

**ASBESTOS ABATEMENT
WORK PLAN**

For

**ESCAMBIA COUNTY FACILITIES
3300 W DESOTO STREET
PENSACOLA, FLORIDA**

Prepared for

**ESCAMBIA COUNTY FACILTITES
100 E BLOUNT STREET
PENSACOLA, FLORIDA 32501**

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PSI Project No. 07833296

August 23, 2021



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SECTION 1.0 - SCOPE OF WORK

1.1 Purpose

This asbestos abatement work plan gives general methods and work procedures to be used by the Asbestos Contractor for safe removal and disposal of select asbestos containing materials located at 3300 W. DeSoto Street, Pensacola, Florida. This plan is to be used in coordination with all applicable Federal, State, and Local Regulations pertaining to asbestos abatement projects. The Florida Licensed Asbestos Contractor shall inform himself of the conditions of the project and is responsible for verifying all work to be performed. Failure to do so shall not relieve the contractor of his obligation to furnish all material and labor necessary to carry out the provisions of the contract.

1.1.1 Summary of Work

- A. The Asbestos Abatement Contractor's responsibility using standard asbestos abatement control methods is as follows:
 - A. Removal of approximately 500 square feet of Black Flooring Mastic (2% Chrysotile) located under 12" White Floor Tile on the 1st Floor within the Kitchen and Entrance Hallway.
 - B. Proper Waste Disposal.
 - C. Submittal of closeout project submittals as specified in this work plan.

1.2 Scope

- A. Removal of ACM shall be in compliance with OSHA 29 CFR 1926.1101 and this work plan. The scope of work shall include the following:
 - a. Provide courtesy notification to governmental regulatory agencies as required.
 - b. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities [including EPA regulations, Asbestos Hazard Emergency Response Act (AHERA), National Emission Standard for Hazardous Air Pollutants (NESHAP), Occupational Safety and Health Administration (OSHA), and the State of Florida] which bear on the performance of work. Where conflicts occur between these specifications and/or the above-mentioned regulations, the more stringent shall govern.
 - c. Determine the extent of the work area and isolate the area(s) in accordance with the appropriate regulations and this work plan.
 - d. Perform initial cleaning activities in the work areas per AHERA 40 CFR 763.
 - e. Clean (wipe and/or high efficiency particulate air (HEPA)-filtered vacuum), remove and dispose of non-asbestos materials such as fixtures and rubbish as required to perform the abatement activities.



- f. The Contractor is to protect all non-work items and fixtures within designated work areas from damage and abuse from the contractor's labor force. This includes but is not limited to interior areas of the building and work site not subject to abatement activities.
 - g. Removal and cleanup of asbestos material(s), as described in section 1.1.
 - h. Disposal of asbestos-containing materials and asbestos-contaminated waste generated during asbestos abatement activities at an EPA or State approved landfill.
 - i. Submittal of closeout project documents as specified in this work plan
- B. This project shall be performed in accordance with this work plan as well as applicable OSHA, EPA/AHERA and State of Florida requirements.

1.3 Consultant Responsibilities

- A. Project oversight and air monitoring during asbestos abatement activities shall be performed by a State licensed asbestos consulting company.
- B. The asbestos consultant shall ensure the contractor is following the scope of work and is adhering to federal and state regulations and the requirements of this work plan. Air samples collected during work activities, shall be analyzed as per National Institute of Occupational Safety (NIOSH) 7400 Method and Phase Contrast Microscopy (PCM) methodology. Clearance samples will be collected and analyzed by Phase Contrast Microscopy (PCM) methodology.
- C. Submittal review of post-project submittals.



SECTION 2.0 - PROTECTIVE CLOTHING AND EQUIPMENT

2.1 Protective Clothing

- A. The Contractor is to ensure that each authorized person involved in asbestos activities will wear protective disposable coveralls, respiratory protection, gloves, head covering and non-skid foot coverings whenever they are within the regulated area.

2.2 Respirators

- A. The Contractor shall address *OSHA 29 CFR 1926.1101* and initiate an appropriate respirator program. A minimum of half-face air purifying respirators with dual P100 canisters shall be used during asbestos abatement activities. The contractor may be required to utilize powered air purifying respiratory protection (PAPR), based on air sampling analysis results conducted by the Asbestos Consultant.
- B. All respirators shall be approved by the National Institute for Occupational Safety and Health (NIOSH) for use in asbestos-containing atmospheres.
- C. Each worker must perform positive and negative air pressure fit test each time a respirator is put on or as respirator designs permit.
- D. No one wearing a beard or other facial hair, which will prevent a proper respirator seal, shall be allowed to wear a respirator or enter the regulated area.

- 2.3 The Contractor personnel shall not consume alcoholic beverages or smoke on project site premises during any activity. Personnel shall restrict themselves to specified work hours and park only in designated areas.



SECTION 3.0 – PLANNING AND EMERGENCY PROCEDURES

3.1 Notification:

- A. It should be noted that a Notice of Asbestos Renovation or Demolition form should be filed with the appropriate district office of the Florida Department of Environmental Protection (FDEP) at least ten business days prior to starting renovations requiring the removal of threshold quantities of ACM to the following address:

State of Florida
Department of Environmental Protection
160 W Government Street
Pensacola, Florida 32502
Telephone (850) 595-8300

3.2 Permits and Licenses

- A. Obtain, maintain and post current permits and licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.



SECTION 4.0 - SITE PREPARATION FOR ASBESTOS REMOVAL

4.1 Work Site Enclosure

- A. The contractor shall isolate each regulated area as per (EPA) AHERA 40 CFR 763, NESHAP 40 CFR 61 and OSHA Standard 29 CFR 1926.1101. Interior regulated areas shall be sealed with 6-mil plastic sheeting and marked clearly with asbestos warning signs as described in 29 CFR 1926.1101 in order to keep unauthorized personnel out of the regulated area. The regulated area shall encompass the whole area expected to have an airborne fiber concentration greater than 0.01 fibers per cubic centimeter (f/cc).
- B. The contractor shall pre-clean all fixed and/or immovable objects in the work areas using HEPA vacuum or wet cleaning methods prior to abatement.
- C. Prior to removal, the contractor shall seal penetrations and critical barriers with a minimum of two layers of 6-mil plastic sheeting sealed with duct tape.
- D. The contractor shall comply with applicable National Electrical Manufacturers Association (NEMA), National Electrical Contractors Association (NECA) and Underwriters Laboratory (UL) standards and governing regulations for materials and layout of temporary electrical service. The client will provide an electric power source to the building. It will be the contractor's responsibility to provide a waterproof, grounded electric power service system to the asbestos abatement containment areas of sufficient size, capacity and power characteristics to accommodate performance of work during the abatement project. The contractor shall allow the Environmental Consultant access to electrical power for the field technician's use to power air sampling pumps and microscope equipment. The contractor shall install adequate temporary lighting, if needed, to provide sufficient illumination for safe work and traffic conditions in every area of the work.
- E. Comply with the applicable recommendations of National Fire Protection Association (NFPA) Standard 10 "Standard for Portable Fire Extinguishers" and local fire regulations. Locate fire extinguishers where they are most convenient and effective for their intended purpose but provide not less than one extinguisher in each Work Area in Equipment Room and one outside the Work Area in Clean Room.
- F. The client shall provide water as needed to complete the Contractor's scope of work. The Contractor shall drain and filter water from shower pans down to 5 microns prior to waste water being piped into the sanitary sewer system.
- G. The contractor shall furnish and install negative pressure ventilation units equipped with HEPA filters to provide diminished air pressure utilizing negative air machine units in each interior work area. The units should be placed at the best location so that air is forced to move optimally across the entire enclosure. A negative pressure differential in excess of 0.02 inches of water as measured by a manometer shall be maintained.
- H. The Contractor shall post warning signs in and around each work area to comply with OSHA regulation 29 CFR 1926.1101 paragraph (k) (7) and in compliance with all other Federal, State, and local requirements.



- I. Asbestos waste materials shall be wet and double bagged utilizing asbestos disposal bags or wrapped in a minimum of two layers of plastic sheeting with appropriate verbiage for appropriate disposal.

4.2 Personnel Decontamination Enclosure System

- A. For friable and non-friable abatement work areas, work area containments shall contain a personnel decontamination enclosure system which consists of an attached change room, shower/washroom, and equipment room. Rooms shall be lined with plastic sheeting and separated from each other with double plastic sheeting flaps. Water used for personal decontamination and decontamination of asbestos waste bags in the shower drain pan shall be filtered through a three-stage filtration unit down to 5 microns prior to the water being discharged into the sanitary sewage system.
- B. Workers shall remove all street clothes and change into protective coveralls and respiratory protection in the Clean Room prior to entering the work area. Before leaving the work area and prior to proceeding to the Equipment Room, workers shall remove all gross debris from coveralls and feet. In the Equipment Room, workers shall store equipment such as hard hats and goggles, remove all clothing except for respiratory protection and proceed into the Shower Room. It is recommended workers thoroughly shower themselves with soap and water prior to proceeding to the Clean Room. Clean debris and residue from the decontamination enclosure system on a daily basis.
- C. The client shall provide a source of water for the contractors use. It will be the asbestos contractor's responsibility to supply water during asbestos abatement activities and during decontamination of the contractor's workers. The contractor shall drain and filter water down to 5 microns from shower pans prior to being piped into the sanitary sewer system. The contractor shall take extraordinary care in protecting finishes within the structure for work by others.

4.3 Scaffolds, Ladders Etc.

- A. Provide all scaffolding, ladders and/or staging, etc. as necessary to accomplish the work of this contract. Scaffolding may be of suspension type, or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.
- B. Equip rungs of all metal ladders, etc. with an abrasive non-slip surface.
- C. Provide a nonskid surface on all scaffold surfaces subject to foot traffic.
- D. Provide a first aid kit in the clean room area for use as needed.



SECTION 5.0 - ASBESTOS REMOVAL PROCEDURES

5.1 Removal Procedures

- A. All ACMs shall be wetted with amended water prior to and continuously during removal. The materials shall be wetted with a surfactant/water solution without allowing excessive amounts of water to accumulate in the work area. All removed material shall be kept wet enough to prevent fiber release until it is placed in disposal containers.
- B. Surfactant shall be a 50/50 mixture of polyoxymethylene ether and polyoxymethylene ester or equivalent, mixed in a proportion of one (1) fluid ounce to five (5) gallons of water or as specified by the manufacturer.
- C. All ACM should be removed as whole units as much as possible. ACM should be removed within a manageable area and bagged or wrapped in plastic sheeting prior to moving to another area.
- D. Contractor shall follow OSHA 29 CFR 1926.1101 for gross removal methods.
- E. After completion of all removal work, all surfaces within the work area shall be cleaned to remove visible residue.

5.2 Worker Protection

Before beginning work with any material for which a Material Safety Data Sheet (MSDS) has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

5.4 Standard Material Removal Procedures

The following procedures supplement worker protection, protection of the building, and containment preparations described in this manual, as applicable:

A. Removal and Cleanup of Asbestos Flooring Mastics:

- a. Establish a regulated area to isolate abatement activities from surrounding areas. Establish a decontamination enclosure system as per this work plan.
- b. Secure and seal the HVAC system to prevent contamination and fiber dispersal to other areas of the building. Seal off all vents and openings, including but not limited to windows, corridors, doorways, skylights, ducts, grilles, diffusers, and any other penetrations of the work areas, with 6-mil plastic sheeting sealed with tape.
- c. Remove non-asbestos fixtures that do not disturb asbestos containing material in order to fully access material to be removed. Non-asbestos materials not contaminated with asbestos fibers may be disposed of as general construction debris.



- d. Establish negative air pressure within the regulated work area.
- e. Vent all exhaust units to the outside of the building at locations acceptable to the Owners representative. Provide flexible or rigid duct as necessary to provide exterior venting and proper location of exhaust units. Ducts shall be completely sealed, in good repair, and protected from possible damage within the work area. Exhaust ducts shall be routed through windows and doors via plywood barriers and shall be exhausted away from the building. The ends of negative air exhaust ducts shall not be 'tied' off but are to remain open and unrestricted. The use of a metal duct manifold is recommended.
- f. Seal airtight all removed ACM in two properly labeled 6-mil disposal bags while wet. Clean all areas and dispose of all materials removed as asbestos-contaminated waste in accordance with regulations and these specifications.
- g. Dispose of all materials removed as asbestos-contaminated waste in accordance with regulations and these specifications.
- h. Prior to leaving the work area, workers shall proceed through the decontamination enclosure for proper decontamination.
- i. Air monitoring and final clearance air sampling will be in accordance with Section 7.0.



SECTION 6.0 - CLEANUP PROCEDURES

6.1 Work Area Cleanup

- A. The work area, including decontamination area, shall be thoroughly cleaned after all work is finished and before final clearance samples are collected.
- B. Each regulated work area shall be cleaned with a HEPA vacuum and/or wet-wipe methods.
- C. The Contractor is to remove all waste materials and equipment from the job site at the end of each work shift.



SECTION 7.0 - AIR MONITORING PLAN

7.1 General Procedures

Monitoring of airborne concentrations of asbestos fibers shall be in general accordance with *OSHA regulation 29 CFR 1926.1101*, *EPA-NESHAPS 40 CFR 61* and *AHERA 40 CFR 763* as specified in this plan. Phase Contrast Microscopy (PCM) sample analysis will be utilized for this project.

7.2 Monitoring During Asbestos Abatement Activities

Work, ambient and personal monitoring shall be performed to provide exposures to airborne fiber concentrations during work activity.

- A. Area Sampling - Monitoring of the area inside and outside each abatement site shall be performed on a daily basis. Up to (2) general area samples shall be collected inside the abatement area. Outside work areas samples shall be collected near each negative air exhaust, in the adjacent space outside the work area and at the personnel decontamination unit. The amount of air collected inside the work area will be determined by the activity taking place but typically no greater than 480 Liters of air per sample. The amount of air sampled at each outside work area sampling location shall be approximately 1,800 liters per sample. Reduction in air sample volumes may be necessary based on work activities and time constraints. If air monitoring outside the abatement area shows air concentrations greater than 0.01 fibers per cubic centimeter (f/cc), all abatement work will cease, and the Project Manager will be immediately notified.
- B. Personal Sampling - The Contractor shall be responsible to collect a minimum of 2 air samples per day including PEL and Excursion Limit (EL) samples. Monitoring of workers shall take place as required by *OSHA regulation 29 CFR 1926.1101*. This type of monitoring shall be performed daily during for different phases of the abatement process. It is recommended that 480 liters of air be collected for PEL and 60 liters for EL samples. The Owners representative may elect to collect quality control personnel samples of the abatement firms on site personnel.

7.3 Clearance Sampling After Abatement

Interior Work Areas: The on-site client representative shall conduct PCM final clearance sampling upon completion of the removal/cleaning process and the final visual inspection in each interior work area. A minimum of 2 final air samples inside each work area shall be collected. A minimum of 1,600 liters of air shall be collected for all final clearance samples at a flow rate no more than 16 liters per minute as per the NIOSH 7400 Method. Samples shall be analyzed to be below 0.01 f/cc to achieve final clearance. If air monitoring inside the abatement area shows air concentrations greater than 0.01 f/cc following final clearance sampling, the contractor shall take appropriate actions to re-clean the area and monitoring shall be repeated. If the specified exposure level for each clearance is not achieved during the first round of testing, the contractor shall reimburse the client for additional monitoring costs.



7.4 Visual Inspection of Site

- A. The on-site client representative shall provide a visual inspection of containment construction prior to the start of the project. Asbestos removal work shall not commence until the containment is acceptable by the onsite consultant representative.
- B. The on-site client representative will accompany the Contractor Supervisor on the final visual inspection of each work area once the work is completed. The Contractor shall complete a Certificate of Visual Inspection found at the end of this section for each work area.

7.5 Air Sample Analysis

- A. The daily area and personal air samples shall be analyzed in accordance with the NIOSH 7400 Method using PCM methodology. Clearance air samples will be analyzed using PCM analysis using the NIOSH 7400 method. The collection and analysis of area and clearance samples will be the responsibility of the client representative. The sample results will be made available to the Asbestos Contractor with approval from Escambia County Facilities Management Department.
- B. Please note the asbestos contractor should factor in that final clearance air sampling and analysis may take up to 48 hours to complete.



CERTIFICATE OF VISUAL INSPECTION

BUILDING NAME/NUMBER: _____

CONTAINMENT AREA DESCRIPTION: _____

The Contractor hereby certifies that he has visually inspected the Work Area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, Decontamination Area, sheet plastic, etc.) and has found no dust, debris or residue.

By: _____
(SIGNATURE)

Date: _____

(PRINT NAME)

(PRINT TITLE)

ON SITE PROJECT TECHNICIAN

The onsite project technician hereby certifies that he has accompanied the Contractor on his visual inspection and verifies that this inspection has been thorough and to the best of his knowledge and belief, the Contractor's Certification above is a true and honest one.

By: _____
(SIGNATURE)

Date: _____

(PRINT NAME)

(PRINT TITLE)



SECTION 8.0 – WASTE DISPOSAL

8.1 Waste Disposal

- A. Waste disposal bags will be 6-mil polyethylene bags that are preprinted with labels as required by 29 CFR 1910.1200 (f) of OSHA's Hazard Communication Standard and US Department of Transportation regulations 49 CFR parts 171 and 172 Hazardous Substances Final Rule. In addition, each bag shall be labeled with the name of the Owner, Abatement Contractor of record and location in which the waste was generated. Each will be double bagged and goose-necked at the top to prevent fiber release or double wrapped in 6 mil plastic sheeting and sealed with duct tape.

Removed materials containing asbestos may also be wrapped in two layers of minimum 6-mil plastic sheeting and secured with duct or plastic tape. Pre-printed stickers required by EPA *NESHAPS Standard 40 CFR Part 61, Subpart M* shall also be affixed to the plastic sheeting wrapped asbestos waste. In addition, material wrapped in plastic sheeting shall be labeled with the name of the Owner, Abatement Contractor of record and location in which the waste was generated.

- B. The contractor shall take care to prevent asbestos material from clinging to the outside of the filled bags or containers. The bags shall be HEPA vacuumed or wet wiped in the decontamination enclosure prior to leaving the regulated work area.
- C. The contractor shall take care to prevent material from puncturing asbestos disposal waste bags or wrapped plastic sheeting.
- D. The waste transporter shall have a State of Florida Transportation license, as applicable for the material being transported.
- E. Authorized persons shall be protected by utilizing a minimum of two (2) layers of protective disposable clothing and a minimum of half-face respirator while loading/unloading asbestos waste.
- F. The enclosed cargo area of the truck or dumpster will be lined with 6-mil polyethylene sheeting to prevent contamination from leaking containers. An open dumpster shall not be allowed unless asbestos waste material is placed and sealed into fiberboard or metal drums.
- G. Waste containers shall not be thrown into or out of the truck cargo area or dumpster.
- H. Asbestos waste shall be disposed of in an EPA approved landfill and according to current state requirements.
- I. A proper waste disposal manifest shall be required of all asbestos shipments per *EPA NESHAPS Standard 40 CFR Part 61, Subpart M*.
- J. A copy of the waste manifest and all abatement documents (logs, monitoring, etc.) shall be sent to PSI and the Owner upon completion of the project.