BURLINGTON PUBLIC SCHOOLS

2021
AHERA THREE-YEAR
RE-INSPECTION REPORT
FOX HILL SCHOOL

1 Fox Hill Road
Burlington, MA

UNIVERSAL ENVIRONMENTAL CONSULTANTS
12 Brewster Road
Framingham, MA 01702

TABLE OF CONTENTS

CERTIFIED PERSONNEL INFORMATION

INSPECTOR INFORMATION

INSPECTOR NAME: Jason Becotte

CONSULTING FIRM: Universal Environmental Consultants

STATE OF ACCREDITATION: Massachusetts

ACCREDITATION NUMBER: AI-034963

I certify as an inspector that I have re-inspected the said building in accordance with AHERA regulations 40 CFR Part 763 Section 763.88.

INSPECTOR SIGNATURE: 

DATE: December 16, 2021

MANAGEMENT PLANNER INFORMATION

MANAGEMENT PLANNER NAME: Leonard Busa

CONSULTING FIRM: Universal Environmental Consultants

STATE OF ACCREDITATION: Massachusetts

ACCREDITATION NUMBER: AP-030673

I certify as a Management Planner that I have reviewed this re-inspection report for the said building in accordance with AHERA regulations 40 CFR Part 763 Section 763.88.

MANAGEMENT PLANNER SIGNATURE: 

DATE: December 23, 2021

DESIGNATED PERSON INFORMATION

NAME:	Steve J. Zarba Sr.
ADDRESS:	123 Cambridge Street, Burlington, MA 01803
PHONE:	(781) 273-3597
TRAINING FACILITY:	IEE
DATE OF TRAINING:	February 12, 2018

_____

Signature of Designated Person

DESIGNATED PERSON (DP) ASSURANCES

In accordance with 40 CFR § 763.93(i) of the Environmental Protection Agency (EPA) Asbestos Containing Material (ACM) in Schools regulation, the undersigned Local Education Agency (LEA) Designated Person (DP) hereby certifies that the following general responsibilities of the LEA under 40 CFR § 763.84 have been or will be met:

1. Ensure that the activities of any person, who perform inspections, re- inspections, and periodic surveillance, develop, and update management plans, and develop and implement response actions, including operations and maintenance, are carried out in accordance with Part 763, Subpart E.
2. Ensure that all custodial and maintenance employees are properly trained as required by Part 763, Subpart E and other applicable Federal and/or State regulations (e.g., the Occupational Safety and Health Administration asbestos standard for construction, the EPA worker protection rule, or applicable State regulations).
3. Ensure that workers and building occupants, or their legal guardians, are informed at least once each school year about inspections, response actions, and post-response action activities, including periodic re-inspection and surveillance activities that are planned or in progress.
4. Ensure that short-term workers (e.g., telephone repair workers, utility workers, or ex terminators) who may come in contact with asbestos in a school are provided information regarding the locations for ACM and suspected ACM assumed to be Asbestos Containing Materials (ACM).
5. Ensure that warning labels are posted in accordance with § 40 CFR 763.95.
6. Ensure that management plans are available for inspection and notification of such availability has been provided as specified in the management plan under § 40 CFR 763.93(g).
7. Designate a person to ensure that requirements under § 763.84 are properly implemented and ensure that the designated person receives adequate training to perform duties assigned under § 763.84. Such training shall provide, as necessary, basic knowledge of health effects of asbestos; detection, identification, and assessment of ACM; options for controlling ACM; asbestos management programs; relevant Federal and State regulations concerning asbestos, including those in Part 763, Subpart E and those of the Occupational Safety and Health Administration and the U.S. Environmental Protection Agency.
8. Consider whether any conflict of interest may arise from the inter-relationship among accredited personnel and whether that should influence the selection of accredited personnel to perform activities under Part 763, Subpart E.

1.0 INTRODUCTION:

On October 22, 1986**,** President Reagan signed into law an amendment to the Toxic Substance Control Act requiring schools to determine the presence of ACM in all school buildings. That amendment, called the Asbestos Hazard Emergency Response Act (AHERA) required that all school buildings be visually inspected by accredited inspectors and that bulk samples of suspected materials are taken where the material was not assumed to be asbestos. It further required that management plans be created for each individual building and that the maintenance and custodial personnel receive training. The plan must be implemented, and the training must be completed by July 9, 1989. This document is the Asbestos Management Plan, which provides the means and the methods to effectively deal with ACM.

The AHERA regulation also requires that each school building be re-inspected every three years encompassing the following actions:

1. Visually re-inspect, and reassess, under 40 CFR Part 763 Section 763.88, the condition of all friable known or assumed ACM.
2. Visually inspect material that was previously considered non-friable ACM and touch the material to determine whether it has become friable since the last inspection or re-inspection.
3. Identify any homogeneous areas with material that has become friable since the last inspection or re-inspection.
4. For each homogeneous area of newly friable material that is already assumed to be ACM, bulk samples may be collected and submitted for analysis in accordance with 40 CFR Part 763 Section 763.86 and 40 CFR Part 763 Section 763.87.
5. Assess, under 40 CFR Part 763 Section 763.88, the condition of the newly friable material in areas where samples are collected and newly friable materials in areas that are assumed to be ACM.
6. Reassess, under 40 CFR Part 763 Section 763.88, the condition of friable known or assumed ACM previously identified.

All findings in this re-inspection report must be included in the original AHERA Management Plan.

2.0 SUMMARY:

A. Inspection:

All known or assumed to be ACM homogeneous areas were taken from the existing Management Plans and previous re-inspection reports or obtained during the inspection. Each of the ACM homogeneous[1] areas found in the existing Management Plans were reviewed and reassessed by the accredited inspector licensed in the State of Massachusetts. The reassessment was conducted by physically examining the ACM or suspect materials to determine friability and level of damage. These assessments can be found in the Inspection Spread Sheets, which also includes ACM, which found to be physically damaged that might requires corrective actions.

B. Inspection Spread Sheets of Asbestos Containing Materials:

The assessment chart contains homogeneous areas,' type of material, location of material, classification of ACM, friability and AHERA Assessment as follows:

AHERA ASSESSMENT CATEGORIES

CATEGORY 1	Damaged or significantly damaged thermal system insulation ACM
CATEGORY 2	Damaged friable surfacing ACM
CATEGORY 3	Significantly damaged friable surfacing ACM
CATEGORY 4	Damaged or significantly damaged friable miscellaneous ACM
CATEGORY 5	ACM with potential for damage
CATEGORY 6	ACM with potential for significant damage
CATEGORY 7	Any remaining friable ACM or friable suspected ACM

C. LEA Responsibilities:

The following requirements must be implemented as part of the EPA AHERA regulations.

- The LEA must designate a person who will be responsible of all AHERA requirements. The DP must have the required training (8 hours) that has to be performed at an EPA approved training provider.
- All custodians must have required training (2 hours).
- Surveillance inspections of all Schools must be performed every six months by either a licensed asbestos inspector or the DP.
- All Schools must be inspected every three years and the Management Plans updated by a licensed asbestos inspector.
- Parents and teachers must be notified on a yearly basis of the presence of the AHERA Management Plans.
- Three year inspections of all Schools must be performed by a licensed asbestos inspector.

[1] Homogeneous Area: Classification type for materials of similar appearance and texture. That is, materials throughout the facility that appear to be the same are grouped as one homogeneous area.

3.0 GLOSSARY OF TERMS

ABIH	American Board of Industrial Hygiene
Abatement	Any work done to minimize asbestos hazards including removal, encapsulation, and enclosure
Acoustical Insulation	Insulation used for the control of sound
Acoustical Tile	A finishing material in a building usually found in the ceiling or walls for the purpose of noise control.
AIHA Accredited Laboratory	A certification given by the AIHA to an analytical laboratory that has successfully participated in the "Proficiency Analytical Testing" program for quality control as established by the National Institute for Occupational Safety and Health
Airborne Asbestos Analysis	Determination of the amount of asbestos fibers suspended in a given amount of air
Air Monitoring	The process of measuring the airborne fiber concentration of a specific quantity of air over a given amount of time
Air Plenum	Any space used to convey air in a building or structure, the space above a suspended ceiling is often used as an air plenum.
Air Sample	Sample of air taken for the purpose of determining a quantity of material found in the air.
Ambient Air	The surrounding air or atmosphere in a given area under normal conditions.
Approved Landfill	A site for the disposal of asbestos containing and other hazardous materials that are being removed
Asbestos	A generic name given to a number of naturally occurring hydrated mineral silicates that possess a unique crystalline structure, are incombustible in air, and are separable into fibers. Asbestos includes the Asbestiform varieties of Chrysotile (serpentine); Crocidolite (riebeckite); Amosite (cummingtonite-grunerite); Anthophyllite; and Actinolite.
Asbestos Abatement	Procedures to control fiber release from asbestos—containing materials in buildings.
Asbestos Exposure Assessment System	A decision tool which can be used to determine the extent of the asbestos hazard that exists in a building, and which can also be used to develop corrective actions.

Asbestos Fibers	Fibers greater than 5 microns long and a length to width ratio of at least 3:1, generated from an asbestos containing material.
Asbestos Standard	Refer to the OSHA requirements in the general industry standards regarding asbestos exposure (29 CFR 1910.1001), and EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) (40 CFR 61, subpart 14) or Asbestos Abatement Projects (40 CFR Part 763) applicable for public employees
Asbestosis	A non-malignant, progressive, irreversible lung disease caused by the inhalation of asbestos dust and characterized by diffuse fibrosis. This disease usually occurs after high level exposures.
Atmosphere Supplying Respirators	Respiratory protection devices which exclude workplace air altogether and provide clean air from some independent source.
Bid	A statement of the price at which a contractor will complete a given project
Bulk Sample	Physical sample of the material (i.e., piece of covering or ceiling material). This is in contrast to an air sample where the air itself is sampled for fibers. Bulk samples are taken to determine if a material contains asbestos
Cancer	A cellular tumor which normally leads to premature death of its host unless controlled.
Ceiling Concentration	The maximum allowable level of toxic material that can be present at any given point in time
CFM	Cubic feet per minute
Clean Area	The first stage of the decontamination enclosure system in which workers prepared to enter the work area.
Contract Specifications	A set of guidelines that a contractor must follow when conducting an asbestos abatement job.
DEP	Department of Environmental Protection
Dirty Area	Any area in which the concentration of airborne asbestos fibers exceeds 0.01-f/cc, or where there is visible asbestos residue.
DLS	Department of Labor Standards
Electron Microscopy	A method of asbestos sample analysis which utilizes an electron beam to differentiate between fibers.
EPA	Environmental Protection Agency (Federal Agency)

F/CC	Fibers per cubic centimeters of air (a cubic centimeter is about the size of a sugar cube).
Friable Asbestos	Any materials that contain more than 1% asbestos by weight and can be crumbled, pulverized, or reduced to powder by hand pressure (i.e., asbestos pipe coverings, boiler casings, I-beam spray-on).
Glove bag	Plastic bag-type enclosure placed around asbestos-containing pipe lagging so that it may be removed without generating airborne fibers into the atmosphere.
HEPA	High Efficiency Particulate Air (Filter)
MSDS	Material Safety Data Sheet
Negative Pressure	An atmosphere created in a work area enclosure such that airborne fibers will tend to be drawn through the filtration system rather than leak out into the surrounding areas. The air pressure inside the work area is less than that outside the work area.
Non-friable Asbestos	Materials which contain mostly binder and do not generate dust under normal conditions. Note: non friable materials can become friable if cut, ground, sanded, etc. (i.e., floor tiles).
Operations & Maintenance Plan	Specific procedures and practices developed for the interim control of asbestos containing materials in buildings until it is removed.
OSHA	The Occupational Safety and Health Administration which was created by the Occupational Safety and Health Act of 1970; serves as the enforcement agency for safety and health in .the workplace environment.
Transmission Electron Microscopy (TEM)	A method of microscopic analysis which utilizes an electron beam that is focused onto a thin sample. As the beam penetrates (transmits) through the sample, the difference in densities produces an image on a fluorescent screen from which samples can be identified and counted.

SOURCE:
Asbestos Policy & Procedure Manual, “Guidelines for Management and Maintenance Personnel” Massachusetts Division of Occupational Hygiene Asbestos Program.

4.0 RESOURCES REQUIRED FOR THE LEA

The following are estimated costs required to carry out re-inspections, operation and maintenance, periodic surveillance and training and all related costs.

The annual estimated cost is $2,500.00.

5.0 RESOURCES REQUIRED TO-COMPLETE RESPONSE ACTIONS:

The following are estimated costs to properly remove and dispose of all ACM, to properly remove or repair and dispose of damaged ACM in the building in accordance with federal and state regulations. All abatement activities will be performed by Massachusetts licensed asbestos abatement contractors under the supervision of Massachusetts licensed asbestos project monitor. All asbestos abatement activities must be designed by a Massachusetts licensed asbestos designer. The estimated costs do not include replacement.

An EPA NESHAP regulation inspection must be performed should renovations or demolitions takes place. The listed costs do not apply since additional ACM might be found on the exterior of the building and in concealed locations.

Various activities might be performed by in house trained personnel. Refer to the O&M Plan.

The estimated cost to remove and dispose of all accessible ACM in the building is $245,000.00. The estimated cost for design, construction monitoring and air sampling is $45,000.00.

The estimated cost to remove/or repair and dispose of damaged ACM in the building is $6,500.00. The estimated cost for design, construction monitoring and air sampling is $2,200.00

6.0 OBSERVATIONS AND RECOMMENDATIONS:

A Massachusetts licensed asbestos inspector was on site to perform the AHERA Third Year Re-Inspection. Please refer to this page in conjunction with the spreadsheets located in section two of this report for information regarding the location, condition, and recommended response actions for ACM located throughout the building. Refer to O&M Program for preventive measures.

- Off/white-grey 12” x 12” vinyl floor tile was assumed to contain asbestos. The ACM was found to be breaking loose at the classroom 12. The ACM should be removed. Refer to O&M Plan for recommended procedures. Approximately 2 square feet was found to be damaged.
- White/grey 12” x 12” vinyl floor tile was assumed to contain asbestos. The ACM was found to be damaged at the classrooms 23, 25, 26, 18, 19 and 20. The ACM should be removed. Refer to O&M Plan for recommended procedures. Approximately 60 square feet was found to be damaged.
- All remaining ACM was found to be in good condition.
- Refer to the original management plan and previous inspection reports for suspect materials previously sampled.

7.0 DATES FOR RECOMMENDED RESPONSE ACTIONS:

Most ACM in the building were found to be in good condition. Continue O&M activities and insure that no ACM is being disturbed. Remove ACM as needed. The damaged ACM should be either repaired or removed starting February 1, 2022 and completed by August 30, 2022.

8.0 MATERIALS FOUND NOT TO CONTAIN ASBESTOS

The following suspect materials were found not to contain asbestos:

2’ x 4’ Acoustical ceiling tile.
Wall joint compound.
Wall sheetrock.
Smooth wall plaster.
Smooth ceiling plaster.
Rough wall plaster.
Walk-in freezer glue and paper.


INSTITUTE FOR
ENVIRONMENTAL
EDUCATION
This is to certify that
Steve J. Zarba Sr.
has attended the 8-hour course
Asbestos Coordinator/ LEA Designated Person
Course Location
Institute for Environmental Education
16 Upton Drive Wilmington, MA 01887
February 12, 2018
Course Dates
18-1109-107-269835
Certificate Number
1991
Training Director

Record Keeping Review

	LEA (Yes/No)	UEC (Yes/No)	Comments
Designated Person Statement: Is the report signed and also includes the LEA Designated Person information and training documentations.	_____	No	
Training Documentation: Have all custodial and maintenance personnel received two-hour awareness training.	_____	No	LEA was informed that training is required.
Annual Notifications: Has the LEA posted or provided the annual notifications. If so, how.	_____	No	LEA was informed that Notifications is required. Copy is attached.
Periodic Surveillance: Are dated copies in the plan for each 6-month surveillance inspection.	_____	No	UEC will be performing all future surveillance inspections.
Outside Contractors: Does the LEA notify outside vendors that asbestos is present? Method used.	_____	No	LEA Shall use form found in the O&M Plan for Notifications.
Response Action Records: For any asbestos abatement in the last 3 years, are response action records included in the plan (Refer to the checklist or record).	_____	No	LEA shall keep all logs within the AHERA Plan.
Bulk Sample Reports: Are laboratory reports included for any suspect ACM that is not assumed ACM? Does the chain of custody list type and location of the suspect material sampled?	Yes	Yes	
Management Plan/Third Year Re-Inspection Report: Is a copy located in each school office and the LEA office.	_____	No	LEA shall place one copy at the office of the principal.
Warning Signs: Are warning signs posted in routine maintenance and storage areas where ACM is present.	_____	No	
Architect Statement: Is the architect statement present for any new construction, renovation or addition.	N/A	N/A	

Comments:

_____

_____

LEA DESIGNATED PERSON RESPONSIBILITY

The LEA shall be responsible for the following:

1. Arranging and coordinating training for all faculty and staff with annual updates for new personnel.
2. Arranging for abatement procedures called for in the abatement recommended actions.
3. Complying with all state, OSHA, or EPA rules or regulations regarding asbestos abatement activities.
4. Routine maintenance activities by in-house personnel.
5. Coordinating and overseeing work done by outside contractors if the possibility exists that ACBM can be disturbed by this work.
6. Establishment of a respiratory protection program for "Asbestos Maintenance" in accordance with OSHA recommendations.
7. Procurement and maintenance of specialized equipment and supplies needed for implementation of this plan.
8. Monitoring of all asbestos containing materials in the building.
9. Ensure that all asbestos waste generated at the school is packaged, transported, and disposed of in accordance with EPA requirements and that the necessary chain of custody documentation is maintained.
10. Warnings, notifications, and record keeping as outlined in U.S. EPA Regulations 40 CFR Part 763.
11. Maintenance of all medical records required by OSHA for any school employees involved in in-house repair or removal of ACBM.
12. Updating existing management program every six months.
13. Labeling Asbestos Containing Building Materials.

A. RESOURCES NEEDED:

EQUIPMENT:

- HEPA vacuum
- Half-face respirator
- Emergency repair tool kit
- Disposable type suits
- 6-mil polyethylene sheeting
- Asbestos labeled bags

SUPPORT PERSONNEL:

- Licensed Consultant
- Trained Maintenance Personnel

B. NOTIFICATION:

The LEA is responsible for informing all building occupants annually of the asbestos control program at the school. Notification serves two purposes: It alerts affected parties to a potential hazard in the building; and it provides basic information on avoiding the hazard. Building occupants, employees, and others who are aware of the presence of ACBM are less likely to disturb the material and cause fiber release. It is recommended to post in the school's web site.

C. PERIODIC SURVEILLANCE:

At least once every six months, the LEA or his/her designee will conduct periodic surveillance in each building that contains asbestos-containing thermal system insulation. Each person performing periodic surveillance shall:

1. Visually inspect all areas that have been identified as ACBM

2. Record the data of the surveillance, his or her name, and any changes in the condition of ACBM
3. Submit to the Asbestos Control Manager a copy of such a record or report for inclusion into the management plan or permanent asbestos file

D. RE-INSPECTION:

1. Re-inspection of friable and non-friable ACBM every three years
2. Inspection by an accredited inspector
3. Re-inspection shall include:
   A. Visual re-inspection of all friable ACBM and newly friable ACBM
   B. Re-assessment of all friable ACBM
   C. Recheck all previously non-friable ACBM to determine if they have become friable
   D. Identify newly friable materials
   E. Collect and submit samples of newly friable ACBM if previously assumed to be ACBM
   F. Assess under 763.88, newly friable ACBM
   G. Reassess condition of previously identified friable ACBM
   H. Record and submit:
      1. Re-inspection report
      2. Inventory of homogeneous areas. Exact sample site locations
      3. Description of manner used to determine sample site locations

E. RECORDKEEPING:

The O&M plan contains the specifications and forms for keeping records regarding any repair or removal work involving ACBM. The record keeping procedure assures that:

1. Major repair work carried out by outside contractor is documented
2. Minor repair work by qualified in-house worker is documented
3. Monitoring of remaining asbestos is recorded
4. Personnel records for training and medical monitoring are kept

In general, this record keeping system must track two types of data: data on the physical condition of the ACBM's and actions taken on those ACBM's; the data associated with the personnel involved with the asbestos management program.

Tracking of the ACBM's maybe thought of as the tracking of physical inventory. The condition of the material recorded at intervals (record of the inspection and surveillance), that recording of substantive changes in material status (removal, enclosure or encapsulation), various required reports to governing bodies (notices of abatement and disposal actions to the EPA) and the recording of a new audited inventory in the context of the 3-year re-inspection.

Personnel tracking require: identity; training; medical monitoring; and exposure of the individual to be recorded on a form (which is to be on file for a period of at least 30 years). The following record formats and descriptions are intended as generalized basic examples of the type of records required for daily use.

LIST OF REQUIRED RECORDKEEPING (763.94)

1. Records location
   A. Removal records retention
   B. Records as part of the management plan

2. For each preventive measure:
    A. Detailed written description of measure or action including,
        1. Location of measure or action
        2. Methods used
        3. Reasons for selecting the measure of action
        4. Name and addresses of all contractors involved
    B. Identification of person taking clearance air samples
        1. Locations where samples were collected
        2. Date of collection
        3. Name and address of analysis lab
        4. Date of analysis
        5. Method of analysis
        6. Name and signature of person performing the analysis
        7. Statement that lab meets 763 .90(1) (2) (ii)
3. For each person required to be trained under 763.92(a) (1) and (2):
        A. Name and job title.
        B. Date training completed
        C. Location of training
        D. Hours of training
4. For each periodic surveillance under 763 .91 (c):
        A. Name of person performing surveillance
        B. Date of surveillance
        C. Any changes in the conditions of materials
5. For each cleaning under 763.91(d):
        A. Name of each person performing cleaning
        B. State and completion dates
        C. Locations
        D. Description of activity
        E. Method of used
6. For each time an O&M activity is performed under 763.91(d):
        A. Name of each person performing activity
        B. State and completion dates
        C. Locations
        D. Description of activity
        E. Measure used
        F. Locations of storage/disposal site
7. For each time that a major asbestos activity under 763.9 1(a) is performed:
        A. Name, signature, state of accreditation, number of persons performing activities.
        B. Start and completion dates,
        C. Locations and description of activity.
        D. Methods used.
        E. Location of storage disposal site.
        F. Results of any air sampling analysis performed.
8. For each fiber release episode under 763.91(f):
        A. Date and location of the episode,
        B. Method of repair,
        C. Preventive measures taken.
        D. Name of each person performing work.
        E. Location of storage/disposal site.

THIRD YEAR RE-INSPECTION SPREADSHEETS

The regulations require that this report provide a considerable quantity of specific data related to asbestos containing materials within buildings. The information contained in these spreadsheets provides a condensed, easy to use summary of much of that data. It indicates whether or not the various building materials contain asbestos. If they do, the spreadsheets indicate where the asbestos is located, what kind of asbestos it is, and most importantly, what actions are recommended to be taken. The measures include both scheduled action by asbestos abatement contractors as well as day to day activities by the building's custodial and maintenance personnel.

You should find these spreadsheets easy to use and very helpful. To assist you in its use, the following pages provide column by column explanations of the spreadsheets.

HOMOGENEOUS AREA:
This column defines the various homogeneous areas throughout the building. It is important that you understand the concept of a homogeneous area. It is really very simple. By definition a homogeneous area is one in which the materials, are evenly mixed and similar in appearance and texture throughout. All that means is that the materials appear to be the same. Therefore, during the survey, all the materials throughout the school that appeared to be the same were grouped into homogeneous areas. For example, a given building may have had a white, speckled 2' x 2' suspended ceiling in several of the classrooms. Therefore, one homogeneous area was described as 2' x 2' suspended ceiling and its area was comprised of every school classroom in which that suspended ceiling was present. Another example is hard joints on pipe insulation. Generally, hard, joints on pipe insulation are similar in texture and appearance. Therefore, all joints on a particular type of pipe were considered one homogeneous area.

As you can see a homogeneous area is just the means by which similar materials are grouped. The importance of the homogeneous area is that it provides a method to determine whether or not a material contains asbestos without having to sample every building material in every room. When homogeneous areas have been defined, representative samples of that material are taken and tested to determine whether or not they contain asbestos. Based on those test results, it can logically be presumed whether or not all the material in a given homogeneous area does or does not contain asbestos.

Turning to the spreadsheet you will see that in the first column each homogeneous area is assigned a number starting with 1. The number of homogeneous areas in each building will vary depending on how many types of building materials there are.

DESCRIPTION:
This column provides a brief description of what each homogeneous area is and lists all the areas within the building in which that material is present. For example, a description of one homogeneous area may be "Joint Insulation". Then under that description, will be a listing of all the rooms in the school in which that joint insulation is present.

SAMPLE NUMBER:
This column is for the sample number. The number is comprised of three numbers divided by dashes. The first number identifies the date the sample was taken. The second number identifies the each individual sample number taken in the specific building. For each homogeneous area, the sample numbers are listed only in the rooms where actual samples were taken. For all the other rooms within a homogeneous area where there is no sample number listed, there was no sample taken. However, because the materials are in the same homogeneous area, it is assumed that the materials are similar.

ASBESTOS TYPE:
If there is asbestos present, this column defines the percentage of asbestos and the type asbestos. These are defined by a number and a four letter abbreviation. The number is the percentage of asbestos and the four letter abbreviation represents the type of asbestos. In the lower left hand corner of each spreadsheet there is a legend

which explains what each abbreviation stands for. For example, CHRY stands for Chrysotile. If no asbestos was found in the sample, "0%" or "ND" is listed in the column. Please note that only the specific samples taken indicate the type and percentage of asbestos. For all other areas within a homogeneous area where no specific sample was taken, the material is either assumed positive or negative based on the results of the actual samples.

MATERIAL:
The next three columns describe the material by the following criteria:
Type:
This column identifies the type of material as "S" for Surfacing, "T" for Thermal or "M" for Miscellaneous. Surfacing materials include such items as acoustical spray, wall and ceiling plaster, and spray on fireproofing. Thermal materials include such items as hard joints, boiler insulation, and duct insulation. Miscellaneous materials include such items as suspended acoustical tile and vinyl floor tile.
Location:
This column places the location of the sample into two broad categories. Either "AC" for above ceiling or "BC" for below the ceiling;
Quantity:
This column represents the quantity of material present. In the case of pipe insulation the quantity is linear feet. In case of hard joints the quantity is for each joint.

FRIABILITY:
If a material contains asbestos, this column indicates whether the material is friable or non-friable. A friable material is one that contains 1% or more of asbestos by weight and can be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable materials are all other types of asbestos containing materials.

It is important to remember that the danger of asbestos is when the fibers become airborne. Therefore, the friable asbestos is potentially more dangerous than the non-friable asbestos. In this column each material containing asbestos is defined by "F" for friable or "NF" for non-friable.

AHERA ASSESSMENT CATEGORIES:
This column indicates the assessments made in accordance with EPA guidelines.

RECOMMENDATIONS:
This column indicates the recommended action and dates to complete the work (if needed).

AHERA ASSESSMENT CATEGORIES

CATEGORY 1	Damaged or significantly damaged thermal system insulation ACM
CATEGORY 2	Damaged friable surfacing ACM
CATEGORY 3	Significantly damaged friable surfacing ACM
CATEGORY 4	Damaged or significantly damaged friable miscellaneous ACM
CATEGORY 5	ACBM with potential for damage
CATEGORY 6	ACBM with potential for significant damage
CATEGORY 7	Any remaining friable ACBM or friable suspected ACBM

6-MONTH SURVEILLANCE

INFORMATION

NAME: _____

CONSULTING FIRM/LEA: _____

ACCREDITATION NUMBER (If Applicable): _____

I certify that I have performed a surveillance inspection of the said building in accordance with AHERA regulations 40 CFR Part 763.

SIGNATURE: _____

DATE: _____

COMMENTS: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

12-MONTH SURVEILLANCE

INFORMATION

NAME: _____

CONSULTING FIRM/LEA: _____

ACCREDITATION NUMBER (If Applicable): _____

I certify that I have performed a surveillance inspection of the said building in accordance with AHERA regulations 40 CFR Part 763.

SIGNATURE: _____

DATE: _____

COMMENTS: _____

18-MONTH SURVEILLANCE

INFORMATION

NAME: _____

CONSULTING FIRM/LEA: _____

ACCREDITATION NUMBER (If Applicable): _____

I certify that I have performed a surveillance inspection of the said building in accordance with AHERA regulations 40 CFR Part 763.

SIGNATURE: _____

DATE: _____

COMMENTS: _____

24-MONTH SURVEILLANCE

INFORMATION

NAME: _____

CONSULTING FIRM/LEA: _____

ACCREDITATION NUMBER (If Applicable): _____

I certify that I have performed a surveillance inspection of the said building in accordance with AHERA regulations 40 CFR Part 763.

SIGNATURE: _____

DATE: _____

COMMENTS: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

30-MONTH SURVEILLANCE

INFORMATION

NAME: _____

CONSULTING FIRM/LEA: _____

ACCREDITATION NUMBER (If Applicable): _____

I certify that I have performed a surveillance inspection of the said building in accordance with AHERA regulations 40 CFR Part 763.

SIGNATURE: _____

DATE: _____

COMMENTS: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

FOX HILL ELEMENTARY SCHOOL

HOM. AREA	DESCRIPTION	SAMPLE DATE	ASBESTOS (Y/N/A)	DAM	QUANTITY	FRIABLE	2021 ASSESSMENT 40 CFR 763.88	RESPONSE ACTION START/END DATES	SPECIAL CLEANING NEEDED	TYPE OF DAMAGE	RECOMMENDATIONS REFER TO REPORT FOR DATES AND COST ESTIMATES
1	**WHITE/LIGHT BROWN 12" x 12" VINYL FLOOR TILE**										
	POD-2		A	N	1,500 SF	NF	5		N		GOOD CONDITION - O&M
	POD-3			N	1,500 SF	NF	5		N		GOOD CONDITION - O&M
	POD-4			N	1,500 SF	NF	5		N		GOOD CONDITION - O&M
	CAFETERIA			N	3,100 SF	NF	5		N		GOOD CONDITION - O&M
	MCAS			N	50 SF	NF	5		N		GOOD CONDITION - O&M
	HALLWAY ALONG GYMNASIUM			N	800 SF	NF	5		N		GOOD CONDITION - O&M
2	**MASTIC FOR WHITE/LIGHT BROWN 12" x 12" VINYL FLOOR TILE**										
	POD-2		A	N	1,500 SF	NF	5		N		GOOD CONDITION - O&M
	POD-3			N	1,500 SF	NF	5		N		GOOD CONDITION - O&M
	POD-4			N	1,500 SF	NF	5		N		GOOD CONDITION - O&M
	CAFETERIA			N	3,100 SF	NF	5		N		GOOD CONDITION - O&M
	MCAS			N	50 SF	NF	5		N		GOOD CONDITION - O&M
	HALLWAY ALONG GYMNASIUM			N	800 SF	NF	5		N		GOOD CONDITION - O&M
3	**WHITE/GREY 12" x 12" VINYL FLOOR TILE**										
	POD-1		A	N	1,500 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 1			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 2			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 3			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 4			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 5			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 6			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 7			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	HALLWAYS ALONG LIBRARY DOWN TO POD-2			N	1,200 SF	NF	5		N		GOOD CONDITION - O&M
	LIBRARY OFFICE			N	60 SF	NF	5		N		GOOD CONDITION - O&M
	POD-2 BATHROOM			N	160 SF	NF	5		N		GOOD CONDITION - O&M
4	**MASTIC FOR WHITE/GREY 12" x 12" VINYL FLOOR TILE**										
	POD-1		A	N	1,500 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 1			N	900 SF	NF	5		N		GOOD CONDITION - O&M

ASBESTOS TYPE
CHRY Chrysotile
AMOS Amosite
ACTI Actinolite
ANTH Anthophyllite
CROC Crocidolite
NA/PS Not Analyzed/Positive Stop
ND No Asbestos Detected

QUANTITY
SF Square Feet
LF Linear Feet
EA Each
TO Total

TYPE OF MATERIAL
M Miscellaneous
S Surfacing
T Thermal

ASBESTOS
Y Yes
N No
A Assumed

NOTES
HV - HEPA VACCUUM
2X/WK TWICE PER WEEK

(1) Damaged or significantly damaged thermal system insulation ACM.
(2) Damaged friable surfacing ACM.
(3) Significantly damaged friable surfacing ACM.
(4) Damaged or significantly damaged friable miscellaneous ACM.
(5) ACBM with potential for damage.
(6) ACBM with potential for significant damage.
(7) Any remaining friable ACBM or friable suspected ACBM.

FOX HILL ELEMENTARY SCHOOL

HOM. AREA	DESCRIPTION	SAMPLE DATE	ASBESTOS (Y/N/A)	DAM	QUANTITY	FRIABLE	2021 ASSESSMENT 40 CFR 763.88	RESPONSE ACTION START/END DATES	SPECIAL CLEANING NEEDED	TYPE OF DAMAGE	RECOMMENDATIONS REFER TO REPORT FOR DATES AND COST ESTIMATES
4	**MASTIC FOR WHITE/GREY 12" x 12" VINYL FLOOR TILE**										
	CLASSROOM 2		A	N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 3			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 4			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 5			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 6			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 7			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	HALLWAYS ALONG LIBRARY DOWN TO POD-2			N	1,200 SF	NF	5		N		GOOD CONDITION - O&M
	LIBRARY OFFICE			N	60 SF	NF	5		N		GOOD CONDITION - O&M
	POD-2 BATHROOM			N	160 SF	NF	5		N		GOOD CONDITION - O&M
5	**GREY 12" x 12" VINYL FLOOR TILE**										
	CUSTODIAN OFFICE		A	N	150 SF	NF	5		N		GOOD CONDITION - O&M
	POD-2 STORAGE			N	100 SF	NF	5		N		GOOD CONDITION - O&M
	POD-1 STORAGE			N	80 SF	NF	5		N		GOOD CONDITION - O&M
	POD-3 STORAGE-1			N	100 SF	NF	5		N		GOOD CONDITION - O&M
	POD-3 STORAGE-2			N	60 SF	NF	5		N		GOOD CONDITION - O&M
6	**MASTIC FOR GREY 12" x 12" VINYL FLOOR TILE**										
	CUSTODIAN OFFICE		A	N	150 SF	NF	5		N		GOOD CONDITION - O&M
	POD-2 STORAGE			N	100 SF	NF	5		N		GOOD CONDITION - O&M
	POD-1 STORAGE			N	80 SF	NF	5		N		GOOD CONDITION - O&M
	POD-3 STORAGE-1			N	100 SF	NF	5		N		GOOD CONDITION - O&M
	POD-3 STORAGE-2			N	60 SF	NF	5		N		GOOD CONDITION - O&M
7	**OFF-WHITE/GREY 12" x 12" VINYL FLOOR TILE**										
	CLASSROOM 10		A	N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 11			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 12			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 12			**Y**	**2 SF**	**F**	**4**	**2/1/22-8/30/22**	**HV-WET CLEAN 1X/WK**	**LOOSE**	**REMOVE/REPLACE-MONITOR-O&M**
	CLASSROOM 13			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 14			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 15			N	900 SF	NF	5		N		GOOD CONDITION - O&M

ASBESTOS TYPE
CHRY Chrysotile
AMOS Amosite
ACTI Actinolite
ANTH Anthophyllite
CROC Crocidolite
NA/PS Not Analyzed/Positive Stop
ND No Asbestos Detected

QUANTITY
SF Square Feet
LF Linear Feet
EA Each
TO Total

TYPE OF MATERIAL
M Miscellaneous
S Surfacing
T Thermal

ASBESTOS
Y Yes
N No
A Assumed

NOTES
HV - HEPA VACCUUM
2X/WK TWICE PER WEEK

(1) Damaged or significantly damaged thermal system insulation ACM.
(2) Damaged friable surfacing ACM.
(3) Significantly damaged friable surfacing ACM.
(4) Damaged or significantly damaged friable miscellaneous ACM.
(5) ACBM with potential for damage.
(6) ACBM with potential for significant damage.
(7) Any remaining friable ACBM or friable suspected ACBM.

FOX HILL ELEMENTARY SCHOOL

HOM. AREA	DESCRIPTION	SAMPLE DATE	ASBESTOS (Y/N/A)	DAM	QUANTITY	FRIABLE	2021 ASSESSMENT 40 CFR 763.88	RESPONSE ACTION START/END DATES	SPECIAL CLEANING NEEDED	TYPE OF DAMAGE	RECOMMENDATIONS REFER TO REPORT FOR DATES AND COST ESTIMATES
7	**OFF-WHITE/GREY 12" x 12" VINYL FLOOR TILE**										
	CLASSROOM 16		A	N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 21			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 22			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 27			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 28			N	900 SF	NF	5		N		GOOD CONDITION - O&M
8	**MASTIC FOR OFF-WHITE/GREY 12" x 12" VINYL FLOOR TILE**										
	CLASSROOM 10		A	N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 11			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 12			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 13			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 14			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 15			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 16			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 21			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 22			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 27			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 28			N	900 SF	NF	5		N		GOOD CONDITION - O&M
9	**LIME 12" x 12" VINYL FLOOR TILE**										
	CLASSROOM 9		A	N	900 SF	NF	5		N		GOOD CONDITION - O&M
10	**MASTIC FOR LIME 12" x 12" VINYL FLOOR TILE**										
	CLASSROOM 9		A	N	900 SF	NF	5		N		GOOD CONDITION - O&M
11	**WHITE/GREY STREAKS 12" x 12" VINYL FLOOR TILE**										
	CLASSROOM 8		A	N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 23			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 23			**Y**	**20 SF**	**F**	**4**	**2/1/22-8/30/22**	**HV-WET CLEAN 1X/WK**	**LIFTING CORNERS**	**REMOVE/REPLACE-MONITOR-O&M**

ASBESTOS TYPE
CHRY Chrysotile
AMOS Amosite
ACTI Actinolite
ANTH Anthophyllite
CROC Crocidolite
NA/PS Not Analyzed/Positive Stop
ND No Asbestos Detected

QUANTITY
SF Square Feet
LF Linear Feet
EA Each
TO Total

TYPE OF MATERIAL
M Miscellaneous
S Surfacing
T Thermal

ASBESTOS
Y Yes
N No
A Assumed

NOTES
HV - HEPA VACCUUM
2X/WK TWICE PER WEEK

(1) Damaged or significantly damaged thermal system insulation ACM.
(2) Damaged friable surfacing ACM.
(3) Significantly damaged friable surfacing ACM.
(4) Damaged or significantly damaged friable miscellaneous ACM.
(5) ACBM with potential for damage.
(6) ACBM with potential for significant damage.
(7) Any remaining friable ACBM or friable suspected ACBM.

FOX HILL ELEMENTARY SCHOOL

HOM. AREA	DESCRIPTION	SAMPLE DATE	ASBESTOS (Y/N/A)	DAM	QUANTITY	FRIABLE	2021 ASSESSMENT 40 CFR 763.88	RESPONSE ACTION START/END DATES	SPECIAL CLEANING NEEDED	TYPE OF DAMAGE	RECOMMENDATIONS REFER TO REPORT FOR DATES AND COST ESTIMATES
11	**WHITE/GREY STREAKS 12" x 12" VINYL FLOOR TILE**										
	CLASSROOM 24		A	N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 25			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 25			**Y**	**10 SF**	**F**	**4**	**2/1/22-8/30/22**	**HV-WET CLEAN 1X/WK**	**BROKEN**	**REMOVE/REPLACE-MONITOR-O&M**
	CLASSROOM 26			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 26			**Y**	**15 SF**	**F**	**4**	**2/1/22-8/30/22**	**HV-WET CLEAN 1X/WK**	**BROKEN**	**REMOVE/REPLACE-MONITOR-O&M**
	CLASSROOM 17			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 18			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 18			**Y**	**5 SF**	**F**	**4**	**2/1/22-8/30/22**	**HV-WET CLEAN 1X/WK**	**BROKEN**	**REMOVE/REPLACE-MONITOR-O&M**
	CLASSROOM 19			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 19			**Y**	**5 SF**	**F**	**4**	**2/1/22-8/30/22**	**HV-WET CLEAN 1X/WK**	**BROKEN**	**REMOVE/REPLACE-MONITOR-O&M**
	CLASSROOM 20			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 20			**Y**	**5 SF**	**F**	**4**	**2/1/22-8/30/22**	**HV-WET CLEAN 1X/WK**	**BROKEN**	**REMOVE/REPLACE-MONITOR-O&M**
	POD-4 STORAGE			N	60 SF	NF	5		N		GOOD CONDITION - O&M
	STAGE SIDE ENTRANCE			N	12 SF	NF	5		N		GOOD CONDITION - O&M
12	**MASTIC FOR WHITE/GREY STREAKS 12" x 12" VINYL FLOOR TILE**										
	CLASSROOM 8		A	N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 23			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 24			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 25			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 26			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 17			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 18			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 19			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM 20			N	900 SF	NF	5		N		GOOD CONDITION - O&M
	POD-4 STORAGE			N	60 SF	NF	5		N		GOOD CONDITION - O&M
	STAGE SIDE ENTRANCE			N	12 SF	NF	5		N		GOOD CONDITION - O&M
13	**TAN/BROWN 12" x 12" VINYL FLOOR TILE**										
	LIBRARY WORKROOM		A	N	60 SF	NF	5		N		GOOD CONDITION - O&M
	KITCHEN BATHROOM			N	60 SF	NF	5		N		GOOD CONDITION - O&M
	KITCHEN OFFICE			N	60 SF	NF	5		N		GOOD CONDITION - O&M
	TEACHER'S ROOM			N	120 SF	NF	5		N		GOOD CONDITION - O&M

ASBESTOS TYPE
CHRY Chrysotile
AMOS Amosite
ACTI Actinolite
ANTH Anthophyllite
CROC Crocidolite
NA/PS Not Analyzed/Positive Stop
ND No Asbestos Detected

QUANTITY
SF Square Feet
LF Linear Feet
EA Each
TO Total

TYPE OF MATERIAL
M Miscellaneous
S Surfacing
T Thermal

ASBESTOS
Y Yes
N No
A Assumed

NOTES
HV - HEPA VACCUUM
2X/WK TWICE PER WEEK

(1) Damaged or significantly damaged thermal system insulation ACM.
(2) Damaged friable surfacing ACM.
(3) Significantly damaged friable surfacing ACM.
(4) Damaged or significantly damaged friable miscellaneous ACM.
(5) ACBM with potential for damage.
(6) ACBM with potential for significant damage.
(7) Any remaining friable ACBM or friable suspected ACBM.

FOX HILL ELEMENTARY SCHOOL

HOM. AREA	DESCRIPTION	SAMPLE DATE	ASBESTOS (Y/N/A)	DAM	QUANTITY	FRIABLE	2021 ASSESSMENT 40 CFR 763.88	RESPONSE ACTION START/END DATES	SPECIAL CLEANING NEEDED	TYPE OF DAMAGE	RECOMMENDATIONS REFER TO REPORT FOR DATES AND COST ESTIMATES
14	**MASTIC FOR TAN/BROWN 12" x 12" VINYL FLOOR TILE**										
	LIBRARY WORKROOM		A	N	60 SF	NF	5		N		GOOD CONDITION - O&M
	KITCHEN BATHROOM			N	60 SF	NF	5		N		GOOD CONDITION - O&M
	KITCHEN OFFICE			N	60 SF	NF	5		N		GOOD CONDITION - O&M
	TEACHER'S ROOM			N	120 SF	NF	5		N		GOOD CONDITION - O&M
15	**INTERIOR WINDOW CAULKING**										
	LIBRARY		A	N	6 EA	NF	5		N		GOOD CONDITION - O&M
	CAFETERIA			N	8 EA	NF	5		N		GOOD CONDITION - O&M
	LOBBY HALLS			N	10 EA	NF	5		N		GOOD CONDITION - O&M
	POD-1 HALLS			N	10 EA	NF	5		N		GOOD CONDITION - O&M
	POD-2 HALLS			N	10 EA	NF	5		N		GOOD CONDITION - O&M
	POD-3 HALLS			N	10 EA	NF	5		N		GOOD CONDITION - O&M
	POD-4 HALLS			N	10 EA	NF	5		N		GOOD CONDITION - O&M
16	**INTERIOR DOOR CAULKING**										
	CAFETERIA		A	N	8 EA	NF	5		N		GOOD CONDITION - O&M
	LIBRARY			N	1 EA	NF	5		N		GOOD CONDITION - O&M
	HALLWAY BY GYMNASIUM			N	8 EA	NF	5		N		GOOD CONDITION - O&M
	LOBBY			N	4 EA	NF	5		N		GOOD CONDITION - O&M
	CLASSROOM ENTRANCE DOORS			N	28 EA	NF	5		N		GOOD CONDITION - O&M
	POD-1			N	7 EA	NF	5		N		GOOD CONDITION - O&M
	POD-2			N	7 EA	NF	5		N		GOOD CONDITION - O&M
	POD-3			N	7 EA	NF	5		N		GOOD CONDITION - O&M
	POD-4			N	7 EA	NF	5		N		GOOD CONDITION - O&M
17	**DUCT INSULATION**										
	BOILER ROOM		A	N	230 SF	NF	5		N		GOOD CONDITION - O&M
18	**TANK INSULATION**										
	BOILER ROOM		A	N	100 SF	NF	5		N		GOOD CONDITION - O&M

ASBESTOS TYPE
CHRY Chrysotile
AMOS Amosite
ACTI Actinolite
ANTH Anthophyllite
CROC Crocidolite
NA/PS Not Analyzed/Positive Stop
ND No Asbestos Detected

QUANTITY
SF Square Feet
LF Linear Feet
EA Each
TO Total

TYPE OF MATERIAL
M Miscellaneous
S Surfacing
T Thermal

ASBESTOS
Y Yes
N No
A Assumed

NOTES
HV - HEPA VACCUUM
2X/WK TWICE PER WEEK

(1) Damaged or significantly damaged thermal system insulation ACM.
(2) Damaged friable surfacing ACM.
(3) Significantly damaged friable surfacing ACM.
(4) Damaged or significantly damaged friable miscellaneous ACM.
(5) ACBM with potential for damage.
(6) ACBM with potential for significant damage.
(7) Any remaining friable ACBM or friable suspected ACBM.

FOX HILL ELEMENTARY SCHOOL

HOM. AREA	DESCRIPTION	SAMPLE DATE	ASBESTOS (Y/N/A)	DAM	QUANTITY	FRIABLE	2021 ASSESSMENT 40 CFR 763.88	RESPONSE ACTION START/END DATES	SPECIAL CLEANING NEEDED	TYPE OF DAMAGE	RECOMMENDATIONS REFER TO REPORT FOR DATES AND COST ESTIMATES
19	**HARD JOINT INSULATION**										
	BOILER ROOM		A	N	53 EA	NF	5		N		GOOD CONDITION - O&M
	KITCHEN WASH ROOM			N	9 EA	NF	5		N		GOOD CONDITION - O&M
	EXTERIOR STORAGE ROOM			N	3 EA	NF	5		N		GOOD CONDITION - O&M
20	**2' X 4' SUSPENDED ACOUSTICAL CEILING TILE**										
	POD-1	7/24/2017	N	N	7,000 SF						
	POD-2			N	7,000 SF						
	POD-3			N	7,000 SF						
	POD-4			N	7,000 SF						
	HALL ALONG GYMNASIUM	10/23/2018	N	N	1,200 SF						
	LOBBY HALL			N	1,200 SF						
	HALL ALONG LIBRARY			N	1,200 SF						
	CAFETERIA			N	3,700 SF						
	LIBRARY OFFICES			N	180 SF						
	NON-POD BATHROOMS			N	600 SF						
	GENERATOR ROOM			N	200 SF						
	LIBRARY			N	1,300 SF						
21	**JOINT COMPOUND**										
	CLASSROOM 7	10/23/2018	N	N	400 SF						
	PE OFFICE			N	200 SF						
	ADMINISTRATION			N	1,500 SF						
	KITCHEN OFFICE			N	700 SF						
22	**SHEETROCK**										
	CLASSROOM 7	10/23/2018	N	N	400 SF						
	PE OFFICE			N	200 SF						
	ADMINISTRATION			N	1,500 SF						
	KITCHEN OFFICE			N	700 SF						
23	**ROUGH CEILING PLASTER**										
	BOILER ROOM	10/23/2018	N	N	850 SF						

ASBESTOS TYPE
CHRY Chrysotile
AMOS Amosite
ACTI Actinolite
ANTH Anthophyllite
CROC Crocidolite
NA/PS Not Analyzed/Positive Stop
ND No Asbestos Detected

QUANTITY
SF Square Feet
LF Linear Feet
EA Each
TO Total

TYPE OF MATERIAL
M Miscellaneous
S Surfacing
T Thermal

ASBESTOS
Y Yes
N No
A Assumed

NOTES
HV - HEPA VACCUUM
2X/WK TWICE PER WEEK

(1) Damaged or significantly damaged thermal system insulation ACM.
(2) Damaged friable surfacing ACM.
(3) Significantly damaged friable surfacing ACM.
(4) Damaged or significantly damaged friable miscellaneous ACM.
(5) ACBM with potential for damage.
(6) ACBM with potential for significant damage.
(7) Any remaining friable ACBM or friable suspected ACBM.

FOX HILL ELEMENTARY SCHOOL

HOM. AREA	DESCRIPTION	SAMPLE DATE	ASBESTOS (Y/N/A)	DAM	QUANTITY	FRIABLE	2021 ASSESSMENT 40 CFR 763.88	RESPONSE ACTION START/END DATES	SPECIAL CLEANING NEEDED	TYPE OF DAMAGE	RECOMMENDATIONS REFER TO REPORT FOR DATES AND COST ESTIMATES
24	**SMOOTH WALL/CEILING PLASTER**										
	CAFETERIA	10/23/2018	N	N	2,000 SF						
25	**KILN**										
	BOILER ROOM		A	N	2 EA	NF	5		N		GOOD CONDITION - O&M
26	**WALK-IN FREEZERS**										
	KITCHEN	2/2/2018	N	N	1 EA						
27	**WHITE/GREEN 12" X 12" VINYL FLOOR TILE**										
	OT/PT ROOM		A	N	400 SF	NF	5		N		GOOD CONDITION - O&M
28	**MASTIC FOR WHITE/GREEN 12" X 12" VINYL FLOOR TILE**										
	OT/PT ROOM		A	N	400 SF	NF	5		N		GOOD CONDITION - O&M
29	**BLACK SINK COATING**										
	CLASSROOMS 1-28		A	N	28 EA	NF	5		N		GOOD CONDITION - O&M

ASBESTOS TYPE
CHRY Chrysotile
AMOS Amosite
ACTI Actinolite
ANTH Anthophyllite
CROC Crocidolite
NA/PS Not Analyzed/Positive Stop
ND No Asbestos Detected

QUANTITY
SF Square Feet
LF Linear Feet
EA Each
TO Total

TYPE OF MATERIAL
M Miscellaneous
S Surfacing
T Thermal

ASBESTOS
Y Yes
N No
A Assumed

NOTES
HV - HEPA VACCUUM
2X/WK TWICE PER WEEK

(1) Damaged or significantly damaged thermal system insulation ACM.
(2) Damaged friable surfacing ACM.
(3) Significantly damaged friable surfacing ACM.
(4) Damaged or significantly damaged friable miscellaneous ACM.
(5) ACBM with potential for damage.
(6) ACBM with potential for significant damage.
(7) Any remaining friable ACBM or friable suspected ACBM.

Number	DESCRIPTION
	NOTES
1	**DAMAGED ACM WAS FOUND DURING A REINSPECTION. THE FOLLOWING NUMERICAL CONTENT NOTES ARE ONLY RECOMMENDATIONS ON HOW TO REPAIR THE DAMAGED NON-FRIABLE ASBESTOS CONTAINING MATERIALS ON A TEMPORARY MEASURE. PLEASE CONSULT A LICENSED ASBESTOS ABATEMENT CONTRACTOR TO PROPERLY REPAIR OR REMOVE BY THE INDICATED DATE SHOWN ON THE RESPONSE ACTION COLUMN OF THIS REPORT.** *1 IF FLOOR TILES ARE DAMAGED OR LOOSE, COVER WITH A MATERIAL WHICH INCLUDES BUT IS NOT LIMITED TO CARPET, WOOD OR SIMILAR DURABLE MATERIAL AS AN INTERIM CONTROL MEASURE AS TO NOT CAUSE A TRIPPING HAZARD ON THE REMAINING FLOOR. USE A MATERIAL SUCH AS PAINTER'S TAPE TO SECURELY HOLD DOWN THE MATERIAL TO THE FLOOR WITHOUT FURTHER DAMAGING THE SURROUNDING ACM TILES. *2 IF MISSING TILES ARE PRESENT, A QUALIFIED TRAINED PERSON COULD ENCAPSULATE THE AREA USING A COMPOUND INCLUDING BUT NOT LIMITED TO A FLOOR LEVELER TO TEMPORARILY REPAIR THE CONDITION UNTIL A PERMANENT REPAIR OR REMOVAL CAN BE DONE. *3 IF MISSING TILES ARE PRESENT, A QUALIFIED TRAINED PERSON COULD INSTALL A NON ASBESTOS CONTAINING VINYL FLOOR TILE TO FIT IN THE PLACE OF A MISSING ABSBESTOS CONTAINING NON FRIABLE VINYL FLOOR TILE. *4 IF ASBESTOS CONTAINING JOINT COMPOUND IS DAMAGED, WE RECOMMEND TO COVER AREA WITH A NON ASBESTOS SPACKLING COMPOUND WITHOUT PERFORMING ANY SANDING OR ABRASION TO EXISTING ACM JOINT COMPOUND.
2	**ALL FRIABLE ASBESTOS CONTAINING MATERIAL INCLUDING BUT NOT LIMITED TO THERMAL INSULATION, CEILING TILE, ETC. SHALL ONLY BE REPAIRED OR REMOVED BY A LICENSED ABATEMENT CONTRACTOR PER AHERA REGULATIONS. FRIABLE ASBESTOS IS MATERIAL THAT CAN BE CRUMBLED, PULVERIZED, OR REDUCED TO POWDER BY THE PRESSURE OF AN ORDINARY HUMAN HAND.**

OPERATIONS AND MAINTENANCE PLAN
FOX HILL ELEMENTARY SCHOOL

INTRODUCTION:
This operations and maintenance plan detail each type of repair, removal, or maintenance activity that is likely to be necessary to keep Asbestos Containing Materials in good condition.

All Personnel MUST have a minimum of 16-hours training to perform any repair or removal for up to three (3) linear feet or square feet.

The following Asbestos Containing Material (ACM) that is either, previously found, found, or assumed to contain asbestos:

Found to be ACM:

- None.

Assumed to be ACM:

- White/Light Brown 12" x 12" Vinyl Floor Tile.
- Mastic for White/Light Brown 12" x 12" Vinyl Floor Tile.
- White/Grey 12" x 12" Vinyl Floor Tile.
- Mastic for White/Grey 12" x 12" Vinyl Floor Tile.
- Grey 12" x 12" Vinyl Floor Tile.
- Mastic for Grey 12" x 12" Vinyl Floor Tile.
- Off-White/Grey 12" x 12" Vinyl Floor Tile.
- Mastic for Off-White/Grey 12" x 12" Vinyl Floor Tile.
- Lime 12" x 12" Vinyl Floor Tile.
- Mastic for Lime 12" x 12" Vinyl Floor Tile.
- White/Grey Streaks 12" x 12" Vinyl Floor Tile.
- Mastic for White/Grey Streaks 12" x 12" Vinyl Floor Tile.
- Tan/Brown 12" x 12" Vinyl Floor Tile.
- Mastic for Tan/Brown 12" x 12" Vinyl Floor Tile.
- White/Green 12" x 12" Vinyl Floor Tile.
- Mastic for White/Green 12" x 12" Vinyl Floor Tile.
- Black Sink Coating.
- Interior Window Caulking.
- Interior Door Caulking.
- Duct insulation.
- Tank insulation.
- Hard Joint Insulation.
- Kiln.

OBJECTIVE:
The three main objectives of an Operations and Maintenance (O&M) program are:

1. To clean up existing contamination
2. To minimize future fiber release by controlling access to Asbestos Containing Material (ACM)
3. To maintain ACM until it is eventually removed.

Since by law all but small quantities of ACM must be removed from buildings before demolition, this O&M program is not a permanent solution. It is implemented as part of an overall asbestos management plan that has as its goal the elimination of asbestos exposure within the facility. The O&M program likewise is not a means by which full scale asbestos abatement is accomplished. Rather, intentional disruption of ACM should be limited to repair or removal of small areas of significantly

damaged ACM, or small areas where removal is necessary to facilitate maintenance/renovation activities.

As long as ACM remains in the building, the O&M plan must remain in effect. Unless the program is implemented properly, exposure of maintenance workers and building occupants may not decrease. ACM may be disturbed by improper cleaning or repair methods. The O&M program should be established as soon as the presence of ACM is confirmed or assumed to be present. It must address friable material as well as material about to become friable, such as transite board to be cut or drilled. The O&M includes a general set of procedures that apply to periodic inspection, building renovation, maintenance, cleaning, and work done to maintain the material in good condition.

Though an O&M program may initially seem the most cost-effective solution to an asbestos problem, there are many additional costs that must be taken into consideration. Money that could have been spent on removal must be spent on worker training, respirators, and health monitoring. These costs continue until the ACM is removed. Asbestos removal is required during renovation or demolition.

Operation and Maintenance plans vary with the type of material present in the building. All maintenance activities are regulated under the EPA CFR 763.121 “Worker Protection Act,” OSHA 29 CFR 1926.1101 Asbestos Construction Standard, or Section 19 or the Occupational Health and Safety Act. Worker protection and safety requirements are of major importance if workers are exposed to the material in any way. Workers must be fit tested and respiratory equipment maintained. Medical examinations are also required in order to work with asbestos. These projects involve only areas that include less than three square or linear feet. Any larger project MUST be performed by a licensed contractor. Be certain that the LEA is aware of all activities involving ACM. All outside contractors must also be notified of the location of asbestos containing material. Building occupants and the parents of children must also be notified in writing. The following types of activities can be performed by in-house trained personnel:

- Normal maintenance HEPA vacuuming and wet wiping
- Repair or removal of pipe insulation.
- Removal of damaged vinyl asbestos tiles.
- Repair or removal of small quantities of ACM on beams or above ceiling.
- Replacement of gasket or valve.
- Installation or removal of small section of drywall.
- Installation of electrical conduits through or near ACM.
- Removal of small quantities of ACM for maintenance activities.
- Removal of material that can be contained in one glove bag.
- Minor repairs to asbestos containing wallboard.
- Small repairs that can be performed in a mini enclosure, including enclosure, encapsulation, and removal.

These activities must be used for maintenance or emergency repair, NOT just for removal. The following sections will explain how to perform each asbestos related activity. A sample form for documenting O&M activities is also included at the end of this section.

ORGANIZATIONAL STRUCTURE

The LEA Designated Person (DP) is responsible for the total implementation of this program and keeping the school board informed of all pertinent asbestos related activities. The DP is the main contact for any information on the asbestos control program. The responsibilities of the DP are included in this report.

NOTIFICATION OF OCCUPANTS

The DP is responsible for informing all building occupants, employees, parents, contractors, annually of the asbestos control program. Notification serves two purposes: it alerts affected parties to a potential hazard in the buildings, and it provides basic information on avoiding the hazard. Building occupants, employees, and others who are aware of the presence of ACM are less likely to disturb the material and

cause fiber release. All new employees and building occupants during their initial orientation shall be informed of the asbestos control program and locations of ACM at this school.

LABELING

Labeling in areas where ACM is located is required in the case of thermal system insulation in mechanical rooms. Labeling is not intended as general information. It serves as a final line of defense to prevent unprotected individuals from disturbing ACM or entering areas where repair or renovation activities involving ACM are underway. Warning signs used in conjunction with small renovation or repair that involves the disruption of ACM should be posted at the entrances and around the perimeter of the project and in accordance with OSHA Asbestos Standard for the Construction Industry (29 CFR l926.1101). Warning labels must be put on all asbestos containing thermal system insulation in mechanical rooms that say the following:

CAUTION
ASBESTOS HAZARDOUS
DO NOT DISTURB WITHOUT PROPER
TRAINING AND EQUIPMENT

All labels shall be prominently displayed in readily visible locations and shall remain posted until the ACM that is labeled is removed.

TRAINING

Training of service (custodial and maintenance) workers is one of the most important aspects of an effective O&M plan. Training serves to establish proper awareness and understanding of work practices that are vital to the success of the program. All service workers should receive at least two hours of general awareness training. This training session should include, at a minimum, all the information outlined in the notification section. Service personnel who conduct any activities that will result in the disturbance of ACM must receive 14 hours of additional training which should include cleaning techniques, appropriate practices for handling ACM, the proper use of personal protective equipment, and hands on training. The training program should be conducted by the DP, or a person trained in asbestos control.

It should be noted that only up to three (3) linear feet of square feet could be performed by the trained personnel.

RESPIRATORY PROTECTION

Any employer who requires or permits employees to wear a respirator must have a written respiratory protection program. This is required by OSHA in both of their asbestos standards (29 CFR 1910.1001 and l926.1101) and respiratory regulations (29 CFR 1910.134). The written respiratory program establishes standard operating procedures for the use and maintenance of respiratory equipment. The OSHA regulations outline exactly what must be included in a written program. Minimum respiratory protection requirements include the use of a half-face HEPA filter negative pressure respirator. A higher degree of protection can be achieved using a full-face mask or a power-assisted air purifying respirator (PAPR). It is preferable to use the highest level of protection possible when dealing with asbestos. Every worker who uses a respirator must have a medical exam and be fit tested. Never attempt to disturb asbestos without using properly fitted protective equipment. Personal exposure monitoring is required for workers to ensure that air levels are within the legal limits.

MEDICAL SURVEILLANCE

Employers are required to institute a medical surveillance program for all employees who are assigned to wear a negative-pressure respirator. All examinations and procedures must be performed by or under the supervision of a licensed physician at no cost to the employee. The purpose of the medical surveillance program is to establish an employee's fitness to wear a respirator, and to detect any changes in the gastrointestinal and cardiopulmonary systems as a result of working in asbestos contaminated areas. The OSHA regulation outlines what is required in the medical surveillance program.

PREVENTIVE MEASURES
The purpose of this is to eliminate the possibility of any disturbance and/or fiber release due to unknown activities. At a minimum, the following should be implemented:

1. Do not dry clean or sweep.
2. Do not cut, penetrate, sand, drill, break, nail into the ACM.
3. Do not hang plants, pictures, wires from the ACM.
4. Do not place items against the ACM.
5. Do not replace light fixtures where ACM, such as plaster, fireproofing and tiles is found.
6. Should ACM become damaged, seal, isolate the area and notify the consultant.

DESIGN AND AIR CLEARANCE REQUIREMENTS:
The work (greater than 3 LF or 3 SF) must be designed a Massachusetts licensed asbestos abatement designer and clearance air sampling is performed by a Massachusetts licensed project monitor. The purpose of the design is to include but not limited to the following:

- Scope of work.
- Location of work.
- Method to be utilized.
- Type of clearance air sampling.
- Scheduling and other related information.

CLEANING PROCEDURES
The cleaning activities described in this section are necessary for many different types of ACM. This section is referenced in the spread sheets for homogenous areas of friable asbestos containing surfacing material, friable thermal system insulation and friable miscellaneous materials. **The following *Friable ACM was found during the inspection.***

- **Off-White/grey 12" x 12" vinyl floor tile at classroom 12.**
- **White/grey streaks 12" x 12" vinyl floor tile at classrooms 23, 25, 26, 18, 19 and 20.**

1. **Initial Cleaning**
   Unless the building has been cleaned within the previous 6 months, all areas of a school building where friable ACM, damaged or significantly damaged thermal system insulation ACM, or friable suspected ACM assumed to be ACM are present shall be cleaned at least once after the completion of the inspection required by Sec. 763.85(a) and before the initiation of any response action, other than O&M activities or repair, according to the following procedures:
   a. Do not dry clean or sweep.
   b. HEPA-vacuum or steam-clean all carpets.
   c. HEPA-vacuum or wet-clean all other floors and all other horizontal surfaces.
   d. Dispose of all debris, filters, mop-heads, and cloths in sealed, leak-tight containers.
2. **Periodic Cleaning**
   Custodial staff should perform a thorough cleaning a minimum of twice weekly where friable ACM found. HEPA vacuum or steam clean all carpets, wet mop all other floors, and wipe all other horizontal surfaces with damp cloths. Dispose of debris, filters, mop heads, and cloths in sealed plastic bags according to EPA regulations. Report the presence of debris observed near ACM to the DP immediately. If debris accumulates, cleaning should be performed more often, and repair or removal should be completed to eliminate the hazard.
3. **Emergency Procedures**
   If an emergency occurs, immediately notify the LEA, and restrict access to the area. Common emergencies include pipe leaks, boiler breakdowns, and water damage. Keep the phone number of a dependable local contractor for problems that may be larger than the in-house staff can handle. If you are not certain of the size or the extent of the damage, have a contractor and consultant look at it immediately.

4. Specialized Cleaning Procedures

Special cleaning practices should be followed in buildings with ACM. Cleaning up existing asbestos contamination within a building is one of the primary objectives of the O&M program. Things not to do when cleaning asbestos containing materials:

a. Do not sand backing material.
b. Do not dust with a wire brush.
c. Do not dry sweep floors.
d. Do not use an ordinary vacuum to clean up asbestos debris.
c. Do not use any method that might disturb the ACM.

The following precautions should always be used when cleaning ACM:

- All dusting and mopping of the ACM must be conducted using "wet" cleaning techniques (mops or cloths dampened with water or dust suppressant) or with special vacuum cleaner's equipment with High Efficiency Particulate Air (HEPA) filters.
- Spray (mist) bottled of water or dust suppressant should be available and used to keep the mops and cloths damp.
- Cleaning materials (mop heads, cloths, etc.) should be washed after each cleaning, changed at regular intervals, and discarded as asbestos waste
- The materials should be placed in 6 mil plastic bags, the bags sealed and labeled:

"DANGER CONTAINS ASBESTOS FIBERS
AVOID
CREATING DUST
CANCER AND LUNG DISEASE HAZARD,"

And the bags deposited in an approved landfill. A disposal company could then transport the waste to an approved landfill periodically.

For each time that cleaning under Sec. 763.91(c) is performed, the local education agency shall record the name of each person performing the cleaning, the date of such cleaning, the locations cleaned, and the methods used to perform such cleaning.

MAINTENANCE OF VINYL FLOORING (VAT)

Refer to the attached "Recommended Work Practice for Removal of Resilient Floor Covering" for more detailed procedures.

Proper upkeep, disturbance, and removal of vinyl asbestos flooring are explained in this section. This section is referenced in the spread sheets for all homogenous areas of asbestos containing vinyl asbestos flooring. Although the main emphasis of this section is for vinyl asbestos flooring, the practices described in subsection three and four for drilling and removing vinyl asbestos flooring are recommended procedures for all vinyl flooring. It must be remembered that even for vinyl flooring which lab analysis has determined to be asbestos free, the mastic used on it and on all vinyl base boards could contain asbestos and should never be made friable by sanding. Any vinyl flooring not identified by this inspection which may be revealed upon removal of carpeting should be considered to contain asbestos until lab analysis proves otherwise.

1. Care of Vinyl Floor Tile (VAT)

Do not sand, abrade, wire brush or the use of any method that might release fibers of vinyl asbestos tiles (VAT). VAT are unlikely to release any fibers unless cut or sanded. Use HEPA attachments described in the section on cutting non friable materials. The adhesive that is used to stick floor tiles to the floor is likely to have asbestos in it also. Do not sand or wire brush the adhesive. The best way to deal with VAT is to use regular detergent and floor wax. Keep a heavy layer of wax on the surface and that will act as an encapsulant. Use all procedures outlined in the sections for respiratory protection, protective clothing, and work area preparation. Remember that the adhesive probably has more asbestos than the tile itself. Dispose contaminated material and replace the tile with non-asbestos tile. Since the sharp tile edges could cut through a bag, wrap the tile in plastic and put them in a box. Wrap the box and put it in a bag or drum.

2. **Stripping/Waxing VAT**
   a. Wet methods must always be used when stripping, waxing, or buffing asbestos containing vinyl flooring.
   b. Never dry buff the asbestos-containing vinyl flooring.
   c. Always have a HEPA vacuum and respirators available if needed.
   d. If a HEPA vacuum is required, all filters, cleaning clothes, and debris should be disposed of as asbestos waste.
3. **Drilling of VAT**
   If it is necessary to drill into asbestos containing vinyl flooring (making the ACM friable) the following precautions must be followed.
   a. Worker or workers should wear NIOSH/MSHS approved respirators equipped with HEPA filter cartridges.
   b. Wet wipe the area to be drilled.
   c. Use a HEPA vacuum adjacent to the drilling operation to pick up fibers and debris as the drilling occurs.
   d. Dispose of any debris as asbestos waste as outlined in the previous section.
   e. Clean up area as outlined above.
4. **Removing or Repairing VAT**
   a. To remove small sections of floor tiles, dry ice or heat from a portable heater can be applied to the tops of the tiles, and then the tiles can be pried up.
   b. Use a 'wet' or solvent method to remove and clean the adhesive.
   c. Do not sand the adhesive from the base flooring.
   d. A HEPA vacuum or wet wiping should be used to clean up as outlined above.
   e. All tiles, cloths, and debris must be disposed of as asbestos waste.

MAINTENANCE FOR THERMAL INSULATION

Maintenance activities affecting asbestos containing thermal system insulation generally involve plumbing-type repairs. Frequently the ACM must be removed to provide access to the valve, flange, or related system part needing maintenance. The extent of special work practices is tailor to reflect the likelihood that the ACM will be disturbed and that asbestos fibers will be released. Four categories of potential disturbance are defined: (1) contact with ACM is very unlikely, (2) accidental disturbance of ACM is possible, (3) disturbance of ACM is intended or likely - small disturbances (under three (3) feet of thermal system insulation), and (4) disturbance of ACM is intended or likely large disturbances (greater than three (3) feet of thermal system insulation).

1. **Contact with ACM Unlikely**
   Repairs which can be performed without contacting or disturbing the ACM require only normal care, good workmanship, and respirators. A HEPA vacuum should be available for use if required.
2. **Accidental Disturbance of ACM Possible**
   Maintenance tasks that involve no direct contact with ACM may cause accidental disturbance. Vibrations created by maintenance activities in one part of a piping network will be transmitted to other parts. Vibrations could then cause fibers to be released from insulation which is exposed or not in good condition. If in doubt about the possibility of fiber release, thoroughly inspect the asbestos—containing material before undertaking the maintenance or repair work. Then, either correct the problem before starting, or assume that the maintenance work may cause accidental disturbance and fiber release. In this case, the following procedures should be used:
   a. Approval should be obtained from the DP before beginning work. The DP or supervisor should make an initial visit to the work site.
   b. The work should be scheduled after normal working hours, if possible, or access to the work area should be controlled: doors should be locked from the inside and signs posted to prevent unauthorized persons from entering the work area
   (e.g., MAINTENANCE WORK IN PROGRESS, DO NOT ENTER"). Note emergency exits must remain in operation.
   c. The air-handling system should be shut off or temporarily modified to prevent the distribution of any released fibers to areas outside the work site.
   d. A 6-mil polyethylene plastic drop cloth should be placed beneath the location of the maintenance work, extending at least 10 feet beyond all sides of the work site.

e. Plastic sheets (6-mil polyethylene) should be cut and taped around any asbestos containing insulation which might be accidentally disturbed. The plastic should be misted with amended water before sealing with tape. Workers should wear full respiratory protection and protective clothing.
f. After the maintenance work is completed, all tools, ladders, and other equipment should be HEPA-vacuumed or wiped with a damp cloth. Special care should be taken when removing the plastic from the insulation to minimize disturbance of ACM dust or debris that may have fallen from the insulation.
g. If any debris is apparent on the drop cloth, floor, or elsewhere, it should be HEPA-vacuumed.
h. The plastic drop cloth should be wiped with a dampen cloth, carefully folded, and discarded as asbestos waste.
i. All clothes, vacuum bags/filters, and other disposable materials should be discarded in sealed and labeled plastic bags as asbestos waste.
j. Workers should HEPA-vacuum respirators and protective clothing at the work site. The clothing should then be discarded as asbestos waste. If the ACM was disturbed during the course of the work, the workers should leave their respirators on, proceed to a shower room, shower with respirators on, and clean their respirators while in the shower.

3. Small Disturbance of ACM Intended

Where less than 3 feet of asbestos containing thermal system insulation must be removed to maintain or repair the thermal system, the following procedures should be used:

a. Approval should be obtained from the DP before beginning work. The DP or supervisor should make an initial visit to the work site.
b. The work should be scheduled after normal working hours, if possible, or access to the work area should be controlled: doors should be locked from the inside and signs posted to prevent unauthorized persons from entering the work area (e.g., "MAINTENANCE WORK IN PROGRESS, DO NOT ENTER"). Note, emergency exists must remain in operation.
c. The air-handling system should be shut off or temporarily modified to prevent the distribution of any released fibers to areas outside the work site.
d. Maintenance workers should wear at least air-purifying respirators with HEPA filters and protective clothing (suit, hood, and boots) in case of a fiber release accident.
e. The asbestos containing thermal system insulation should be removed as necessary for the repairs, and the repairs made using standard glove bag techniques where possible (refer to the EPA publication: "Asbestos-in-Building Technical Bulletin: Abatement of Asbestos containing Pipe Insulation," 1986-2 and the OSHA Construction Industry Rule). Glove bags are fastened around the part to be repaired, the insulation is removed with knives and saws to make the part accessible, and the repairs are made using tools contained in the glove bag tool pouch.
f. At the conclusion of the work, Maintenance workers should clean their clothing using a HEPA vacuum and wet wiping.
g. All glove bags and any other used materials (including disposable clothing) should be discarded as asbestos waste, if the ACM was disturbed during the course of the work; the workers should leave their respirators on, proceed to a shower room, shower with respirators on, and clean their respirators while in the shower.
h. Non asbestos insulating material can be installed as necessary to replace insulation which was removed.

4. Large Disturbance of ACM Intended

When more than 3 feet of asbestos containing thermal system insulation must be removed to maintain or repair the thermal system, this is considered to be a large-scale disturbance of ACM, and glove bags are not feasible. With this situation an outside contractor should be hired for the removal project before the maintenance work begins.

If maintenance personnel are to conduct the asbestos removal, they must be thoroughly trained in removal techniques as required by OSHA. If the maintenance activities are likely to cause disturbance of ACM on pipes, boilers, or ducts at sites other than just those undergoing repair (due to vibration, etc.), then the entire room or area must be isolated and large-scale asbestos removal procedures employed. These include construction of containment barriers and ventilation system:

use of protective clothing, and “type C” respirators by workers; proper disposal of asbestos debris; and proper cleanup of the work site followed by clearance air monitoring.

MAINTENANCE OF INTERIOR CAULKING
Do not remove or scrape the ACM. For removal (quantities >3 LF) retain the services of a licensed contractor. The ACM would still have to be disposed properly. Follow procedures listed in the Massachusetts Regulations 6.13 “Work Practices Involving Non-Friable Asbestos).

MAINTENANCE OF SINK COATING
Do not remove or scrape the ACM. For removal (quantities >3 LF) retain the services of a licensed contractor. The ACM would still have to be disposed properly. Follow procedures listed in the Massachusetts Regulations 6.13 “Work Practices Involving Non-Friable Asbestos).

MAINTENANCE OF KILN
Do not remove ACM. For removal (quantities >3 LF) retain the services of a licensed contractor. The ACM would still have to be disposed properly. Follow procedures listed in the Massachusetts Regulations 6.13 “Work Practices Involving Non-Friable Asbestos).

PROCEDURES FOR FIBER RELEASE EPISODES
As long as ACM remains in the building, a fiber release episode could occur. A fiber release episode is when the ACM becomes damaged in such a way as to release asbestos fibers to the atmosphere. Knowing the procedures necessary to control a fiber release episode is essential in any building which contains ACM. Reference to this section is recommended for all homogenous areas of asbestos containing friable surfacing material and thermal system insulation including pipe, joint, tank, duct, and boiler insulation, which are listed on the sp read sheets of section four. Building custodial and maintenance staff should refer to this section to prevent a fiber release episode and to be thoroughly prepared for procedures should one occur. Custodial and maintenance workers should report to the DP the presence of debris on the floor, water, or physical damage to the ACM, or any other evidence of possible fiber release. Fiber release episodes can also occur during maintenance or renovation projects. The DP should assign a suitably trained in—house team to clean up debris and make repairs as soon as possible. For fiber release episodes of asbestos containing thermal system insulation the following procedures should be used.

1. Workers should wear at minimum air purifying respirators with HEPA filters.
2. Debris should be thoroughly saturated with water or amended water using a mister with a very fine spray. The debris should then be placed in a labeled 6-mil plastic bag for disposal and the floor should be cleaned with dampen cloths or a mop, or the debris can be collected with, a HEPA vacuum cleaner.
3. Read the HEPA vacuum manual to thoroughly understand its operation before using it. Ask the sales representative for a detailed demonstration of how to use the HEPA vacuum. Always empty the vacuum under controlled conditions, remove the filter after dampening it and treat all waste as contaminated material. Misuse of a HEPA vacuum can cause a major contamination problem.
4. All debris and materials used in the cleanup should be discarded as asbestos waste.
5. Workers should vacuum their disposable suits, if used, before leaving the work site and discard them as asbestos waste.
6. The damaged ACM should be repaired with asbestos-free spackling, plaster, cement, insulation, re-wettable fiberglass or sealed with latex paint or an encapsulant.
7. Each fiber release episode should be documented, and a report should be filed in this management plan or in the permanent asbestos file.

GLOVEBAG REMOVAL PROCEDURES FOR REPAIR OR MAINTENANCE

This section explains the proper procedures for glove bag removal of ACM. All homogenous areas of asbestos containing pipe and joint insulation recorded of the spread sheets reference this section of the O&M plan. Custodial and maintenance personnel should review this section if glove bagging is necessary to access an area where repair of maintenance is required. Remember, glove bag removal

involves only areas less than 3 square or linear feet and can be done only for maintenance purposes not for the sake of removal alone.

The work area must be secured according to the section on work area preparation. All persons not involved in the procedure must leave the site and warning signs must be posted. Try to perform the work when the building is unoccupied. Building occupants are very curious as to whether this type of operation could be harmful. The work area floor must be covered with plastic in~ case of breakage. Be generous with the plastic it is a lot less expensive to be cautious with protection than to clean up a contaminated area. The glove bag must fully cover the three feet or less to be removed, since the bag cannot be moved once it is in place. All tools such as wire cutters, bone saw, nylon brush and knife are to be placed in the pouch that is inside the bag. The tools are reached by using the gloves.

Inspect the work area and determine the location boundaries of the work to be accomplished. Be sure it is not over three feet! Cut the sides of the glove bag down far enough to place it over the pipe. Support the bottom of the glove bag to prevent the weight of the debris and water from causing the bag to leak or break. Always be as cautious as possible when dealing with asbestos.

Attach the top seam of the glove bag by taping with heavy duct tape. Use several different pieces overlapping each other instead of one long piece. Staple the tape at intervals of two or three inches. Fold the taped flap over on itself and tape again. Tape the bottom seam of the bag also. These precautions can prevent a costly and dangerous fiber release.

Tape the openings on each side of the glove bag where the pipes protrude. Put several layers of duct tape to ensure that there is no fiber release. The glove bag must then be smoke tested to ensure that there are no leaks. An aspirator bulb filled with smoke is inserted into an opening pre cut by the manufacturer. The same opening will be used to insert a sprayer wand used to wet the material. If there is not opening on the glove bag, cut a small hole through a duct tape patch and insert the smoke tube. The duct tape patch ensures that the bag will not rip along that opening. Patch any area that leaks with duct tape. Upon insuring that the bag is air-tight, insert the spray wand and HEPA vacuum hose into either hole made by the manufacturer or self placed patched hole. Duct tape the equipment into the holes securely. The holes should be in the upper 1/3 of the bag so it is easy to wet, the material. Use the best quality glove bags possible which will have, reinforced entry holes for the smoke tube, spray wand, and HEPA-VAC hose. Some bags even have zippers, which eliminates the cutting section. Fold the taped flap over it itself and tape again. Tape the bottom seam of the bag also.

Completely wet the section of pipe to be removed, however, do not fill the glove bag with water. The solution used to wet the material must be “amended water.’ The solution can be obtained through asbestos supply companies (or soap can be used). The amended water ensures that the material is wetted as evenly as possible. Using a razor, knife, or bone saw, cut through to the pipe on both sides and remove the material as smoothly as possible. Use a retractable blade and always retract it when not in use being careful not to cut the bag open by mistake. A second person must keep the material wet using the wand. Soak the bare pipe and hand clean is using the rags and nylon brush that are in the pouch contained within the bag. Threaded areas of pipes and joint areas require particular attention to clean.

Wash down the interior of the glove bag and pipe section one final time to ensure that all debris is at the bottom of the bag. Place all tools into the hand part of one of the gloves. Pull the glove inside out, seal it with duct tape and cut between the sealed areas. Re-tape the glove and place it in a bucket of water. Later, the glove may be untied, and the tools cleaned. Activate the HEPA vacuum and collapse the bag as much as possible. Do not collapse too much or the bag will be damaged. The HEPA vacuum should continue to run during the entire process of removing the glove bag.

Twist the glove bag closed and tape it shut. A disposal bag should be placed over the glove bag while it is still on the pipe. Carefully cut the glove bag from the pipe and place in the disposal bag. Dispose of properly as asbestos containing waste.

The ends of the pipe must be covered with re-wettable fiberglass. Cut a large enough piece to cover the area and dip it in a bucket of clean water. Wrap it around the end of the pipe and smooth until all openings are covered. Spray the bare pipe with encapsulant to lock down any remaining fibers. The pipe may be painted with heat resistant latex paint if desired.

REMOVAL OF ACM

1. All removal or repair projects should be correctly and safely set up. These are minimum work practices required by state and federal law. Work may not be performed if the area exceeds three square or linear feet. You must have a contractor do the work if it exceeds these size limits. Refer back to this section whenever you plan to disturb asbestos containing material. The initial set up of any job that disturbs asbestos is as important as the actual removal itself. The following steps must be followed to ensure a safe project.

    a. Restrict entry by physical isolation or scheduling to ensure unauthorized persons do not enter the area.
    b. Post warning signs at all entrances to the site to prevent unauthorized entry.
    c. Shut of f air handling equipment or modify all air conditioning, heating, ventilation systems, etc. Restrict air movement (fans, windows).
    d. Remove moveable objects and cover remaining items with plastic. Duct tape 6-mill plastic over any remaining surfaces and duct tape to provide an air-tight seal. Decontaminate any objects that have debris by wet-wiping and HEPA vacuuming.
    e. Isolate the work area by sealing and taping vents, windows, air conditioners, ducts, drains, grills, windows, and doors etc. with plastic. If the building is occupied, the entrances to the work area must be sealed and caulked with plywood, gypsum board or a solid material. Plastic does not qualify as a critical barrier. Glove bag operations are exempt from this requirement. Ceramic tiles on floors, walls or ceiling that are impervious (no cracks, holes, fissures) need not be covered. If there is uncertainty regarding permeability, put up plastic.
    f. Cover walls and ceilings with plastic sheeting with seams and joints sealed with duct tape to make an impervious barrier to the floor, ceiling, wall etc. Two layers of plastic are required for the floor and walls with an overlap of 12” on the wall. The wall covering must overlap the floor.
    g. Ground fault circuit interrupters must always be used when working in a WET environment.
    h. Clean fixtures and equipment in the work area using proper cleaning methods.
    i. Properly dispose of all ACM in properly labeled, leak proof containers.
2. Asbestos projects that involve less than 25 square or linear feet require the use of a change room that is used as the sole entrance and exit to the facility. Before leaving the removal area to enter the change room HEPA vacuum and wet wipe the protective clothing. All other equipment must be decontaminated by wet-wiping and HEPA vacuuming or by wrapping the material in two layers of 6 mil plastic or put in a drum with a locking lid. Glove bag operations are exempt from this requirement. Use of a changing room is applicable to removal of surface material where a glove bag cannot be used.
3. Read the HEPA vacuum manual to thoroughly understand its operation before using it. Ask the sales representative for a detailed demonstration of how to use the HEPA vacuum. Always empty the vacuum under controlled conditions, remove the filter after dampening it and treat all waste as contaminated material. Misuse of a HEPA vacuum can cause a major contamination problem.
4. Any material that is enclosed must be clearly identified in the building records. The enclosure must be airtight wooden structures must be made with tongue and groove construction and caulked. Gypsum board seams must be taped. Drills and other tools should have a HEPA attachment and all electrical conduits, telephone lines, etc. must be moved so there is not reason to re-enter the area. If this cannot be accomplished, the area should not be contained. Any wrapped material such as a boiler or pipe must be labeled as asbestos. Suspended ceilings can not quality as enclosure since it is not airtight.
5. Liquid Encapsulant must be applied with an airless sprayer and are not to be used on severely damaged or deteriorating surfaces.
6. Asbestos must be wet when it is disturbed in any way. The material must be wet enough to keep the dust down, but not wet enough to cause the water to leak out of the project area. A surfactant must be used, as this increases the ability of the water to penetrate the fibers. During the project,

dispose of asbestos as it accumulates in double 6-mil labeled bags or drums with locking lids. Do not remove the material and leave it on the floor. When working at heights do not throw debris to the ground, have another individual put the debris in the disposal container.

DISPOSAL OF ASBESTOS WASTE

Proper disposal of asbestos containing material is an important procedure for the well being of the environment. This section of the O&M plan is referenced for all asbestos containing material that was sampled and all material assumed to be ACM that is recorded on the spread sheets. Always refer to this section when disposing of asbestos waste. All asbestos containing materials, waste, bags, and equipment (such as mop heads or air filters) must be disposed of in a labeled 6-mu polyethylene bag. The bag must be placed in a sealed impermeable container such as a drum. Water used for cleaning must be either filtered or placed in an impermeable container. A single drum may be used until it is full. The drum must be disposed of at a licensed landfill and a disposal receipt with the location obtained to prove that the waste was disposed of it legally. An interim storage area must be secured and locked with only trained personnel having access to it.

Transportation must be done in closed trucks (not rented) and the truck wet cleaned after each use. The easiest way to dispose of small amounts of asbestos is to accumulate it and have a licensed contractor remove it. Find a local company willing to provide this service to you.

In a secured and isolated storage is limited to 30-days. Contract the DEP for any questions.

OUTSIDE SERVICE CONTRACTORS

If any outside contractor is employed to do work where the ACM may be disturbed (such as periodic cleaning, major renovation, or pipe repairs), contracts with such companies should include provisions to ensure that the workers can and will follow appropriate work practices. The contractor should provide proof that his workers have been properly notified about ACM in the building where the work is to take place (***see contractor acknowledgement form at the end of this section***). For a major renovation or removal, the contractor should also provide copies of the respiratory protection, medical surveillance, and worker training documentation submitted to OSHA. Also, the contractor should provide historical air monitoring data with emphasis on projects similar to those likely to be encountered in the building for examples of previous projects.

PERIODIC SURVEILLANCE OF ACM

At least once every six (6) months, the DP or his designee will conduct periodic surveillance in each building that contains asbestos. Each person performing periodic surveillance shall:

1. Visually inspect all areas that have been identified as asbestos containing.
2. Record the data of the surveillance, any changes in the conditions of the ACM, and the name of the individual conducting the surveillance.
3. Submit to the DP a copy of such a record or report for inclusion into the management plan or permanent asbestos file.

The DP is responsible for compliance to this section. An example of the periodic surveillance form to be used is shown at the end of this section.

EQUIPMENT NEEDED

Every school should have on-site at least one HEPA vacuum cleaner to be used when needed. Also at least one half-mask air-purifying respirator for each worker who may be required to wear one will be needed. An asbestos emergency repair kit which contains the equipment and tools necessary for repair of damage asbestos containing insulation and asbestos disposal bags is also recommended. Disposable suits may also be needed for maintenance workers.

A written respirator program as well as a written medical monitoring plan must be kept, and all work must comply with the written programs.

RECORDKEEPING

All written records discussed in this Operations and Maintenance program should be maintained as part of this management plan.

PERIODIC SURVEILLANCE REPORT

RETURN COMPLETED FORM TO ASBESTOS PROGRAM MGR.

PAGE___ OF___

DATE: ___ ___,____

Building Number and Name

ROOM Number and Name

Building Location

IF THE STATUS OF THE ACBM HAS CHANGED. THEN PHOTOGRAPH THE AREA AND RECORD THE PHOTOGRAPH NUMBER IN THE SPACE PROVIDED. NOTIFY THE ASBESTOS PROGRAM MANAGER CONCERNING THE CHANGE.

SAMPLE AREA/LOT OR SALIENT ID	SAMPLE AREA/LOT OR SALIENT DESCRIPTION	LAST MAT. COND.			CHANGE ?		NEW PHOTO NUMBER	NOTES
		T	DC	PD	YES	NO		

Signature of Person Completing Report

Title of Person Completing Report

* REFERS TO MATERIAL TYPE AND DAMAGE CATEGORIES
. T – MATERIAL TYPE AS:
. S – SURFACING
. M – MISCELLANEOUS
. T – THERMAL SYSTEM

DC – DAMAGE CONDITION
. ND – NO DAMAGE
. D – DAMAGE
. SD – SIGNIFICANT DAMAGE

PD – POTENTIAL DAMAGE CATEGORIES
. NPD – NO POTENTIAL DAMAGE
. PD – POTENTIAL DAMAGE
. PSD – POTENTIAL SIG. DAMAGE

OPERATIONS AND MAINTENANCE ACTIVITIES

BUILDING NAME: _____

ADDRESS: _____

ROOM NUMBER(s): _____

QUANTITY OF ACM REMOVED OR REPAIRED: _____

ACTIVITY START DATE: _____ **ACTIVITY END DATE:** _____

DESCRIPTION OF METHOD(S) USED DURING O&M ACTIVITY:

PERSONNEL PERFORMING ACTIVITIES:

NAME: _____

SIGNATURE: _____ DATE: _____

NAME: _____

SIGNATURE: _____ DATE: _____

NAME: _____

SIGNATURE: _____ DATE: _____

STORAGE OR DISPOSAL SITE INFORMATION:

STORAGE / DISPOSAL SITE NAME: _____

ADDRESS: _____

_____

******NOTE: ATTACH ALL WASTE SHIPMENT RECORDS******

CONTRACTOR ACKNOWLEDGEMENT FORM

PART A (To be completed by the LEA Designated Person)

☐ No known Asbestos Containing Materials (ACM) will be impacted by the work required to be performed by the outside contractor(s).

☐ ACM may be impacted by the work required to be performed by the outside contractor(s). The outside contractor(s) has been notified as to the types and locations of ACM present. Notification has also been made with respect to proper work procedures as included in the inspection report Operations and Maintenance Program.

LEA Designated Person: _____

Signature: _____ Date: _____

PART B (To be completed by the Outside Contractor(s))

As an Outside Contractor I acknowledge that I have been informed about the ACM in the area in which contract work will be performed and that the statement in Part A of the form is accurate to the best of my knowledge.

Name of Employee: _____

Company: _____

Address: _____

_____

Telephone: _____

Signature: _____ Date: _____

EMPLOYEE TRAINING

NAME: ____________________ **DATE:** ____________
SIGNATURE: ____________________ **JOB TITLE:** ____________
BUILDING: ____________________
TRAINING PROVIDER: ____________________ **COURSE TITLE:** ____________
ADDRESS: ____________________ **COURSE LENGTH:** ______
____________________ **CERTIFICATION NO:** ____________

NAME: ____________________ **DATE:** ____________
SIGNATURE: ____________________ **JOB TITLE:** ____________
BUILDING: ____________________
TRAINING PROVIDER: ____________________ **COURSE TITLE:** ____________
ADDRESS: ____________________ **COURSE LENGTH:** ______
____________________ **CERTIFICATION NO:** ____________

NAME: ____________________ **DATE:** ____________
SIGNATURE: ____________________ **JOB TITLE:** ____________
BUILDING: ____________________
TRAINING PROVIDER: ____________________ **COURSE TITLE:** ____________
ADDRESS: ____________________ **COURSE LENGTH:** ______
____________________ **CERTIFICATION NO:** ____________

NAME: ____________________ **DATE:** ____________
SIGNATURE: ____________________ **JOB TITLE:** ____________
BUILDING: ____________________
TRAINING PROVIDER: ____________________ **COURSE TITLE:** ____________
ADDRESS: ____________________ **COURSE LENGTH:** ______
____________________ **CERTIFICATION NO:** ____________

AHERA RESPONSE ACTIONS RECORDS CHECKLIST

LOCAL EDUCATION AGENCY (LEA): _____

NAME OF SCHOOL: _____

ADDRESS: _____

DESIGNATED PERSON: _____

DESCRIPTION OF RESPONSE ACTION / PROJECT DESIGN:

- ❑ METHODS USED
- ❑ LOCATION OF RESPONSE ACTION
- ❑ START DATE
- ❑ COMPLETION DATE

PROJECT DESIGNER:

- ❑ NAME
- ❑ CERTIFICATION NUMBER

CONTRACTORS & WORKERS CONDUCTING ACTIVITY

- ❑ NAME
- ❑ ADDRESS
- ❑ CERTIFICATION NUMBER
- ❑ NAME / LOCATION OF STORAGE / DISPOSAL SITE

CLEARANCE DOCUMENTATION

- ❑ DATE VISUAL INSPECTION WAS CONDUCTED
- ❑ NAME OF PERSON PERFORMING VISUAL INSPECTION
- ❑ AIR SAMPLES COLLECTED AT COMPLETION OF RESPONSE ACTION USING AGGRESSIVE SAMPLING METHODS
- ❑ NAME, SIGNATURE AND CERTIFICATION NUMBER OF PROJECT MONITOR COLLECTING AIR SAMPLES
- ❑ DATE OF SAMPLE COLLECTION
- ❑ SAMPLE LOCATIONS
- ❑ AIR SAMPLES ANALYZED AT ACCREDITED LABORATORY
- ❑ LABORATORY NAME AND CERTIFICATION NUMBER
- ❑ ANALYSIS METHOD
    - ❑ PHASE CONTRAST MICROSCOPY (PCM)
    - ❑ TRANSMISSION ELECTRON MICROSCOPY (TEM)
- ❑ NAME AND SIGNATURE OF ANALYSTS
- ❑ RESULTS OF ANALYSIS (ATTACH LAB REPORT

SMALL SCALE, SHORT DURATION OPERATIONS AND MAINTENANCE ACTIVITIES CHECKLIST

LOCAL EDUCATION AGENCY (LEA): _____

NAME OF SCHOOL: _____

ADDRESS: _____

ROOM NUMBER: _____

QUANTITIES OF ACM (Removed or Repaired): _____

DESIGNATED PERSON: _____

DATE OF ACTIVITY: _____

METHOD USED: _____

NAME OF PERSON(S) PERFORMING WORK/CLEANING:

_____
(Name and Signature)

_____
(Name and Signature)

_____
(Name and Signature)

STORAGE OR DISPOSAL SITE: _____

_____
(Address and Phone Number)

TITLE 40

PROTECTION OF ENVIRONMENT

CHAPTER I - ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)

PART 763 - ASBESTOS

Subpart E - Asbestos-Containing Materials in Schools

Section

Subpart E - Asbestos-Containing Materials in Schools

Source: 52 FR 41846, Oct. 30, 1987, unless otherwise noted.

Sec. 763.80 Scope and purpose

(a) This rule requires local education agencies to identify friable and non-friable asbestos-containing material (ACM) in public and private elementary and secondary schools by visually inspecting school buildings for such materials, sampling such materials if they are not assumed to be ACM, and having samples analyzed by appropriate techniques referred to in this rule. The rule requires local education agencies to submit management plans to the Governor of their State by October 12, 1988, begin to implement the plans by July 9, 1989, and complete implementation of the plans in a timely fashion. In addition, local education agencies are required to use persons who have been accredited to conduct inspections, re-inspections, develop management plans, or perform response actions. The rule also includes recordkeeping requirements. Local education agencies may contractually delegate their duties under this rule, but they remain responsible for the proper performance of those duties. Local education agencies are encouraged to consult with EPA Regional Asbestos Coordinators, or if applicable, a State's lead agency designated by the State Governor, for assistance in complying with this rule.

(b) Local education agencies must provide for the transportation and disposal of asbestos in accordance with EPA's "Asbestos Waste Management Guidance." For convenience, applicable sections of this guidance are reprinted as Appendix D of this subpart. There are regulations in place, however, that affect transportation and disposal of

asbestos waste generated by this rule. The transportation of asbestos waste is covered by the Department of Transportation (49 CFR part 173, subpart J) and disposal is covered by the National Emissions Standards for Hazardous Air Pollutants (NESHAP) (40 CFR part 61, subpart M).

Sec. 763.83 Definitions
For purposes of this subpart:
Act means the Toxic Substances Control Act (TSCA), 15 U.S.C. 2601, et seq.

Accessible, when referring to ACM, means that the material is subject to disturbance by school building occupants or custodial or maintenance personnel in the course of their normal activities.
Accredited or accreditation when referring to a person or laboratory means that such person or laboratory is accredited in accordance with section 206 of Title II of the Act. Air erosion means the passage of air over friable ACBM which may result in the release of asbestos fibers.
Asbestos means the asbestiform varieties of: Chrysotile (serpentine); Crocidolite riebeckite); Amosite (cummingtonitegrunerite); Anthophyllite; Tremolite; and Actinolite. Asbestos-containing material (ACM) when referring to school buildings means any material or product which contains more than one percent (1%) asbestos.
Asbestos-containing building material (ACBM) means surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a school building. Asbestos debris means pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.
Damaged friable miscellaneous ACM means friable miscellaneous ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or, if applicable, which has delaminated such that its bond to the substrate (adhesion) is inadequate or which for any other reason lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.
Damaged friable surfacing ACM means friable surfacing ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or which has delaminated such that its bond to the substrate (adhesion) is inadequate, or which, for any other reason, lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.
Damaged or significantly damaged thermal system insulation ACM means thermal system insulation ACM on pipes, boilers, tanks, ducts, and other thermal system insulation equipment where the insulation has lost its structural integrity, or its covering, in whole or in part, is crushed, water-stained, gouged, punctured, missing, or not intact such that it is not able to contain fibers. Damage may be further illustrated by occasional punctures, gouges or other signs of physical injury to ACM; the protective coverings/jackets; or exposed ACM ends or joints. Asbestos debris originating from the ACBM in question may also indicate damage.
Encapsulation means the treatment of ACBM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers, as the encapsulant creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components together (penetrating encapsulant).
Enclosure means an airtight, impermeable, permanent barrier around ACBM to prevent the release of asbestos fibers into the air. Fiber release episode means any uncontrolled or unintentional disturbance of ACBM resulting in visible emission. Friable when referring to material in a school building means that the material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure, and includes previously non-friable material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.
Functional space means a room, group of rooms, or homogeneous area (including crawl spaces or the space between a dropped ceiling and the floor or roof deck above), such as classroom(s), a cafeteria, gymnasium,

hallway(s), designated by a person accredited to prepare management plans, design abatement projects, or conduct response actions.
High-efficiency particulate air (HEPA) refers to a filtering system capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles 0.3 μm in diameter or larger.
Homogeneous area means an area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color and texture.
Local education agency means:
(1) Any local educational agency as defined in section 198 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 3381).
(2) The owner of any nonpublic, nonprofit elementary, or secondary school building.
(3) The governing authority of any school operated under the defense dependent's education system provided for under the Defense Dependents' Education Act of 1978 (20 U.S.C. 921, et seq.).
Miscellaneous ACM means miscellaneous material that is ACM in a school building.
Miscellaneous material means interior building material on structural components, structural members or fixtures, such as floor and ceiling tiles, and does not include surfacing material or thermal system insulation.
Non-friable means material in a school building which when dry may not be crumbled, pulverized, or reduced to powder by hand pressure.
Operations and maintenance program means a program of work practices to maintain friable ACBM in good condition, ensure clean up of asbestos fibers previously released, and prevent further release by minimizing and controlling friable ACBM disturbance or damage.
Potential damage means circumstances in which:
(1) Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal activities.
(2) There are indications that there is a reasonable likelihood that the material or its covering will become damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage.
Potential significant damage means circumstances in which:
(1) Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal activities.
(2) There are indications that there is a reasonable likelihood that the material or its covering will become significantly damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage.
(3) The material is subject to major or continuing disturbance, due to factors including, but not limited to, accessibility or, under certain circumstances, vibration or air erosion.
Preventive measures means actions taken to reduce disturbance of ACBM or otherwise eliminate the reasonable likelihood of the material's becoming damaged or significantly damaged.
Removal means the taking out or the stripping of substantially all ACBM from a damaged area, a functional space, or a homogeneous area in a school building.
Repair means returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.
Response action means a method, including removal, encapsulation, enclosure, repair, operations and maintenance that protect human health and the environment from friable ACBM.
Routine maintenance area means an area, such as a boiler room or mechanical room, that is not normally frequented by students and in which maintenance employees or contract workers regularly conduct maintenance activities.
School means any elementary or secondary school as defined in section 198 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 2854).

School building means:
(1) Any structure suitable for use as a classroom, including a school facility such as a laboratory, library, school eating facility, or facility used for the preparation of food.

(2) Any gymnasium or other facility which is specially designed for athletic or recreational activities for an academic course in physical education.
(3) Any other facility used for the instruction or housing of students or for the administration of educational or research programs.
(4) Any maintenance, storage, or utility facility, including any hallway, essential to the operation of any facility described in this definition of "school building" under paragraphs (1), (2), or (3).
(5) Any portico or covered exterior hallway or walkway.
(6) Any exterior portion of a mechanical system used to condition interior space.

Significantly damaged friable miscellaneous ACM means damaged friable miscellaneous ACM where the damage is extensive and severe.

Significantly damaged friable surfacing ACM means damaged friable surfacing ACM in a functional space where the damage is extensive and severe.

Surfacing ACM means surfacing material that is ACM.

Surfacing material means material in a school building that is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

Thermal system insulation means material in a school building applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or for other purposes.

Thermal system insulation ACM means thermal system insulation that is ACM.

Vibration means the periodic motion of friable ACBM which may result in the release of asbestos fibers.

Sec. 763.84 General local education agency responsibilities

Each local education agency shall:

(a) Ensure that the activities of any persons who perform inspections, re-inspections, and periodic surveillance, develop and update management plans, and develop and implement response actions, including operations and maintenance, are carried out in accordance with subpart E of this part.
(b) Ensure that all custodial and maintenance employees are properly trained as required by this subpart E and other applicable Federal and/or State regulations (e.g., the Occupational Safety and Health Administration asbestos standard for construction, the EPA worker protection rule, or applicable State regulations).
(c) Ensure that workers and building occupants, or their legal guardians, are informed at least once each school year about inspections, response actions, and post-response action activities, including periodic re-inspection and surveillance activities that are planned or in progress.
(d) Ensure that short-term workers (e.g., telephone repair workers, utility workers, or exterminators) who may come in contact with asbestos in a school are provided information regarding the locations of ACBM and suspected ACBM assumed to be ACM.
(e) Ensure that warning labels are posted in accordance with Sec. 763.95.
(f) Ensure that management plans are available for inspection and notification of such availability has been provided as specified in the management plan under Sec. 763.93(g).
(g) (1) Designate a person to ensure that requirements under this section are properly implemented.
(2) Ensure that the designated person receives adequate training to perform duties assigned under this section. Such training shall provide, as necessary, basic knowledge of:
    (i) Health effects of asbestos.
    (ii) Detection, identification, and assessment of ACM.
    (iii) Options for controlling ACBM.
    (iv) Asbestos management programs.
    (v) Relevant Federal and State regulations concerning asbestos, including those in this subpart E and those of the Occupational Safety and Health Administration, U.S. Department of Labor, the U.S. Department of Transportation and the U.S. Environmental Protection Agency.
(h) Consider whether any conflict of interest may arise from the interrelationship among accredited personnel and whether that should influence the selection of accredited personnel to perform activities under this subpart.

Sec. 763.85 Inspection and re-inspections.

(a) Inspection.
  (1) Except as provided in paragraph (a)(2) of this section, before October 12, 1988, local education agencies shall inspect each school building that they lease, own, or otherwise use as a school building to identify all locations of friable and non-friable ACBM.
  (2) Any building leased or acquired on or after October 12, 1988, that is to be used as a school building shall be inspected as described under paragraphs (a) (3) and (4) of this section prior to use as a school building. In the event that emergency use of an un-inspected building as a school building is necessitated, such buildings shall be inspected within 30 days after commencement of such use.
  (3) Each inspection shall be made by an accredited inspector.
  (4) For each area of a school building, except as excluded under Sec. 763.99, each person performing an inspection shall:
    (i) Visually inspect the area to identify the locations of all suspected ACBM.
    (ii) Touch all suspected ACBM to determine whether they are friable.
    (iii) Identify all homogeneous areas of friable suspected ACBM and all homogeneous areas of non-friable suspected ACBM.
    (iv) Assume that some or all of the homogeneous areas are ACM, and, for each homogeneous area that is not assumed to be ACM, collect and submit for analysis bulk samples under Secs. 763.86 and 763.87.
    (v) Assess, under Sec. 763.88, friable material in areas where samples are collected, friable material in areas that are assumed to be ACBM, and friable ACBM identified during a previous inspection.
    (vi) Record the following and submit to the person designated under Sec. 763.84 a copy of such record for inclusion in the management plan within 30 days of the inspection:
      (a) An inspection report with the date of the inspection signed by each accredited person making the inspection, State of accreditation, and if applicable, his or her accreditation number.
      (b) An inventory of the locations of the homogeneous areas where samples are collected, exact location where each bulk sample is collected, dates that samples are collected, homogeneous areas where friable suspected ACBM is assumed to be ACM, and homogeneous areas where non-friable suspected ACBM is assumed to be ACM.
      (c) A description of the manner used to determine sampling locations, the name and signature of each accredited inspector who collected the samples, State of accreditation, and, if applicable, his or her accreditation number.
      (d) A list of whether the homogeneous areas identified under paragraph (a)(4)(vi)(B) of this section, are surfacing material, thermal system insulation, or miscellaneous material.
      (e) Assessments made of friable material, the name and signature of each accredited inspector making the assessment, State of accreditation, and if applicable, his or her accreditation number.

(b) Re-inspection.
  (1) At least once every 3 years after a management plan is in effect, each local education agency shall conduct a re-inspection of all friable and non-friable known or assumed ACBM in each school building that they lease, own, or otherwise use as a school building.
  (2) Each inspection shall be made by an accredited inspector.
  (3) For each area of a school building, each person performing a re-inspection shall:
    (i) Visually re-inspect, and reassess, under Sec. 763.88, the condition of all friable known or assumed ACBM.
    (ii) Visually inspect material that was previously considered non-friable ACBM and touch the material to determine whether it has become friable since the last inspection or re-inspection.
    (iii) Identify any homogeneous areas with material that has become friable since the last inspection or re-inspection.
    (iv) For each homogeneous area of newly friable material that is already assumed to be ACBM, bulk samples may be collected and submitted for analysis in accordance with Secs. 763.86 and 763.87.
    (v) Assess, under Sec. 763.88, the condition of the newly friable material in areas where samples are collected, and newly friable materials in areas that are assumed to be ACBM.

(vi) Reassess, under Sec. 763.88, the condition of friable known or assumed ACBM previously identified.
(vii) Record the following and submit to the person designated under Sec. 763.84 a copy of such record for inclusion in the management plan within 30 days of the re-inspection:
(a) The date of the re-inspection, the name and signature of the person making the re-inspection, State of accreditation, and if applicable, his or her accreditation number, and any changes in the condition of known or assumed ACBM.
(b) The exact locations where samples are collected during the re-inspection, a description of the manner used to determine sampling locations, the name and signature of each accredited inspector who collected the samples, State of accreditation, and, if applicable, his or her accreditation number.
(c) Any assessments or reassessments made of friable material, the name and signature of the accredited inspector making the assessments, State of accreditation, and if applicable, his or her accreditation number.
(d) General. Thermal system insulation that has retained its structural integrity and that has an undamaged protective jacket or wrap that prevents fiber release shall be treated as non-friable and therefore is subject only to periodic surveillance and preventive measures as necessary.

Sec. 763.86 Sampling

(a) Surfacing material. An accredited inspector shall collect, in a statistically random manner that is representative of the homogeneous area, bulk samples from each homogeneous area of friable surfacing material that is not assumed to be ACM, and shall collect the samples as follows:
(1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft\2\ or less, except as provided in Sec. 763.87(c)(2).
(2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft\2\ but less than or equal to 5,000 ft\2\, except as provided in Sec. 763.87(c)(2).
(3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft\2\, except as provided in Sec. 763.87(c)(2).
(b) Thermal system insulation.
(1) Except as provided in paragraphs (b) (2) through (4) of this section and Sec. 763.87(c), an accredited inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.
(2) Collect at least one bulk sample from each homogeneous area of patched thermal system insulation that is not assumed to be ACM if the patched section is less than 6 linear or square feet.
(3) In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system that is not assumed to be ACM where cement or plaster is used on fittings such as tees, elbows, or valves, except as provided under Sec. 763.87(c)(2).
(4) Bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACBM.
(c) Miscellaneous material. In a manner sufficient to determine whether material is ACM or not ACM, an accredited inspector shall collect bulk samples from each homogeneous area of friable miscellaneous material that is not assumed to be ACM.
(d) Non-friable suspected ACBM. If any homogeneous area of non-friable suspected ACBM is not assumed to be ACM, then an accredited inspector shall collect, in a manner sufficient to determine whether the material is ACM or not ACM, bulk samples from the homogeneous area of non-friable suspected ACBM that is not assumed to be ACM.

Sec. 763.87 Analysis

(a) Local education agencies shall have bulk samples, collected under Sec. 763.86 and submitted for analysis, analyzed for asbestos using laboratories accredited by the National Bureau of Standards (NBS). Local education agencies shall use laboratories which have received interim accreditation for polarized light microscopy (PLM)

analysis under the EPA Interim Asbestos Bulk Sample Analysis Quality Assurance Program until the NBS PLM laboratory accreditation program for PLM is operational.

(b) Bulk samples shall not be composited for analysis and shall be analyzed for asbestos content by PLM, using the "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" found at appendix E to subpart E of this part.

(c)
  (1) A homogeneous area is considered not to contain ACM only if the results of all samples required to be collected from the area show asbestos in amounts of 1 percent or less.
  (2) A homogeneous area shall be determined to contain ACM based on a finding that the results of at least one sample collected from that area shows that asbestos is present in an amount greater than 1 percent.

(d) The name and address of each laboratory performing an analysis, the date of analysis, and the name and signature of the person performing the analysis shall be submitted to the person designated under Sec. 763.84 for inclusion into the management plan within 30 days of the analysis. [52 FR 41846, Oct. 30, 1987, as amended at 60 FR 31922, June 19, 1995]

Sec. 763.88 Assessment

(a)
  (1) For each inspection and re-inspection conducted under Sec. 763.85 (a) and (c) and previous inspections specified under Sec. 763.99, the local education agency shall have an accredited inspector provide a written assessment of all friable known or assumed ACBM in the school building.
  (2) Each accredited inspector providing a written assessment shall sign and date the assessment, provide his or her State of accreditation, and if applicable, accreditation number, and submit a copy of the assessment to the person designated under Sec. 763.84 for inclusion in the management plan within 30 days of the assessment.

(b) The inspector shall classify and give reasons in the written assessment for classifying the ACBM and suspected ACBM assumed to be ACM in the school building into one of the following categories:
  (1) Damaged or significantly damaged thermal system insulation ACM.
  (2) Damaged friable surfacing ACM.
  (3) Significantly damaged friable surfacing ACM.
  (4) Damaged or significantly damaged friable miscellaneous ACM.
  (5) ACBM with potential for damage.
  (6) ACBM with potential for significant damage.
  (7) Any remaining friable ACBM or friable suspected ACBM.

(c) Assessment may include the following considerations:
  (1) Location and the amount of the material, both in total quantity and as a percentage of the functional space.
  (2) Condition of the material, specifying:
    (i) Type of damage or significant damage (e.g., flaking, blistering, water damage, or other signs of physical damage).
    (ii) Severity of damage (e.g., major flaking, severely torn jackets, as opposed to occasional flaking, minor tears to jackets).
    (iii) Extent or spread of damage over large areas or large percentages of the homogeneous area.
  (3) Whether the material is accessible.
  (4) The material's potential for disturbance.
  (5) Known or suspected causes of damage or significant damage (e.g., air erosion, vandalism, vibration, water).
  (6) Preventive measures which might eliminate the reasonable likelihood of undamaged ACM from becoming significantly damaged.

(d) The local education agency shall select a person accredited to develop management plans to review the results of each inspection, re-inspection, and assessment for the school building and to conduct any other necessary activities in order to recommend in writing to the local education agency appropriate response actions. The accredited person shall sign and date the recommendation, provide his or her State of accreditation, and, if

applicable, provide his or her accreditation number, and submit a copy of the recommendation to the person designated under Sec. 763.84 for inclusion in the management plan.

Sec. 763.90 Response actions

(a) The local education agency shall select and implement in a timely manner the appropriate response actions in this section consistent with the assessment conducted in Sec. 763.88. The response actions selected shall be sufficient to protect human health and the environment. The local education agency may then select, from the response actions which protect human health and the environment, that action which is the least burdensome method. Nothing in this section shall be construed to prohibit removal of ACBM from a school building at any time, should removal be the preferred response action of the local education agency.

(b) If damaged or significantly damaged thermal system insulation ACM is present in a building, the local education agency shall:
   (1) At least repair the damaged area.
   (2) Remove the damaged material if it is not feasible, due to technological factors, to repair the damage.
   (3) Maintain all thermal system insulation ACM and its covering in an intact state and undamaged condition.

(c)
   (1) If damaged friable surfacing ACM or damaged friable miscellaneous ACM is present in a building, the local education agency shall select from among the following response actions: encapsulation, enclosure, removal, or repair of the damaged material.
   (2) In selecting the response action from among those which meet the definitional standards in Sec. 763.83, the local education agency shall determine which of these response actions protects human health and the environment. For purposes of determining which of these response actions are the least burdensome, the local education agency may then consider local circumstances, including occupancy and use patterns within the school building, and its economic concerns, including short- and long-term costs.

(d) If significantly damaged friable surfacing ACM or significantly damaged friable miscellaneous ACM is present in a building the local education agency shall:
   (1) Immediately isolate the functional space and restrict access, unless isolation is not necessary to protect human health and the environment.
   (2) Remove the material in the functional space or, depending upon whether enclosure or encapsulation would be sufficient to protect human health and the environment, enclose or encapsulate.

(e) If any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for damage is present in a building, the local education agency shall at least implement an operations and maintenance (O&M) program, as described under Sec. 763.91.

(f) If any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for significant damage is present in a building, the local education agency shall:
   (1) Implement an O&M program, as described under Sec. 763.91.
   (2) Institute preventive measures appropriate to eliminate the reasonable likelihood that the ACM or its covering will become significantly damaged, deteriorated, or delaminated.
   (3) Remove the material as soon as possible if appropriate preventive measures cannot be effectively implemented, or unless other response actions are determined to protect human health and the environment. Immediately isolate the area and restrict access if necessary to avoid an imminent and substantial endangerment to human health or the environment.

(g) Response actions including removal, encapsulation, enclosure, or repair, other than small-scale, short-duration repairs, shall be designed and conducted by persons accredited to design and conduct response actions.

(h) The requirements of this subpart E in no way supersede the worker protection and work practice requirements under 29 CFR 1926.58 (Occupational Safety and Health Administration (OSHA) asbestos worker protection standards for construction), 40 CFR part 763, subpart G (EPA asbestos worker protection standards for public employees), and 40 CFR part 61, subpart M (National Emission Standards for Hazardous Air Pollutants—Asbestos).

(i) Completion of response actions.

(1) At the conclusion of any action to remove, encapsulate, or enclose ACBM or material assumed to be ACBM, a person designated by the local education agency shall visually inspect each functional space where such action was conducted to determine whether the action has been properly completed.

(2)

(i) A person designated by the local education agency shall collect air samples using aggressive sampling as described in appendix A to this subpart E to monitor air for clearance after each removal, encapsulation, and enclosure project involving ACBM, except for projects that are of small-scale, short-duration.

(ii) Local education agencies shall have air samples collected under this section analyzed for asbestos using laboratories accredited by the National Bureau of Standards to conduct such analysis using transmission electron microscopy (TEM) or, under circumstances permitted in this section, laboratories enrolled in the American Industrial Hygiene Association Proficiency Analytical Testing Program for phase contrast microscopy (PCM).

(iii) Until the National Bureau of Standards TEM laboratory accreditation program is operational, local educational agencies shall use laboratories that use the protocol described in appendix A to subpart E of this part.

(3) Except as provided in paragraphs (i)(4), and (i)(5), of this section, an action to remove, encapsulate, or enclose ACBM shall be considered complete when the average concentration of asbestos of five air samples collected within the affected functional space and analyzed by the TEM method in appendix A of this subpart E, is not statistically significantly different, as determined by the Z-test calculation found in appendix A of this subpart E, from the average asbestos concentration of five air samples collected at the same time outside the affected functional space and analyzed in the same manner, and the average asbestos concentration of the three field blanks described in appendix A of this subpart E is below the filter background level, as defined in appendix A of this subpart E, of 70 structures per square millimeter (70 s/mm \2\).

(4) An action may also be considered complete if the volume of air drawn for each of the five samples collected within the affected functional space is equal to or greater than 1,199 L of air for a 25 mm filter or equal to or greater than 2,799 L of air for a 37 mm filter, and the average concentration of asbestos as analyzed by the TEM method in appendix A of this subpart E, for the five air samples does not exceed the filter background level, as defined in appendix A, of 70 structures per square millimeter (70 s/mm \2\). If the average concentration of asbestos of the five air samples within the affected functional space exceeds 70 s/mm \2\, or if the volume of air in each of the samples is less than 1,199 L of air for a 25 mm filter or less than 2,799 L of air for a 37 mm filter, the action shall be considered complete only when the requirements of paragraph (i)(3) or (i)(5), of this section are met.

(5) At any time, a local education agency may analyze air monitoring samples collected for clearance purposes by phase contrast microscopy (PCM) to confirm completion of removal, encapsulation, or enclosure of ACBM that is greater than small-scale, short-duration and less than or equal to 160 square feet or 260 linear feet. The action shall be considered complete when the results of samples collected in the affected functional space and analyzed by phase contrast microscopy using the National Institute for Occupational Safety and Health (NIOSH) Method 7400 entitled “Fibers” published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987, show that the concentration of fibers for each of the five samples is less than or equal to a limit of quantization for PCM (0.01 fibers per cubic centimeter (0.01 f/cm \3\) of air). The method is available for public inspection at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC, 20408, and the Non-Confidential Information Center (NCIC) (7407), Office of Pollution Prevention and Toxics, U.S. Environmental Protection Agency, Room B-607 NEM, 401 M St., SW., Washington, DC 20460, between the hours of 12 p.m. and 4 p.m. weekdays excluding legal holidays. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. The method is incorporated as it exists on the effective date of this rule, and a notice of any change to the method will be published in the Federal Register.

(6) To determine the amount of ACBM affected under paragraph (i)(5) of this section, the local education agency shall add the total square or linear footage of ACBM within the containment barriers used to isolate the functional space for the action to remove, encapsulate, or enclose the ACBM. Contiguous portions of material subject to such action conducted concurrently or at approximately the same time within the same school building shall not be separated to qualify under paragraph (i)(5), of this section. [52 FR 41846, Oct. 30, 1987, as amended at 53 FR 12525, Apr. 15, 1988; 60 FR 31922, June 19, 1995; 60 FR 34465, July 3, 1995]

Sec. 763.91 Operations and maintenance

(a) Applicability. The local education agency shall implement an operations, maintenance, and repair (O&M) program under this section whenever any friable ACBM is present or assumed to be present in a building that it leases, owns, or otherwise uses as a school building. Any material identified as non-friable ACBM or non-friable assumed ACBM must be treated as friable ACBM for purposes of this section when the material is about to become friable as a result of activities performed in the school building.

(b) Worker protection. Local education agencies must comply with either the OSHA Asbestos Construction Standard at 29 CFR 1926.1101, or the Asbestos Worker Protection Rule at 40 CFR 763.120, whichever is applicable.

(c) Cleaning

(1) Initial cleaning. Unless the building has been cleaned using equivalent methods within the previous 6 months, all areas of a school building where friable ACBM, damaged or significantly damaged thermal system insulation ACM, or friable suspected ACBM assumed to be ACM are present shall be cleaned at least once after the completion of the inspection required by Sec. 763.85(a) and before the initiation of any response action, other than O&M activities or repair, according to the following procedures:

(i) HEPA-vacuum or steam-clean all carpets.

(ii) HEPA-vacuum or wet-clean all other floors and all other horizontal surfaces.

(iii) Dispose of all debris, filters, mop-heads, and cloths in sealed, leak-tight containers.

(2) Additional cleaning. The accredited management planner shall make a written recommendation to the local education agency whether additional cleaning is needed, and if so, the methods and frequency of such cleaning.

(d) Operations and maintenance activities. The local education agency shall ensure that the procedures described below to protect building occupants shall be followed for any operations and maintenance activities disturbing friable ACBM:

(1) Restrict entry into the area by persons other than those necessary to perform the maintenance project, either by physically isolating the area or by scheduling.

(2) Post signs to prevent entry by unauthorized persons.

(3) Shut off or temporarily modify the air-handling system and restrict other sources of air movement.

(4) Use work practices or other controls, such as, wet methods, protective clothing, HEPA-vacuums, mini-enclosures, glove bags, as necessary to inhibit the spread of any released fibers.

(5) Clean all fixtures or other components in the immediate work area.

(6) Place the asbestos debris and other cleaning materials in a sealed, leak-tight container.

(e) Maintenance activities other than small-scale, short-duration.

The response action for any maintenance activities disturbing friable ACBM, other than small-scale, short-duration maintenance activities, shall be designed by persons accredited to design response actions and conducted by persons accredited to conduct response actions.(f) Fiber release episodes

(1) Minor fiber release episode. The local education agency shall ensure that the procedures described below are followed in the event of a minor fiber release episode (i.e., the falling or dislodging of 3 square or linear feet or less of friable ACBM):

(i) Thoroughly saturate the debris using wet methods.

(ii) Clean the area, as described in paragraph (e) of this section.

(iii) Place the asbestos debris in a sealed, leak-tight container.

(iv) Repair the area of damaged ACM with materials such as asbestos-free spackling, plaster, cement, or insulation, or seal with latex paint or an encapsulant, or immediately have the appropriate response action implemented as required by Sec. 763.90.

(2) Major fiber release episode. The local education agency shall ensure that the procedures described below are followed in the event of a major fiber release episode (i.e., the falling or dislodging of more than 3 square or linear feet of friable ACBM):

(i) Restrict entry into the area and post signs to prevent entry into the area by persons other than those necessary to perform the response action.

(ii) Shut off or temporarily modify the air-handling system to prevent the distribution of fibers to other areas in the building.

(iii) The response action for any major fiber release episode must be designed by persons accredited to design response actions and conducted by persons accredited to conduct response actions.[52 FR 41846, Oct. 30, 1987, as amended at 65 FR 69216, Nov. 15, 2000]

Sec. 763.92 Training and periodic surveillance

(a) Training.

(1) The local education agency shall ensure, prior to the implementation of the O&M provisions of the management plan, that all members of its maintenance and custodial staff (custodians, electricians, heating/air conditioning engineers, plumbers, etc.) who may work in a building that contains ACBM receive awareness training of at least 2 hours, whether or not they are required to work with ACBM. New custodial and maintenance employees shall be trained within 60 days after commencement of employment. Training shall include, but not be limited to:

(i) Information regarding asbestos and its various uses and forms.

(ii) Information on the health effects associated with asbestos exposure.

(iii) Locations of ACBM identified throughout each school building in which they work.

(iv) Recognition of damage, deterioration, and de-lamination of ACBM.

(v) Name and telephone number of the person designated to carry out general local education agency responsibilities under Sec. 763.84 and the availability and location of the management plan.

(2) The local education agency shall ensure that all members of its maintenance and custodial staff who conduct any activities that will result in the disturbance of ACBM shall receive training described in paragraph (a)(1) of this section and 14 hours of additional training.
Additional training shall include, but not be limited to:

(i) Descriptions of the proper methods of handling ACBM.

(ii) Information on the use of respiratory protection as contained in the EPA/NIOSH Guide to Respiratory Protection for the Asbestos Abatement Industry, September 1986 (EPA 560/OPPTS-86-001), available from the Director, Environmental Assistance Division (7408), Office of Pollution Prevention and Toxics, U.S. Environmental Protection Agency, Room E-543B, 1200 Pennsylvania Ave., NW., Washington, DC 20460, Telephone: (202) 554-1404, TDD: (202) 544-0551 and other personal protection measures.

(iii) The provisions of this section and Sec. 763.91, Appendices A, C, and D of this subpart E of this part, EPA regulations contained in 40 CFR part 763, subpart G, and in 40 CFR part 61, subpart M, and OSHA regulations contained in 29 CFR 1926.58.

(iv) Hands-on training in the use of respiratory protection, other personal protection measures, and good work practices.

(3) Local education agency maintenance and custodial staff who have attended EPA-approved asbestos training or received equivalent training for O&M and periodic surveillance activities involving asbestos shall be considered trained for the purposes of this section.

(b) Periodic surveillance.

(1) At least once every 6 months after a management plan is in effect, each local education agency shall conduct periodic surveillance in each building that it leases, owns, or otherwise uses as a school building that contains ACBM or is assumed to contain ACBM.

(2) Each person performing periodic surveillance shall:

(i) Visually inspect all areas that are identified in the management plan as ACBM or assumed ACBM.
(ii) Record the date of the surveillance, his or her name, and any changes in the condition of the materials.
(iii) Submit to the person designated to carry out general local education agency responsibilities under Sec. 763.84 a copy of such record for inclusion in the management plan. [52 FR 41846, Oct. 30, 1987, as amended at 60 FR 34465, July 3, 1995; 65 FR 69216, Nov. 15, 2000]

Sec. 763.93 Management plans

(a)(1)On or before October 12, 1988, each local education agency shall develop an asbestos management plan for each school, including all buildings that they lease, own, or otherwise use as school buildings, and submit the plan to an Agency designated by the Governor of the State in which the local education agency is located. The plan may be submitted in stages that cover a portion of the school buildings under the authority of the local education agency.

(2) If a building to be used as part of a school is leased or otherwise acquired after October 12, 1988, the local education agency shall include the new building in the management plan for the school prior to its use as a school building. The revised portions of the management plan shall be submitted to the Agency designated by the Governor.

(3) If a local education agency begins to use a building as a school after October 12, 1988, the local education agency shall submit a management plan for the school to the Agency designated by the Governor prior to its use as a school.

(b) On or before October 17, 1987, the Governor of each State shall notify local education agencies in the State regarding where to submit their management plans. States may establish administrative procedures for reviewing management plans. If the Governor does not disapprove a management plan within 90 days after receipt of the plan, the local education agency shall implement the plan.

(c) Each local education agency must begin implementation of its management plan on or before July 9, 1989, and complete implementation in a timely fashion.

(d) Each local education agency shall maintain and update its management plan to keep it current with ongoing operations and maintenance, periodic surveillance, inspection, re-inspection, and response action activities. All provisions required to be included in the management plan under this section shall be retained as part of the management plan, as well as any information that has been revised to bring the plan up-to-date.

(e) The management plan shall be developed by an accredited management planner and shall include:
(1) A list of the name and address of each school building and whether the school building contains friable ACBM, non-friable ACBM, and friable and non-friable suspected ACBM assumed to be ACM.
(2) For each inspection conducted before the December 14, 1987:
(i) The date of the inspection.
(ii) A blueprint, diagram, or written description of each school building that identifies clearly each location and approximate square or linear footage of any homogeneous or sampling area where material was sampled for ACM, and, if possible, the exact locations where bulk samples were collected, and the dates of collection.
(iii) A copy of the analyses of any bulk samples, dates of analyses, and a copy of any other laboratory reports pertaining to the analyses.
(iv) A description of any response actions or preventive measures taken to reduce asbestos exposure, including if possible, the names and addresses of all contractors involved, start and completion dates of the work, and results of any air samples analyzed during and upon completion of the work.
(v) A description of assessments, required to be made under Sec. 763.88, of material that was identified before December 14, 1987, as friable ACBM or friable suspected ACBM assumed to be ACM, and the name and signature, State of accreditation, and if applicable, accreditation number of each accredited person making the assessments.
(3) For each inspection and re-inspection conducted under Sec. 763.85:
(i) The date of the inspection or re-inspection and the name and signature, State of accreditation and, if applicable, the accreditation number of each accredited inspector performing the inspection or re-inspection.

(ii) A blueprint, diagram, or written description of each school building that identifies clearly each location and approximate square or linear footage of homogeneous areas where material was sampled for ACM, the exact location where each bulk sample was collected, date of collection, homogeneous areas where friable suspected ACBM is assumed to be ACM, and where non-friable suspected ACBM is assumed to be ACM.

(iii) A description of the manner used to determine sampling locations, and the name and signature of each accredited inspector collecting samples, the State of accreditation, and if applicable, his or her accreditation number.

(iv) A copy of the analyses of any bulk samples collected and analyzed, the name and address of any laboratory that analyzed bulk samples, a statement that the laboratory meets the applicable requirements of Sec. 763.87(a) the date of analysis, and the name and signature of the person performing the analysis.

(v) A description of assessments, required to be made under Sec. 763.88, of all ACBM and suspected ACBM assumed to be ACM, and the name, signature, State of accreditation, and if applicable, accreditation number of each accredited person making the assessments.

(4) The name, address, and telephone number of the person designated under Sec. 763.84 to ensure that the duties of the local education agency are carried out, and the course name, and dates and hours of training taken by that person to carry out the duties.

(5) The recommendations made to the local education agency regarding response actions, under Sec. 763.88(d), the name, signature, State of accreditation of each person making the recommendations, and if applicable, his or her accreditation number.

(6) A detailed description of preventive measures and response actions to be taken, including methods to be used, for any friable ACBM, the locations where such measures and action will be taken, reasons for selecting the response action or preventive measure, and a schedule for beginning and completing each preventive measure and response action.

(7) With respect to the person or persons who inspected for ACBM and who will design or carry out response actions, except for operations and maintenance, with respect to the ACBM, one of the following statements:

(i) If the State has adopted a contractor accreditation program under section 206(b) of Title II of the Act, a statement that the person(s) is accredited under such plan.

(ii) A statement that the local education agency used (or will use) persons who have been accredited by another State which has adopted a contractor accreditation plan under section 206(b) of Title II of the Act or is accredited by an EPA-approved course under section 206 (c) of Title II of the Act.

(8) A detailed description in the form of a blueprint, diagram, or in writing of any ACBM or suspected ACBM assumed to be ACM which remains in the school once response actions are undertaken pursuant to Sec. 763.90. This description shall be updated as response actions are completed.

(9) A plan for re-inspection under Sec. 763.85, a plan for operations and maintenance activities under Sec. 763.91, and a plan for periodic surveillance under Sec. 763.92, a description of the recommendation made by the management planner regarding additional cleaning under Sec. 763.91(c)(2) as part of an operations and maintenance program, and the response of the local education agency to that recommendation.

(10) A description of steps taken to inform workers and building occupants, or their legal guardians, about inspections, re-inspections, response actions, and post-response action activities, including periodic re-inspection and surveillance activities that are planned or in progress.

(11) An evaluation of the resources needed to complete response actions successfully and carry out re-inspection, operations and maintenance activities, periodic surveillance and training.

(12) With respect to each consultant who contributed to the management plan, the name of the consultant and one of the following statements:

(i) If the State has adopted a contractor accreditations plan under section 206(b) of Title II of the Act, a statement that the consultant is accredited under such plan.

(ii) A statement that the contractor is accredited by another State which has adopted a contractor accreditation plan under section 206(b) of Title II of the Act, or is accredited by an EPA-approved course developed under section 206(c) of Title II of the Act.

(f) A local education agency may require each management plan to contain a statement signed by an accredited management plan developer that such person has prepared or assisted in the preparation of such plan or has reviewed such plan, and that such plan is in compliance with this subpart E. Such statement may not be signed by a person who, in addition to preparing or assisting in preparing the management plan, also implements (or will implement) the management plan.

(g)

(1) Upon submission of a management plan to the Governor for review, a local education agency shall keep a copy of the plan in its administrative office. The management plans shall be available, without cost or restriction, for inspection by representatives of EPA and the State, the public, including teachers, other school personnel and their representatives, and parents. The local education agency may charge a reasonable cost to make copies of management plans.

(2) Each local education agency shall maintain in its administrative office a complete, updated copy of a management plan for each school under its administrative control or direction. The management plans shall be available, during normal business hours, without cost or restriction, for inspection by representatives of EPA and the State, the public, including teachers, other school personnel and their representatives, and parents. The local education agency may charge a reasonable cost to make copies of management plans.

(3) Each school shall maintain in its administrative office a complete, updated copy of the management plan for that school. Management plans shall be available for inspection, without cost or restriction, to workers before work begins in any area of a school building. The school shall make management plans available for inspection to representatives of EPA and the State, the public, including parents, teachers, and other school personnel and their representatives within 5 working days after receiving a request for inspection. The school may charge a reasonable cost to make copies of the management plan.

(4) Upon submission of its management plan to the Governor and at least once each school year, the local education agency shall notify in writing parent, teacher, and employee organizations of the availability of management plans and shall include in the management plan a description of the steps taken to notify such organizations, and a dated copy of the notification. In the absence of any such organizations for parents, teachers, or employees, the local education agency shall provide written notice to that relevant group of the availability of management plans and shall include in the management plan a description of the steps taken to notify such groups, and a dated copy of the notification.

(h) Records required under Sec. 763.94 shall be made by local education agencies and maintained as part of the management plan.

(i) Each management plan must contain a true and correct statement, signed by the individual designated by the local education agency under Sec. 763.84, which certifies that the general, local education agency responsibilities, as stipulated by Sec. 763.84, have been met or will be met.

Sec. 763.94 Recordkeeping

(a) Records required under this section shall be maintained in a centralized location in the administrative office of both the school and the local education agency as part of the management plan. For each homogeneous area where all ACBM has been removed, the local education agency shall ensure that such records are retained for 3 years after the next re-inspection required under Sec. 763.85(b)(1), or for an equivalent period.

(b) For each preventive measure and response action taken for friable and non-friable ACBM and friable and non-friable suspected ACBM assumed to be ACM, the local education agency shall provide:

(1) A detailed written description of the measure or action, including methods used, the location where the measure or action was taken, reasons for selecting the measure or action, start and completion dates of the work, names and addresses of all contractors involved, and if applicable, their State of accreditation, and accreditation numbers, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

(2) The name and signature of any person collecting any air sample required to be collected at the completion of certain response actions specified by Sec. 763.90(i), the locations where samples were collected, date of collection, the name and address of the laboratory analyzing the samples, the date of analysis, the results of

the analysis, the method of analysis, the name and signature of the person performing the analysis, and a statement that the laboratory meets the applicable requirements of Sec. 763.90(i)(2)(ii).

(c) For each person required to be trained under Sec. 763.92(a) (1) and (2), the local education agency shall provide the person's name and job title, the date that training was completed by that person, the location of the training, and the number of hours completed in such training.

(d) For each time that periodic surveillance under Sec. 763.92(b) is performed, the local education agency shall record the name of each person performing the surveillance, the date of the surveillance, and any changes in the conditions of the materials.

(e) For each time that cleaning under Sec. 763.91(c) is performed, the local education agency shall record the name of each person performing the cleaning, the date of such cleaning, the locations cleaned, and the methods used to perform such cleaning.

(f) For each time that operations and maintenance activities under Sec. 763.91(d) are performed, the local education agency shall record the name of each person performing the activity, the start and completion dates of the activity, the locations where such activity occurred, a description of the activity including preventive measures used, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

(g) For each time that major asbestos activity under Sec. 763.91(e) is performed, the local education agency shall provide the name and signature, State of accreditation, and if applicable, the accreditation number of each person performing the activity, the start and completion dates of the activity, the locations where such activity occurred, a description of the activity including preventive measures used, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

(h) For each fiber release episode under Sec. 763.91(f), the local education agency shall provide the date and location of the episode, the method of repair, preventive measures or response action taken, the name of each person performing the work, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

(Approved by the Office of Management and Budget under control number 2070-0091)

Sec. 763.95 Warning labels

(a) The local education agency shall attach a warning label immediately adjacent to any friable and non-friable ACBM and suspected ACBM assumed to be ACM located in routine maintenance areas (such as boiler rooms) at each school building.

This shall include:

(1) Friable ACBM that was responded to by a means other than removal.

(2) ACBM for which no response action was carried out.

(b) All labels shall be prominently displayed in readily visible locations and shall remain posted until the ACBM that is labeled is removed.

(c) The warning label shall read, in print which is readily visible because of large size or bright color, as follows:

CAUTION:
ASBESTOS HAZARDOUS
DO NOT DISTURB WITHOUT PROPER
TRAINING AND EQUIPMENT.

Sec. 763.97 Compliance and enforcement

(a) Compliance with Title II of the Act.

(1) Section 207(a) of Title II of the Act (15 U.S.C. 2647) makes it unlawful for any local education agency to:

(i) Fail to conduct inspections pursuant to section 203(b) of Title II of the Act, including failure to follow procedures and failure to use accredited personnel and laboratories.

(ii) Knowingly submit false information to the Governor regarding any inspection pursuant to regulations under section 203(i) of Title II of the Act.

(iii) Fail to develop a management plan pursuant to regulations under section 203(i) of Title II of the Act.

(2) Section 207(a) of Title II of the Act (15 U.S.C. 2647) also provides that any local education agency which violates any provision of section 207 shall be liable for a civil penalty of not more than $5,000 for each day during which the violation continues. For the purposes of this subpart, a "violation" means a failure to comply with respect to a single school building.

(b) Compliance with Title I of the Act.
(1) Section 15(1)(D) of Title I of the Act (15 U.S.C. 2614) makes it unlawful for any person to fail or refuse to comply with any requirement of Title II or any rule promulgated or order issued under Title II. Therefore, any person who violates any requirement of this subpart is in violation of section 15 of Title I of the Act.
(2) Section 15(3) of Title I of the Act (15 U.S.C. 2614) makes it unlawful for any person to fail or refuse to establish or maintain records, submit reports, notices or other information, or permit access to or copying of records, as required by this Act or a rule thereunder.
(3) Section 15(4) (15 U.S.C. 2614) of Title I of the Act makes it unlawful for any person to fail or refuse to permit entry or inspection as required by section 11 of Title I of the Act.
(4) Section 16(a) of Title I of the Act (15 U.S.C. 2615) provides that any person who violates any provision of section 15 of Title I of the Act shall be liable to the United States for a civil penalty in an amount not to exceed $25,000 for each such violation. Each day such a violation continues shall, for purposes of this paragraph, constitute a separate violation of section 15. A local education agency is not liable for any civil penalty under Title I of the Act for failing or refusing to comply with any rule promulgated or order issued under Title II of the Act.

(c) Criminal penalties. If any violation committed by any person (including a local education agency) is knowing or willful, criminal penalties may be assessed under section 16(b) of Title I of the Act.

(d) Injunctive relief. The Agency may obtain injunctive relief under section 208(b) of Title II of the Act to respond to a hazard which poses an imminent and substantial endangerment to human health or the environment or section 17 (15 U.S.C. 2616) of Title I of the Act to restrain any violation of section 15 of Title I of the Act or to compel the taking of any action required by or under Title I of the Act.

(e) Citizen complaints. Any citizen who wishes to file a complaint pursuant to section 207(d) of Title II of the Act should direct the complaint to the Governor of the State or the EPA Asbestos Ombudsman, 1200 Pennsylvania Ave., NW., Washington, DC 20460. The citizen complaint should be in writing and identified as a citizen complaint pursuant to section 207(d) of Title II of TSCA. The EPA Asbestos Ombudsman or the Governor shall investigate and respond to the complaint within a reasonable period of time if the allegations provide a reasonable basis to believe that a violation of the Act has occurred.

(f) Inspections. EPA may conduct inspections and review management plans under section 11 of Title I of the Act (15 U.S.C. 2610) to ensure compliance.

Sec. 763.98 Waiver; delegation to State

(a) General.
(1) Upon request from a State Governor and after notice and comment and an opportunity for a public hearing in accordance with paragraphs (b) and (c) of this section, EPA may waive some or all of the requirements of this subpart E if the State has established and is implementing or intends to implement a program of asbestos inspection and management that contains requirements that are at least as stringent as the requirements of this subpart E.
(2) A waiver from any requirement of this subpart E shall apply only to the specific provision for which a waiver has been granted under this section. All requirements of this subpart E shall apply until a waiver is granted under this section.

(b) Request. Each request by a Governor to waive any requirement of this subpart E shall be sent with three complete copies of the request to the Regional Administrator for the EPA Region in which the State is located and shall include:
(1) A copy of the State provisions or proposed provisions relating to its program of asbestos inspection and management in schools for which the request is made.
(2)

(i) The name of the State agency that is or will be responsible for administering and enforcing the requirements for which a waiver is requested, the names and job titles of responsible officials in that agency, and phone numbers where the officials can be contacted.

(ii) In the event that more than one agency is or will be responsible for administering and enforcing the requirements for which a waiver is requested, a description of the functions to be performed by each agency, how the program will be coordinated by the lead agency to ensure consistency and effective administration in the asbestos inspection and management program within the State, the names and job titles of responsible officials in the agencies, and phone numbers where the officials can be contacted. The lead agency will serve as the central contact point for the EPA.

(3) Detailed reasons, supporting papers, and the rationale for concluding that the State's asbestos inspection and management program provisions for which the request is made are at least as stringent as the requirements of this subpart E.

(4) A discussion of any special situations, problems, and needs pertaining to the waiver request accompanied by an explanation of how the State intends to handle them.

(5) A statement of the resources that the State intends to devote to the administration and enforcement of the provisions relating to the waiver request.

(6) Copies of any specific or enabling State laws (enacted and pending enactment) and regulations (promulgated and pending promulgation) relating to the request, including provisions for assessing criminal and/or civil penalties.

(7) Assurance from the Governor, the Attorney General, or the legal counsel of the lead agency that the lead agency or other cooperating agencies have the legal authority necessary to carry out the requirements relating to the request.

(c) General Notice - hearing.

(1) Within 30 days after receipt of a request for a waiver, EPA will determine the completeness of the request. If EPA does not request further information within the 30-day period, the request will be deemed complete.

(2) Within 30 days after EPA determines that a request is complete, EPA will issue for publication in the Federal Register a notice that announces receipt of the request, describes the information submitted under paragraph (b) of this section, and solicits written comment from interested members of the public. Comments must be submitted within 60 days.

(3) If, during the comment period, EPA receives a written objection to a Governor's request and a request for a public hearing detailing specific objections to the granting of a waiver, EPA will schedule a public hearing to be held in the affected State after the close of the comment period and will announce the public hearing date in the Federal Register before the date of the hearing. Each comment shall include the name and address of the person submitting the comment.

(d) Criteria. EPA may waive some or all of the requirements of subpart E of this part if:

(1) The State's lead agency and other cooperating agencies have the legal authority necessary to carry out the provisions of asbestos inspection and management in schools relating to the waiver request.

(2) The State's program of asbestos inspection and management in schools relating to the waiver request and implementation of the program are or will be at least as stringent as the requirements of this subpart E.

(3) The State has an enforcement mechanism to allow it to implement the program described in the waiver request.

(4) The lead agency and any cooperating agencies have or will have qualified personnel to carry out the provisions relating to the waiver request.

(5) The State will devote adequate resources to the administration and enforcement of the asbestos inspection and management provisions relating to the waiver request.

(6) When specified by EPA, the State gives satisfactory assurances that necessary steps, including specific actions it proposes to take and a time schedule for their accomplishment, will be taken within a reasonable time to conform with applicable criteria under paragraphs (d) (2) through (4) of this section.

(e) Decision. EPA will issue for publication in the Federal Register a notice announcing its decision to grant or deny, in whole or in part, a Governor's request for a waiver from some or all of the requirements of this subpart E within 30 days after the close of the comment period or within 30 days following a public hearing, whichever is

applicable. The notice will include the Agency's reasons and rationale for granting or denying the Governor's request. The 30-day period may be extended if mutually agreed upon by EPA and the State.

(f) Modifications. When any substantial change is made in the administration or enforcement of a State program for which a waiver was granted under this section, a responsible official in the lead agency shall submit such changes to EPA.

(g) Reports. The lead agency in each State that has been granted a waiver by EPA from any requirement of subpart E of this part shall submit a report to the Regional Administrator for the Region in which the State is located at least once every 12 months to include the following information:
   (1) A summary of the State's implementation and enforcement activities during the last reporting period relating to provisions waived under this section, including enforcement actions taken.
   (2) Any changes in the administration or enforcement of the State program implemented during the last reporting period.
   (3) Other reports as may be required by EPA to carry out effective oversight of any requirement of this subpart E that was waived under this section.

(h) Oversight. EPA may periodically evaluate the adequacy of a State's implementation and enforcement of and resources devoted to carrying out requirements relating to the waiver. This evaluation may include, but is not limited to, site visits to local education agencies without prior notice to the State.
   (1) Informal conference. EPA may request that an informal conference be held between appropriate State and EPA officials when EPA has reason to believe that a State has failed to:
      (i) Substantially comply with the terms of any provision that was waived under this section.
      (ii) Meet the criteria under paragraph (d) of this section, including the failure to carry out enforcement activities or act on violations of the State program.
   (2) EPA will:
      (i) Specify to the State those aspects of the State's program believed to be inadequate.
      (ii) Specify to the State the facts that underlie the belief of inadequacy.
   (3) If EPA finds, on the basis of information submitted by the State at the conference, that deficiencies did not exist or were corrected by the State, no further action is required.
   (4) Where EPA finds that deficiencies in the State program exist, a plan to correct the deficiencies shall be negotiated between the State and EPA. The plan shall detail the deficiencies found in the State program, specify the steps the State has taken or will take to remedy the deficiencies, and establish a schedule for each remedial action to be initiated.

(j) Rescission.
   (1) If the State fails to meet with EPA or fails to correct deficiencies raised at the informal conference, EPA will deliver to the Governor of the State and a responsible official in the lead agency a written notice of its intent to rescind, in whole or part, the waiver.
   (2) EPA will issue for publication in the Federal Register a notice that announces the rescission of the waiver, describes those aspects of the State's program determined to be inadequate, and specifies the facts that underlie the findings of inadequacy.

Sec. 763.99 Exclusions

(a) A local education agency shall not be required to perform an inspection under Sec. 763.85(a) in any sampling area as defined in 40 CFR 763.103 or homogeneous area of a school building where:
   (1) An accredited inspector has determined that, based on sampling records, friable ACBM was identified in that homogeneous or sampling area during an inspection conducted before December 14, 1987. The inspector shall sign and date a statement to that effect with his or her State of accreditation and if applicable, accreditation number and, within 30 days after such determination, submit a copy of the statement to the person designated under Sec. 763.84 for inclusion in the management plan. However, an accredited inspector shall assess the friable ACBM under Sec. 763.88.

(2) An accredited inspector has determined that, based on sampling records, non-friable ACBM was identified in that homogeneous or sampling area during an inspection conducted before December 14, 1987. The inspector shall sign and date a statement to that effect with his or her State of accreditation and if applicable, accreditation number and, within 30 days after such determination, submit a copy of the statement to the person designated under Sec. 763.84 for inclusion in the management plan. However, an accredited inspector shall identify whether material that was non-friable has become friable since that previous inspection and shall assess the newly-friable ACBM under Sec. 763.88.

(3) Based on sampling records and inspection records, an accredited inspector has determined that no ACBM is present in the homogeneous or sampling area and the records show that the area was sampled, before December 14, 1987 in substantial compliance with Sec. 763.85(a), which for purposes of this section means in a random manner and with a sufficient number of samples to reasonably ensure that the area is not ACBM.

(i) The accredited inspector shall sign and date a statement, with his or her State of accreditation and if applicable, accreditation number that the homogeneous or sampling area determined not to be ACBM was sampled in substantial compliance with Sec. 763.85(a).

(ii) Within 30 days after the inspector's determination, the local education agency shall submit a copy of the inspector's statement to the EPA Regional Office and shall include the statement in the management plan for that school.

(4) The lead agency responsible for asbestos inspection in a State that has been granted a waiver from Sec. 763.85(a) has determined that, based on sampling records and inspection records, no ACBM is present in the homogeneous or sampling area and the records show that the area was sampled before December 14, 1987, in substantial compliance with Sec. 763.85(a). Such determination shall be included in the management plan for that school.

(5) An accredited inspector has determined that, based on records of an inspection conducted before December 14, 1987, suspected ACBM identified in that homogeneous or sampling area is assumed to be ACM. The inspector shall sign and date a statement to that effect, with his or her State of accreditation and if applicable, accreditation number and, within 30 days of such determination, submit a copy of the statement to the person designated under Sec. 763.84 for inclusion in the management plan. However, an accredited inspector shall identify whether material that was non-friable suspected ACBM assumed to be ACM has become friable since the previous inspection and shall assess the newly friable material and previously identified friable suspected ACBM assumed to be ACM under Sec. 763.88.

(6) Based on inspection records and contractor and clearance records, an accredited inspector has determined that no ACBM is present in the homogeneous or sampling area where asbestos removal operations have been conducted before December 14, 1987, and shall sign and date a statement to that effect and include his or her State of accreditation and, if applicable, accreditation number. The local education agency shall submit a copy of the statement to the EPA Regional Office and shall include the statement in the management plan for that school.

(7) An architect or project engineer responsible for the construction of a new school building built after October 12, 1988, or an accredited inspector signs a statement that no ACBM was specified as a building material in any construction document for the building, or, to the best of his or her knowledge, no ACBM was used as a building material in the building. The local education agency shall submit a copy of the signed statement of the architect, project engineer, or accredited inspector to the EPA Regional Office and shall include the statement in the management plan for that school.

(b) The exclusion, under paragraphs (a) (1) through (4) of this section, from conducting the inspection under Sec. 763.85(a) shall apply only to homogeneous or sampling areas of a school building that were inspected and sampled before October 17, 1987. The local education agency shall conduct an inspection under Sec. 763.85(a) of all areas inspected before October 17, 1987 that were not sampled or were not assumed to be ACM.

(c) If ACBM is subsequently found in a homogeneous or sampling area of a local education agency that had been identified as receiving an exclusion by an accredited inspector under paragraphs (a) (3), (4), (5) of this section, or an architect, project engineer or accredited inspector under paragraph (a)(7) of this section, the local education agency shall have 180 days following the date of identification of ACBM to comply with this subpart E.

131302977

131302977

universal environmental consultants
12 Brewster Road
Framingham, MA 01702
Phone: 508.628.5486
Fax: 508.628.5488

CHAIN OF CUSTODY

BUILDING / SITE NAME: Foxhill school
TOWN / CITY: Burlington
WORK AREA: Office
STATE: MA

Analysis Type	Turnaround Time (x) 6-8 Hr	12 Hr	24 Hr	48 Hr	72 hr
TEM / AHERA					
TEM / Level II					
TEM / Dust					
TEM / Bulk					
TEM / Water					
PLM			X		
Mold					
Other:					

Specific Project Notes

SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION	START	STOP	TIME	L/MIN	VOLUME
1	white 12"x12" VAT	storage room					
2	" "	" "					
3	" "	under carpet					
4	white 12"x12" VAT	" "					
5	Black mastic	storage room					
6	" "	" "					
7	" "	under carpet					
8	Black mastic	" "					

SAMPLED BY: Jason Bent 7-16-13 DATE/TIME:
RECEIVED BY: DATE/TIME:
RELINQUISHED BY: DATE/TIME:
RECEIVED IN LAB BY: DATE/TIME:

RECEIVED
JUL 16 2013
By SA 13.12 W-IN

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone/Fax: (781) 933-8411 / (781) 933-8412
bostonlab@emsl.com

EMSL Order:	131302977
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: **Jason Becotte**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone:	(508) 628-5486
Fax:	(508) 628-5488
Received:	07/16/13 1:12 PM
Analysis Date:	7/16/2013
Collected:	7/16/2013

Project: **Fox Hill School Office; Burlington, MA**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1 *131302977-0001*	Storage Room - White 12x12 VAT	White Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
2 *131302977-0002*	Storage Room - White 12x12 VAT	White Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
3 *131302977-0003*	Under Carpet - White 12x12 VAT	White Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
4 *131302977-0004*	Under Carpet - White 12x12 VAT	White Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
5 *131302977-0005*	Storage Room - Black Mastic	Black Non-Fibrous Homogeneous		90% Non-fibrous (other)	**10% Chrysotile**
6 *131302977-0006*	Storage Room - Black Mastic	Black Non-Fibrous Homogeneous		90% Non-fibrous (other)	**10% Chrysotile**
7 *131302977-0007*	Under Carpet - Black Mastic	Black Non-Fibrous Homogeneous		90% Non-fibrous (other)	**10% Chrysotile**
8 *131302977-0008*	Under Carpet - Black Mastic	Black Non-Fibrous Homogeneous		90% Non-fibrous (other)	**10% Chrysotile**

Analyst(s)
Kevin Pine (8)

Renaldo Drakes, Laboratory Manager
or other approved signatory

Initial report from 07/16/2013 15:51:12

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

PLM
24-hour TAT

Town/City: Burlington, MA Building Name Fox Hill school

Sample	Result	Description of Material	Sample Location
1		sheetrock 2x4 SAT	Cafeteria Storage room
2		sheetrock 2x4 SAT	Cafeteria Storage room

Reported By: Jason Becotte Date: 7-24-17 Due Date:

Received By: Date:

Asbestos Identification Laboratory
165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600
Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 24416

NVLAP®
Lab Code: 200919-0

July 25, 2017

Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project Number:
Project Name: Fox Hill School, Burlington, MA

Date Sampled: 2017-07-24
Work Received: 2017-07-24
Work Analyzed: 2017-07-24

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Ammar Dieb,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project .

The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Ammar Dieb for your business.

Michael Manning
Owner/Director

July 25, 2017

Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project Number:
Project Name: Fox Hill School, Burlington, MA

Date Sampled: 2017-07-24
Work Received: 2017-07-24
Work Analyzed: 2017-07-24

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
1 / 275096	Sheetrcok 2x4 SAT	Cafeteria Storage Room	gray	Fiberglass 2 Cellulose 20 Non-Fibrous 78	None Detected
2 / 275097	Sheetrcok 2x4 SAT	Cafeteria Storage Room	gray	Fiberglass 2 Cellulose 30 Non-Fibrous 68	None Detected

Tuesday 25 July 2017
Analyzed by:

End of Report

Batch: 24416

OrderID: 131800703

131800703

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

PLM
24-hour TAT

Town/City: Burlington, MA Building Name Fox Hill School

Sample	Result	Description of Material	Sample Location
1		Plaster cement	walk-In freezer wall
2		"	"
3		"	"
4		Cork	walk-In freezer insulation
5		"	"
6		"	"
7		Black tar on cork	walk-In freezer insulation
8		"	"
9		"	"

Reported By: Jason Beaute Date: 2-2-18 Due Date: ----------

Received By: ---------- Date: ----------

REC'D 16:15 EMSL-BOSTON FEB 02 2018

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 131800703
Customer ID: UEC63
Customer PO:
Project ID:

Attention: Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (617) 984-9772
Fax: (508) 628-5488
Received Date: 02/02/2018 4:15 PM
Analysis Date: 02/05/2018
Collected Date: 02/02/2018

Project: Fox Hill School / Burlington, MA

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1 *131800703-0001*	Walk-In Freezer Wall - Plaster Cement	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2 *131800703-0002*	Walk-In Freezer Wall - Plaster Cement	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3 *131800703-0003*	Walk-In Freezer Wall - Plaster Cement	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4 *131800703-0004*	Walk-In Freezer Insulation - Cork	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
5 *131800703-0005*	Walk-In Freezer Insulation - Cork	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6 *131800703-0006*	Walk-In Freezer Insulation - Cork	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
7 *131800703-0007*	Walk-In Freezer Insulation - Black Tar on Cork	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
8 *131800703-0008*	Walk-In Freezer Insulation - Black Tar on Cork	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9 *131800703-0009*	Walk-In Freezer Insulation - Black Tar on Cork	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)
Elizabeth Stutts (9)

Steve Grise, Laboratory Manager
or Other Approved Signatory

Initial report from: 02/05/2018 12:14:31

OrderID: 131808190

131808190

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

PLM
48-hour TAT

Town/City: Burlington, MA Building Name Fox Hill School

Sample	Result	Description of Material	Sample Location
1		Rough Ceiling Plaster	Boiler room
2		"	"
3		"	"
4		Smooth Plaster	Cafeteria
5		"	"
6		"	"
7		"	"
8		"	"
9		2x4 SAT	Hall along Gym
10		"	Pod 4
11		Joint compound	Kitchen Storage
12		"	PE office
13		Sheet rock	Kitchen Storage
14		"	PE office

Reported By: Jason Senese Date: 10-23-18 Due Date:

Received By: Date:

RECD EMSL-BOSTON OCT 23 2018 8:35 AM

UNIVERSAL ENVIRONMENTAL CONSULTANTS

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 131808190
Customer ID: UEC63
Customer PO:
Project ID:

Attention: Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project: Fox Hill School / Burlington MA

Phone: (617) 984-9772
Fax: (508) 628-5488
Received Date: 10/23/2018 2:35 PM
Analysis Date: 10/25/2018
Collected Date: 10/23/2018

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1 *131808190-0001*	Boiler Room - Rough Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2 *131808190-0002*	Boiler Room - Rough Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
3 *131808190-0003*	Boiler Room - Rough Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4 *131808190-0004*	Cafeteria - Smooth Plaster	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
5 *131808190-0005*	Cafeteria - Smooth Plaster	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
6 *131808190-0006*	Cafeteria - Smooth Plaster	Gray Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
7 *131808190-0007*	Cafeteria - Smooth Plaster	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
8 *131808190-0008*	Cafeteria - Smooth Plaster	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
9 *131808190-0009*	Hall Along Gym - 2x4 SAT	Gray/White Fibrous Homogeneous	45% Cellulose 40% Min. Wool	15% Non-fibrous (Other)	None Detected
10 *131808190-0010*	Pod 4 - 2x4 SAT	Gray/White Fibrous Homogeneous	45% Cellulose 40% Min. Wool	15% Non-fibrous (Other)	None Detected
11 *131808190-0011*	Kitchen Storage - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
12 *131808190-0012*	PE Office - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
13 *131808190-0013*	Kitchen Storage - Sheet Rock	Brown/Gray Non-Fibrous Homogeneous	12% Cellulose	88% Non-fibrous (Other)	None Detected
14 *131808190-0014*	PE Office - Sheet Rock	Brown/Gray Fibrous Homogeneous	12% Cellulose	88% Non-fibrous (Other)	None Detected

Initial report from: 10/25/2018 18:02:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order:	131808190
Customer ID:	UEC63
Customer PO:	
Project ID:	

Analyst(s)
John McCarthy (14)

Steve Grise, Laboratory Manager
or Other Approved Signatory

Initial report from: 10/25/2018 18:02:48

Recommended Work Practices for Removal of Resilient Floor Coverings

Supersedes Recommended Work Practices Published in August 2004

JANUARY 2018

RFCi
Resilient Floor Covering Institute

115 Broad Street, Suite 201, LaGrange, GA 30240 | phone: 706.882.3833
fax: 706.882.3880 | www.rfci.com

RFCI
Resilient Floor Covering Institute

Recommended Work Practices for Removal of Resilient Floor Coverings

WARNING 

Do not sand, dry sweep, dry scrape, drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic "cutback" adhesive, or other adhesive.

These products may contain asbestos fibers and/or crystalline silica.

Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm.

Unless positively certain that the product is a non-asbestos-containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content.

Similarly, absent testing data or objective evidence that work with the product will **not** result in exposures to crystalline silica greater than allowed by applicable regulations, protection may be required.

RFCI's Recommended Work Practices for Removal of Resilient Floor Coverings are a defined set of instructions addressed to the task of removing all resilient floor covering structures.

January 2018

IN CANADA

The Recommended Work Practices for the Removal of Resilient Floor Covering Materials are intended for use in the United States. The work practices for the removal of in-place resilient floor coverings and associated adhesives described in this publication have not been reviewed with either National or Provincial officials in Canada to determine their applicability when asbestos-containing or assumed to be asbestos-containing resilient floor covering materials are encountered .
These work practices are recommended when removing resilient floor covering and its associated adhesives that have been determined not to be asbestos-containing.

To determine what are acceptable work practices and the associated requirements for the removal of resilient floor covering that is assumed to contain asbestos or has been determined to contain asbestos, you should contact your local or provincial officials.

As an alternative to the removal of any in-place resilient floor covering materials, refer to page 10 (Alternative to Removal of Existing Resilient Floor Coverings).

TABLE OF CONTENTS

NOTICE

Various Federal, State and local government agencies have regulations governing the removal of in-place asbestos-containing material. If you contemplate the removal of a resilient floor covering structure that contains (or is presumed to contain) asbestos, you must review and comply with all applicable regulations.

This booklet replaces all prior editions of the RFCI and Armstrong Recommended Work Practices Publications. Please note that these recommended work practices are subject to change as new practices are incorporated. It is your responsibility to determine that the recommended work practices you use are those in effect.

Important Information for Installers of Resilient Floor Coverings Concerning Existing Resilient Floor Covering Structures

- Vinyl asbestos tile and asphalt tile contain asbestos fibers, as did some asphaltic "cutback" adhesives and the backings of many sheet vinyl floorings and lining felts. The presence of the asbestos in these products is not readily identifiable.

- While resilient floor covering products manufactured today do not contain asbestos, the asbestos used in the older products was encapsulated in the matrix of the product. The Environmental Protection Agency (EPA) recognizes that those products are non-friable (i.e. when dry cannot be crumbled, pulverized or reduced to powder by hand pressure) unless certain activities prohibited by the removal practices in this booklet occur.

- Unless positively certain that the product you intend to remove is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content.

- RFCI's Recommended Work Practices are a defined set of instructions addressed to the task of removing all resilient floor covering structures whether or not they contain asbestos. When RFCI's Recommended Work Practices are followed, resilient floor covering structures that contain (or are presumed to contain) asbestos can be removed in a manner that will comply with the current Occupational Exposure to Asbestos Standard's Permissible Exposure Limits (PEL) issued by the Occupational Safety and Health Administration (OSHA).

- Numerous products, devices and techniques have been recently introduced and/or recommended for the removal of resilient floor covering st ructures. Before you use any practices other than those identified in this booklet for the removal of an in-place resilient floor-covering product that contains (or is presumed to contain) asbestos, you must determine that the practice meets all applicable regulations or standards including the OSHA standards for occupational exposure to asbestos and the EPA asbestos regulations. You must also determine that any materials used during the removal practice will be compatible with the new floor covering to be installed.

Mold and Mildew

Prior to removing an existing resilient floor following the **RFCI Recommended Work Practices for Removal of Resilient Floor Coverings** (unless state or local law requires other measures) or installing a new floor, if there are visible indica tions of mold or mildew or the presence of a strong musty odor in the area where resilient flooring is to be removed or installed, the source of the problem should be identified and corrected before proceeding with the flooring work. In virtually all situations, if there is a mold issue, there is or has been an excessive moisture issue. Visible signs of mold or mildew (such as discoloration) can indicate the presence of mold or mildew on the subfloor, on the underlayment, on the back of the flooring, and sometimes even on the floor surface. If mold or mildew is discovered during the removal or installation of resilient flooring, all flooring work should stop until the mold/mildew problem (and any related moisture problem) has been addressed. Before installing the new resilient flooring, make sure the underlayment and/or subfloor is allowed to thoroughly dry and that any residual effect of excessive moisture, mold, or structural damage has been corrected.

To deal with mold and mildew issues, you should refer to the U.S. Environmental Protection Agency (EPA) guidelines that address mold and mildew. Depending on the mold or mildew condition present, those remediation options range from cleanup measures using gloves and biocide to hiring a professional mold and mildew remediation contractor to address the condition. Remediation measures may require structural repairs such as replacing the underlayment and/or subfloor contaminated with mold and mildew as a result of prolonged exposure to moisture.

The EPA mold guidelines are contained in two publications "A Brief Guide to Mold, Moisture and Your Home" (EPA 402-K-02-003) and "Mold Remediation in Schools and Commercial Buildings" (EPA 402-K-01-001). Appendix B of the "Mold Reme diation in Schools and Commercial Buildings" publication describes potential health effects from exposure to mold, such as allergic and asthma reactions and irritation to eyes, skin, nose and throat. These publications can be located on EPA's website at www.epa.gov/iaq/molds

OSHA REQUIREMENTS

A. Asbestos

In August 1994, OSHA published revised asbestos standards which affect some of the operations described in this booklet. OSHA has determined that intact resilient floor covering materials can be removed under a "negative exposure assessment" in compliance with the revised standards by appropriately trained workers using the Recommended Work Practices.

- "Intact" is defined to mean that the asbestos-containing material has not crumbled, been pulverized, or otherwise deteriorated so that it is no longer likely to be bound with its matrix. The incidental breakage of flooring materials, or slicing of sheet vinyl floor covering with a sharp-edged instrument, during removal operations conducted in accordance with the Recommended Work Practices does not mean that the materials are not removed in an "intact" condition . OSHA has recognized that resilient floor covering materials are considered nonfriable if intact and generally do not emit airborne fibers unless subjected to sanding, sawing or other aggressive operations.

- Installers of resilient floor covering materials that plan to use the Recommended Work Practices outlined in this book to remove intact and nonfriable asbestos containing flooring materials are required to complete an 8-hour training program.

- Employers must designate a "competent person" with 4 hours of additional training to be responsible for the health and safety of the workers at the floor removal job site.

- OSHA has determined that the competent person can make a "negative exposure assessment" based upon data in the OSHA asbestos rulemaking record (including data from the Environ Reports) showing that use of the Recommended Work Practices during removal of intact flooring material consistently results in worker exposures below the levels permitted in the OSHA standards.

- Where other workers or persons may have access to the flooring removal worksite, the employer must establish a demarcated "regulated area" (e.g. using barrier tape or closing room doors to enclose a work area) and post warning signs.

- Workers who engage in the removal of asbestos-containing flooring materi als for more than 30 days per year (one hour or more per day) must receive medical su rveillance .

- Employers are required to maintain certain training and workplace and medical records.

OSHA REQUIREMENTS

B. Crystalline Silica

In March 2016, OSHA published a revised rule relating to occupational exposure to respirable crystalline silica which could affect some of the operations described in this booklet. In general, the revised rule established a new permissible exposure limit (PEL) of 50 ug/m^3 for respirable silica. The rule also requires exposure assessments, the use of exposure control methods, respiratory protection, medical surveillance, hazard communication information, and recordkeeping.

More specifically, the revised standard requires employers:

- to assess employee exposures to silica if exposures may be at or above an action level of 25 ug/m^3 (micrograms per cubic meter of air) when averaged over an eight hour day;
- to protect workers from respirable crystalline silica exposures above the permissible exposure limit of 50 ug/m^3, when averaged over an eight hour day;
- to limit worker access to areas where they could be exposed to crystalline silica above the PEL;
- to use dust controls to protect workers from exposures above the PEL, and where that is not possible, to provide respirators;
- to use feasible housekeeping methods that do not create airborne dust;
- to establish and implement a written exposure control plan that identifies tasks that involve exposure and protection methods; and
- to offer medical exams every three years for workers who are exposed at or above the action level for at least 30 days per year; and to provide certain training and maintain certain records.

Most provisions of the rule took effect on January 23, 2018, except that the medical surveillance provisions will become applicable on June 23, 2020.

EPA LEAD-BASED PAINT REQUIREMENTS

Effective July 6, 2010, EPA has established training, certification, and work practice requirements for paid renovation, repair, or remodeling work that disturbs more than 6 square feet of lead-based paint per room within a 30 day period in a home (e.g. single-family, apartments) or a facility occupied by children under age of 6 (e.g., daycare center, preschool) built prior to 1978. 40 C.F.R. § 745.80 et seq. In these pre-1978 facilities, it is assumed that any painted surfaces contain lead paint, unless EPA-approved testing is performed to show that the disturbed surfaces are lead-free.

The removal or installation of resilient flooring in these pre-1978 buildings may involve disturbing or removing molding, baseboards, or floors (e.g., wood) that have been painted with lead-based paint or cutting off the bottom of painted doors or molding to allow the new floors to fit. To determine whether more than 6 square feet in a room is disturbed, multiply the total length of the disturbed painted material by its height (both numbers in feet). For example, if a 4 inch high baseboard (1/3 foot) is being removed as part of an installation or removal, over 18 linear feet of this baseboard would have to be removed to trigger the rule (1/3 foot x 18 feet= 6 square feet). For more examples, see http:// www.epa.gov/lead/pubs/ rrp-faq.pdf.

If the rule is triggered the following training, certification, and work practices are required:

- Employees performing the work must have completed a lead-safe work practices training course of 8 hours in length approved by EPA, which training is valid for 5 years.

- The firm performing the work must be lead-safe certified by EPA, which requires the submission of an application and fee to EPA. The application fee is typically $300 for a five year certification and it may take up to 90 days to process the application. The application procedures for each state can be found at the link in the paragraph above.

- Before beginning work, your firm must: (1) notify the residents of the affected homes or the parents of the affected children by providing the EPA Renovate Right pamphlet (http://www.epa.gov/lead/pubs/renovaterightbrochure.pdf); and (2) must maintain its notification records for 3 years.

- Your firm and employees must use lead-safe work practices, including posting warning signs; isolating the work area with plastic sheeting or other materials; removing or covering furniture; cleaning and inspecting the worksite when the work is finished; and disposing of any waste in a safe manner.

Some states operate their own lead-based paint programs and may have more stringent requirements than the EPA rule. See http://www.epa.gov/lead/pubs/renovation.htm#states for a list of states with their own rules.

GENERAL RULES FOR REMOVAL OF RESILIENT FLOOR COVERING

When following the Recommended Work Practices there are several general rules to follow:

Never sand, dry scrape, drill, saw, beadblast, or mechanically chip or pulverize any resilient flooring, backing, lining felt, asphaltic "cutback" adhesive, or other adhesive to remove them from the floor. See "Warning Statement" on page one.

- Unless positively certain the product you intend to remove is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content.
- Removal of existing floor covering should be considered the last alternative.
- Use a vacuum equipped with HEPA filter, disposable dust bag, and metal floor attachment (no brush).
- All sheet floor removals must be done using detergent solution.
- All felt scraping must be done wet.
- Prior to removal, all tile must be wetted (except in cases where heat will be applied).
- Do not dry sweep.
- Material removed must be placed in heavy-duty impermeable bags at least 6 mils thick or in a leak-tight container, properly labeled and disposed of in an authorized landfill.

ALTERNATIVES TO REMOVAL OF EXISTING RESILENT FLOOR COVERINGS

Removal of the in-place resilient floor should be considered the final alternative. It is preferred you leave the existing resilient floor covering in place and go over the top (single flooring layer only) with the new floor.

Alternatives to the removal of an existing resilient floor over approved subfloors are:

- Installing directly over a single layer of approved existing resilient flooring.
- Filling the embossing of the in-place resilient flooring with embossing leveler before installation (residential use only).
- Covering existing resilient flooring on an approved suspended wood subfloor with a recommended wood underlayment.

When you plan to install a new resilient sheet or tile floor covering over an existing resilient floor covering, follow the installation instructions published by the manufacturer. Those instructions will tell you what must be done to the existing surface before the new resilient floor covering can be installed. Remove wax and other finishes by wet stripping only.

Contact a local established floorcovering dealer for additional information.

REMOVAL OF RESILIENT SHEET FLOORING

Supplies and Tools

- Safety glasses and gloves
- Stiff-bladed wall or floor scraper
- Utility or hook knife
- Tank-type High Efficiency Particulate Air (HEPA) wet/dry vacuum cleaner with disposable dust bag and metal floor attachment (no brush)
- Hand-held tank sprayer
- Large-size heavy-duty impermeable trash bags (at least 6 mils thick) or closed leak-tight containers with ties, tape, or string to tie the bags shut, and appropriate labels stating, for example "Caution- Contains Asbestos. Avoid Opening or Breaking Bag or Container. Breathing Asbestos is Hazardous to Your Health". It may also be appropriate to include in the label a warning regarding the presence of crystalline silica.
- A liquid dishwashing detergent which is stated to contain anionic, nonionic and amphoteric surfactant s. Mix this specified liquid dishwashing detergent with water to make a dilute solution (16 oz. specified liquid dishwashing detergent in one gallon of water)
- Ground fault circuit interrupter for electrical connection of the HEPA vacuum and any other electrical connections required

REMOVAL OF FULLY-ADHERED RESILIENT SHEET FLOORING

WARNING 

Do not sand, dry sweep, dry scrape, drill, saw, beadblast or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic "cutback" adhesive, or other adhesive. See "Warning Statement" on page one.

- Remove all furniture and appliances from the work area.
- Remove any binding strips or other restrictive moldings from doorways, walls, etc.
- Prepare the specified liquid dishwashing detergent solution (16 oz. of specified liquid dishwashing detergent to one gallon of water) and pour into a hand sprayer.
- Before removal begins, vacuum the entire floor using a HEPA vacuum with a metal floor attachment.

WARNING 

Electrical shock hazard exists. Use a ground fault interrupter for any electrical connections of equipment used in a wet environment

- Make a series of parallel slices 4" to 8" apart through the top layer of the flooring and about halfway through the backing, parallel to the wall, for the entire floor.

WARNING 

Resilient flooring becomes slippery when wet with the specified liquid dishwashing detergent solution. Use caution to contain the solution in the immediate work area.

- Wear layer removal: One worker starts at the end of the room farthest from the entrance door and pries up the corner of the strip, separating the backing from the wear layer. As the strip is being removed, another worker sprays a constant mist of the specified liquid dishwashing detergent solution into the delamination nip point to minimize any airborne dust particles. When done properly, the felt remaining on the floor and on the back of the strip will be thoroughly wet. Do only one three strip area at a time. Stand on the remaining floor covering or clean floor (to the extent feasible, minimize standing on the felt). The sliced strips should be peeled from the backing by pulling or rolling around a core which will control the stripping angle to create a uniform tension (some resilient flooring wear layers may not be readily strippable and may require wet-scraping). Tie or tape the removed material securely and place in the heavy-duty impermeable trash bag or closed leak-tight container for disposal.

- Remove and dispose of each succeeding strip in the above manner. Minimize walking on the exposed felt to the extent feasible. Worker footwear must be cleaned or removed before leaving work area. Close full bags tightly, and seal securely for disposal. Identify with an appropriate label stating, for example "Caution-Contains Asbestos. Asbestos is Hazardous to Your Health." It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Dispose in an approved landfill only.

- Occasionally, parts of the top or inner layer will stick to the backing. This can often be eliminated by peeling in the opposite direction. The stiff-bladed scraper may aid in the removal or peeling of these layers.

- Wet-scraping residual felt :
    (1) After three strips of flooring material are removed, any residual felt must be wet scraped. Thoroughly wet the residual felt with the specified liquid dishwashing detergent solution. Wait a few minutes to allow the specified liquid dishwashing detergent solution to soak into the felt.

    (2) Stand on the remaining floor covering to the extent feasible (not the felt) and use the stiff bladed scraper to scrape up the wet felt.

    (3) Rewet the felt if the specified liquid dishwashing detergent solution has not completely penetrated, if drying occurs, or if dry felt is exposed during scraping. Pick up the scrapings while still wet as they are removed from the floor and place in a heavy-duty impermeable trash bag or leak-tight container. Wet-scrape all felt from this floor area before proceeding further.

PRECAUTION:
Excessive moisture can cause permanent damage to wood underlayments. It is the installer's responsibility to use the correct amount of specified liquid dishwashing detergent solution to prevent underlayment damage. A floor that has been wet-scraped must be allowed to dry before installing any new resilient flooring.

(4) When this floor area has been cleaned free of felt, vacuum with HEPA vacuum cleaner with the metal floor attachment. Position the vacuum cleaner so that the discharge air does not blow on the area being cleaned.

(5) Repeat the above on the next series of strips.

(6) Repeat this operation until the felt has been removed from the whole floor. Close full bags tightly and seal securely for disposal. Identify with an appropriate label stating, for example "Caution-Contains Asbestos. Avoid Opening or Breaking Bag or Container. Breathing Asbestos is Hazardous to Your Health." It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Dispose in an approved landfill only.

(7) When the entire floor has been removed, let it dry and vacuum with HEPA vacuum cleaner with the metal floor attachment. Position the vacuum cleaner so that the discharge air does not blow on the area being cleaned.

(8) After vacuuming, used HEPA filters and cleaner bags should be removed according to the manufacturer's instructions and placed in a heavy-duty impermeable trash bag or leaktight container with an appropriate label stating, for example "Caution-Contains Asbestos Avoid Opening or Breaking Bag or Container. Breathing Asbestos is Hazardous to Your Health." It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Close and seal the trash bag securely for disposal. Dispose in an approved landfill only.

(9) The floor is now ready to have a new resilient floor covering installed. Follow the manufacturer's installation instructions.

REMOVAL OF UNADHERED (LOOSE-LAY) OR PERIPHERALLY-ADHERED RESILIENT SHEET FLOORING

WARNING 

Do not sand, dry sweep, dry scrape, drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic "cutback" adhesive, or other adhesive. See "Warning Statement" on page one.

- Remove all furniture and appliances from the work area.
- Remove any binding strips or other restrictive moldings from doorways, walls, etc.
- Prepare the specified liquid dishwashing detergent solution (16 oz. of specified liquid dishwashing detergent to one gallon of water) and pour into a hand sprayer.
- Before removal begins, vacuum the entire floor using a HEPA vacuum with a metal floor attachment.

WARNING 

Electrical shock hazard exists. Use a ground fault interrupter for any electrical connections of equipment used in a wet environment

- If flooring is unadhered, start at the end of the room farthest from the entrance doorway and slice a strip 18" wide in the unadhered flooring. One worker removes the sliced strip while another worker sprays the specified liquid dishwashing detergent solution directly into the separation nip point. Minimize standing on the exposed subfloor during the removal process to the extent feasible.

CAUTION 

Resilient flooring becomes slippery when wet with specified liquid dishwashing detergent solution. Use caution to contain the solution in the immediate work area. Standing on a new sheet of plywood or non-slip surface while working is recommended.

- Roll the wet strip tightly and tie or tape securely so it will not unroll. Place it in a heavy-duty, impermeable trash bag or closed leak-tight container big enough to accommodate several rolls for disposal.

Use this method for nonbonded areas of peripherally-adhered floors. To remove bonded areas, follow instructions under "Removal of Fully-Adhered Resilient Sheet Flooring."

- Clean the exposed floor with a HEPA vacuum cleaner with the metal floor attachment. Position the vacuum cleaner so that the discharge air does not blow on the area being cleaned.

- Repeat the above, slicing, rolling and disposing of one strip at a time and cleaning the newly exposed area immediately until the entire floor covering has been removed. Let the floor dry, then vacuum with a HEPA vacuum cleaner using metal floor attachment.

- After vacuuming, used HEPA filters and cleaner bags should be removed according to manufacturer's instructions and placed in a heavy-duty impermeable trash bag or leak-tight container with an appropriate label stating, for example "Caution-Contains Asbestos . Avoid Opening or Breaking Container. Breathing Asbestos is Hazardous to Your Health:" It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Close and seal the trash bags or leak-tight container securely for disposal. Dispose in an approved landfill only.

- The floor is now ready for installation of new floor covering using the manufacturer's installation instructions.

REMOVAL OF RESILIENT TILE

Supplies and Tools

- Safety glasses and gloves
- Short or long-handled scraper (DO NOT USE SPUD BAR OR MECHANICAL CHIPPER)
- Hammer
- Commercial-type hand-held hot-air gun or a radiant heat source such as an infrared machine
- Large size, heavy-duty labeled, impermeable trash bags with minimum 6 mil thickness (or closed leak-tight containers), with ties, tape or string to tie shut, and tags for labeling
- Tank-type High Efficiency Particulate Air (HEPA) wet/dry vacuum cleaner with disposable dust bag and metal floor attachment (no brush)
- Hand-held tank sprayer
- Ground fault circuit interrupter for electrical connection of the HEPA vacuum and any other electrical connections required

REMOVAL PROCEDURE

WARNING

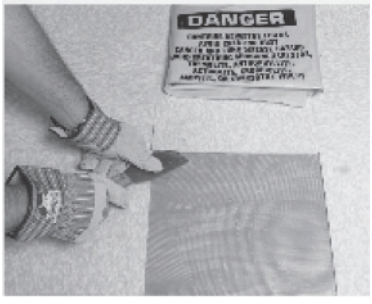
Do not sand, dry sweep, dry scrape, drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing lining felt, asphaltic "cutback" adhesive, or other adhesive. See "Warning Statement" on page one.

- Remove all furniture and appliances from the work area. Remove any binding strips or other restrictive moldings from doorways, walls, etc.
- Before removal begins, vacuum the entire floor using a HEPA vacuum with a metal floor attachment.
- Floor tiles must be wetted (misted with hand sprayer) before actual removal begins (unless heat will be used to remove tile s).

WARNING

Electrical shock hazard exists. Use a ground fault interrupter for any electrical connections of equipment used in a wet environment.

- Those areas normally exposed to heavy foot traffic patterns usually have tiles adhered the tightest. In starting the tile removal process, select those areas which receive the least traffic. Try to remove individual tiles in one piece although some breakage of tiles is unavoidable.
- Start the removal by carefully wedging a short or long handled scraper in the seam of two adjoining tiles and gradually forcing the edge of one of the tiles up and away from the floor. Continue to force the balance of the tile up by working the scraper beneath the tile and exerting both a forward pressure and a twisting action on the blade to promote release of the tile from the adhesive and the floor.



- After the tiles are removed, place them, without further breakage, in a heavy-duty impermeable trash bag or closed leak-tight container which will be used for disposal. Removed tiles can be placed in empty tile cartons first and then placed in the heavy-duty impermeable trash bag. To prevent tearing of the heavy-duty impermeable trash bag, place only one full carton of removed tile in a bag.

- With the removal of the first tile, accessibility of other tiles is imp roved. Force the scraper under the exposed edge of another tile, and continue to exert a prying, twisting force to the scraper as it is moved under the tile until the tile releases from the floor. Remove and dispose of each tile in the manner described above.

- Minimize walking on the exposed adhesive to the extent feasible. Worker footwear must be cleaned or removed before leaving work area. Close full bags tightly and seal securely for disposal. Identify with an appropriate label stating, for example "Caution-Contains Asbestos. Avoid Opening or Breaking Container. Breathing Asbestos is Hazardous to Your Health." It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Dispose in an approved landfill only.

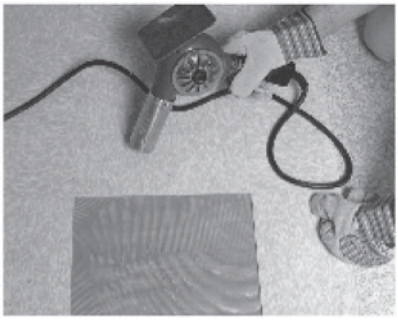
- Some tiles will release quite easily while others require varying degrees of force. Where the adhesive is spread heavily or the tile is bonded tightly, it may prove easier to force the scraper under the tightly adhered areas by striking the scraper handle with a hammer, using blows of moderate force while maintaining the scraper at a 25° to 30° angle to the floor.

CAUTION

Wear safety glasses when using this procedure.

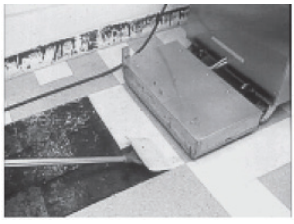
- If you encounter areas where even the above methods will not remove the tiles, the removal procedure can be simplified by thoroughly heating the tiles with a hot air gun or a radiant heat source until the heat penetrates through the tile and softens the adhesive.

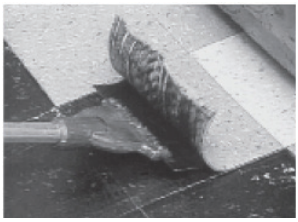
- Alternatively, without first prying up floor tiles using a scraper, a heat source like a hot air gun or infrared heat machine can be used to apply heat to the floor tiles and then the tiles may be removed by hand or by using a scraper. (Wetting the tiles is not required for this alternative removal method). When using this procedure, walking on exposed adhesive may be unavoidable. Worker footwear must be cleaned or removed before leaving the work area.



CAUTION

Handle the hot-air gun or radiant heat source carefully to avoid burn injury. Do not handle the heated tiles or adhesive without suitable glove protection. Do not use a blowtorch or open flame. Use caution not to burn or char tiles. Work area must be adequately ventilated.





- When using an infrared heat machine, follow manufacturer's instructions.

- After tiles are removed, place them in a heavy-duty impermeable trash bag or other closed leak-tight container without further breakage. Removed tiles can be placed in empty tile cartons first and then placed in the heavy duty impermeable trash bag s. To prevent tearing of the heavy-duty impermeable trash bag, place only one full carton of removed tile in a bag.

- Close the full bags of removed tile tightly and seal securely for disposal. Identify with an appropriate label stating, for example "Caution- Contains Asbestos. Avoid Opening or Breaking Container. Breathing Asbestos is Hazardous to Your Health." It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Dispose in an approved landfill only.

WARNING

Do not sand, dry sweep, dry scrape, drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic "cutback" adhesive, or other adhesive. See "Warning Statement" on page one.

- See Section 5, "Removal of Residual Adhesives" for proper treatment of remaining adhesive.

REMOVAL OF RESIDUAL ADHESIVE

The removal of latex based adhesives commonly used with vinyl sheet floors and some tiles can be accomplished by wetting the adhesive residue (which will soften the adhesive) and scraping. Do not use an excessive amount of water which can damage wood subfloors. The treatment of residual asphaltic "cutback" adhesive, which is covered in this section, is dependent upon the type of new resilient floor covering material to be installed and the type of subfloor. Recommendations for the treatment of residual asphaltic "cutback" adhesive are shown on pages 21 through 26.

NOTE

There are commercial adhesive removal products containing solvents that are effective in removing cutback or emulsion adhesives and comply with OSHA requirements (e.g. flashpoint greater than 140° F). These products may be used for adhesive removal; however, they may leave a solvent residue within the subfloor that can adversely affect the new adhesive or floor covering. Thus, the warranties provided by the manufacturers of new floor covering materials will not cover instances where subfloor conditions damage their products or affect their installation.

The use of asbestos encapsulants or bridging materials over asphaltic adhesive is not recommended as those products may affect the bonding properties of the new adhesive. The application of asphaltic "cutback" adhesives, if recommended by the replacement flooring manufacture, has been demonstrated to be a suitable adhesive when applied over existing cutback adhesive. The use of any new adhesive must be consistent with the installation recommendations of the replacement-flooring manufacturer.

Supplies and Tools

- Safety glasses and gloves
- Stiff-bladed wall or floor scraper
- Tank-type High Efficiency Particulate Air (HEPA) wet/dry vacuum cleaner with disposable dust bag and metal floor attachment (no brush)
- Large-size, heavy-duty, impermeable trash bags (or closed leak-tight containers) with ties, tape, or string to tie the bags shut, and tags for labeling.
- Slip-resistant shoes or rubber boots
- Ground fault circuit interrupter for electrical connection of the HEPA vacuum and any other electrical connections required
- Hand-held sprayer

- A liquid dishwashing detergent which is stated to contain anionic, nonionic and amphoteric surfactants. Mix this specified liquid dishwashing detergent with water to make a dilute solution (1 oz. of the specified liquid dishwashing detergent to one gallon of water)

- Floor machine fitted with 3M black floor pad (or equivalent)

- Removal solution-e.g. "mop on, mop off, no machine scrub," tripping solution See note on page 23 regarding use of other solutions

- Water-absorbent material

RESIDUAL ASPHALTIC "CUTBACK" ADHESIVE

CONCRETE SUBFLOOR			WOOD UNDERLAYMENT SUBFLOOR	
New Material to Be Installed	Removal of Residual Adhesive	Alternative to Removal	Removal of Residual Adhesive	Alternative to Removal
Resilient floor tile to be installed using cutback adhesive.	Residual adhesive must be wet-scraped so that no ridges or puddles are evident and what remains is a thin, smooth film. See wet-scraping of residual adhesive.	Application of a cementitious underlayment that is approved by the underlayment manufacturer for use over residual asphaltic "cutback" adhesive.[2]	The use of a cutback adhesive over wood underlayment subfloor is not recommended.	The use of a cutback adhesive over wood underlayment subfloor is not recommended
Resilient floor tile to be installed using an adhesive other than cutback adhesive.	Residual adhesive must be wet-scraped so that no ridges or puddles are evident and what remains is a thin, smooth film. See wet-scraping of residual adhesive.	Application of a cementitious underlayment that is approved by the underlayment manufacturer for use over residual asphaltic "cutback" adhesive.[2]	Complete removal of Wood Underlayment. See Complete Removal of Wood Underlayment Under Existing Tile.	Covering residual asphaltic "cutback" adhesive on an approved wood subfloor with a recommended wood underlayment.[2] When installing this new wood underlayment, felt or polyethylene sheeting may be placed over the residual adhesive to prevent a cracking or tacky sound when walking on the floor.
Any vinyl-backed sheet flooring	100% of the residual adhesive must be removed from the area to be covered. See removal of residual adhesive.	Application of a cementitious underlayment that is approved by the underlayment manufacturer for use over residual asphaltic "cutback" adhesive.[2]	Complete removal of Wood Underlayment. See Complete Removal of Wood Underlayment Under Existing Tile	Covering residual asphaltic "cutback" adhesive on an approved wood subfloor with a recommended wood underlayment.[2] When installing this new wood underlayment, felt or polyethylene sheeting may be placed over the residual adhesive to prevent a cracking or tacky sound when walking on the floor.
Felt-backed sheet flooring.	Enough of the residual adhesive must be removed so that 80% to 100% of the original substrate of the overall area is exposed.[1] See removal of residual adhesive.	Application of a cementitious underlayment that is approved by the underlayment manufacturer for use over residual asphaltic "cutback" adhesive.[2]	Complete removal of Wood Underlayment. See Complete Removal of Wood Underlayment Under Existing Tile	Covering residual asphaltic "cutback" adhesive on an approved wood subfloor with a recommended wood underlayment.[2] When installing this new wood underlayment, felt or polyethylene sheeting may be placed over the residual adhesive to prevent a cracking or tacky sound when walking on the floor.

[1] Amount of adhesive which must be removed varies. Check with manufacturer of replacement felt-backed sheet flooring for requirements.

[1]All warranties and/or guarantees concerning underlayment's performance rest with the underlayment manufacturer and not with the resilient floor covering manufacturer.

WET-SCRAPING RESIDUAL ADHESIVE

WARNING

Do not sand, dry sweep, dry scrape, drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphalic "cutback" adhesive, or other adhesive. See "Warning Statement" on page one.

If new resilient floor tile is to be installed over a concrete subfloor using an asphaltic adhesive, the residual asphaltic "cutback" adhesive must be left so that no ridges or puddles are evident and what remains is a thin, smooth film. This can be accomplished by wet-scraping the residual adhesive.

Wet-Scraping residual asphaltic "cutback" adhesive:

- Moisten an area with water mixed with the specified liquid dishwashing detergent (1 oz. specified liquid dishwashing detergent to one gallon of water) to aid in wetting the adhesive. Make sure that the area stays moist. Wet-scrape with a stiff-bladed wall or floor scraper removing ridges and any loose adhesive. Make sure the adhesive is kept wet.
- Place loosened adhesive residue into a heavy-duty impermeable trash bag or leak-tight container with an appropriate label stating, for example: "Caution -Contains Asbestos. Avoid Opening or Breaking Container. Breathing Asbestos is Hazardous to Your Health." It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Close and seal the trash bag securely for disposal. Dispose in an approved landfill only.
- Wet vacuum standing water with the HEPA vacuum cleaner.
- Continue above steps until what remains of the residual asphaltic "cutback" adhesive is a thin, smooth film.
- Clean the entire floor with the HEPA vacuum cleaner using the metal floor attachment.
- After vacuuming, used HEPA filters and cleaner bags should be removed according to manufacturer's instructions and placed in a heavy-duty, imperme able trash bag or leak tight container with an appropriate label stating, for example: "Caution-Contains Asbestos. Avoid Opening or Breaking Container. Breathing Asbestos is Hazardous to Your Health." It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Close and seal the trash bags or containers securely for disposal. Dispose in an approved landfill only.

COMPLETE REMOVAL OF ASPHALTIC "CUTBACK" ADHESIVE

WARNING 

Do not sand, dry sweep, dry scrape, drill, saw, beadblast or mechanically chip or pulverize existing resilient flooring, backing, lining fell, asphaltic "cutback" adhesive, or other adhesive. See "Warning Statement" on page one.

REMOVAL METHOD

- Start in corner of the room farthest from the entrance door. Apply the removal solution (e.g. "mop on, mop off, no machine scrub," stripping solution) by using a hand sprayer or mop over an area of residual adhesive so that the adhesive in this area always remains wet during its removal. Allow the area to soak for 5-10 minutes. Remove the adhesive using a floor machine equipped with a 3M black floor pad (or equivalent), ensuring that the floor is kept wet in the area where the machine is operating.

WARNING 

Electrical shock hazard exists. Use a ground fault circuit interrupter for any electrical connections of equipment used in a wet environment.

- Occasionally push away the adhesive slurry from the subfloor with a wall or floor scraper or squeegee to check for complete removal. Continue to use the floor machine, equipped with black pad, in the same area until the concrete subfloor is cleaned to the degree necessary for the new floor installation.

- Adhesive around the edge of the room and in areas that were missed or difficult to reach with the machine can be removed with a hand-held piece of the black floor pad using the above procedures.

WARNING 

Electrical shock hazard exists. Use a ground fault interrupter for any electrical connections of equipment used in a wet environment.

- Wet HEPA vacuum the adhesive slurry. When the HEPA vacuum is full, place commercially suitable water absorbent into the HEPA container until the adhesive slurry is absorbed. An absorbent material may be used on the slurry to absorb the adhesive residue. Place the adhesive waste from the HEPA vacuum or floor into heavy-duty, impermeable bags or leak-tight containers with an appropriate label stating, for example "Caution-Contains Asbestos Avoid Creating Dust. Avoid Opening or Breaking Container. Breathing Asbestos May Cause Bodily Harm." It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Close and seal the trash bag securely for disposal. Dispose in an approved landfill only.

- Rinse floor area with clean water using a hand sprayer or mop. Worker footwear should also be cleaned and rinsed.

- Wet-vacuum standing water with HEPA vacuum cleaner.

- Continue above steps until the entire room is complete.

- Allow subfloor to dry and vacuum with a HEPA vacuum with metal floor attachment.

- Minimize walking on the wet adhesive to the extent feasible. Worker footwear must be cleaned or removed before leaving the work area.

COMPLETE REMOVAL OF WOOD UNDERLAYMENT

Supplies and Tools

- Safety glasses and gloves
- Chisel
- Hammer or mallet
- Short and long-handled pry bars
- Utility or hook knife
- Stiff-bladed wall or floor scraper
- Large-size, heavy-duty, impermeable trash bags (or leak-tight container) with ties, tape, or string to tie the bag shut and tag for labeling
- Tank-type High Efficiency Particulate Air (HEPA) wet/dry vacuum cleaner with disposable dust bags and metal floor attachment (no brush)
- Hand sprayer
- A liquid dishwashing detergent which is stated to contain anionic, nonionic and amphoteric surfactants
- 6-mil polyethylene sheeting
- Duct tape
- Ground fault circuit interrupter for electrical connection of the HEPA vacuum and any other electrical connections required
- For tile removal only-Commercial-type, handheld, hot-air gun or a radiant heat source such as infrared machine

COMPLETE REMOVAL OF WOOD UNDERLAYMENT {SUBFLOOR) UNDER EXISTING SHEET FLOORING

WARNING

Do not sand, dry sweep, dry scrape, drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic "cutback" adhesive, or other adhesive. See "Warning Statement" on page one.

- Remove all furniture and appliances from the work area.
- Remove any binding strips or other restrictive moldings from doorways, walls, etc.
- Prepare the specified liquid dishwashing detergent solution (16 oz. of specified liquid dishwashing detergent to one gallon of water) and pour into a hand sprayer.
- Before removal begins, vacuum the entire floor using a HEPA vacuum with a metal floor attachment

WARNING

Electrical shock hazard exists. Use a ground fault interrupter for any electrical connections of equipment used in a wet environment.

- Starting at the doorway or a floor ventilation vent, locate a joint in an underlayment board.
- Slice a strip of flooring 4 to 8 inches wide centered over the underlayment joint in the panel to be removed. Slice through the top and inner layers of flooring and about halfway through the backing. Continue this procedure for all underlayment joints over the entire floor.

CAUTION

Resilient flooring becomes slippery when wet with specified liquid dishwashing detergent solution. Use caution to contain the solution in the immediate work area.

- One worker pries up the corner of a strip, separating the backing from the wear layer. As the strip is being removed, another worker sprays a constant mist of the specified liquid dishwashing detergent solution into the delamination nip point to minimize any airborne dust particle s. When done properly, the felt remaining on the floor and on the back of the strip will be thoroughly wet. Stand on the remaining floor covering or clean floor (do not stand on the felt).

The sliced strips should be peeled from the backing by pulling or rolling around a core which will control the stripping angle to create a uniform tension (some resilient flooring wear layers may not be readily strippable and may require wet-scraping). Tie or tape the removed material securely and place in a heavy-duty, impermeable, trash bag or closed leak tight container for disposal.

- Remove and dispose of each succeeding strip in the above manner. Minimize walking on the exposed felt to the extent feasible. Worker footwear must be cleaned or removed before leaving work area. Close full bags tightly, and seal securely for disposal. Identify with an appropriate label stating, for example "Caution-Contains Asbestos Avoid Opening or Breaking Container. Breathing Asbestos is Hazardous to Your Health:" It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Dispose in an approved landfill only.

- Occasionally, parts of the top or inner layer will stick to the backing. This can often be eliminated by peeling in the opposite direction. The stiff bladed scraper may aid in the removal or peeling of these layers.

WARNING 

Do not sand, dry sweep, dry scrape, drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic "cutback" adhesive, or other adhesive. See "Warning Statement" on page one.

- Remove all furniture and appliances from the work area.

- Remove any binding strips or other restrictive moldings from doorways, walls, etc.

- Prepare the specified liquid dishwashing detergent solution (16 oz. of specified liquid dishwashing detergent to one gallon of water) and pour into a hand sprayer.

- Before removal begins, vacuum the entire floor using a HEPA vacuum with a metal floor attachment

- Wet-scraping residual felt-follow instructions for wet-scraping residual felt on Page 12.

- For procedures for removing wood underlayment boards see Page 32.

COMPLETE REMOVAL OF WOOD UNDERLAYMENT {SUBFLOOR) UNDER EXISTING TILE FLOORING

- Before removal begins, the entire floor is vacuumed using a HEPA vacuum with a metal floor attachment.

WARNING 

Electrical shock hazard exists. Use a ground fault interrupter for any electrical connections of equipment used in a wet environment.

- Floor tiles must be wetted (misted with hand sprayer) before actual removal begins (unless heat will be used to remove tiles).

WARNING 

Resilient flooring becomes slippery when wet with the specified liquid dishwashing detergent solution. Use caution to contain the solution in the immediate work area.

- Starting at the doorway or a floor ventilation vent, locate a joint in an underlayment board.

- Start the removal of the tile at the underlayment joint by carefully wedging the scraper in the seam of two adjoining tiles and gradually forcing the edge of one of the tiles up and away from the floor. Do not intentionally break off pieces of the tile, but continue to force the balance of the tile up by working the scraper beneath the tile and exerting both a forward pressure and a twisting action of the blade to promote release of the tile from the adhesive and the floor. Continue to remove tiles in this manner at all underlayment joints until all board joints are exposed.

- After the tiles are removed place them, without further breakage into smaller pieces, in a heavy-duty impermeable trash bag or closed leak-tight container which will be used for disposal. Removed tiles can be placed in empty tile cartons first and then placed in heavy-duty, impermeable, trash bags. To prevent tearing of the heavy-duty, impermeable, trash bag, place only one full carton of removed tile in a bag.

- With the removal of the first tile, accessibility of the other tiles is improved. Force the scraper under the exposed edge of another tile, and continue to exert a prying, twisting force to the scraper as it is moved under the tile until the tile releases from the underlayment. Remove and dispose of each tile in the manner above. Minimize walking on the exposed adhesive to the extent feasible. Worker footwear must be cleaned or removed before leaving area. Close full bags or leak-tight container tightly and seal securely for disposal. Identify with an appropriate label stating, for example "Caution-Contains Asbestos. Avoid Opening or Breaking Container. Breathing Asbestos is Hazardous to Your Health." It may also be appropriate to

include in the label a warning regarding the presence of crystalline silica. Dispose in an approved landfill only.

- Some tiles will release quite easily while others require varying degrees of force. Where the adhesive is spread heavily or the tile is bonded tightly, it may prove easier to force the scraper through the tightly adhered areas by striking the scraper handle with a hammer, using blows of moderate force while maintaining the scraper at a 25° to 30° angle to the floor.

- If you encounter areas where even the above methods will not remove the tiles, the removal procedure can be simplified by thoroughly heating the tiles with a hot-air gun or a radiant heat source until the heat penetrates through the tile and softens the adhesive.

- When using automated infrared heating machines, follow the manufacturer's instructions.

WARNING 

Handle the hot-air gun or radiant heat source carefully to avoid burn injury. Do not handle the heated tiles or adhesive without suitable glove protection. Do not use a blowtorch or open flame. Use caution not to burn or char tiles. Work area must be adequately ventilated.

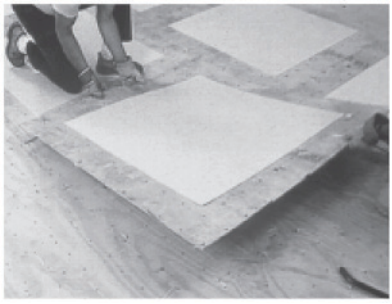
REMOVAL OF WOOD UNDERLAYMENT BOARDS

WARNING

Do not sand, dry sweep, dry scrape, drill, saw, beadblast or mechanically chip or pulverize existing resilient flooring, backing, lining felt, asphaltic "cutback" adhesive, or other adhesive. See "Warning Statement" on page one.

- After all felt from sheet flooring has been wetscraped or tiles removed from the underlayment joints, drive a chisel, using a hammer or mallet, between the underlayment board and the subfloor. Use the chisel to pry up the underlayment enough to insert a pry bar and remove the chisel. Slowly and carefully use pry bars to pry up the underlayment board a little at a time until the board is completely loose and can be removed.

- Caution must be used to avoid breaking the underlayment board. The underlay ment board should be removed in one piece. If the underlayment board breaks, slice through the sheet resilient flooring at the break and spray any exposed felt with the specified liquid dishwashing detergent solution. Allow the specified liquid dishwashing detergent solution to penetrate for a few minutes, then continue lifting the broken underlayment. In the case of a broken underlayment board with tile adhered, wet (mist) the broken tile and carefully remove any loose pieces.



- Wear heavy gloves and be careful of wood splinters and fasteners sticking out of the back of the underlayment. Each underlayment board (or piece of board) should be removed from the work area as soon as it has been pried up to avoid injuries (such as stepping on a nail). Fasteners protruding from removed board should be flattened with a hammer. Place removed underlayment boards on skids with the nails pointing downward. Wrap skid with 6-mil polyethylene plastic sheeting and secure with duct tape. Identify with an appropriate label stating, for example "Caution-Contains Asbestos. Avoid Opening or Breaking Container. Breathing Asbestos is Hazardous to Your Health." It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Dispose in an approved landfill only.

- If the underlayment panel extends under cabinets or wall partitions, it will be necessary to slice through the flooring with a knife as close to the vertical surface as possible. Deeply score the panel. This should allow for removal.

- After each panel has been removed, pull out any nails or fasteners still in the subfloor.

- A chisel is not needed to start the removal of boards after the first board has been removed. Simply work the pry bar under the exposed edge of the next board.

- When removal of the underlayment under the existing floor is complete, thoroughly check the exposed subfloor. Rena ii loose areas and reset any "popped" nails or fasteners.

- Vacuum up any residue using the HEPA vacuum cleaner with the metal floor attachment.

- After vacuuming, used HEPA filters and cleaner bags should be removed according to the manufacturer's instructions and placed in a heavy-duty, impermeable, trash bag or leak-tight container with an appropriate label stating, for example "Caution-Contains Asbestos. Avoid Opening or Breaking Container. Breathing Asbestos is Hazardous to Your Health." It may also be appropriate to include in the label a warning regarding the presence of crystalline silica. Close and seal the trash bag or container securely for disposal. Dispose in an approved landfill only.

- Prepare the subfloor by installing new underlayment and or floor covering according to the manufacturer's installation instructions.

115 Broad Street, Suite 201
LaGrange, GA 30240
706.882.3833

January 2018

This book replaces all prior editions of the RFCI and Armstrong Recommended Work Practices publications . Future editions of these work practices may be issued to replace this publication .

RFCi
Resilient Floor Covering Institute