

**Division of Procurement and Contracting**

Date: February 26, 2016  
Subject: Asbestos Abatement  
Solicitation/Bid Number: 6100037106  
Opening Date/Time: Wednesday, March 2, 2016  
Flyer Number: 3

To All Suppliers:

The Commonwealth of Pennsylvania defines a “Flyer” as an addition to or amendment of the original terms, conditions, specifications, or instructions of a procurement solicitation (e.g., Invitation for Bids or Request for Proposals).

*List any and all changes:*

The following are questions and answers raised at the site visit held on February 23, 2016.

1. Q. Are we to include the IH for final clearance sampling under the contract? Part 1 General E.F. states that we are to include but section 3.8.F states that the safety officer and project manager will perform samples.  
A. Yes the air monitoring contractor is to perform final clearance sampling not the asbestos removal contractor.
  
2. Q. I do not see anything in the specs as far as what type of containment is needed to perform the work. Are we okay to have a regulated area with critical barriers and negative pressure or do we need a full containment?  
A. On page 7 in section 3.2 Decontamination enclosure system: Describes all the types of enclosures by types of classes per 29CFR 1926.1101 codes. All renovated areas which have asbestos identified for buildings 12-8 & 5-116 for asbestos abatement can be regulated with critical barriers and negative air.
  
3. Q. Could you please clarify the requirements for the 3<sup>rd</sup> party air monitoring that the contractor is required to hire? Specifically, does the monitor have to be a CIH or with an Industrial Hygienist suffice? A CIH will be very costly and for routine clearance is unnecessary, but obviously we will comply with all requirements.  
A. The 3<sup>rd</sup> party doesn't need to be CIH or with an Industrial Hygienist Suffice: but a final air clearance must be performed prior to removal of containment areas for critical barriers and negative air requirements. Also the area's contained for containment areas for critical barriers and negative air areas or the areas around the asbestos removal will be sampled for any asbestos abatement particles left behind by contractor. It is the contractor reasonability for air monitoring and sampling for final clearance of the project.

**In the Statement of Work and Requirements Paragraph 2 SCOPE OF WORK should be deleted and replaced with the attached Scope of Work for Friable and Non Friable Asbestos Abatement for Building 5-116 and 12-8.**

**For electronic solicitation responses via the SRM portal:**

- Attach this flyer to your solicitation response. Failure to do so may result in disqualification.
- To attach the Flyer, download the Flyer and save to your computer. Move to “My Notes”, use the “Browse” button to find the document you just saved and press “Add” to up load the document.
- Review the Attributes section of your solicitation response to ensure you have responded, as required, to any questions relevant to flyers issued subsequent to the initial advertisement of this bid opportunity.

**For solicitations where a “hard copy” (vs. electronic response is requested):**

- Sign and attach this flyer to your solicitation response. Failure to do so may result in disqualification.
- If you have already submitted a response to the original solicitation, you may either submit a new response, or return this flyer with a statement that your original response remains firm, by the due date to the following address:

Department of Military and Veterans Affairs  
Bureau of Office Services  
Division of Procurement and Contracting  
Building 0-47  
Fort Indiantown Gap, Annville, PA 17003-5003

Except as clarified and amended by this Flyer, the terms, conditions, specifications, and instructions of the solicitation and any previous flyers, remain as originally written.

Very truly yours,

Name: Rebecca J. Jacovino-Smith  
Title: Chief, Procurement and Contracting  
Email: [rjacovino@pa.gov](mailto:rjacovino@pa.gov)



Contact Name: Brenda Lower  
Phone: 717-861-8518  
Email: [RA-FIG-Purchase@pa.gov](mailto:RA-FIG-Purchase@pa.gov)

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Contractor's Signature

# SCOPE OF WORK FOR FRIABLE & NON FRIABLE ASBESTOS ABATEMENT FOR BUILDINGS 5-116 & 12-8 FOR RENOVATION

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[PART 1] GENERAL: Asbestos Abatement of friable & non-friable identified on DMVA environmental report (Buildings 5-116 & 12-8). The Asbestos abatement has to be monitored by DMVA Environmental Office and Safety Office for Renovations.

- A. Provision of a written notification for the building owner(s) to the Pennsylvania Department of Environmental Protection (PA DEP), the United State Environmental Protection Agency (U.S. EPA) and PA DOLI, a minimum of 10 days prior to asbestos regulated activities as required by the National Emission Standards for Hazardous Air Pollutions (NESHAP) of the Clean Air Act.
- B. Provide bid documents for buildings 12-8 & 5-116 for non-friable & friable asbestos.
- C. A separate environmental non friable & friable asbestos building report is attached to documents to identify what friable asbestos needs to be removed from each building. (NO SAMPLING IS NEEDED TO IDENTIFY ASBESTOS)
- D. Disposal and equipment.
- E. Clearance air sampling.
- F. Collection and analysis of final clearance (preoccupancy) samples using Phase Contrast Microscopy (PCM); National Institute FOR Occupational Safety and Health (NIOSH) Method 7400.
- G. Preparation of a final report, documenting on-site activities, samples using Phase Contrast Microscopy (PCM), National Institute for Occupational Safety and Health (NIOSH) Method 7400.
- H. Government is to provide water and electricity to buildings 12-8 and 5-115. The contractor is to remove all non-friable asbestos windows in building 12-8 and use ½" OSB plywood sheeting to close the windows back up by screwing them with 1-1/2" drywall screws every 8" apart.
  - 1. This activity is a PA DOLI regulated job for asbestos abatement. The utilization of properly trained and licensed individuals, as well as clearance sampling, is required.
  - 2. Two copies of all licenses will be provided to government (DPW) prior to the start of abatement. Two copies of all sample testing will be provided to (DPW) after they are taken.

3. The Contractor is Responsible for all permits and proper disposal of Asbestos. The frequency of disposal operations, the intended disposal routes off post and the location of the disposal sites are to comply with State and Local Regulations. All Asbestos materials from this project to be wasted off site shall be disposed of in the Greater Lebanon Refuse Authority, 1610 Russell Road, Lebanon, PA 17042 unless the Greater Lebanon Refuse Authority issues the Contractor a waiver to dispose of waste in another landfill. In such is the case, then a copy of the waiver must be forwarded to the Owner prior to waste disposal outside of Lebanon County. The GLRA cannot currently accept friable asbestos for disposal. The following documents should be provided to the (DPW).

A. Two copies of each Document's

1. Disposal Facility's License
2. Disposal Facility's Letter of Acceptance of Waste
3. Waste Transportation Permit

4. Fort Indiantown Gap, Director of Public Works (FTIG-DPW) Maintenance Division:

FTIG DPW will appoint the following individuals to support this project as follows:

1. Facility Construction Maintenance Manger (FCMM) (Project Manager): Mr. Brian Shutter, FTIG DPW, Building 11-12, Service Road, Fort Indiantown Gap, Annville, PA 17003-5002, Phone (717) 861- 8486, E-mail- [brian.d.shutter.nfg@mail.mil](mailto:brian.d.shutter.nfg@mail.mil) or [brshutter@pa.gov](mailto:brshutter@pa.gov)

2. Environmental: Mr. Todd Eakin: Building 0-11, FITG Annville, PA 17003-5002, Phone (717) 861-9419

3. Safety Officer: MAJ Deborah Fisher State Safety and Occupational Health Manager: building 11-9, FTIG Annville, PA 17003-5002, Phone (717) 861-8895

5. SUBMITTALS:

A. Proof that required Federal, State, and local permits, and certification of asbestos removal contractor have been obtained. This includes the PADOLI and PADE/U.S EPA Notification Form for the project and a copy of the current PA DOLI contractor's license, Also the name and license for project supervisor(s) as required by the National Emissions Standards for Hazardous Air Pollutants of the Clean Air Act. Contractor shall submit a (NESHAP) Form 14 days prior to asbestos abatement begins and provide 2 copies to DPW and Contracting Officer.

B. Proof of employee qualification. This includes licenses for all workers/supervisors; current medical clearances to work with ACM AND CURENT (within one year of the expected completion date of project) respirator fit test certification.

C. Certification that vacuums, temporary ventilation equipment, and other equipment required to contain airborne fibers meet ANSI Z9.2-79 (HEPA filtration) requirements.

D. If rental equipment is to be used in work area or to transport asbestos contaminated waste, provide notice to rental agency stating intended use of equipment, with copy to industrial Hygienist.

E. Personal air monitoring schedule.

F. Description, accompanied by sketches, of plans for the construction of work and equipment decontamination enclosure system designed in accordance with OSHA Safety and Health Standards (29 CFR 1926.1101) and paragraph 3.2A and B of this section, This may be included with "G", below.

G. A WORK PLAN for the project, which includes a fully detailed step-by-step description of the entire procedure and schedule prepared by firm actually doing the asbestos removal.

H. After disposal operation, provide copies of manifests, disposal receipts, and/or chain of custody forms for all asbestos waste materials removed from site. Chain-of-custody forms shall include date, address of pickup site, name and address of contractor, names of persons responsible for pickup, name and address of disposal site, quantity of asbestos waste, and type of containers used. The form shall be signed by contractors, disposal site operator, and hauler if a private hauler is employed. This form may be placed on a Commonwealth of PA. Department Protection Form ER-WM-348, 6/92 or newer document.

I. Pre-cleaning completion report, documenting pre-cleaning activities and practices required by this contract, as well as any pre-existing damage to building materials and fabrics.

J. Material Safety Data Sheets (MSDS) for any hazardous substances used or to be brought on the work site.

K. At the completion of the project, submit contractor's daily log, including containment sign in decontamination and air sampling equipment calibration documentation.

## 6. QUALITY ASSURANCE:

A. QUALIFICATIONS: Workers shall be full licensed, qualified and experienced in the techniques of abatement, handling, and disposal of asbestos-containing materials.

B. Regulatory Requirements:

1. Comply with OSHA Safety and Health Standards for the Construction Industry (29 CFR 1926.1101); National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR, Part 61, Subparts A and B); Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763); Asbestos Scholl Hazards Amendments AND Re-authorization ACT (PL 101-637), Department of Transportation regulations for transporting asbestos-containing waste (49 CFR) AND Commonwealth of PA, Asbestos Occupations Accreditation Act (Public Law 805-ACT 194 [63PS2101 et sec.]. Where conflicting regulations exist, the most protective standards shall apply as determined and enforced by the IH.

2. Notify all responsible state and local agencies (Including PA DEP, PA DOLI and US. EPA) in writing, before work begins. Provide copies to contracting officer. All state notifications shall be made through the Commonwealth of PA. Form 2700-FM-AQ 0021 Rev.11/2007.

3. Dispose of asbestos waste at pre-approved authorized site in accordance with requirements of the NESHAP and the Resource Conservation and Recovery Act (RCRA), and applicable state and local guidelines and regulations.

7. PROJECT CONDITIONS:

A. Strictly adhere to approved removal procedures and work schedule.

B. Maintain existing emergency exits in operating order. Emergency exits from regulated areas must be marked with six inches visible lettering. The minimum illumination intensity in any work area shall be 5 foot candles, or as published in applicable OSHA standards.

C. Take precautions as required against the danger of loose and falling building components.

D. Personnel Protection:

1. All personnel entering regulated areas shall sign an entry log documenting that they read and understand all posted regulations and are familiar with personal protection requirements and emergency procedures. This, at the contractor's discretion, may be included in the contractor's project daily log.

2. Personnel shall be fully protected with respirators and protective clothing before the first disturbance of asbestos contaminated materials and until final clean-up and air monitoring in the work area.

3. Persons having more than one day of growth of facial hair, in areas which compromise respirators seal, shall not be allowed to enter the work area.

4. Eating, drinking, smoking, chewing gum or tobacco and application of cosmetics are prohibited in regulated areas.

8. POINT OF CONTACT:

DMVA State Contracting  
Purchasing Agent  
Bldg. 0-47  
Fort Indiantown Gap  
Annville, PA 17003  
Ph. (717) 861-8794

Director of Public Works  
Training Site Facility Engineers  
Bldg. 11-12  
FTIG,  
Annville, PA 17003  
Ph. (717) 861-8174

Director of Public Works

BFE Environmental  
Bldg. 0-11  
Wiley Road  
Fort Indiantown Gap  
Annville, PA 17003  
Ph. (717) 861-8249

FTIG Safety Officer  
Blg.11-9  
Service Road  
FTIG,  
Annville, PA 17003  
Ph (717) 861-8895

FTIG Fire Department

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Project Manager  
Bldg. 11-12  
Service Road  
FTIG,  
Annville, PA 17003  
Ph. (717) 861-9349

Fire Chief  
Bldg. 5-117  
Fisher AVE.  
FTIG,  
Annville, PA 17003  
Ph. (717) 861-21-2111

Bureau of Reservation Maintenance  
Facility Maintenance Director  
Bldg. 11-64  
Utility Road  
FTIG  
Annville, PA 17003  
Ph. (717) 861-8870

FTIG Police Department  
Police Chief  
Bldg. 7-5  
Wiley Road  
FTIG  
Annville, PA 17003  
Ph. (717) 861-2727

[PART 2]: PRODUCTS:

2.1 Personnel Protection Equipment:

A. Respirators: Respiratory shall be provided for each employee performing class 1, class 2 or class 3 asbestos activities.

1. As a minimum, provide individuals performing class 2 or class 3 asbestos activities with a negative pressure respirator (HEPA filtered).

a. Respiratory protection for all class 2 asbestos activities, shall be based on previous sample results, and selected in accordance with 29CFR1926. 110 (h) Table 1. – Respiratory Protection for Asbestos Fibers, however, all class 2 work shall be performed using respiratory protection.

2. All respirators use shall be in compliance with 29CFR 1926.103 (29cfr 1910.134) as well as 29CFR 1926, 1101 (h) requirements.

3. Respirators shall bear the approval of the National Institute for Occupational Safety and Health (NIOSH), for asbestos use.

B. Disposable Protective Clothing: Provide full body (including head and foot) covering consisting of material impenetrable by asbestos fibers (Tyvek 1422A manufactured by DuPont, Inc., Wilmington, Delaware or approved equal)

2.2 EQUIPMENT: ANSI Z2. 2-79. No air movement system or equipment shall discharge asbestos fibers outside the work area. This includes, but not limited to:

A. Vacuum Equipment: HEPA filtered vacuuming equipment is required.

B. Air Movement Equipment: HEPA filtered air movement systems are required.

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C. Negative Pressure Equipment: An exhaust system capable of maintaining a minimum pressure differential of minus 0.02 inch of water column relative to areas outside the regulated area. Provide a measuring devise capable of measuring the differential, measured at the work site barrier, or performed daily perimeter air sample collection and analysis to document efficiency of negative pressure air movement, per current requirements specified at 29CFR1926.1101.

D. GLOVE BAGS: The product of a manufactures engaged in the manufacture of glove bags for asbestos work. Field fabricated or altered bags are not acceptable. Bags shall be a minimum 6 mil clear polyethylene, and shall be seamless at the bottom, shall be constructed with arms of Tyvek material or equivalent labeled with asbestos warning labels prescribed by OSHA and EPA, and warranted for asbestos use. Glove bags shall only be used for warranted purposes. Negative pressure glove bags area required for use on elbows turns in piping).

2.3 PLASTIC SHEETING: 2-6 mils, in sizes to minimize the frequency of joints. This shall be fire resistant plastic/poly (FRP), where specified.

2.4 TAPE: For use under dry and wet conditions, capable of being cleaned off of surfaces without permanent marks or damage.

2.5 ASBESTOS CHEMICAL REMOVAL ENCAPSULANT: Materials warranted or otherwise approved as ACM encapsulating materials. Encapsulants shall have an ASTM E-84 flame spread rating of 25 or less and a smoke emission rating of 50 or less.

2.6 CONTAINERS: Sealed leak (air and water) tight containers, meeting U.S. DOT requirements for transportation and EPA and PA DEP requirements for disposal of asbestos containing materials, such as 55-gallon metal or fiberboard drums with tightly fitting lids lined with plastic bags totaling 6 mil in thickness, or a double layer totaling 6 mil of plastic bags, labeled in accordance with the Clean Air Act NESHAP Requirement (40CFR61), the OSHA Requirements (29CFR 1910.100 AND 29CFR61); AND US DOT HM181 Requirements (49CFR 172.101) Requirements.

2.7 OTHER MAERIALS: Provide wood, nails, and all other materials required for temporary construction of walls, barriers, etc.

[PART 3]: EXECUTION

3.1 PREPARATION AND PRE-CLEANING OF WORK AREA:

A. Develop and submit for approval the submittals, as required in this specification. Work shall not start without submittals approved by project manager or contracting officer.

B. Post Danger signs in and around the total work area to comply with OSHA 192.110 (K) and Federal, state, and local regulation. Note any previously exiting damages to facility equipment and submit this information to (DPW) and Contracting Officer prior to initiating work.

C. Implement the physical requirement of an Emergency Action Plan (i.e. insure a first aid kit and fire extinguisher(s) are located on-site). This includes a continuous means of communicating



emergencies off site. Areas where poly and plastic are not FRP shall be considered a Class A Hazardous area for the purpose of placement of fire extinguishers (minimum of [1] 4A extinguisher within 75 ft travel distance and 1000 ft<sup>2</sup> of coverage per unit A rating provided. Class C extinguishing agents shall be provided where electrical hazards exist).

D. Establish a regulated area to limit access. Signs shall demarcate the regulated area. Signs shall be posted at such a distance from regulated area that an employee may read the signs and take the necessary protective steps before entering. Critical establish the regulated area a minimum of 20' from locations and place poly of HEPA filtration over a relocate any air intakes into buildings.

E. Contractor shall Perform Class IV activities after pre-cleaning.

F. Cover sharp edges, ECT, in rooms to prevent accidents.

G. Set-up an area adjacent to regulated area for decontamination of employees and equipment in accordance with 29CFR 1926.1101 Requirements. Set –up decontamination and enclosure system.

3.2 DECONTAMINATION ENCLOSURE SYSTEM: Exiting rooms, temporary framed room(s), specially constructed portable temporary rooms, or a combination may be used. Line (s) within the system with plastic sheeting and seal joints with tape, or use other means to allow for negative pressure development and ease in cleaning. Access between contaminated and decontaminated areas shall be through an airlock maintained under negative pressure. The decontamination system for this is governed by 29CFR 11926.1101 (j), or will be approved by the Project Manager and Safety Officer in compliance with the requirement of 29CFR 1926.1101.

A. for Class I activities, the worker decontamination enclosure system consist of:

1. An equipment room with an airlock to the abatement area and shower areas. Provide storage for contaminated clothing and equipment. Provide poly on floor and negative air pressure in this equipment room.

2. A shower area which complies with 29CFR 1910.141 (d) (3), adjacent to both the equipment and clean rooms, unless the abatement contractor can demonstrate that they are not feasible.

3. A clean room with an airlock to the shower, Provide storage for street clothes, towels, clean or new respirators, and other uncontaminated items in this area.

4. Decontaminated systems for Class I activities involving less than 25 liner or 10 feet of ACM or Class II or III activities which exceed the PEL or for which a negative exposure assessment has not been produced are found in 3.7N.

B. Class I activities, provide an equipment decontamination enclosure system:

1. An equipment room with an airlock to the abatement area. The shower area may be used for equipment decontamination. This area, at Contractor's option, may be combined with worker's equipment area.

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2. This room shall be kept locked when not in use.

C. Post decontamination procedures in the equipment room and clean areas.

D. Contractor Shall Obtain Safety Officer or Project Managers approval of decontamination and containment system before beginning work.

E. Maintenance of enclosure system: Visually inspect enclosure systems at the beginning of each work period. Use smoke methods daily to test effectiveness of sealed doorways. Repair damaged plastic. Smoke test shall be performed with irritant smoke (MSA Stannic Oxychloride) or approved equal. Continuous Manometric measurements demonstrating a minimum of negative 0.02 column inches of water column pressure differential, relative to outside pressure, shall be maintained within the negative pressure enclosure, or an alternative testing system developed, submitted to and approved by the Environmental officer to document lack of movement of asbestos fibers to clean areas.

### 3.3 GENERAL ENTRY AND EXIT PROCEDURES:

A. Authorized personnel shall enter the work area through the worker decontamination enclosure system.

B. Upon entry and exit to work area, all personnel shall sign log, which shall submitted as part of documentation.

### 3.4 ENTRY PROCEDURES:

A. Don Equipment:

1. Remove all street clothing, and put on disposable clothing.

2. Secure respirator and don according to manufactures specifications.

3. Proceed through decon enclosure system.

a. If HEPA filter respirators are used, perform negative and positive pressure fit test, then put on head cover.

b. Put on work shoes and other safety equipment as required.

### 3.5 EXIT PROCEDURES:

A. Work Area:

1. Vacuum all loose gross contamination residues from the protective clothing. HEPA vacuums only will be used.

2. Proceed to equipment room.

3. Carefully remove all protective clothing and place in covered and labeled disposal container.

4. Enter shower facility and wash entire body from head to toe. Do not disconnect air supply system, or remove respirator.

5. Thoroughly clean the outside of respirator face piece and exposed area of the face. Place towel in sealed container for waste disposal.

6. Clean Room: Remove respirator in clean decontamination room before leaving the work area, ensure that the respirator is properly cleaned; repair if necessary, dried and stored in a clean storage area for reuse.

7. Maintain all wastes in a wetted condition at all times in sealed/closed containers. Do not drop waste materials.

### 3.6 AIR MONITORING BY CONTRACTOR

A. The contractor shall provide all air monitoring, as required by the Occupational Safety & Health Administration in [29cfr 1926.1101 (e)].

B. All samples shall be collected and analyzed as specified in 29CFR 1926.1101. Appendix A; Mandatory, and as noted below. A calibration log for air sampling equipment shall be maintained with the contractor's daily log.

C. The contractor shall make analysis available to all employees within 24 hours of receipt of sample results, or sooner if possible. This may be accomplished by posting analysis results at the job site. These results shall be delivered to the Project Manager or contracting officer within 24 hours of receipt.

D. All monitoring results are considered employee exposed characterizations, and shall be maintained in compliance with 29CFR 1910.1020.

E. Air Monitoring: The Contracting Officer may perform air monitoring as directed by the Project Manager and Environmental officer on post at exhausts to HEPA filtered equipment, exterior to work areas or in other work site area at the expense of the contractor. If the contractor chooses to request be provided at the expense of the contractor, by the project manager and environmental office on post. Air clearance sampling requirements are found in section 3.8.F.

### 3.7 ASBESTOS REMOVAL

A. Pre cleaning: Wet wipe or HEPA vacuum until identified work area is visibly free of dusts, all equipment and materials in the room. This is a Class III activity.

B. [General Procedures for ACM removal].

1. Construct a regulated area in the locations where ACM is located (see Section 3.1).

2. All employees working in this area shall be in appropriate respirators and full body covering and until such times as clearance air sampling documents acceptable levels of asbestos exposure. Notify of readiness to begin removal and receive approval to do so from project manager or environmental officer.

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3. Perform work practices in accordance with 29CFR1926.1101, asbestos standard, for Class II or Class II asbestos abatement activities, as identified in this specification, request alternate procedures and receive approval in advance from the project manager or environmental officer.

4. Remove all visible signs of ACM using mechanical or chemical mechanisms. Place in disposal bags, and into fiberboard drums or approved equal for disposal (minimum double containerization 6 mi, total thickness). All waste shall be stored in a secured (LOCKED) area, with appropriate signs in compliance with the approved work plan.

5. Gather all bags and drums and prepare for final packaging and transporting in sealed containers to dump site. Each waste container shall identify the waste generator per the requirements published by EPA in the NESHAP.

6. All employees performing asbestos abatement activities shall utilize respiratory protection.

C. Do not allow debris to accumulate in work area.

D. General Class I requirements include continuous supervision by a competent person, critical barriers or isolation to prevent the migration of airborne asbestos from the regulated area.

E. The following is required for all Class I activities.

1. Isolation of HVAC in the regulated area by sealing with double layer of [6 mil plastic].

2. Impermeable drop cloths beneath removal activity.

3. Objects in the regulated area shall be covered with drop cloths, removed as specified by the contracting officer or project manager.

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4. For all Class I jobs the regulated area shall be ventilated using a HEPA filtration device and establishing a negative pressure enclosure, unless an alternative is approved by project manager or safety officer, in compliance with 29CFR 1926.1101.

F. Specific requirements for Class I or Class II (joint compound areas) Negative Pressure Enclosure (NPE) and abatement activities performed within the NPE.

1. The negative pressure enclosure may be of any configuration.

2. At least 4 air changes per hour shall be maintained.

3. A minimum of negative 0.02 water column inches of pressure differential, relative to outside pressure shall be maintained as evidenced by Manometric measurements. (As an alternative air sampling may be approved by Safety Officer and Project Manager.)

4. The negative pressure enclosure shall be kept under negative pressure continuously, until clearance air samples are accepted.

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5. Air movement shall be directed away from the employees performing asbestos work and a HEPA filtration collection device.

6. Prior to each shift the negative pressure enclosure system shall be inspected for breaches and smoke-tested for leaks and any leaks sealed.

7. Affected electrical circuits shall be deactivated, unless equipped with ground-fault circuit interrupted are utilized in compliance with the submitted and approved Work Plan.

8. NHE shall be vented through HEPA equipments to outside buildings or:

A. A smoke detection system, with automatic shutdown of all air movement equipment shall be installed with the air movement equipment, or

B. A fire watch shall be established in this area, in compliance with NFPA 601: Security Service in Fire Loss Prevention. Security services shall be qualified to enter regulated areas if required to do so to meet this requirement.

9. In the event a positive pressure is recorded on required manometry equipment or alternately approved barrier or air samples specified in section 3.6.E, are above background, all work shall cease, until approval to restart is granted by the Safety Officer or Project Manager. A remedial plan will be developed, approved by the Safety Officer or Project Manager and implemented as required. Additionally, any remedial air sampling/cleaning will be performed at the expense of the contractor outside previously established regulated areas in the event:

A. Visible emissions from work areas are observed, OR

B. Airborne fiber levels above background are detected [0.01f/cc is considered background, unless monitored by the contractor and found to be above this level.]

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G. Specific requirements for Class I glove bag removal.

1. Glove bags shall be made of [6 mil plastic] and seamless at bottom.

2. Glove bags shall be smoke-tested for leaks and any leaks prior to use.

3. Each glove bag shall be installed so that it completely covers the circumference of pipe or other structure.

4. Glove bags may be used only once and may not be moved.

5. Glove bags not are to be used on surfaces whose temperature exceeds 150 Degrees F.

6. Glove bags shall be collapsed using a HEPA vacuum.

7. Loose and friable material adjacent to the glove-bag shall be wrapped in 2 layers of [6 mil plastic].

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8. At least two persons shall perform Class I glove-bag removal: a contractor's competent person shall on site for this activity.

9. Glove-bags shall only be used for straight pipe runs. Negative pressure glove-bags shall be used for vertical runs, at joints and connection locations.

H. Specific requirements for Class I mini-enclosure (small walk in enclosure to accommodate no more than 2 persons).

1. Mini-enclosure shall be constructed of [6 mil plastic].

2. The enclosure shall be placed under negative pressure by the means of a HEPA filtered vacuum or similar device, air movement shall be directed away from employees.

3. Prior to each shift the mini enclosure (NPE) system shall be inspected for breaches and smoke-tested for leaks and any leaks sealed.

4. Before reuse the interior shall be completely washed with and HEPA vacuumed.

5. The contractor's competent person shall be on site for this activity.

I. General Class II requirements include supervision by a competent person, critical barriers over openings to the regulated areas and barriers or isolation to prevent the migration of airborne asbestos from the regulated area. All Class II work shall be performed under a negative pressure, meeting the requirements of 3.7.F; however, Manometric testing is not required for this activity. Wet removal methods shall be used.

J. Specific requirements for removing vinyl and asphalt flooring materials.

1. Flooring shall not be sanded, abraded or cut.

2. Vacuums equipped with HEPA filters shall be to clean floors.

3. Resilient sheeting and residual adhesive (mastic) shall be removed using wet methods. Dry removal is prohibited.

4. Mechanical chipping if used for removal purposes shall be performed in a negative pressure enclosure.

5. Tiles shall be removed intact when possible.

K. Specific requirements for removing cementitious asbestos containing siding and shingles or transite panels.

1. Cutting, abrading or breaking siding, shingles, or transite panels shall be prohibited. Pre-cleaning must occur.

2. Each panel or shingle shall be sprayed with amended water prior to removal.

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3. Nails shall be cut with flat, sharp instruments.

L. The general requirements for Class III asbestos work shall include wet methods or HEPA vacuuming, local exhaust ventilation to outside area, where feasible, impermeable drop cloths, mini-enclosures or glove bag systems. This work shall be supervised by a competent person. If a negative exposure assessment is not produced for this activity, or if the PEL is exceeded, this shall be performed using Class II required actions.

M. General requirements for Class IV asbestos work shall include wet methods, HEPA vacuums and prompt cleanup of asbestos containing debris.

N. An area for decontamination of employees performing Class II, III and IV ACM activities shall be established adjacent to the regulated area. Workers and clothing shall be HEPA vacuumed in this area which shall include a drop cloth as horizontal surface covering of sufficient size to prevent contamination spread. All equipments and surfaces shall be cleaned in this area. All entry and exit shall occur in this area.

### 3.8 CLEAN-UP:

A. After removing asbestos, HEPA vacuum and wet-clean surfaces, including structural members, building components, especially between cracks, etc., and covering openings to eliminate all visible residues. Then apply a tick coat of penetrating Encapsulants to seal in non-visible residue.

B. Before moving contaminated equipment to the equipment decontamination enclosure system, clean external surfaces thoroughly by wet cleaning and HEPA vacuuming.

C. Keep openings sealed (critical barriers). Remove protective poly barrier. Any HEPA filter negative pressure system and air filtration system shall remain in service, as well as critical barriers, until approval for removal is given from Safety Officer or Project Manager.

D. Wet-clean and HEPA vacuum surfaces (walls, floors, and covering of openings) where there is evidence of contamination, to ensure that it is free of visible dusts. Clean all glass inside work area. Then make request for inspection by the Safety Officer and Project Manager.

E. If Safety Officer and Project Manager finds visible dust or if clearance sampling as specified in F.1 of this section is exceeded, repeat wet cleaning and HEPA vacuuming until work area is acceptable. The visible emissions test/inspection shall be performed by the safety officer and project manager. Recleaning shall be performed at the expense of the contractor.

F. Make clearance air monitoring request. Clearance testing will be performed by Safety officer and project manager; clearance levels are specified as follows.

1. Final clearance sample collection and analysis may be performed via PCM (Phase Contract Microscopy) [NIOSH Procedure 7400]. The PCM clearance criteria shall be less than 0.01 fibers per cubic centimeter on each of 5 air samples collected and analyzed in accordance with NIOSH method number 7400 (1195 liter, minimum air samples volume), in each homogenous work area, or

2. Other clearance air monitoring procedure as recommended by Safety Officer and accepted by Project manager.

G. When air monitoring tests determine that the work area has meet these contract specifications, remove decontamination enclosure system, critical barriers, thoroughly wet-clean and HEPA vacuum work area, inspect to insure no dust (asbestos) remain in work area as a result of dismantling.

### 3.9 DISPOSAL:

A. Remove and transport asbestos-containing waste to approved state approved disposal site as identified on project notification forms and approved work plans; provide Safety Officer and Project Manager with dump ticket or disposal slips and waste transport manifest forms. Transporter must comply with 25 PA Code 299.232 (Residual Waste Transportation), have a copy of a contingency plan and applicable clean-up equipment with him/her at all times, transport using the appropriate state residual waste manifest and place signs on the exterior of the transportation vehicle in compliance with waste transport regulations of all states to be traversed by the disposal vehicle.

B. Discard sealed plastic bags and drums at disposal site. Keep broken or damaged bags in drums and dispose of the entire contaminated drum. Uncontaminated drums may be recycled, if applicable. Process waste only to a facility which is permitted to receive asbestos containing materials, as identified in the project notification forms and approved work plan.

C. Workers opening drums or waste containers shall wear HEPS respirator, and full body covering. A decontamination system, approved by the safety officer and project manager, shall be established for this activity in compliance with these specifications.

D. Workers cleaning transporting in 29CFR 1926, 29CFR 1910.1001 and 29CFR 1910.120 if a release or spill of asbestos containing materials occurs.

### 3.10 PROJECT COMPLETION:

A. The asbestos abatement project shall be considered complete upon documentation of the following:

1. Final visual inspection of each regulated area by Safety Officer and Project Manager identifying the following:

A. Completion of scope of abatement

B. Free of visible asbestos /dust

2. Final clearance air sampling analysis results meeting the specified clearance criteria are achieved (3.8F).

3. The contractor submits and has approved final documentation, including the project log and waste transportation, and disposal manifests and forms (PADEP ERWM-348 OR EQUAL) and these documents are accepted by the safety officer and project manager, as specified at Section 1.4.