

**SECTION 02 10 00****REMOVAL OF ASBESTOS CONTAINING ROOFING****PART 1 - GENERAL****1.1 ADMINISTRATIVE**

- A. Contractor shall be responsible for all labor, materials, expertise, training and licensing required for the proper access, testing, removal, packaging, transportation and disposal of asbestos-containing roofing materials present on the roof areas at the Harve de Grace Colored School, Museum and Cultural Center.

Contractor to provide pricing under Base Bid and Alternate #1.

Work shall include, but is not limited to the removal, packaging and disposal of the following asbestos-containing roofing materials

**BASE BID (1936 Brick Structure Roof/Valley Transition)**

Asbestos Removal and Disposal of:

- ACM - Built-Up Roofing materials beneath existing TPO membrane **(4,000 SF)**
- ACM - Black Tar on brick parapet, roof, and chimneys **(800 SF)**
- ACM – Built-Up Roofing materials beneath existing TPO membrane at Slate Roof Transition **(400 SF)**
- Full Time Monitoring services during asbestos roof removal

**ALTERNATE #1 (1912 Original Wood Structure Slate Roof)**

- Testing by Maryland Accredited Asbestos Inspector of Suspect Asbestos Roofing and Tar materials located under slate shingles **(2,400 SF)**
  - If ACM is identified in Alternate #1, provide unit rates for removal and disposal of quantity of roofing identified at 1912 Original Wood Structure Slate Roof .
  - Full time Monitoring services during asbestos roof removal.
- B. The contractor is responsible for the access to roofing materials to be disturbed as part of the roof replacement project, verification of all quantities and conditions referenced within this document, and other associated documents to ensure compliance with all applicable regulatory and specified requirements in order to complete the proper removal and disposal of asbestos containing roofing materials. **If roofing materials do not contain asbestos, asbestos removal will not be required for the 1912 roof. General roof demolition and safety requirements must still be adhered to.**
- C. The Contractor shall include in their cost for an independent third-party, Maryland accredited AHERA Asbestos Inspector to conduct testing of roofing materials associated with the 1912 Original Wood Structure (Slate Roof) made accessible as a part of the project. The inspector must collect samples of all suspect asbestos containing materials (ACM) to be

disturbed associated with the Slate Roof replacement (Alternate #1). The Asbestos Inspector must collect a minimum of 3 samples per suspect material encountered on the roof. All samples must be analyzed following the EPA method 600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials, by a NVLAP accredited laboratory. A written report, signed by the Maryland Licensed Inspector, shall be provided within 7 days of sample collection, with a determination of asbestos presence in the roofing materials. **If roofing materials do not contain asbestos, the requirements for asbestos removal will not be required on the slate roof. General roof demolition and safety requirements must still be adhered to.**

- D. Contractor shall include in their cost for an independent third-party monitor to conduct asbestos abatement air monitoring services in and around the asbestos abatement areas and to ensure abatement contractor compliance with all regulations and requirements as described herein. The monitor shall have, at a minimum, current certifications as, AHERA Inspector, Supervisor and NIOSH 582 or equivalent. The monitor must be on-site at all times when asbestos abatement activities are occurring to ensure debris clean up, to include inspection of interior areas beneath roof work and exterior public spaces around the building.

## 1.2 APPLICABLE STANDARDS AND GUIDELINES

- A. The contractor shall assume full responsibility and liability for the compliance with all applicable laws, regulations, standards, licensing requirements and patented systems pertaining to asbestos abatement work practices, hauling and disposal, protection of workers, visitors, and persons occupying areas adjacent to the work site.
- B. The contractor shall have available copies of all applicable codes, regulations, standards, documents and this specification.
- C. Where conflicts among the requirements of the codes, regulations, standards, documents and this specification exist, the most stringent requirement shall be utilized by the contractor.

### 1. **Code of Federal Regulations (CFR):**

29 CFR 1910.1001, Occupational Safety and Health Act (OSHA) Appendix A - I.

29 CFR 1926.1101, Asbestos in Construction, including Appendices.

29 CFR 1910.20, Subpart C, General Safety and Health Provisions.

40 CFR Part 61, Subpart M: U.S. Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos.

40 CFR Part 763 Asbestos Containing Materials in Schools, Public and Commercial Buildings (ASHARA)

29 CFR 1910.134: OSHA General Industry Respirator Requirements.

### 2. **State and Local Regulations:**

COMAR 26.11.21: Control of Asbestos

COMAR 26.11.23: School Asbestos Accreditation of Individuals

**3. Guidance Documents**

EPA Document 340.B.94.001-Guidance Manual for Asbestos Roofing Removal.

**1.3 NOTIFICATION REQUIREMENTS**

- A. The contractor shall be responsible for composing and submitting to the proper authorities any required Federal and State of Maryland asbestos abatement notification. The contractor shall also be responsible for submitting to the proper authorities any revisions to the original notification.
- B. The contractor shall be responsible for posting the "Notice of Asbestos Project" signs at the required locations in or on the building. The contractor shall ensure that these signs remain in place throughout the project.

**1.4 PROJECT DESIGN AND IMPLEMENTATION**

- A. The contractor shall be responsible for providing a project design as required by Title 40, Code of Federal Regulations, Part 763.90(g). The project must be designed and conducted by individuals accredited to perform these functions in accordance with Title 40, Code of Federal Regulations, Part 61, Subpart E. The design must be approved by Owner and or their designated representatives prior to work commencing.
- B. The project design must incorporate all technical requirements of the specifications and be accepted by the Owner and or their designated representatives prior to work commencing.
- C. The asbestos work includes the removal of all asbestos-containing roofing materials identified within these documents and as a result of additional testing by independent third party inspectors. All asbestos-containing material (ACM) abatement shall be conducted in accordance with all applicable Federal and State of Maryland asbestos regulations.

**1.5 PROJECT SUBMITTALS**

- A. For this project, the following paperwork must be completed and submitted to the Owner and or their designated representatives within fifteen (15) working days of notice of award:
  - 1. USEPA and/or State of Maryland asbestos project notification letter.
  - 2. Workers, Supervisors and Inspector AHERA Training Certificate, to include NIOSH 582 Certs. Submit copies of the current training certificates and MD licenses for each person involved in the project.
  - 3. Asbestos Abatement Contractor License.
  - 4. Submit written evidence that the landfill for disposal is approved for asbestos disposal by the EPA, State, and local regulatory agency(s). Submit to Owner and or their designated representatives, waste shipment records prepared in accordance with Federal regulations, signed and dated by an agent of the landfill, certifying the amount of asbestos material delivered to the landfill, within 3 days after delivery.
  - 5. Waste Manifest: Use the asbestos waste tracking system described under Title 40, Code of Federal Regulations 61.15(d). Submit the signed original manifest and one

(1) copy.

- B. Submit written results of any air monitoring conducted by or for the contractor during the course of the project (example: OSHA compliance air monitoring).

#### 1.6 TRAINED PERSONNEL

- A. All workers and supervisors at the work site must be accredited as per Title 40, Code of Federal Regulations, Part 763, Appendix C to Subpart E. Training courses attended by workers and supervisors to receive the required accreditation must be approved by the State of Maryland.
- B. The contractor's on-site supervisor must be a trained "competent person" as per OSHA asbestos construction standard, Title 29, Code of Federal Regulations, Part 1926.1101.
- C. The contractor's on-site supervisor must be trained in the provisions of the NESHAP standard, Title 40, Code of Federal Regulations Part 61.
- D. The workers and supervisors will be required to have, at all times, on-site evidence of the required AHERA training and Maryland Licensing.

#### 1.7 USE OF SITE

- A. At no time shall the contractor's personnel be in public areas (other than the regulated area of the roof and decon area) wearing protective clothing and/or respirators except as part of disposal activities.

### **PART 2 – EXECUTION**

#### 2.1 MATERIALS AND EQUIPMENT

- A. A sufficient supply of HEPA filtered vacuum systems, protective clothing, safety equipment (hard hats, safety shoes, gloves, goggles, etc.) and all supplies and equipment necessary to complete the project must be available.
- B. Respirators shall be provided in accordance with the submitted written respiratory protection plan. Minimum protection shall be 1/2-face negative pressure respirators equipped with HEPA cartridges.

#### 2.2 EMERGENCY PLANNING

- A. The contractor shall develop an Emergency Plan to include fire, electrical hazards, heat related injury, fall protection, and slips, trips and falls.
  - 1. Employees must understand the emergency procedures.
  - 2. Telephone numbers of all emergency response personnel shall be prominently posted by the contractor.
  - 3. Written Fall Protection plan for work on ladders, scaffolding and elevated surfaces must be provided by the contractor and submitted to Owner and or their designated representatives prior to work commencing.

**2.3 PREPARATION****A. Work Area**

1. The asbestos-containing roofing materials shall be removed in an intact state to extent feasible. The material must be adequately wet with an amended water solution. Asbestos-containing roofing materials must be lowered to the ground in appropriate packaging, in a manner such that no breakage of material occurs. No visible emissions are to occur from the lowering of the asbestos-containing roofing materials. The asbestos-containing roofing materials are to remain adequately wet at all times.
2. Seal off all entrances and penetrations to the roof (critical barriers) within the designated asbestos Work Area. All exhaust vents, windows, doors, chimneys, and other openings shall be sealed with two layers of 6-mil Polyethylene sheeting.
3. Conduct Roofing removal in accordance with EPA Document 340.B.94.001-Guidance Manual for Asbestos Roofing Removal.

**B. Work Area Security**

1. The work area is to be restricted only to authorized, trained and protected personnel. The work area must not be accessible to the general public, building occupants, and maintenance and custodial personnel.
2. Restrict entry into the work area by physically isolating the area.

**C. Worker Decontamination Facility**

1. A worker decontamination facility shall be provided in accordance with 29 CFR 1926.1101.
2. The worker decontamination facility shall consist of at least a clean room, shower room and equipment room.
3. The worker decontamination facility shall utilize 6-mil opaque, black or white polyethylene sheeting or other acceptable materials for privacy.
4. Shower room shall contain one or more showers as necessary to adequately accommodate workers. Each showerhead shall be supplied with hot and cold water adjustable at the tap. The shower enclosure shall be constructed to prevent leakage of any kind. An adequate supply of soap, shampoo and towels shall be supplied by the contractor and available at all times. Shower water shall be drained, collected and filtered through a system with at least 1 micron particle size collection capacity.
5. Two layers of 6-mil polyethylene sheeting shall be used for all floors, walls and ceilings of the decontamination facility.

**D. Commencement of Work Shall Not Occur Until:**

1. All pre-abatement submissions, notifications, postings and permits have been provided and are satisfactory to Owner and or their designated representatives
2. All equipment for abatement, clean-up and disposal are at the job site.
3. All worker training and certification is completed.
4. Contractor receives permission from Owner and or their designated representatives prior to work commencing.

**E. Removal Procedures**

1. Perform all asbestos abatement in accordance with all applicable Federal and State of Maryland regulations. Asbestos abatement is to be performed utilizing abatement techniques that do not render the ACMs to become friable.
2. During the entire asbestos removal operation, an independent third party Environmental Consultant, **contracted to the asbestos abatement Contractor**, will oversee the work practices and perform sampling for airborne asbestos. A minimum of 5 air samples will be collected each day around and beneath the roof work areas. If at any time, the airborne asbestos level downwind of the work or within the building beneath the work area reaches 0.01 f/cc or greater, the removal must be stopped and an asbestos abatement contractor must be utilized to complete the remaining removal using appropriate asbestos abatement procedures at no additional cost to Owner. All visible debris must be cleaned up immediately if observed .

**F. Clean-up Procedures**

1. Remove and containerize (2 layers of 6-mil polyethylene) all visible accumulation of asbestos-containing material and asbestos contaminated debris utilizing rubber dustpans and rubber squeegees to move material around. Do not use metal shovels to pick up or move accumulated waste. No brooms are to be brought into the regulated area.
2. Remove all containerized waste from the work area and transport from the work area to the disposal site or temporary storage facility.
3. Decontaminate all tools and equipment and remove at the appropriate time in the cleaning sequence.
4. The work area shall be cleaned until it is in compliance with Federal and State of Maryland requirements and/or any more stringent criteria specified herein. Any additional cleaning cycles shall be provided as necessary, at no cost to Owner, until these criteria have been met.

**G. Visual Inspection**

1. The Environmental Consultant's on-site representative shall make the final inspection of the roof, inside the building and ground surrounding the building for visual residual debris. If any visual residual debris is observed, it will be assumed to be asbestos and the Contractor shall re-clean the area, at the Contractor's expense.

**H. Disposal of Asbestos**

1. All waste materials, except as specified otherwise, shall become the property of the Contractor and shall be disposed of as specified in applicable local, State, and Federal regulations and herein.
2. Immediately collect asbestos waste, asbestos contaminated water, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing which may produce airborne concentrations of asbestos fibers and place in sealed fiber-proof, waterproof, non-returnable containers (e.g. double plastic bags 6-mil thick, cartons, drums or cans). Waste within the containers must be adequately wet in accordance with 40 CFR 61-SUBPART M. Properly decontaminate the waste containers before they leave the containment area. Affix warning and Department of Transportation (DOT) label to each container including the bags or use at least 6-mil thick bags with the approved warnings and DOT labeling preprinted on the bag.
3. The name of the waste generator, the location at which the waste was generated, the Contractor's Asbestos License number, and the date the container was sealed shall be clearly indicated on the outside of each container. Prevent contamination of the transport vehicle (especially if the transport vehicle is a rented truck likely to be used in the future for non-asbestos purposes). These precautions include lining the vehicle cargo area with 6-mil plastic sheeting (similar to work area enclosure) and thorough cleaning of the cargo area after transport and unloading of asbestos debris in complete. Dispose of waste asbestos material at an EPA or State-approved asbestos landfill.
4. For temporary storage of less than 20 cubic yards of ACM, store sealed impermeable bags in rigid asbestos waste containers for no more than 7 days after completion of the abatement project. Contractor is responsible for securing all waste at time of generation. Procedure for hauling and disposal shall comply with 40 CFR 61-SUBPART M, Section 61.150, State, regional, and local standards. Sealed plastic bags may be dumped from drums into the burial site unless the bags have been broken or damaged. Damaged bags shall remain in the drum and the entire contaminated drum shall be buried. Workers unloading the sealed drums shall wear appropriate NIOSH approved respiratory protection and personal protective equipment when handling asbestos materials at the disposal site.

**I. Alternative Procedures**

1. Procedures described in this specification must be utilized at all times.
2. Any alternative procedures must be approved by the Owner and or their designated representatives prior to work commencing.

3. The contractor is responsible for obtaining any variance that is required to utilize an alternative procedure. All variances must be received in writing from the State of Maryland before implementing the variance.
- J. Safety Data Sheets (SDS)
1. The contractor shall submit Safety Data Sheets (SDS) for all contractor supplies and materials provided under the terms of this proposal in accordance with OSHA communication Standard 29 CFR 1910.1200 and 29 CFR 1926.1101 or any other applicable state, federal, or local regulation.

**END OF SECTION**