigned to project
8. Copy of Waste Shipment Records
9. Copy of Personal Air Sample Results
10. Original Bound Log Book
11. Copy of Project Violations, Correspondences and Waivers
12. Copy of State Project Notifications and Extensions
13. Proof that all Subcontractors have been paid in full

1.04 SITE SECURITY

A. The Contractor is responsible for damage to the buildings and grounds in areas where the Contractor shall have access for the duration of the project. The Contractor will be required to document any damaged areas in these areas and will then have the document signed off by the Owner or the Owner's Representative. The Contractor will not be held responsible for documented areas of preexisting damage. Any damaged areas discovered promptly after the project will be the responsibility of the Contractor unless documented. The Contractor shall compensate for the damages in manner acceptable to the Owner.

B. The Contractor is responsible for performing all work under this contract without contaminating the building environment with asbestos fibers. This includes interiors of duct work, outside containment locations, machinery and equipment and any other release into unregulated spaces. The Contractor is responsible for making right and clean-up of any such contamination.

C. In addition to any detailed requirements of the Specification, the Contractor shall at his own cost and expense comply with laws, ordinances, rules and regulations of Federal, State, Regional and Local Authorities regarding handling, storing, transporting and disposing of asbestos waste materials. Contractor shall comply with the applicable requirements of the Occupational Safety and Health Act of 1970. Matters of interpretation of any standards will be submitted by the Contractor to the appropriate administrative agency for resolution before starting the work.

D. The Contractor shall have A-B-C type fire extinguishers approved for electrical fires immediately outside the decontamination chamber and inside containment. The fire extinguishers will be readily accessible and denoted with conspicuous signs. The Contractor shall have a fire safety plan, explaining emergency exits and fire safety measures and precautions to be utilized.

E. The Contractor will be responsible for the security of the abatement area, allowing only authorized personnel into the area, and securing assigned entrances and exits with locked doorways at the end of the work day. Where persons employed by the Owner or other authorized personnel must enter and leave the buildings in

any area connected to an asbestos removal area, a sealed, impermeable, permanent barrier must be erected and properly posted at any door or access to the asbestos removal worksites.

F. Signs will be posted prior to asbestos removal as required in 29 CFR 1926.1101. The signs shall display the proper legend in the lower panel, with letter sizes and styles of a visibility at least equal to that specified in 29 CFR 1926.1101. The signs will be posted near the perimeter of asbestos removal or demolition areas, construction areas where airborne asbestos dust or fibers are being emitted, along the route to the temporary holding area. Signs will be constructed to withstand weather conditions.

1.06 SCHEDULING

A. The contractor shall submit notifications to State of MA DEP and DLS to schedule work at a mutually agreed upon time with Worcester East Middle School. The students and teachers will not be in the school during abatement activities. The Contractor shall coordinate abatement work with any other contractors performing work at the school during this time period.

PART II - PRODUCTS

2.01 MATERIALS

A. Provide duct tape of suitable size with an adhesive which is capable of sealing joints of adjacent sheets of plastic and of attaching plastic sheet to finished or unfinished surfaces of dissimilar materials, and shall be capable of adhering under dry and wet conditions, including wetting by amended water.

B. For wetting prior to disturbance of asbestos-containing materials use either amended water or a removal encapsulant.

C. Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the asbestos-containing material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a solution of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with one gallon of water.

D. An approved bridging encapsulant/lockdown sealant meeting or surpassing Battelle Columbus Laboratory test procedures and rating requirements developed under the 1978 USEPA contract will be sprayed on all post-removal surfaces using an airless sprayer at low pressure. The encapsulant solvent or vehicle shall not contain a volatile hydrocarbon.

E. All personnel in asbestos abatement areas shall wear special clothing such as overalls or similar whole body clothing, respirators, gloves head and foot coverings. This applies to residual cleaning masking, sealing, demolition, removal operations, and final cleaning. It is required that the Contractor use full body disposable clothing. Contaminated clothing will be treated as asbestos material and undergo the same disposal procedures.

Street clothes worn to and from the job site shall not be worn inside any asbestos abatement area. The Contractor shall supply required disposable clothing to authorized visitors and the Project Monitor for final visual inspections and air sampling.

F. A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, clear, frosted, or black as indicated. Fire-retard rant polyethylene sheeting shall be used according to the local fire department regulations or policies.

G. Comply with local, state and federal regulations pertaining to the selection and use of materials on this project.

2.02 EQUIPMENT

A. The Contractor shall furnish equipment, tools and clothing necessary to perform the work in a safe and expeditious manner.

B. Amended water and surface sealers shall be applied with an airless or other low pressure sprayer or injector suitable for the specific application. Shall meet OSHA safety regulations, including 29 CFR 1926.450-452. Where electrical power and water are used inside a work area, no electrically conductive ladders (e.g., aluminum or steel) shall be used (except for hinges and feet).

D. The Contractor shall furnish all equipment such as lumber, nails, ladders, HEPA vacuums, and hardware and supplies which may be required to construct and dismantle the decontamination areas and the barriers that isolate the work area. The Contractor shall provide other suitable tools for the abatement activities including but not limited to: hand scrapers, brushes, sponges, mops, and shovels.

E. All vacuum and exhaust equipment shall have HEPA filtering in conformance with ANSI z9.2. Filters of different materials are permitted upon submissions of a certificate of compliance with ANSI z9.2. No bypass devices are permitted. Provision will be made to empty the collection containers without creating visible emissions of particulate matter. All filter changes and emptying of collection containers will be done in sealed removal worksites. All used filters and other contaminated materials will be disposed of as asbestos waste.

F. Comply with local, state and federal regulations pertaining to the selection and use of equipment on this project.

2.03 RESPIRATORY PROTECTION:

A. Respiratory protection will be worn by individuals inside the work area from the initiation of the asbestos project until areas have successfully passed clearance air monitoring in accordance with these Specifications. All respiratory protection will be NIOSH approved in accordance with the provisions of 30 CFR Part 11. All respiratory protection will be provided by the contractor, and used by workers in conjunction with the written respiratory protection program.

B. The Contractor shall select and provide at no cost to their employees the appropriate respirator as specified in 29 CFR 1926.1101. The respirator selected must be approved for asbestos protection by NIOSH. Half-mask or full face air-purifying respirators with HEPA filters will be worn during asbestos abatement removal and clean-up activities provided airborne fiber concentrations inside the work area are less than 0.1 f/cc.

C. The Contractor shall provide a powered, air-purifying respirator in lieu of any negative-pressure respirator whenever the worker chooses to use this type of respirator and the respirator will provide adequate protection to the worker.

D. As part of the Contractor's Respiratory Protective Program, each worker shall be provided by the employer with a properly fitted respirator and shall be trained in its proper use. Workers shall perform a user seal check to test the respirator's fit each time the respirator is put on or adjusted.

E. The Contractor shall ensure that the workers are qualitatively or quantitatively fit tested by a Competent Person initially and annually thereafter with the type of respirator he/she will be using. Whenever the respirator design permits, workers shall perform the positive and negative air pressure fit test each time a respirator is worn. Powered air-purifying respirators will be tested for adequate flow as specified by the manufacturer and a qualitative or quantitative fit test performed during negative pressure mode. No facial hair shall impede the seal of the respirator to a person's face on any person wearing respiratory protection that requires a mask-to-face seal.

F. <u>Maintenance and Decontamination Procedures:</u>

1. Respiratory protection will be inspected and decontaminated on a daily basis in accordance with OSHA 29 CFR 1910.134 (b).

2. Respiratory protection will be the last piece of worker protection equipment to be removed. Workers must wear respirators in the shower when going through decontamination procedures.

3. Powered air-purifying respirator facepieces will be worn into the shower. Filtered/power pack assemblies will be decontaminated in accordance with manufacturer's recommendation.

PART III – EXECUTION

3.01 ASBESTOS ABATEMENT PROCEDURES

A. The Contractor will keep a notebook on the job site at all times with records on each employee on this project to include respirator fit-test documentation, training certificates that meet Specification requirements, latest medical surveillance records, a copy of the company respirator program, employee qualifications and health and safety manual. The notebook will include a section on asbestos waste and a record of all asbestos waste removed from the work area. The entry will include date, time, quantity (number of bags or cubic yards) destination of waste, name of approved hauler and EPA approved landfill and final chain of custody forms. The notebook will include copies of all permits and EPA, State and other notifications. Personal sampling results will also be maintained therein.

B. The Contractor shall construct a three stage decontamination unit contiguous to the work area. The Contractor shall provide Decontamination Chambers consisting of an equipment room, shower and clean room for personnel involved in asbestos removal. The Chamber shall be masked and sealed with two layers of six mil polyethylene sheeting with flaps between each room. The decontamination chamber shall serve as worker, equipment, and contained waste decontamination unit, access point, and source of make-up air, emergency exit and waste load out chamber. The Contractor shall construct the decontamination unit according to applicable regulations.

C. Immoveable objects shall be sealed with “critical barriers” consisting of one layer of six-mil polyethylene sheeting. Movable objects shall be removed from the work area – coordinate with Worcester Public School.

D. The Contractor shall establish a negative air differential inside the work area prior to abatement utilizing negative air filtration units with HEPA filters. The Contractor shall establish negative pressure air filtration within the work areas. After masking and sealing is completed and the asbestos worksite is contained and before work begins, the Contractor shall smoke test to confirm negative pressure inside the contained worksite. The volume of air within the contained worksite should be changed at least four (4) times per hour or once every fifteen (15) minutes. The Contractor shall be responsible for the use of a manometer to confirm a negative air pressure of at least 0.02 inches of water column per full containment. Equipment used for producing a negative pressure shall operate 24 hours a day upon meeting final air clearance criteria. Calculations to determine the amount of air filtration units shall use 75% efficiency of the unit as determined by the manufacturer and an additional unit shall be added to the calculation.

E. Lock-out existing electricity in the work area and establish work area electrical source and lighting utilizing a licensed electrician.

F. HVAC systems present in work areas will be shut down and locked out by the Owner, prior to any work being performed in the building. The Contractor shall mask and seal all diffusers, return ports, and Prior to remedial cleaning negative air filtration units and a three stage decontamination shall be in place and running

and all critical barriers sealed with one layer of six-mil polyethylene sheeting and duct tape.

G. The Contractor shall perform remedial cleaning of wall and floor surfaces. Porous material contaminated with asbestos shall be disposed of as asbestos waste by the Contractor. Remedial cleaning of surfaces will be required prior to masking and sealing operations of work areas. Cleaning will be done using HEPA vacuums and wet methods. Determinations of additional remedial cleaning will be made on the basis of hazard potential to workers and the outside environment relating to setup and masking and sealing operations.

H. The Contractor shall seal the work from non-work areas with two layers of six-mil polyethylene sheeting on floor and wall surfaces as applicable. Abatement performed in Public Facilities, large openings (ex. doorways, passageways, elevator doors, etc.) shall be first sealed with solid construction. Solid barriers constructed on the exterior of the building shall be able to withstand inclement weather if to remain overnight. The solid barrier would be constructed so as to ensure the security of the building. Removals will be as indicated and as specified herein, and will be performed in a neat and workman like manner to the limits indicated or specified.

I. Workers shall wear disposable protective suits and respiratory protection for abatement or disturbance of asbestos-containing materials

J. Consistently and thoroughly wet asbestos containing materials with a fine spray of amended water. Carefully remove and immediately place asbestos window glazing in approved and properly labeled 6-mil polyethylene disposal bags or drums. Removed window or door window components shall be cleaned and labeled to determine location for reinstallation of a new glass pane.

K. Diligently scrape or brush asbestos residue materials from surfaces. After brushing and scraping, surfaces shall be free of visible debris and surfaces shall be HEPA vacuumed clean. Diligently scrape or brush asbestos residue materials from surfaces using wet methods where window glazing/putty was removed. After brushing and scraping, surfaces shall be free of visible debris and surfaces shall be wiped clean and/or HEPA vacuumed clean.

L. Any damaged caused to the floors, walls or doors as a result of the abatement work shall be repaired by the Abatement Contractor or compensate Worcester Public Schools.

M. Work areas shall pass a visual inspection conducted by the Site Supervisor responsible for the project and Project Monitor. The criterion for this inspection will be the absence of visible debris in accordance with ASTM standard E1368-90. All post removal and contaminated surfaces shall be thoroughly cleaned and dry prior to the visual inspection. A certificate of visual inspection will be signed by the Project Monitor and the Site Supervisor after final inspection clearance. The certificate will be part of the Owner's documentation.

N. If the Contractor and Project Monitor disagree on the asbestos content of debris found in the area, the Project Monitor shall collect and analyze samples of such

debris at the Contractor's expense. Once the work area has passed the visual inspection, the Contractor shall encapsulate the exposed surface areas with an EPA approved encapsulant. The Contractor shall leave removal surfaces in a condition that is ready to receive replacement materials.

O. The Project Monitor shall conduct final air clearance testing using procedures as described in Section 3.04.

3.02 Personal Air Sampling

A. The Contractor is responsible for his own personal sampling as outlined in OSHA Regulation 29 CFR 1926.1101. Daily personal and excursion sampling will be the responsibility of the Contractor to check personal exposure levels versus respiratory protection and to check work practices. Personal sampling pumps should have a flow rate in between one-half (1/2) to five (5) liters per minute and sample duration will be as close to an eight-hour work day as possible for personal samples and 30 minutes for excursion sampling. Pump flow rates will be pre and post calibrated. The analytical laboratory used by the Contractor shall be A.H.I.A. accredited for asbestos analytical work.

B. The laboratory selected for analyzing personal air samples shall possess current certification of participation the American Industrial Hygiene Association (AIHA) Proficiency Analytical Testing (PAT) program. Analysts for the laboratory shall have successfully completed the National Institute for Occupational Safety and Health (NIOSH) 582 course (or equivalent) and show proficiency in the NIOSH 7400 analytical method for fiber counting as published in the NIOSH Manual of Analytical Methods.

3.03 DISPOSAL

A. The Contractor shall fulfill waste generator responsibilities as specified by 40 CFR 61, Subpart M, Federal Emission Standards for Asbestos, revised November 20, 1990, and other applicable state, regional and local government standards.

B. Prior to post-abatement inspection, all asbestos-containing waste shall be packaged in sealed leak-tight double containers (minimum 6-mil polyethylene disposable bags) and removed from the work area to a specified transportation vehicle or a designated holding area approved by the Owner. At the end of each work day the Contractor shall remove the debris accumulated during that day's work activities using procedures outlined in the Specifications. The Contractor shall provide a daily tally of all bags removed.

C. An area for temporary storage of asbestos waste must be approved by the Owner. Store asbestos waste in a secure lockable container which is posted and secured whenever not in use unless removed from the site at the end of each workday. Load asbestos waste in a waste transportation vehicle/dumpster and haul away as soon as there is a sufficient quantity available for direct transportation to the approved disposal site. Cover vehicles hauling asbestos waste materials to prevent emission of asbestos in route to the disposal site.

D. Asbestos warning labels having permanent adhesive and waterproof print, or being permanently printed on the container, shall be affixed to the outside of all asbestos containers, and each inside bag. Labels will be conspicuous and legible and shall contain the following warning:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST

The Contractor is directed to properly label each waste bag in accordance with the latest NESHAP standard, Section 61.150, and MassDEP 7.15 with the following information:

SITE OWNER'S NAME
SITE NAME
GENERATION DATE

E. A DOT "class 9" shipping label and DOT mark shall be applied to or be printed on each packaging of asbestos-containing materials according to applicable regulations.

F. Each vehicle transporting asbestos-containing waste shall be marked with asbestos danger signs during loading and unloading of the waste, in accordance with the NESHAP, 40 CFR 61.150.

G. The Contractor shall prepare the waste shipment records. Completed waste shipment record(s) signed by the Contractor, all transporter(s), transferrer(s), disposal and/or conversion facility(ies), shall be provided to the Owner within 30 days of the time at which the asbestos-containing wastes are received at the disposal and/or conversion facility(ies), which shall be no longer than 40 days after the waste was accepted by the initial transporter. The Waste Shipment Record shall specify the designating number of bags or cubic yard(s) of asbestos waste.

H. Waste disposal sites for asbestos materials will be in accordance with 40 CFR 61.25, Waste Disposal Sites. The Contractor shall provide written evidence that the site is approved for asbestos disposal by the EPA, State and local regulatory agencies.

3.04 QUALITY CONTROL AND TESTING

A. <u>Inspections:</u>

1. Prior to the Project Monitor beginning visual and physical inspection and air monitoring for clearance, the Contractor shall certify that the asbestos specified to be abated has been so abated, that surfaces from which asbestos has been removed have been cleaned, that asbestos waste and debris inside and

outside the work area have been collected and bagged in accordance with this contract, and that the work area is ready for clearance inspection.

2. The Project Monitor shall inspect the work area and surrounding areas for clearance using visual and physical methods, prior to clearing the project for air monitoring clearance procedures. The Project Monitor may use the visual inspection procedures given in this Section and/or those in ASTM Standard E 1368, Practice for Visual Inspection of Asbestos Abatement Projects.

B. Air Sampling Requirements: The following minimum schedule of samples will be required by the Project Monitor, during the abatement process.

1. Post-abatement Clearance Air Monitoring: Post abatement clearance air samples will be taken after cleaning of surfaces is completed, a visual inspection by the Project Monitor detects no visible debris, and surfaces are encapsulated and dry. The worksite must have containment barriers, HEPA filtration system and the decontamination unit remaining in place and functional. The contained worksite must not be wet and a fan or leaf blower will be blown against walls, ceilings, floors, ledges and other surfaces to circulate air and simulate real conditions.

a. Phase Contrast Microscopy (PCM) Clearance Testing

(i) PCM clearance testing will be performed to confirm the completion of removal of containment areas where quantity removals are less than 160 square feet or 260 linear feet. Containments will be cleared and samples analyzed by Phase Contrast Microscopy (PCM) and the NIOSH 7400 method and must not exceed the maximum airborne fiber concentration of 0.01 fibers per cubic centimeter.

(ii) Concentration greater than 0.01 fibers/cc of any one sample shall require the Contractor to reclean the designated worksite followed by a repeat of the final clearance testing. Cleaning and testing will be repeated until the 0.01 fibers/cc criteria is complied with.

3.05 OTHER TRADES (Emergency Procedures)

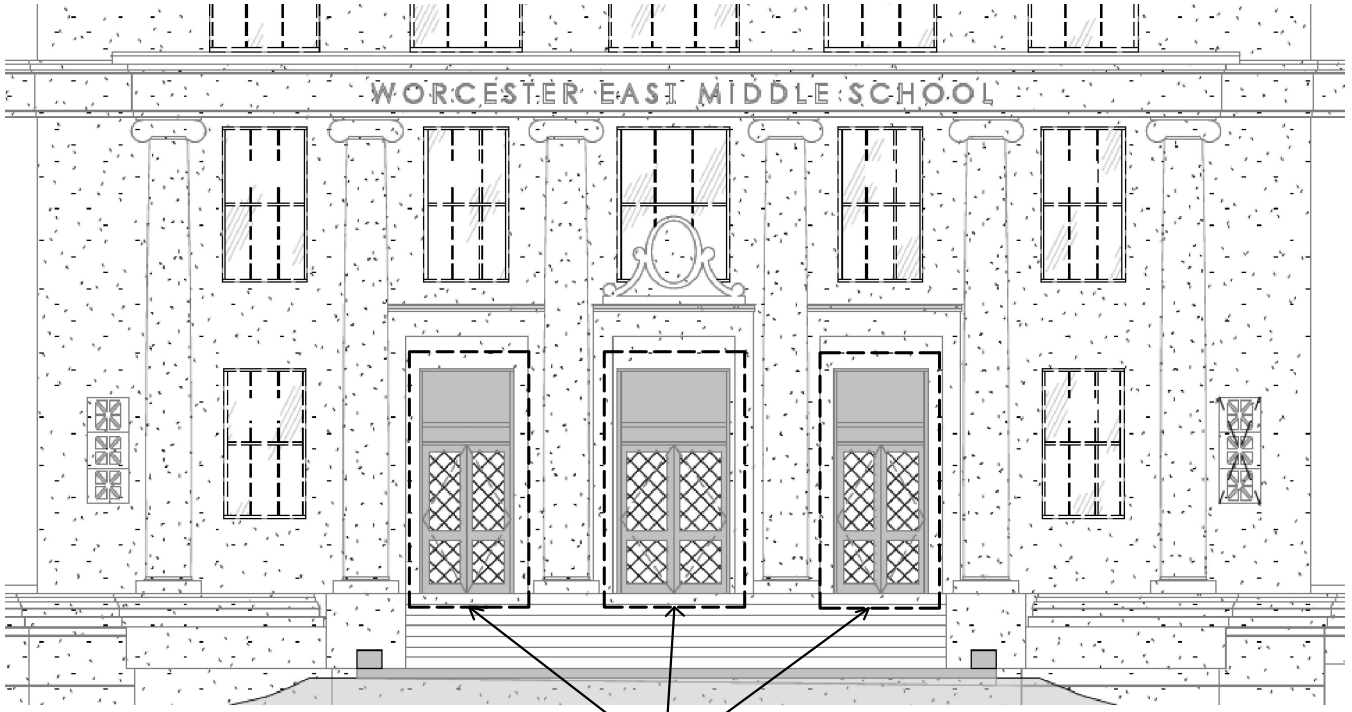
A. Follow the following procedures when other trades personnel (electrician, plumber, etc.) are required to enter the contained asbestos removal areas to perform emergency work:
1. Sign in and out of the bound log book and enter the date and time.
2. Wear and NIOSH/MSHA approved respirator as required by these specifications. Fit test and medical surveillance records shall be provided to the Asbestos Abatement Contractor's competent person prior to entering containment.
3. Wear disposable full body protective clothing as required by these specifications.
4. Follow full shower and decontamination procedures, along with the proper decontamination of any tools or equipment brought into the work area.
5. Provide respiratory protection and protective clothing.

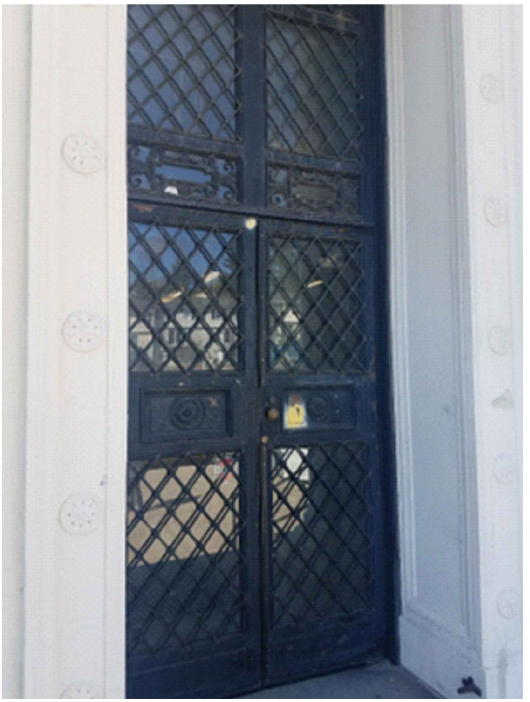
6. Personnel entering the regulated, contained work area must have the required training and medical surveillance records prior to entering the containment.

APPENDIX A

Table 1.0 Asbestos Abatement Worcester East Middle School			
LOCATION	**MATERIAL**	**AMOUNT**	**COMMENTS**
Front Entrance	Window Glaze	12 Each	
Front Entrance	Door Window Glaze	12 Each	

DRAWINGS





ACM WINDOW & DOOR WINDOW GLAZING

PROJECT NUMBER:	
DRAWING NUMBER:	1
DATE:	04/04/2025
SCALE:	NOT-TO-SCALE
DRN. BY:	EK
CHD. BY:	EK
APP'D BY:	EK
CK'D. DATE:	04/10/2025

ASBESTOS ABATEMENT DIAGRAM

WORCESTER PUBLIC SCHOOLS
WORCESTER EAST MIDDLE SCHOOL
420 GRAFTON STREET
WORCESTER, MASSACHUSETTS

ATLAS TECHNICAL CONSULTING SERVICES LLC
73 WILLIAM FRANKS DR.
W.SPRINGFIELD, MA 01089

FIGURE: 1