

<b>PLAN REVIEW</b>	
<i>Reviewer</i>	<i>Date</i>
Shane Carlson	9/17/2019
Shane Carlson	7/20/2020

## **Contact:**

Mike Nolte  
(507) 967-2242

# **ASBESTOS MANAGEMENT**

## **Purpose**

The purpose of this program is to establish guidelines and procedures in the operations and maintenance of Asbestos Containing Material (ACM) at Ellsworth Public School to protect all employees, contractors, visitors, and vendors from potential health hazards of asbestos-related diseases.

This Program applies to all buildings and structures owned by Ellsworth Public Schools, to all employees and sub contractors of Ellsworth Public School, to occupants of buildings, and to external organizations who may come into contact with or disturb ACM in Ellsworth Public Schools buildings. The Program applies to routine work during which an employee might encounter asbestos as well as work undertaken to repair or remove ACM.

## **Policy**

It is the policy of **Ellsworth Public School** that only qualified employees shall be involved in any asbestos repairs, maintenance, or removal. All unqualified employees shall be protected from exposure to asbestos fibers by isolating and controlling access to all affected areas during asbestos work. All tasks involving the disturbance of ACM will be conducted only after appropriate work controls have been identified and implemented. A qualified supervisor shall be available at asbestos-controlled work sites during all activities. Proper personal protective equipment, vacuums, and HEPA filters shall be used and properly maintained. If outside contractors are used, the <Public School> shall ensure all contractor employees have been properly trained and have been issued proper equipment and protective gear.



## Responsibilities

### Management

- Ensure all ACM is identified and labeled
- Ensure training is effective for authorized employees
- Conduct medical surveillance of affected employees
- Establish engineering controls for all work with ACM
- Provide adequate and proper equipment and personal protective gear
- Ensure proper disposal of all ACM
- Ensure that annual notifications are published

### Supervisors

- Qualified supervisors shall provide effective on-site management during work with ACM.
- Supervisors will notify Asbestos Contact Person immediately upon discovering damaged asbestos material.

### Employees

- Qualified employees must follow the exact procedures for repair or removal of ACM, including proper use of containment equipment, clean up equipment, and personal protective gear.
- Unqualified employees are to stay clear of all asbestos work areas and report any damaged ACM to their supervisor.

## Hazards

Asbestos is a common, naturally occurring group of fibrous minerals. Asbestos fibers have been used in a variety of building materials; however, the <Public School> takes an aggressive effort to use non-asbestos containing materials in new construction and renovation projects. Generally, most asbestos is found in pipe insulation, doors, textured paints and plasters, structural fireproofing, and floor tiles. Friable asbestos (that is, material that contains more than 0.1% asbestos by weight and can be crumbled by hand) is a potential hazard because it can release fibers into the air if damaged. Long-term exposure to airborne asbestos is necessary for chronic lung



disease. Significant and long-term exposure to asbestos from activities that directly disturb ACM (such as asbestos mining) can lead to a variety of respiratory diseases, including asbestosis and mesothelioma (cancer of the lung lining). Asbestosis is a non-malignant, irreversible disease resulting in fibrosis of the lung. Asbestos-related cancers tend also to result from substantial long-term exposure; however, mesothelioma may result from much smaller exposures to asbestos.

## Hazard Control

### Engineering Controls

Engineering controls include the use of enclosures such as monitoring equipment, glove bags, tenting, negative pressure work areas, HEPA filters, controlled vacuums, water misters, and other equipment to ensure containment and clean up of asbestos work areas.

### Administrative Controls

All qualified workers shall be issued proper personal protective equipment, such as respirators, disposable coveralls, gloves, etc. Written procedures and management authorizations are required for all work involving ACM.

### Training Controls

All qualified employees, supervisors, and managers shall receive the proper level of training, as outlined in this program.

## Definitions

**Asbestos** is a generic term describing a family of naturally occurring fibrous silicate minerals. As a group, the minerals are noncombustible, do not conduct heat or electricity, and are resistant to many chemicals. Although there are several other varieties that have been used commercially, the most common asbestos mineral types likely to be encountered in District buildings are chrysotile (white asbestos), amosite (brown asbestos), and crocidolite (blue asbestos). Among these, white asbestos is by far the most common asbestos mineral present in District buildings.

**Friable Asbestos** means finely divided asbestos or ACM or any ACM that can be crumbled, pulverized, or powdered by hand pressure. Individual fibers in friable ACM can potentially become airborne and can then present a health hazard. Three types of friable material commonly used in buildings are sprayed fibrous fireproofing, decorative or acoustic texture coatings, and thermal insulation.

**Non-friable Asbestos** includes a range of products in which asbestos fiber is effectively bound in a solid matrix from which asbestos fiber cannot normally escape. Non-friable asbestos includes a variety of products including asbestos cement tiles



and boards and asbestos-reinforced vinyl floor tiles. Cutting, braking, sanding, drilling, or similar activities can release asbestos fiber from even non-friable asbestos materials.

## Asbestos Work Categories

**Category 1** work includes the installation or removal of non-friable asbestos in which the asbestos fiber is locked in a binder such as cement, vinyl, or asphalt that holds the material together.

**Category 2** work involves work with friable asbestos that is of short duration in situations which create low levels of airborne asbestos. Examples of category 2 work are enclosure of friable asbestos; application of tape or sealant to asbestos-containing pipe insulation; minor removal of friable asbestos; and minor installation, maintenance, or repair work above false ceilings where sprayed asbestos fireproofing is present on beams.

**Category 3** Work involves possible exposure to friable asbestos over long periods of time or work that generates high levels of asbestos. Included in category 3 work are removal projects where relatively large amounts of asbestos are removed from a building (including removal of friable asbestos from structural material), and cleaning or removal of heating or air handling equipment that has been insulated with asbestos. Also included in category 3 work are cutting or grinding of ACM using power tools.

## Rules

### General Rules

- When in doubt, treat all material as containing asbestos and comply with all applicable rules and regulations and protective measures.
- Certified and licensed asbestos abatement personnel will handle all ACM. The friability of the ACM will dictate the type of removal/maintenance required.
- Employees who are uncertified and unlicensed will not handle any ACM >1%. This will include encapsulation projects, renovation/removal, and/or demolition of any type of structure. This will prevent the potential for accidental exposure from the mishandling of any ACM.
- When an uncertified, unlicensed employee questions whether he/she may be handling suspect ACM, the employee will immediately contact his/her supervisor. The employee shall not resume working at the site until the area has been checked to verify the material is not ACM.
- Uncertified, unlicensed employees will not cross over a barrier/containment



area where asbestos projects are in progress.

- Any employee who discovers ACM or suspect ACM in damaged or poor condition should report it to his/her supervisor so the identified material is repaired.

### **Rules Regarding Medical Examinations**

- Employees assigned to asbestos removal will be given medical examinations at the District's expense in compliance with 29 CFR 1926.1101 and 40 CFR 763 - Subpart G:
  - A. Within 30 days of first employment or assignment to a job exposing the employee to asbestos containing material,
  - B. Annually, and
  - C. Within 30 days of termination of employment.
- Medical examination for employees assigned to asbestos removal will include:
  - A. Medical and work history with special emphasis directed to symptoms of the respiratory system, cardiovascular system, and digestive tract;
  - B. Medical questionnaire contained in 29 CFR 1926.1101; and
  - C. A physical examination including a chest roentgenogram and pulmonary function test that includes measurement of the employee's forced vital capacity and expiratory volume.
- No employee shall be assigned to tasks requiring the use of respirators if an examining physician determines the employee will be unable to function normally while using it or that the employee might otherwise be impaired.
- Records of all physical examinations performed for work-related asbestos activities will be maintained permanently by the District.



## Rules Regarding Asbestos Inventory

- The District has conducted surveys and prepared a written inventory of the type and locations of ACM to:
  - A. Allow for periodic condition inspections, and
  - B. Allow for maintenance and repair of damaged asbestos.
- For each building the inventory contains the following information:
  - A. Type of ACM (sprayed fireproofing, texture coating, or thermal insulation);
  - B. The location of the material; and
  - C. When it has been sampled, the type and percentage of asbestos present.
- Also included in the survey information are sampling results showing the absence of asbestos in material that might be mistaken for an ACM.

## Asbestos Identification

An asbestos identification system is used to alert people to the presence of asbestos. Asbestos is identified by tags, stickers, pipe labels, signs, and other high visibility means. Where feasible, stickers indicate the presence of asbestos in thermal insulation, in asbestos board and tiles, and in other locations. Warnings may also be placed near the entrances of rooms, particularly mechanical rooms where unusually large amounts of asbestos may be present.

## Inspection

Inspection of the condition of friable asbestos is integrated into the Maintenance Department routine inspection program. Periodic inspections and reports on the status of facilities and equipment in District buildings are produced to note damage to asbestos that might result in release of asbestos. When damaged ACM is discovered a work order will be issued to initiate the assessment/remediation as required.

## Access Control

Access to mechanical and electrical rooms, service shafts, tunnels, and other locations is to be restricted where asbestos may be present in unusually large amounts and where other hazards may also be present. Such areas are locked and accessible only to authorized personnel. Where sprayed asbestos-containing fireproofing is present in a building above a false ceiling, access to the space is restricted to Maintenance Department employees, Communications Services, or authorized contractors.



## Repair and Maintenance of ACM

Should an employee or a contractor encounter material that is not identified and is not listed in the Asbestos Inventory and which might reasonably be expected to be asbestos, the person will stop any work that could create airborne asbestos and report the discovery to a supervisor. Where it is determined that friable ACM is in a condition that could likely lead to inhalation exposure, the supervisor will immediately limit access to the location and initiate repairs, removal, or encapsulation. Where there is reasonable doubt about the composition of a friable material, it will be treated as asbestos until testing demonstrates that asbestos is present at levels below 1%. Cleanup and repair of asbestos-containing material will only be carried out by the appropriate clean-up procedure by employees or contractors who have been properly trained.

When routine work is to take place in an area where asbestos is present or when the work might disturb friable asbestos, employees will be informed of the potential for exposure through a notation on the work order. If upon reviewing the work situation, the employee believes that normal work practices do not provide an adequate measure of safety, the employee will report these concerns to the supervisor. The supervisor will review the work situation and authorize any required additional precautions. All employees, visitors, vendors, and contractors will be notified in advance when work involving asbestos is to be carried out in any area of District buildings that they occupy.

## Training

All District <Public School> who remove, repair, or work around friable asbestos and those whose work might disturb friable ACM will be trained to carry out their work without endangering themselves, their coworkers, or other building occupants.

### Level 1 Training

All affected Maintenance Department employees who do not receive levels 2 or 3 training will receive Level 1 training which will acquaint them with:

- ◆ The types, properties, and uses of asbestos;
- ◆ Ways to recognize asbestos;
- ◆ The hazards of asbestos fiber inhalation;
- ◆ Types of activities which could release asbestos fibers; and
- ◆ The District Asbestos Inventory and Asbestos Identification State and Federal regulations regarding work with asbestos and disposal of asbestos-containing waste.



Refresher training will be provided every second year. Only those with Level 1 training will be allowed to carry out or supervise Category 1 asbestos work.

### **Level 2 Training**

All District employees who conduct or may be expected to conduct Category 2 or 3 work will receive training in:

- ◆ All Level 1 topics;
- ◆ Ways to recognize and avoid damage to ACM;
- ◆ The use, fitting, limitations, care, and disposal of protective equipment;
- ◆ Asbestos containment and ventilation during removal; and
- ◆ Wet and dry clean up procedures.

Refresher training will be provided every second year. Except for actual asbestos removal, only those with Level 2 training will be allowed to carry out or supervise Category 2 asbestos work.

### **Level 3 Training**

Level 3 training will be provided for insulators and others who are authorized to remove friable asbestos and for those who supervise asbestos removal work that is performed by either District Employees or external contractors. Level 3 training provides practical hands-on experience in all phases of small and medium scale asbestos removal. Those who will carry out small-scale asbestos removal work will receive additional on-the-job training working with experienced asbestos workers.



## Contracted Work

### Asbestos Removal Work

Major asbestos removal is normally contracted to external firms who specialize in asbestos removal work. The District requires that all such work be carried out in accord with the requirements established by State and Federal regulations. At all such projects the contractor will ensure that cleanup is properly completed and that all asbestos and asbestos-contaminated material is collected and disposed of in accord with the EPA regulations. The contractor will be required to submit air-testing results to demonstrate that the cleanup has been carried out properly and the area can be reoccupied safely.

### Other Work

The District often employs contractors to service equipment such as elevators, telephones, refrigeration, and air conditioning equipment, and to carry out other construction and renovation projects. When contractors are required to work in areas where asbestos is present or there is a possibility of disrupting friable asbestos, the District will provide:

- ◆ Notification of the known locations and types of asbestos present (or suspected to be present) in the area where the contractor will work, and
- ◆ Information on District asbestos labeling system. The District requires that contractors carrying out tasks which could potentially create asbestos-containing dust:
- ◆ Follow work practices that reduce to the extent practical the creation of airborne asbestos dust and which meet the asbestos safety standards set by State and Federal regulations.
- ◆ Immediately report to the asbestos program manager when damage occurs to ACM, and
- ◆ Employ only workers who have been trained in asbestos safety.

## Asbestos Work Procedures

### Discovering Damaged Asbestos

When asbestos is discovered the following steps describe the actions to be taken by trade Employees and their supervisors. The steps comply with District Asbestos Policy, which states the long-term goal is to remove all asbestos and the short-term goal is to manage asbestos to minimize exposure to airborne asbestos. It is important to note that all asbestos is to be logged in the inventory, regardless of its state of repair.



- 1) Complete the Asbestos Inventory Form - The employee is to complete the first section of the Asbestos Inventory Form and submit it to his/her Supervisor.
- 2) Sampling - The Supervisor will determine if samples are required to confirm the existence of asbestos. Checking the inventory to see if asbestos in that location has already been tested will do this. If necessary, the Supervisor will close off an area (mechanical spaces) or shut down equipment (air handling units) pending test results and remedial action.
- 3) Repair/Removal and Cleanup - If the asbestos is damaged, it is certain a clean-up will be required. The clean up and repair should happen together. The repair and clean up will be charged to a work order and the number recorded on the Inventory Form. If removal is required, the supervisor will determine whether the removal will be carried out by a contractor or by District Employees. The work order number must be logged on the Inventory Form.
- 4) Labeling - All known ACM should be labeled. For asbestos containing pipe insulation, yellow paint will be applied directly to the insulation. In areas where asbestos is present in multiple locations it will be sufficient to provide warning signage at each entry point into a room. Blue paint will be applied to any new insulation that is not readily obvious to be asbestos free.
- 5) Logging in Database - After completing the Asbestos Inventory Form, it will be given to the District asbestos program manager for logging into the Asbestos Inventory.

### **Clean up of ACM**

Asbestos only poses a health hazard when it becomes airborne and people inhale the fiber. When asbestos-containing material has been disturbed, effective clean up will ensure that asbestos does not present a health hazard. Clean up of dust that might contain traces of asbestos, such as a custodian might encounter in routine cleaning in buildings where asbestos is present, will not require special precautions. To ensure that clean up of significant quantities of asbestos will not cause a health hazard, the following procedure will be followed:

- 1) Clean up of significant amounts of ACM will be only be done by Employees who have been trained and who are wearing appropriate protective clothing and a fitted, air-purifying respirator.
- 2) Dry sweeping of asbestos-containing waste and other clean-up activities that will create airborne dust are not permitted.
- 3) Large pieces of ACM will be collected by hand and properly bagged in accord with the disposal procedure.



- 4) Whenever possible, asbestos dust will be thoroughly wetted and clean up with a wet mop or a HEPA type vacuum. Contaminated water will be discharged to a sewer. Containers, mops and other equipment that might be contaminated with asbestos will be rinsed with water and the rinse water discharged to a sewer.

If additional clean up is need it will be carried out using a vacuum equipped with a HEPA filter. Within Maintenance Department there is one vacuum assigned for asbestos clean-up.

### **Non-friable ACM Work**

Asbestos that is effectively bonded in a non-asbestos matrix cannot easily become airborne. As such, provided the material is not broken or abraded, there is little risk of inhalation exposure to asbestos. To ensure that minor work involving non-friable asbestos (including vinyl asbestos tile, asbestos asphalt roofing, and asbestos ceiling and wall tile) the following procedure will be followed:

- 1) Before beginning the work the worker will carefully inspect the ACM to ensure that the planned work will not create airborne asbestos dust.
- 2) Where dust that might contain asbestos fiber is present, the worker will clean the material using a wet method or a HEPA filtered vacuum.
- 3) Following completion of the task the worker will carry out any required clean wet methods or a HEPA filtered vacuum and will then carefully bag for disposal all asbestos-containing waste.

**Note:** Cutting, drilling, sanding or breaking the material are likely to create airborne asbestos dusts and will require additional precautions.

### **Work Above False Ceilings**

Only workers who have successfully completed Level 2 Asbestos Safety Training and who are authorized to do so by the asbestos program manager may move ceiling tiles or perform work above the dropped ceilings where asbestos insulation is present on building structure. The following procedure shall be used whenever minor work (such as installation of telephone or computer lines, or servicing of ventilation or lighting system components) requires work above the suspended ceiling:

- 1) Before removing a ceiling tile, the area around the tile shall be isolated by creating an enclosure of 4-mil or heavier polyethylene sheeting. The sheeting shall be taped to the ceiling t-bar and the floor using duct tape.
- 2) Those working within the enclosure shall wear a pair of coveralls and a properly



fitted, air-purifying respirator equipped with a particulate filter designed to remove asbestos fibers from inhaled air.

- 3) Air supply or return grills located within the enclosure shall be sealed with 4-mil or thicker polyethylene sheeting to prevent contamination of the ventilation system.
- 4) The ceiling tile shall be carefully removed and the upper surface vacuumed with a vacuum fitted with a HEPA filter.
- 5) The worker shall then carefully vacuum the upper surface of surrounding tiles before carrying out the assigned task.
- 6) Following completion of the above-the-ceiling work, the removed ceiling tile shall be replaced and the interior of the enclosure carefully cleaned using wet cleaning techniques or a HEPA filtered vacuum.

**Note:** Additional precautions may be required depending upon the specific tasks to be undertaken. Any task that is likely to disrupt the sprayed-on insulation will require additional precautions.

### Repairs to ACM

Where asbestos is known or believed to be present in damaged insulation, repairs or removal are needed to prevent asbestos fiber from becoming airborne. Only workers who have successfully completed Level 3 Asbestos Safety training and who are authorized to do so may undertake such repairs or removal. The following procedure will be used whenever minor repairs to asbestos containing insulation are undertaken:

- 1) Access to areas where minor repair is to be carried out will be restricted to authorized people only. When necessary, signs will be posted advising of access restrictions.
- 2) Workers repairing asbestos-containing insulation will wear coveralls and a properly fitted, air-purifying respirator equipped with a particulate filter designed to remove asbestos fibers from inhaled air.
- 3) Before beginning the repair, the area will be carefully cleaned using the Clean-up of Asbestos-Containing Material Procedure.
- 4) When feasible a drop cloth shall then be placed beneath the insulation to be repaired.
- 5) Before beginning the repair, all feasible steps (wetting with amended water, encapsulating adjacent asbestos-containing material, etc.) will be taken to prevent the release of asbestos fibers.



- 6) Following the repair the worker will carefully bag for disposal all asbestos-containing waste and clean the surrounding area using wet cleaning techniques or a HEPA filtered vacuum.

### **Single-Use Glove Bag Procedure**

The following procedure will be followed when single-use asbestos removal glove bags are used. The procedure may only be used on tasks that are small enough to be completely enclosed in the glove bag and which do not leave exposed asbestos in place when the bag is removed.

#### **Preparation:**

Only a Employee who has completed level 3 training and who is wearing appropriate coveralls and an air-purifying respirator (3M 6000 Series with a purple, 6240 particulate filter or equivalent) will carry out glove bag removal of asbestos.

Before beginning removal work, access to the area will be restricted. If the work site is located in areas where other Maintenance Department Employees might be exposed to asbestos, and in all work sites located in publicly accessible areas, warning notices will be posted.

Steps will be taken to prevent accidental movement, contact with heat, cold or electricity, or release of chemicals.

The work area will be cleaned using a HEPA filtered vacuum or wet cleaning to remove asbestos-containing material contaminating the immediate work area. Where possible a plastic sheet will then be placed beneath the pipe or fitting from which the asbestos is to be removed.

Steps will be taken to prevent exposure where damage to the insulation might allow release of fibers. Steps include making temporary repairs using duck tape or wetting the exposed fiber using amended water.

#### **Glove Bag Removal:**

The asbestos-containing material will be thoroughly wetted using amended water.

With tools in bag, the single-use bag will be positioned and secured using adhesive and tape as necessary.

Working through the gloves, the asbestos will be removed exercising care to avoid puncturing the bag.

When removal is complete or bag is full, sprayer (containing amended water) will be



inserted into the bag and the pipe or fitting, tools and the bag interior will be washed.

Tools will then be placed in an inverted glove withdrawn from bag and the glove sealed from the bag using duct tape.

The tools will then be removed by cutting through the duct tape ensuring that both the bag and the glove remain sealed.

The tools will then be submerged in water and the glove opened. Tools will be cleaned under water.

The glove bag will then be carefully removed, sealed and placed in a sealed container pending packaging for disposal.

### **Clean Up:**

The surface of the pipe or fitting will be carefully wet wiped and treated with sealer.

The plastic sheet will then be carefully wet wiped and rolled up.

All solid waste created during removal jobs including glove bags, disposable coveralls, wipe rags and plastic sheeting will be treated as asbestos containing waste and handled as detailed in the disposal procedure.

### **Multiple-Use Glove Bag Procedure**

This procedure describes the use of multiple use glove bags. It may be used on tasks that require the bag to be repositioned to complete the entire job.

### **Preparation:**

Only a Employee who has completed level 3 training and who is wearing appropriate coverall and an air purifying respirator (3M 6000 Series with a purple, 6240 particulate filter or equivalent) will carry out glove bag removal of asbestos.

Before beginning removal work, access to the area will be restricted. If the work site is located in areas where other Maintenance Department Employees might be exposed to asbestos and in all work sites located in publicly accessible areas, warning notices will be posted.

Steps will be taken to prevent accidental movement, contact with heat, cold or electricity, or release of chemicals.

The work area will be cleaned using a HEPA filtered vacuum or wet cleaning to remove asbestos-containing material contaminating the immediate work area. Where



possible a plastic sheet will then be placed beneath the pipe or fitting from which the asbestos is to be removed.

Steps will be taken to prevent exposure where damage to the insulation might allow release of fibers. Steps include making temporary repairs using duck tape or wetting the exposed fiber using amended water.

### **Glove Bag Removal:**

The asbestos containing material will be thoroughly wetted using amended water.

With tools in bag, the bag will be positioned and secured using adhesive and tape as necessary.

Working through the gloves, the asbestos will be removed exercising care to avoid puncturing the bag.

When removal is complete or bag is full, sprayer (containing amended water) will be connected to the valve and the pipe or fitting, tools and the bag interior will be washed. If the bag is repositioned to remove additional asbestos, remaining exposed ends of asbestos will be thoroughly damped.

Tools will then be placed in an inverted glove withdrawn from bag and the glove sealed from the bag using duct tape.

The tools will then be removed by cutting through the duct tape ensuring that both the bag and the glove remain sealed.

The tools will then be submerged in water and the glove opened. Tools will be cleaned under water.

The glove bag will then be removed and placed in a sealed container pending packaging for disposal.

### **Clean Up:**

The surface of the pipe or fitting will be carefully wet wiped and treated with sealer.

The plastic sheet will then be carefully wet wiped and rolled up.

All solid waste created during removal jobs including glove bags, disposable coveralls, wipe rags and plastic sheeting will be treated as asbestos containing waste and handled as detailed in the disposal procedure.

### **Modified Enclosure Procedure**

The following Modified Enclosure Method may be used for removal of asbestos from



ceilings, walls, beams, pipes, or other equipment providing that the job is small enough that it can be completed within one shift without the need for repeated entry into the work area.

The method may not be used for jobs involving:

Amosite, Crocidolite, or Friable asbestos of any type.

Additional precautions will be required if the exhaust air cannot be discharged outdoors. Modified enclosure removals may only be undertaken by Employees who have completed level three training and who have received modified enclosure removal training.

### **Preparation:**

If dust that might contain asbestos is present, pre clean the work site using wet cleaning or HEPA vacuum cleaning.

Protect floor, walls equipment within the work area that might be damaged by water.

Ensure that steps are taken to protect workers from any energized equipment or systems located within the work area.

Post signs and restrict access to work area.

Seal area to prevent air leakage into adjacent areas or air handling system using framing as necessary, 150 mil plastic sheeting, tape, sealants and caulking as required. Construct an overlapping, double curtained entrance to work area.

Install HEPA filtered negative air unit in work area. Unit must provide 4 air changes per hour while maintaining a pressure difference of -0.02 inches of water. Direct filtered exhaust air outdoors.

### **Removal:**

Employees entering the work area shall wear a disposable Tyvek type suit including a head cover and an air purifying respirator (3M 6000 Series with a purple, 6240 particulate filter or equivalent).

With the area sealed and negative air unit in operation, saturate asbestos- containing material with amended water using airless sprayer.

Remove asbestos using additional amended water as needed being careful not to create airborne dust.

Brush the area from which asbestos has been removed and then wet wipe or vacuum



to remove final traces of asbestos. Following removal of asbestos, treat the area with slow dry sealer.

### **Clean up:**

Place all waste in specially marked heavy-duty asbestos waste disposal bags. Seal waste bags securely using duct tape before removing from the enclosure. Wipe all tools with a damp cloth to remove traces of asbestos contamination before removing them from the enclosure.

Wet wipe or vacuum (using the designated shop vac marked ASBESTOS ONLY) all areas within the enclosure not covered by plastic to remove traces of asbestos. If a HEPA filtered shop vac was used, it shall be wiped with a damp cloth and the hose end covered with tape before being removed from the enclosure. If the vac is to be opened to change a filter or bag, the work will be carried out in an enclosure under negative pressure with HEPA filtered air exhausted outdoors.

Wet wipe the interior of plastic sheeting used to form the enclosure. Remove plastic by rolling, wet wiping any visible particulate matter that make be visible. Wet wipe the disposable Tyvek suit and remove. Place the plastic sheeting, the suit and the used respirator cartridges in an asbestos waste bag along with other remaining contaminated material.

Arrange for reconnection of any services running through the work area that were disconnected to accommodate removal work.

Dispose of waste as per waste disposal procedure.

### **Disposal of Asbestos-Containing Waste Materials**

Handling and disposal of asbestos-containing waste is regulated by both State and Federal regulations. To ensure compliance with these regulations and to ensure that no one is exposed to asbestos the following procedure is to be followed:

Only an Employee who has completed Level 2 training and who is wearing appropriate air purifying respirator will package asbestos waste.

Waste asbestos will be thoroughly wetted and then placed in specially labeled 6 mil plastic bags. The bag will be securely sealed using duct tape. The bagged asbestos will then be placed in a second, labeled 6-mil plastic bag that is again taped closed.

Asbestos waste may be transported from the location where it was produced to an interim storage location if the bags are free from punctures or tears and if the outside of the bag is free of asbestos. Asbestos waste will be transported in an enclosed vehicle or beneath a secured tarpaulin. No other cargo may be carried while the waste asbestos is being moved. After the waste asbestos is moved to an interim



storage site, the driver will, if necessary clean the vehicle to remove asbestos contamination.

Asbestos waste must be disposed of at a waste disposal site that is approved to receive asbestos by Environmental Protection Agency (EPA) or the state pollution control agency.

Shipment of waste asbestos must be coordinated with the waste disposal site that is to receive the waste. External contractors will normally carry out asbestos disposal.

Shipments for disposal must be done in accord with Minnesota and Federal DOT regulations and must be accompanied by a properly completed shipping document.

