# Three-Year Asbestos Hazard Emergency Response Act Re-Inspection and Management Plan Update

**for**
**Bourne High School**
**75 Waterhouse Road**
**Bourne, Massachusetts**

**For Compliance with**
**Commonwealth of Massachusetts Department of Labor Standards (MADLS)**
**Asbestos Containing Materials in Schools Regulation (453 CMR 6.00)**
**and**
**EPA Asbestos Hazard Emergency Response Act**
**(Title 40 CFR, Part 763, Subpart E)**

## Bourne Public Schools

**Bourne, Massachusetts**

December 2017

**Fuss & O'Neill EnviroScience, LLC**
108 Myrtle Street, Suite 502
Quincy, MA 02171

Project Number: 20121141.C3E

FUSS & O'NEILL
EnviroScience, LLC

February 16, 2018

Mr. Jordan Geist
Interim Business Director
Bourne Public Schools
36 Sandwich Road
Bourne, MA 02532

**RE: Three-Year AHERA Re-Inspection and Management Plan Update**
**Bourne High School**
**75 Waterhouse Road, Bourne, MA**
Fuss & O'Neill EnviroScience Project No. 20121141.C3E

Dear Mr. Geist:

Enclosed is the Three-Year AHERA Re-Inspection and Management Plan Update report prepared by Fuss & O'Neill EnviroScience, LLC for the Bourne High School located at 75 Waterhouse Road in Bourne, Massachusetts (the "Site"). AHERA services were performed for Bourne Public Schools (the "Client").

This report is an important document that must be kept on file at the school and at a central location where the Asbestos Management Plans are maintained.

If you should have any questions regarding this report, please do not hesitate to contact me. Thank you for this opportunity to have served your environmental needs.

Sincerely,

Dustin A. Diedricksen
Senior Project Manager

DD/so

Enclosure

108 Myrtle Street
Suite 502
Quincy, MA
02171
t 617.282.4675
800.286.2469
f 617.481.5885

www.fando.com

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

FUSS & O'NEILL
EnviroScience, LLC

# Table of Contents

## Three-Year Asbestos Hazard Emergency Response Act Re-Inspection and Management Plan Update Bourne High School


1 Introduction ..... 1
1.1 Background ..... 1
1.2 Local Education Agency (LEA) Responsibilities ..... 1
1.3 Key Personnel ..... 2

2 Building and Mechanical System Description ..... 3

3 Three Year Re-Inspection ..... 3
3.1 Re-Inspection Procedures ..... 3

4 Re-Inspection Report ..... 4
4.1 Review of Existing Records ..... 4
4.2 Re-Inspection Summary ..... 4
4.3 Newly Identified or Re-sampled ACBM Materials ..... 8
4.4 Physical Assessment of ACBM ..... 8

5 Management Plan Update ..... 9
5.1 Recommended Response Actions ..... 9
5.2 Periodic Surveillance ..... 10
5.3 Preventive Measures ..... 11
5.4 Abatement (Removal) Cost Estimates ..... 11

6 EPA Accreditation Requirements ..... 12

Appendices

End of Report

APPENDIX A EXISTING RECORDS CHECKLIST
APPENDIX B RE-INSPECTION FORM 1(A)
APPENDIX C RE-INSPECTION FORM 1(B)
APPENDIX D RE-INSPECTION FORM 2
APPENDIX E PREVIOUSLY SAMPLED MATERIALS LABORATORY REPORTS
APPENDIX F NEWLY INSTALLED MATERIALS SAFETY DATA SHEETS
APPENDIX G SAMPLE 6-MONTH PERIODIC SURVEILLANCE FORM
APPENDIX H PREVENTIVE MEASURES
APPENDIX I FUSS & O'NEILL ENVIROSCIENCE ASBESTOS ACCREDITATIONS & CERTIFICATIONS

FUSS & O'NEILL
EnviroScience, LLC

# 1 Introduction

## 1.1 Background

The Clean Air Act required the United States Environmental Protection Agency (EPA) to develop standards to address the potential health risks associated with adverse effects of asbestos exposure as an indoor contaminant. In October 1986, the EPA promulgated the Asbestos Hazard Emergency Response Act (AHERA) located at Title 40 CFR, Part 763, Subpart E.

The AHERA regulations require that local education agencies (LEA) conduct inspections of each school building that they lease, own, or otherwise use as a school building to identify friable (easily crumbled or crushed to powder by hand pressure) and non-friable asbestos-containing building materials (ACBM) locations. The original inspections were required to have been completed prior to October 12, 1988.

AHERA also requires that any building leased or acquired on or after October 12, 1988, which is to be used as a school building, shall be inspected for friable and non-friable ACBM prior to use as a school building. In the event of an emergency use of a building that has not been inspected for ACBM, the building shall be inspected within 30 days after commencement of such use.

The regulatory requirements remain in effect for a private or public school system, a church-affiliated school of any denomination, a school dedicated to the education of children with special needs, or a charter school. In the Commonwealth of Massachusetts, the Department of Labor Standards (MADLS) is responsible for AHERA regulation enforcement.

## 1.2 Local Education Agency (LEA) Responsibilities

The LEA is responsible for compliance with the AHERA regulation. The following responsibilities must be followed:

1. The LEA must designate a person to ensure that all AHERA requirements are properly implemented. The LEA's Designated Person must receive adequate training to perform their duties.

2. The LEA must ensure that the Asbestos Management Plans (AMP) are maintained in a central location and at each facility; these AMP and pertinent documentation shall be available for inspection or review at all times.

3. The LEA must inform all workers, building occupants, and legal representatives (as appropriate) in writing at least once per school year about asbestos-related activities and the availability of the AMP for each school building.

4. The LEA must ensure proper accreditation for all persons who perform asbestos inspections, asbestos re-inspections, AMP development/updates, Asbestos Work Plan (AWP) development, and response actions that may disturb asbestos; this includes operations and maintenance (O&M) activities.

5. The LEA must provide training for all custodial and maintenance staff who regularly perform building maintenance where ACBM are present. The training must be provided upon initial hire, and refresher training must be completed annually.

6. The LEA must provide information (disclosure) to any workers who may perform work and may come into contact with asbestos in school buildings where ACBM or presumed ACBM are present.

7. The LEA must ensure that known ACBM or presumed ACBM are provided with warning labels in routine maintenance areas.

8. The LEA must ensure that periodic surveillance is performed at least once every six months, after AMP implementation, in all school buildings that it leases, owns, or otherwise uses that contains ACBM or presumed ACBM.

9. The LEA must ensure that once every three years, after an AMP is implemented, a re-inspection is performed at each school building that it leases owns or otherwise uses that contains ACBM or presumed ACBM.

Refer to above-mentioned regulation for full requirements and responsibilities.

## 1.3 Key Personnel

A. Local Education Agency (LEA):

| | |
|---|---|
| LEA: | Bourne Public Schools |
| Address: | 36 Sandwich Road |
| | Bourne, MA 02532 |
| Phone: | (508) 759-0660 |

B. Designated Person:

| | |
|---|---|
| Designated Person: | Mr. Jordan Geist |
| | Interim Business Director |
| Address: | 36 Sandwich Road |
| | Bourne, Massachusetts 02532 |
| Phone: | (508) 759-0660 |

C. Asbestos Consultant:

| | |
|---|---|
| Firm: | Fuss & O'Neill EnviroScience, LLC |
| Address: | 108 Myrtle Street, Suite 502 |
| | Quincy, MA 02171 |
| Phone: | (617) 282-4675 |

D. Asbestos Inspector:

| | |
|---|---|
| Inspector: | Robert Mallett |
| MADLS Certification Number: | AI900557 |
| Expiration Date: | 06/01/2018 |

E. Asbestos Management Planner:

| | |
|---|---|
| Planner: | Dustin Diedricksen |
| MADLS Certification Number: | AP900425 |
| Expiration Date: | 04/05/2018 |

# 2 Building and Mechanical System Description

Bourne High School is a two-story, concrete and masonry structure with a partial basement level. The building was reportedly constructed in 1959, and it has undergone several renovation phases. An addition was reportedly constructed in 1990; it included the auditorium, the library, and several classrooms.

Three hot-water, gas-fired boilers provide heat to the building. Hot water is transferred through pipes via pipe tunnels to unit ventilators.

# 3 Three Year Re-Inspection

## 3.1 Re-Inspection Procedures

This Three-Year AHERA Re-Inspection was conducted in accordance with EPA requirements of the AHERA regulation, Title 40 CFR, Part 763, Section 763.85 (b).

On December 8, 2017, Fuss & O'Neill EnviroScience, LLC (EnviroScience) representative, Mr. Robert Mallett, performed the re-inspection.

During the re-inspection, EnviroScience conducted the following required tasks:

1. A visual re-inspection and reassessment of all known friable or assumed ACBM.

2. A visual re-inspection of ACBM that was previously considered non-friable to determine if the present condition of the material has become friable.

3. Identification and assessment of any newly-identified homogeneous area that contains friable ACBM since the last inspection or re-inspection.

# 4 Re-Inspection Report

## 4.1 Review of Existing Records

An important part of this AHERA re-inspection involved researching prior documentation that is required to be present at the school, as well as at the central recordkeeping location where AMP are stored.

Refer to *Appendix A* for the existing records checklist.

## 4.2 Re-Inspection Summary

The on-site portion of the re-inspection was documented on forms modeled after examples provided by the EPA and reviewed with the MADLS. The first form, **Re-Inspection Form 1(A)**, identifies previous inspection data gathered during the initial AHERA inspection and subsequent re-inspection (refer to *Appendix B*). This form is useful to reference response actions (if any), which have been performed since the last inspection, as well as identifies the last known conditions of ACBM in the building. It additionally provides the inspector a "quick glance" reference when performing the re-inspection.

The second EPA form, **Re-Inspection Form 1(B)**, is used to list all known or assumed asbestos-containing materials that were previously unidentified (refer to *Appendix C*).

The third EPA form, **Re-Inspection Form 2**, is used to provide information and justification regarding re-assessment of the ACBM (refer to *Appendix D*). This form also provides response action recommendations, including a tentative schedule for completing response actions that recommend removal or repair.

No bulk samples were collected during this re-inspection.

Previous bulk sampling results can be found in Table 1 and Table 2. Refer to *Appendix E* for previously sampled materials asbestos laboratory analytical report and chain-of-custody form.

Using EPA protocol and criteria, the following materials existing in the Bourne High School at the time of this three-year re-inspection have been determined and/or assumed to be **ACBM**. Please refer to the above-mentioned re-inspection forms for specific locations of ACBM.

**Table 1**
**Asbestos-Containing Building Materials (ACBM)**
**(Previous & Current Re-Inspections)**

| Material | Location | Reference | Asbestos Content |
|---|---|---|---|
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | A-Wing, B-Wing, & C-Wing Pipe Tunnels | Initial AMP prepared by EnviroScience Consultants (1988) (Sample ID: SDH-0811-88-01); Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample ID: 721JH-07A) | 70 % Chrysotile; 50% Chrysotile & 2% Amosite |
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | Graphic Arts Room (near AHU in back), Chemical Storage in Graphic Arts Room, Art Room (at AHU above Kiln & in Closet by Classroom Door), Basement Electrical Vault, Basement Storage Room across from Art Room, Materials Storage Room across from Basement Exit, & Basement Janitor's Closet (with slop sink) | | |
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | Kitchen Storage (near AHU), Gymnasium, Duct Vault across from Gymnasium, Men's Bathroom Closet across from Cafeteria, & Girl's Locker Room Storage Closet | | |
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | Janitor's Closet in Boy's Bathroom across from Classroom 14C | | |
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | Concealed above Splined Ceilings in A, B, & C-Wings | | |
| Roof Drain Mudded-Fitting Insulation | 2nd Floor Custodian's Closet (across from elevator) | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample ID: 721JH-06A) | 40% Chrysotile 5% Amosite |
| Roof Drain Mudded-Fitting Insulation | 2nd Floor Hallways above Splined Ceilings & Faculty Lunch Room | | |

| Material | Location | Reference | Asbestos Content |
|---|---|---|---|
| Gray Fiber-Reinforced Cement Exhaust Duct | Classrooms 22C & 24C | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample ID: 721JH-08A) | 25% Chrysotile |
| Gray Fiber-Reinforced Cement Exhaust Duct | Concealed within Laboratory Benches in Classrooms 22C & 24C | Assumed ACBM | Assumed ACBM |
| Gray Fiber-Reinforced Cement Fume Hood | Storage Room between Classrooms 22A & 24A | Assumed ACBM | Assumed ACBM |
| White Vibration Isolator | Storage Room between Classrooms 22A & 24A | Assumed ACBM | Assumed ACBM |
| Gray Fiber-Reinforced Cement Panel | Duct Vault across from Gymnasium | Assumed ACBM | Assumed ACBM |
| Gray Fiber-Reinforced Cement Panel | Above Splined Ceilings at Fire Doors in Hallways | Assumed ACBM | Assumed ACBM |

Using the EPA protocol, samples of the following suspect materials were collected and analyzed. The analytical results indicated that these materials are **non-ACBM**:

**Table 2**
**Non-Asbestos-Containing Building Materials**
**(Previous & Current Re-Inspections)**

| Material | Location | Reference |
|---|---|---|
| 2' x 2' White Fissured Suspended Ceiling Tile | Cafeteria, Hallway between Cafeteria & Gymnasium, & Hallway between Gymnasium & Main Offices | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-11A -11C) |
| 1' x 1' White Fissured Splined Ceiling Tile | A, B, & C-Wing Hallways & Classrooms (except Classrooms 11A, 13A, & 15A) | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-09A -09C) |
| 1' x 1' White Pin Hole Splined Ceiling Tile | | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-10A -10C) |

| Material | Location | Reference |
|---|---|---|
| 2' x 4' White Fissure & Dot Suspended Ceiling Tile | D-Wing Hallways & Classrooms, Auditorium, Library, & Classrooms: 11A, 13A, & 15A | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-12A -12C) |
| Black Mastic associated with 12" x 12" Floor Tile | Throughout School (Classrooms, Offices, & Hallways) | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-18A -18D) |
| Small Boiler Insulation-Top Gray Layer | C-Wing Boiler Room | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-01A -01C) |
| Smaller Boiler Insulation-Bottom White Layer | C-Wing Boiler Room | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-02A -02C) |
| Boiler Breeching | C-Wing Boiler Room | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-03A -03C) |
| Boiler Breeching | A-Wing Boiler Room | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-04A -04C) |
| Hot Water Heater Breeching | Pipe Tunnel (Art Wing) | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-05A -05C) |
| 12" x 12" Brown with Brown & White Speckles Floor Tile | A, B, C, & D-Wing Hallways | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-13A -13C) |
| 12" x 12" White with Gray & Tan Speckles Floor Tile | Room 13A, Math Department Office, & Main Office | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-14A -14C) |
| 12" x 12" White with Tan Speckles Floor Tile | Room 14A | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-15A -15C) |

| Material | Location | Reference |
|---|---|---|
| 12" x 12" Gray with White Speckles Floor Tile | Language Arts Department Office and Room 20D | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-16A -16C) |
| 12" x 12" Tan with Brown & White Speckles Floor Tile | Room 26D | Limited Asbestos Inspection Report prepared by EnviroScience (2009) (Sample IDs: 721JH-17A -17C) |

Mr. Dustin Diedricksen reviewed the information obtained during this re-inspection. Mr. Diedricksen is an EPA-accredited and MADLS-Certified Asbestos Management Planner.

## 4.3 Newly Identified or Re-sampled ACBM Materials

The following newly identified suspect ACBM have been identified in the building:

- White Vibration Isolator; and
- Gray Fiber-Reinforced Cement Panel.

These materials have been assumed as ACBM and listed in Table 1.

AHERA regulations pertain to interior identified or assumed ACBM and limited exterior ACBM. AHERA regulations do include ACBM located on exterior porticos, covered walkways, and mechanical equipment used to condition interior building air.

Any suspect material encountered during renovation/demolition/maintenance activities that is not specifically identified in the Asbestos Management Plan (AMP) as a non-ACM should be assumed to contain asbestos unless sample results indicate otherwise.

Safety Data Sheets (SDS) should be obtained and kept with the AHERA documentation for any newly installed materials in order to meet AHERA requirements. These SDS must demonstrate that asbestos-containing materials were not installed in the building. We recommend that SDS for newly installed materials be inserted into *Appendix F*.

## 4.4 Physical Assessment of ACBM

During inspection, suspect ACBM were separated into three EPA categories: Thermal System Insulation (TSI), Surfacing ACBM, and Miscellaneous ACBM. TSI includes all materials used to prevent heat loss/ gain or water condensation on mechanical systems. Examples of TSI are pipe and fitting insulations, boiler insulation, and duct insulation. Surfacing ACBM is commonly used for fireproofing, decorative, and acoustical applications.

Miscellaneous ACBM include all ACBM not listed in TSI or surfacing, such as sheet flooring, vinyl asbestos flooring, ceiling tiles, and construction mastics/adhesives.

Finally, ACBM were quantified in linear or square feet, depending on the nature of the material.

The ACBM identified during the inspection (and still remaining in the school) were re-assessed using the MADLS and AHERA guidelines for assessment of ACBM. The following assessment categories are listed:

1 Damaged or significantly damaged TSI 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

Material locations, assessments, and recommended response actions are listed in the re-inspection forms.

# 5 Management Plan Update

## 5.1 Recommended Response Actions

Based on the inspection report, the physical walk-through inspection, and the existing ACBM conditions, the following response actions are recommended:

1. **Removal – (1 EA) Mudded Pipe-Fitting Insulation at Pump 7 & 8 in A-Wing Pipe Tunnel; (2 EA) Mudded Pipe-Fitting Insulation at C-Wing Pipe Tunnel; and (1 EA) Roof Drain Mudded-Fitting Insulation at 2nd Floor A-Wing Hallway.**

2. Repair - Not Applicable

3. Enclosure – Not Applicable

4. Encapsulation – Not Applicable

5. Operations and Maintenance (O & M) - All remaining ACBM

A successful O & M Program includes the following elements:

A. Cleaning: All areas of the school where friable ACBM or assumed friable ACBM are present should be cleaned at least once after completion of the initial inspection.

Additional cleaning may be necessary if the Asbestos Management Planner makes a written recommendation indicating the methods and frequency of such cleaning.

B. O & M Activities: The LEA shall ensure that the procedures described below are followed to protect building occupants from O & M activities that may disturb known or assumed ACBM:

1. Restrict entry into the area either by physically isolating or by scheduling.
2. Post asbestos warning signs to prevent entry by unauthorized persons.
3. Deactivate or temporarily shut off or divert the air-handling system to the area.
4. Use proper work practices and engineering controls, such as wet methods, protective clothing, High Efficiency Particulate Air (HEPA) vacuums, mini-enclosures/glove bags, etc. to inhibit fiber migration.
5. Place asbestos debris and other contaminated materials into a sealed, leak-tight container for disposal.

C. Minor Fiber Release Episode: The LEA shall ensure that the procedures described below are followed in the event of a minor fiber release episode (i.e., disturbance of less than or equal to 3 linear/square feet of friable ACBM):

1. Saturate the debris using wet method.
2. Place the debris in a sealed, leak-tight container and clean the area.
3. Repair the area of damaged ACBM with materials such as asbestos-free spackling, plaster or insulation or seal with an encapsulant.

D. Major Fiber Release Episode: The LEA shall ensure that the procedures described below are followed in the event of a major fiber release episode (i.e., disturbance of greater than 3 linear/square feet of friable ACBM):

1. Restrict entry into the area and post asbestos warning signs.
2. Deactivate or temporarily shut off or divert the air handling system from the area to prevent fiber migration.
3. The response action for any major fiber release episode must be prepared by EPA-accredited Asbestos Project Designers and conducted by EPA-accredited personnel.
4. The LEA shall notify the MADLS of any major fiber release episode within twenty-four hours of its occurrence and, if necessary, provide written notification as required by applicable federal and/or state regulations.

## 5.2 Periodic Surveillance

At least once every six months after an AMP is implemented, the LEA will conduct periodic surveillance in the school that contains ACBM or assumed ACBM. The person conducting periodic surveillance will visually inspect all areas in the school where ACBM have been identified in the AMP, and record the date of surveillance, their name, and any changes in the ACBM condition; this information shall then be submitted to the LEA's Designated Person for inclusion in the AMP.

Refer to *Appendix G* for the Sample 6-Month Periodic Surveillance Form that may be used for conducting periodic surveillance.

## 5.3 Preventive Measures

The LEA shall institute appropriate preventive measures to eliminate the reasonable likelihood that ACBM will become damaged, deteriorated, and/or delaminated.

Refer to *Appendix G* for preventive measures designed for various types of ACBM that may exist in the school.

## 5.4 Abatement (Removal) Cost Estimates

Costs for abatement (removal) of all ACBM in the building are as follows:

**Table 3**
**Abatement Cost Estimates**

| Material | Location | Estimated Quantity | Estimated Contractor Cost |
|---|---|---|---|
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | Graphic Arts Room (near AHU in back), Chemical Storage in Graphic Arts Room, Art Room (at AHU above Kiln & in Closet by Classroom Door), Basement Electrical Vault, Basement Storage Room across from Art Room, Materials Storage Room across from Basement Exit, Basement Janitor's Closet (with slop sink), Kitchen Storage (near AHU), Gymnasium, Duct Vault across from Gymnasium, Men's Bathroom Closet across from Cafeteria, Girl's Locker Room Storage Closet, Janitor's Closet in Boy's Bathroom across from Classroom 14C, & Concealed above Splined Ceilings in A, B, & C-Wings | 525 EA | $26,250 |
| Roof Drain Mudded-Fitting Insulation | 2nd Floor Custodian's Closet (across from elevator), 2nd Floor Hallways above Splined Ceilings, & Faculty Lunch Room | 20 EA | $10,000 |
| Gray Fiber-Reinforced Cement Exhaust Duct | Classrooms 22C & 24C & Concealed within Laboratory Benches in Classrooms 22C & 24C | 160 SF | $2,400 |
| Gray Fiber-Reinforced Cement Fume Hood | Storage Room between Classrooms 22A & 24A | 1 EA | $2,500 |

| Material | Location | Estimated Quantity | Estimated Contractor Cost |
|---|---|---|---|
| White Vibration Isolator | Storage Room between Classrooms 22A & 24A | 2 EA | $600 |
| Gray Fiber-Reinforced Cement Panel | Duct Vault across from Gymnasium & above Splined Ceilings at Fire Doors in Hallways | 200 SF | $3,000 |

EA=Each; SF=Square Feet

Asbestos training costs for custodial and maintenance workers (under O&M Program) are as follows:

**Table 4**
**Asbestos Training Cost Estimates**

| Training Course | Estimated Cost |
|---|---|
| Two-Hour Asbestos Awareness Training (Annual) | $75/Person/Year |
| Asbestos Coordinator/LEA Designated Person Initial Training | $250/Person |
| Asbestos Coordinator/LEA Designated Person Annual Refresher Training | $200/Person/Year |
| Asbestos Operations & Maintenance Initial Training | $300/Person |
| Asbestos Operations & Maintenance Annual Refresher Training | $150/Person/Year |
| Three-Year Re-Inspections & AMP Updates | $5,000 - $8,000 |

# 6 EPA Accreditation Requirements

EPA accreditations and MADLS Asbestos Inspector and Management Planner certifications for Mr. Mallett and Mr. Diedricksen are provided in *Appendix H*.

Report prepared by Environmental Technician, Robert Mallett.

Reviewed by:



Dustin A. Diedricksen
Senior Project Manager

# Appendix A

## Existing Records Checklist

FUSS & O'NEILL
EnviroScience, LLC

# Existing Records Checklist

Local Education Agency (LEA): Bourne Public Schools
36 Sandwich Road
Bourne, MA 02532

School Building: Bourne High School

The following documentation is required to be present at both the LEA's office and at a centralized location in the school administrative office. The information included in this checklist will be verified to be present and complete as part of three-year re-inspection.

| DOCUMENTATION | | LOCATION | |
|---|---|---|---|
| | | School | LEA Office |
| 1 | Original AHERA Operations and Maintenance Plan/Inspection Report | No | Yes (Digital Copy) 1988 |
| 2 | Three Year Re-Inspection (First and All Subsequent Inspections) | No | 1994, 1998, 2001, 2004, 2011, & 2014 |
| 3 | Parents and Teachers Notifications (Annually Since Last Re-Inspection) | Yes (In Student Handbook & Website) | Yes (In Student Handbook & Website) |
| 4 | Designated Person Identification and Proper Training | Yes | Yes |
| 5 | Designated Person Periodic Surveillance (Once Every Six Months) | Yes | Yes |
| 6 | Maintenance Staff Awareness Training Records | No | No |
| 7 | Outside Vendor Awareness Notification | No | No |
| 8 | Asbestos Warning Signs and Labels (Required Posting in Boiler Rooms and Mechanical Spaces Only) | Yes | Yes |
| 9 | Response Action Records (Includes Any Abatement Conducted Since Last 3-Year Re-Inspection) | Yes | Yes |

Comments: Items marked "***No***" indicate not present/available at the time of this inspection.

Inspector (LEA Office): Robert Mallett Date: December 8, 2017

Inspector (School): Robert Mallett Date: December 8, 2017

# Appendix B

## Re-Inspection Form 1(A)

School: Bourne High School
Address 75 Waterhouse Road, Bourne, MA

Date(s) of Original Inspection: 1988
Date(s) of Subsequent Re-Inspections: 1994, 1998, 2001, 2004, 2007, 2011, 2014, & 2017

| Homogeneous Material | | | Material Category | Friability | Assessment Category (1-7) | Recorded Locations | Response Actions Taken/Renovations/Other Comments |
|---|---|---|---|---|---|---|---|
| Sample Number | Asbestos Content | Material Description | | | | | |
| SDH-0811-88-01 & 721JH-07A | 70% Chrysotile & 50% Chrysotile 2% Amosite | White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | TSI | F | 5 | A-Wing, B-Wing, & C-Wing Pipe Tunnels | |
| SDH-0811-88-01 & 721JH-07A | 70% Chrysotile & 50% Chrysotile 2% Amosite | White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | TSI | F | 1 | A-Wing Pipe Tunnel near Pump 7 & 8 | 1 damaged fitting observed (abrasion from threaded rod) |
| SDH-0811-88-01 & 721JH-07A | 70% Chrysotile & 50% Chrysotile 2% Amosite | White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | TSI | F | 1 | C-Wing Pipe Tunnel above Duct Work | 2 damaged fittings observed |

School: Bourne High School

Address 75 Waterhouse Road, Bourne, MA

Date(s) of Original Inspection: 1988

Date(s) of Subsequent Re-Inspections: 1994, 1998, 2001, 2004, 2007, 2011, 2014, & 2017

| Homogeneous Material | | | Material Category | Friability | Assessment Category (1-7) | Recorded Locations | Response Actions Taken/Renovations/Other Comments |
|---|---|---|---|---|---|---|---|
| Sample Number | Asbestos Content | Material Description | | | | | |
| SDH-0811-88-01 & 721JH-07A | 70% Chrysotile & 50% Chrysotile 2% Amosite | White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | TSI | F | 6 | Graphic Arts Room (near AHU in back), Chemical Storage in Graphic Arts Room, Art Room (at AHU above Kiln & in Closet by Classroom Door), Basement Storage Room across from Art Room, Materials Storage Room across from Basement Exit, & Basement Janitor's Closet (with slop sink) | |
| SDH-0811-88-01 & 721JH-07A | 70% Chrysotile & 50% Chrysotile 2% Amosite | White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | TSI | F | 6 | Kitchen Storage (near AHU), Gymnasium, Men's Bathroom Closet across from Cafeteria, & Girl's Locker Room Storage Closet | |
| SDH-0811-88-01 & 721JH-07A | 70% Chrysotile & 50% Chrysotile 2% Amosite | White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | TSI | F | 5 | Duct Vault across from Gymnasium & Basement Electrical Vault | |

School: Bourne High School

Address 75 Waterhouse Road, Bourne, MA

Date(s) of Original Inspection: 1988

Date(s) of Subsequent Re-Inspections: 1994, 1998, 2001, 2004, 2007, 2011, 2014, & 2017

| Homogeneous Material | | | Material Category | Friability | Assessment Category (1-7) | Recorded Locations | Response Actions Taken/Renovations/Other Comments |
|---|---|---|---|---|---|---|---|
| Sample Number | Asbestos Content | Material Description | | | | | |
| SDH-0811-88-01 & 721JH-07A | 70% Chrysotile & 50% Chrysotile 2% Amosite | White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | TSI | F | 5 | Janitor's Closet in Boy's Bathroom across from Classroom 14C | |
| SDH-0811-88-01 & 721JH-07A | 70% Chrysotile & 50% Chrysotile 2% Amosite | White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | TSI | F | 5 | Concealed above Splined Ceilings in A, B, & C-Wings | |
| 721JH-06A | 40% Chrysotile 5% Amosite | Roof Drain Mudded-Fitting Insulation | TSI | F | 6 | 2nd Floor Custodian's Closet (across from elevator) | |
| 721JH-06A | 40% Chrysotile 5% Amosite | Roof Drain Mudded-Fitting Insulation | TSI | F | 5 | 2nd Floor Hallways above Splined Ceilings & Faculty Lunch Room (above ceiling) | |
| 721JH-06A | 40% Chrysotile 5% Amosite | Roof Drain Mudded-Fitting Insulation | TSI | F | 1 | 2nd Floor A-Wing Hallway | Fitting has been damaged by roof leak |

School: Bourne High School
Address 75 Waterhouse Road, Bourne, MA

Date(s) of Original Inspection: 1988
Date(s) of Subsequent Re-Inspections: 1994, 1998, 2001, 2004, 2007, 2011, 2014, & 2017

| Homogeneous Material | | | Material Category | Friability | Assessment Category (1-7) | Recorded Locations | Response Actions Taken/Renovations/Other Comments |
|---|---|---|---|---|---|---|---|
| Sample Number | Asbestos Content | Material Description | | | | | |
| 721JH-08A | 25% Chrysotile | Gray Fiber-Reinforced Cement Exhaust Duct | Misc. | NF | 5 | Classrooms 22C & 24C | |
| Assumed ACBM | Assumed ACBM | Gray Fiber-Reinforced Cement Exhaust Duct | Misc. | NF | 5 | Concealed within Laboratory Benches in Classrooms 22C & 24C | |
| Assumed ACBM | Assumed ACBM | Gray Fiber-Reinforced Cement Fume Hood | Misc. | NF | 5 | Storage Room between Classrooms 22A & 24A | |

Information abstracted by: Robert Mallett Date: December 8, 2017

Material Category: TSI = Thermal System Insulation, Surf. = Surfacing, Misc. = Miscellaneous

Friability: F = Friable, NF = Non-Friable

AHERA Assessment Categories:

1 = Damaged or significantly damaged TSI 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

FUSS & O'NEILL
EnviroScience, LLC

# Appendix C

## Re-Inspection Form 1(B)

FUSS & O'NEILL
EnviroScience, LLC

Re-Inspection Form 1 (B) – List of Previously-Unidentified Suspect ACBM 

School: Bourne High School
Address: 75 Waterhouse Road, Bourne, MA

Date(s) of Original AHERA Inspection: 1988
Date(s) of Re-Inspection: 1994, 1998, 2001, 2004, 2007, 2011, 2014, & 2017

| Homogeneous Material | | Asbestos Content (%) | Material Category | Estimated Quantity (SF/LF) | Friability | Assessment Category (1-7) | Recorded Locations of Material for Each Assessment Category |
|---|---|---|---|---|---|---|---|
| Sample Number | Material Description | | | | | | |
| Assumed ACBM | White Vibration Isolator | Assumed ACBM | Misc. | 2 EA | NF | 5 | Storage Room between Classrooms 22A & 24A (associated with fume hood ventilation) |
| Assumed ACBM | Gray Fiber-Reinforced Cement Panel | Assumed ACBM | Misc. | 200 SF | NF | 5 | Duct Vault across from Gymnasium & above Splined Ceilings at Fire Doors in Hallways |

Inspected by: Robert Mallett Date: December 8, 2017

Material Category: TSI = Thermal System Insulation, Surf. = Surfacing, Misc. = Miscellaneous

EA = Each; SF = Square Feet

Friability: F = Friable, NF = Non-Friable

AHERA Assessment Categories:

1 = Damaged or significantly damaged TSI 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

FUSS & O'NEILL
EnviroScience, LLC

# Appendix D

## Re-Inspection Form 2

School: Bourne High School
Homogeneous Material: White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation)

Date of Re-Inspection: December 8, 2017
Sample ID Number: SDH-0811-88-01 & 721JH-07A

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| A-Wing, B-Wing, & C-Wing Pipe Tunnels, Duct Vault across from Gymnasium, & Basement Electrical Vault | F | ~125 EA | 5 | ACBM with potential for damage | Routine cleaning is not recommended within pipe tunnels (with dirt floor), duct vault across from the gymnasium, and basement electrical vault. Restricted access to these areas shall continue.<br><br>No damaged, friable TSI or suspect debris was observed at the time of this re-inspection in the pipe tunnels, duct vault across from gymnasium, and basement electrical vault.<br><br>Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |

School: Bourne High School Date of Re-Inspection: December 8, 2017

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

School: Bourne High School
Date of Re-Inspection: December 8, 2017
Homogeneous Material: White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation)
Sample ID Number: SDH-0811-88-01 & 721JH-07A

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| A-Wing Pipe Tunnel (near pumps 7 & 8) & C-Wing Pipe Tunnel (above ductwork) | F | 1 EA at A-Wing & 2 EA at C-Wing | 1 | Damaged or significantly damaged TSI ACM | Fittings should be removed as soon as possible at both locations. | Winter/Spring 2018 |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

School: Bourne High School
Date of Re-Inspection: December 8, 2017
Homogeneous Material: White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation)
Sample ID Number: SDH-0811-88-01 & 721JH-07A

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| Graphic Arts Room (near AHU in back), Chemical Storage in Graphic Arts Room, Art Room (at AHU above Kiln & in Closet by Classroom Door), Basement Storage Room across from Art Room, Materials Storage Room across from Basement Exit, Basement Janitor's Closet (with slop sink), Kitchen Storage (near AHU), Gymnasium, Duct Vault across from Gymnasium, Men's Bathroom Closet across from Cafeteria, & Girl's Locker Room Storage Closet | F | 39 EA | 6 | ACBM with potential for significant damage | No damaged, friable TSI or suspect debris was observed at the time of this re-inspection. It is recommended that periodic cleaning shall be performed at least semiannually at these locations. All cleaning must be performed by a person who is at least qualified as an asbestos associated project worker, and HEPA-vacuuming and wet-cleaning methods are required.<br><br>Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |

School: Bourne High School Date of Re-Inspection: December 8, 2017

| | |
|---|---|
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 |

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

School: Bourne High School
Date of Re-Inspection: December 8, 2017
Homogeneous Material: White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation)
Sample ID Number: SDH-0811-88-01 & 721JH-07A

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| Janitor's Closet in Boy's Bathroom across from Classroom 14C | F | 2 EA | 5 | ACBM with potential for damage | No damaged, friable TSI or suspect debris was observed at the time of this re-inspection. It is recommended that periodic cleaning shall be performed at least semiannually at this locations. All cleaning must be performed by a person who is at least qualified as an asbestos associated project worker, and HEPA-vacuuming and wet-cleaning methods are required.<br><br>Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |

School: Bourne High School Date of Re-Inspection: December 8, 2017

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

School: Bourne High School
Homogeneous Material: White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation)

Date of Re-Inspection: December 8, 2017
Sample ID Number: SDH-0811-88-01 & 721JH-07A

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| Concealed above Splined Ceilings in A, B, & C-Wings | F | Unknown | 5 | ACBM with potential for damage | Routine cleaning is not recommended at concealed locations.<br><br>Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

School: Bourne High School
Homogeneous Material: Roof Drain Mudded-Fitting Insulation

Date of Re-Inspection: December 8, 2017
Sample ID Number: 721JH-06A

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| 2nd Floor Custodian's Closet (across from elevator) | F | 2 EA | 5 | ACBM with potential for damage | No damaged, friable TSI or suspect debris was observed at the time of this re-inspection. It is recommended that periodic cleaning shall be performed at least semiannually at this location. All cleaning must be performed by a person who is at least qualified as an asbestos associated project worker, and HEPA-vacuuming and wet-cleaning methods are required.<br><br>Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |

School: Bourne High School Date of Re-Inspection: December 8, 2017

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

School: Bourne High School
Homogeneous Material: Roof Drain Mudded-Fitting Insulation

Date of Re-Inspection: December 8, 2017
Sample ID Number: 721JH-06A

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| Concealed above 2nd Floor Splined Ceilings & Faculty Lunch Room | F | Unknown | 5 | ACBM with potential for damage | Routine cleaning is not recommended at concealed locations.<br><br>Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |
| I, the LEA's Designated Person, have read and understood the recommendations made above: _____<br>Date: _____ | | | | | | |

School: Bourne High School
Homogeneous Material: Roof Drain Mudded-Pipe Fitting Insulation

Date of Re-Inspection: December 8, 2017
Sample ID Number: 721JH-06A

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| 2nd Floor A-Wing | F | 1 EA | 1 | Damaged or significantly damaged TSI ACM | This fitting has been exposed by an ongoing roof leak. The fitting (at the time of this re-inspection) remained intact; however, continued exposure to water will quickly deteriorate the fitting. The fitting should be removed as soon as possible, and the roof leak should be repaired. | Winter/Spring 2018 |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

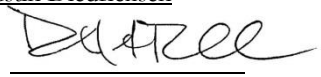
Date: _____

School: Bourne High School
Homogeneous Material: Gray Fiber-Reinforced Cement Exhaust Duct

Date of Re-Inspection: December 8, 2017
Sample ID Number: 721JH-08A

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| Classrooms 22C & 24C | NF | 56 SF | 5 | ACBM with potential for damage | Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |
| I, the LEA's Designated Person, have read and understood the recommendations made above: _____<br>Date: _____ | | | | | | |

School: Bourne High School
Date of Re-Inspection: December 8, 2017
Homogeneous Material: Gray Fiber-Reinforced Cement Exhaust Duct
Sample ID Number: Assumed ACBM

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| Concealed within Laboratory Benches in Classrooms 22C & 24C | NF | 100 SF | 5 | ACBM with potential for damage | Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: <br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: <br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

School: Bourne High School
Date of Re-Inspection: December 8, 2017
Homogeneous Material: Gray Fiber-Reinforced Cement Fume Hood
Sample ID Number: Assumed ACBM

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| Storage Room between Classrooms 22A & 24A | NF | 1 EA | 5 | ACBM with potential for damage | Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |
| I, the LEA's Designated Person, have read and understood the recommendations made above: _____<br>Date: _____ | | | | | | |

School: Bourne High School
Homogeneous Material: White Vibration Isolator

Date of Re-Inspection: December 8, 2017
Sample ID Number: Assumed ACBM

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| Storage Room between Classrooms 22A & 24A (associated with fume hood ventilation) | NF | 2 EA | 5 | ACBM with potential for damage | Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |
| I, the LEA's Designated Person, have read and understood the recommendations made above: _____<br>Date: _____ | | | | | | |

School: Bourne High School
Homogeneous Material: Gray Fiber-Reinforced Cement Panel

Date of Re-Inspection: December 8, 2017
Sample ID Number: Assumed ACBM

| ACBM RE-INSPECTION FINDINGS | | | | | MANAGEMENT PLANNER RECOMMENDATIONS | |
|---|---|---|---|---|---|---|
| **ACBM Location(s) by Assessment Category** | **Friability** | **Estimated Quantity** | **Assessment Category** | **Physical Description** | **Recommended Response Action(s)** | **Date Action Completed** |
| Duct Vault across from Gymnasium & above Splined Ceilings at Fire Doors in Hallways | NF | 100 SF | 5 | ACBM with potential for damage | Maintain under O&M Program | Ongoing |
| Were additional samples of this ACBM collected? No | | | | | Date of Management Planner Review: February 16, 2018 | |
| Inspector's Name: Robert Mallett<br>Inspector Signature: _____<br>Accreditation #/State: AI900557/MA<br>Expiration Date: 06/01/2018 | | | | | Management Planner Name: Dustin Diedricksen<br>Management Planner Signature: _____<br>Accreditation #/State: AP900425/MA<br>Expiration Date: 04/05/2018 | |
| I, the LEA's Designated Person, have read and understood the recommendations made above: _____<br>Date: _____ | | | | | | |

FUSS & O'NEILL
EnviroScience, LLC

# Appendix E

## Previously Sampled Materials Laboratory Reports

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Fuss & O' Neill EnviroScience, LLC**
**50 Redfield Street**
**Boston, MA 02122**

Fax: (413) 647-0018 Phone: (617) 282-4675

Project: **20070914.A2FL/ BOURNE PUBLIC SCHOOLS/ HIGH SCHOOL**

Customer ID: ENVI54C
Customer PO:
Received: 07/24/09 9:00 AM
EMSL Order: 030918763
EMSL Proj:
Analysis Date: 7/26/2009

## 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** |
| 721JH-01A<br>*030918763-0001* | C WING BOILER ROOM/ SMALL BOILER INSULATION GRAY | Gray<br>Fibrous<br>Homogeneous | 20% Glass | | 60% Ca Carbonate<br>20% Non-fibrous (other) | **None Detected** |
| 721JH-01B<br>*030918763-0002* | C WING BOILER ROOM/ SMALL BOILER INSULATION GRAY | Gray<br>Fibrous<br>Homogeneous | 25% Glass | | 60% Ca Carbonate<br>15% Non-fibrous (other) | **None Detected** |
| 721JH-01C<br>*030918763-0003* | C WING BOILER ROOM/ SMALL BOILER INSULATION GRAY | Gray<br>Fibrous<br>Homogeneous | 25% Glass | | 60% Ca Carbonate<br>15% Non-fibrous (other) | **None Detected** |
| 721JH-02A<br>*030918763-0004* | C WING BOILER ROOM/ SMALL BOILER INSULATION WHITE | White<br>Fibrous<br>Homogeneous | 10% Glass | | 80% Ca Carbonate<br>10% Non-fibrous (other) | **None Detected** |
| 721JH-02B<br>*030918763-0005* | C WING BOILER ROOM/ SMALL BOILER INSULATION WHITE | White<br>Fibrous<br>Homogeneous | 10% Glass<br>3% Synthetic | | 80% Ca Carbonate<br>7% Non-fibrous (other) | **None Detected** |

Analyst(s)

*Alexander Balter (46)*

James Hall, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. New York 307 West 38th Street, New York NY NVLAP Lab Code 101048-9, AIHA IHLAP 102581, NYS ELAP 11506, CT PH-0170, MA AA000170

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Fuss & O' Neill EnviroScience, LLC**
**50 Redfield Street**
**Boston, MA 02122**

Fax: (413) 647-0018 Phone: (617) 282-4675

Project: **20070914.A2FL/ BOURNE PUBLIC SCHOOLS/ HIGH SCHOOL**

Customer ID: ENVI54C
Customer PO:
Received: 07/24/09 9:00 AM
EMSL Order: 030918763
EMSL Proj:
Analysis Date: 7/26/2009

## 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 |
| 721JH-02C<br>*030918763-0006* | C WING BOILER ROOM/ SMALL BOILER INSULATION WHITE | White<br>Fibrous<br>Homogeneous | 10%<br>2% | Glass<br>Synthetic | 80%<br>8% | Ca Carbonate<br>Non-fibrous (other) | None Detected |
| 721JH-03A<br>*030918763-0007* | C WING BOILER ROOM/ BOILER BREECHING | Gray/Yellow<br>Fibrous<br>Homogeneous | 30% | Glass | 60%<br>10% | Ca Carbonate<br>Non-fibrous (other) | None Detected |
| 721JH-03B<br>*030918763-0008* | C WING BOILER ROOM/ BOILER BREECHING | Yellow<br>Fibrous<br>Homogeneous | 10%<br>5% | Cellulose<br>Glass | 70%<br>15% | Ca Carbonate<br>Non-fibrous (other) | None Detected |
| 721JH-03C<br>*030918763-0009* | C WING BOILER ROOM/ BOILER BREECHING | Yellow<br>Fibrous<br>Homogeneous | 10%<br>5% | Cellulose<br>Glass | 70%<br>15% | Ca Carbonate<br>Non-fibrous (other) | None Detected |
| 721JH-04A<br>*030918763-0010* | A WING BOILER ROOM/ BOILER BREECHING | Yellow<br>Fibrous<br>Homogeneous | 10%<br><1% | Cellulose<br>Glass | 80%<br>10% | Ca Carbonate<br>Non-fibrous (other) | None Detected |
| 721JH-04B<br>*030918763-0011* | A WING BOILER ROOM/ BOILER BREECHING | Gray/Yellow<br>Fibrous<br>Homogeneous | 20% | Glass | 70%<br>10% | Ca Carbonate<br>Non-fibrous (other) | None Detected |
| 721JH-04C<br>*030918763-0012* | A WING BOILER ROOM/ BOILER BREECHING | Yellow<br>Fibrous<br>Homogeneous | 7% | Cellulose | 85%<br>8% | Ca Carbonate<br>Non-fibrous (other) | None Detected |

Analyst(s)

*Alexander Balter (46)*

James Hall, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. New York 307 West 38th Street, New York NY NVLAP Lab Code 101048-9, AIHA IHLAP 102581, NYS ELAP 11506, CT PH-0170, MA AA000170

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Fuss & O' Neill EnviroScience, LLC**
**50 Redfield Street**
**Boston, MA 02122**

Fax: (413) 647-0018 Phone: (617) 282-4675

Project: **20070914.A2FL/ BOURNE PUBLIC SCHOOLS/ HIGH SCHOOL**

Customer ID: ENVI54C
Customer PO:
Received: 07/24/09 9:00 AM
EMSL Order: 030918763
EMSL Proj:
Analysis Date: 7/26/2009

## 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** |
| 721JH-05A<br>*030918763-0013* | PIPE TUNNEL (ART WING)/ HOT WATER HEATER BREECHING | White<br>Fibrous Homogeneous | 7% Glass<br>3% Synthetic | 80% Ca Carbonate<br>10% Non-fibrous (other) | **None Detected** |
| 721JH-05B<br>*030918763-0014* | PIPE TUNNEL (ART WING)/ HOT WATER HEATER BREECHING | White<br>Fibrous Homogeneous | 15% Glass<br>5% Synthetic | 65% Ca Carbonate<br>15% Non-fibrous (other) | **None Detected** |
| 721JH-05C<br>*030918763-0015* | PIPE TUNNEL (ART WING)/ HOT WATER HEATER BREECHING | White<br>Fibrous Homogeneous | 15% Glass<br>3% Synthetic | 70% Ca Carbonate<br>12% Non-fibrous (other) | **None Detected** |
| 721JH-06A<br>*030918763-0016* | MUSIC ROOM/ ROOF DRAIN MUDDED FITTINGS | White<br>Fibrous Homogeneous | | 50% Ca Carbonate<br>5% Non-fibrous (other) | **5% Amosite**<br>**40% Chrysotile** |
| 721JH-06B<br>*030918763-0017* | BIOLOGY LAB/ ROOF DRAIN MUDDED FITTINGS | | | | **Not Analyzed** |

POSITIVE STOP

Analyst(s)

*Alexander Balter (46)*

James Hall, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. New York 307 West 38th Street, New York NY NVLAP Lab Code 101048-9, AIHA IHLAP 102581, NYS ELAP 11506, CT PH-0170, MA AA000170

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Fuss & O' Neill EnviroScience, LLC**
**50 Redfield Street**
**Boston, MA 02122**

Fax: (413) 647-0018 Phone: (617) 282-4675

Project: **20070914.A2FL/ BOURNE PUBLIC SCHOOLS/ HIGH SCHOOL**

Customer ID: ENVI54C
Customer PO:
Received: 07/24/09 9:00 AM
EMSL Order: 030918763
EMSL Proj:
Analysis Date: 7/26/2009

## 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** |
| 721JH-06C<br>*030918763-0018* | WOMEN'S LOCKER ROOM/ ROOF DRAIN MUDDED FITTINGS | | | | **Not Analyzed** |
| | | | POSITIVE STOP | | |
| 721JH-07A<br>*030918763-0019* | JANITOR'S CLOSET 1ST FLOOR B WING/ MUDDED FITTINGS | Brown<br>Fibrous Homogeneous | | 40% Ca Carbonate<br>8% Non-fibrous (other) | **2% Amosite**<br>**50% Chrysotile** |
| 721JH-07B<br>*030918763-0020* | C WING PIPE TUNNEL/ MUDDED FITTINGS | | | | **Not Analyzed** |
| | | | POSITIVE STOP | | |
| 721JH-07C<br>*030918763-0021* | A WING PIPE TUNNEL/ MUDDED FITTINGS | | | | **Not Analyzed** |
| | | | POSITIVE STOP | | |
| 721JH-07D<br>*030918763-0022* | A WING PIPE TUNNEL/ MUDDED FITTINGS | | | | **Not Analyzed** |
| | | | POSITIVE STOP | | |

Analyst(s)

*Alexander Balter (46)*

James Hall, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. New York 307 West 38th Street, New York NY NVLAP Lab Code 101048-9, AIHA IHLAP 102581, NYS ELAP 11506, CT PH-0170, MA AA000170

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Fuss & O' Neill EnviroScience, LLC**
**50 Redfield Street**
**Boston, MA 02122**

Fax: (413) 647-0018 Phone: (617) 282-4675
Project: **20070914.A2FL/ BOURNE PUBLIC SCHOOLS/ HIGH SCHOOL**

Customer ID: ENVI54C
Customer PO:
Received: 07/24/09 9:00 AM
EMSL Order: 030918763
EMSL Proj:
Analysis Date: 7/26/2009

## 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** |
| 721JH-08A<br>*030918763-0023* | ROOM BETWEEN ROOMS 22C & 24C/ TRANSITE FUME HOOD | Gray<br>Fibrous<br>Homogeneous | | | 65% Ca Carbonate<br>10% Non-fibrous (other) | **25% Chrysotile** |
| 721JH-08B<br>*030918763-0024* | ROOM BETWEEN ROOMS 22C & 24C/ TRANSITE FUME HOOD | | | | | **Not Analyzed** |
| | | | POSITIVE STOP | | | |
| 721JH-08C<br>*030918763-0025* | ROOM BETWEEN ROOMS 22C & 24C/ TRANSITE FUME HOOD | | | | | **Not Analyzed** |
| | | | POSITIVE STOP | | | |
| 721JH-09A<br>*030918763-0026* | ROOM 14C/ 1 X 1 FISSUSED CEILING TILE | Gray/White<br>Fibrous<br>Homogeneous | 5%<br>60% | Cellulose<br>Glass | 35% Non-fibrous (other) | **None Detected** |
| 721JH-09B<br>*030918763-0027* | C WING HALL/ 1 X 1 FISSUSED CEILING TILE | Gray<br>Fibrous<br>Homogeneous | 10%<br>60% | Cellulose<br>Glass | 30% Non-fibrous (other) | **None Detected** |
| 721JH-09C<br>*030918763-0028* | C WING MEN'S ROOM/ 1 X 1 FISSUSED CEILING TILE | Gray<br>Fibrous<br>Homogeneous | 10%<br>55% | Cellulose<br>Glass | 35% Non-fibrous (other) | **None Detected** |

Analyst(s)

*Alexander Balter (46)*

James Hall, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. New York 307 West 38th Street, New York NY NVLAP Lab Code 101048-9, AIHA IHLAP 102581, NYS ELAP 11506, CT PH-0170, MA AA000170

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Fuss & O' Neill EnviroScience, LLC**
**50 Redfield Street**
**Boston, MA 02122**

Fax: (413) 647-0018 Phone: (617) 282-4675

Project: **20070914.A2FL/ BOURNE PUBLIC SCHOOLS/ HIGH SCHOOL**

Customer ID: ENVI54C
Customer PO:
Received: 07/24/09 9:00 AM
EMSL Order: 030918763
EMSL Proj:
Analysis Date: 7/26/2009

## 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 |
| 721JH-10A<br>*030918763-0029* | A-WING HALL/ 1 X 1 PIN HOLE CEILING TILE | Brown/White<br>Fibrous<br>Homogeneous | 95% | Cellulose | 5% Non-fibrous (other) | None Detected |
| 721JH-10B<br>*030918763-0030* | B-WING HALL/ 1 X 1 PIN HOLE CEILING TILE | Brown/White<br>Fibrous<br>Homogeneous | 90% | Cellulose | 10% Non-fibrous (other) | None Detected |
| 721JH-10C<br>*030918763-0031* | ROOM 13B/ 1 X 1 PIN HOLE CEILING TILE | Brown/White<br>Fibrous<br>Homogeneous | 95% | Cellulose | 5% Non-fibrous (other) | None Detected |
| 721JH-11A<br>*030918763-0032* | CAFÉ HALL/ 2 X 2 FISSUSED CEILING TILE | Gray/White<br>Fibrous<br>Homogeneous | 45%<br>25% | Cellulose<br>Glass | 30% Non-fibrous (other) | None Detected |
| 721JH-11B<br>*030918763-0033* | CAFÉ HALL/ 2 X 2 FISSUSED CEILING TILE | Gray/White<br>Fibrous<br>Homogeneous | 40%<br>30% | Cellulose<br>Glass | 30% Non-fibrous (other) | None Detected |
| 721JH-11C<br>*030918763-0034* | A-WING HALL/ 2 X 2 FISSUSED CEILING TILE | Gray/White<br>Fibrous<br>Homogeneous | 50%<br>20% | Cellulose<br>Glass | 30% Non-fibrous (other) | None Detected |
| 721JH-12A<br>*030918763-0035* | MAIN LOBBY/ 2 X 4 FISSUSED CEILING TILE | Gray/White<br>Fibrous<br>Homogeneous | 50%<br>20% | Cellulose<br>Glass | 30% Non-fibrous (other) | None Detected |

Analyst(s)

*Alexander Balter (46)*

James Hall, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. New York 307 West 38th Street, New York NY NVLAP Lab Code 101048-9, AIHA IHLAP 102581, NYS ELAP 11506, CT PH-0170, MA AA000170

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Fuss & O' Neill EnviroScience, LLC**
**50 Redfield Street**
**Boston, MA 02122**

Fax: (413) 647-0018 Phone: (617) 282-4675

Project: **20070914.A2FL/ BOURNE PUBLIC SCHOOLS/ HIGH SCHOOL**

Customer ID: ENVI54C
Customer PO:
Received: 07/24/09 9:00 AM
EMSL Order: 030918763
EMSL Proj:
Analysis Date: 7/26/2009

## 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 |
| 721JH-12B<br>*030918763-0036* | MAIN OFFICE/ 2 X 4 FISSUSED CEILING TILE | Gray/White<br>Fibrous<br>Homogeneous | 45% Cellulose<br>20% Glass | | 35% Non-fibrous (other) | None Detected |
| 721JH-12C<br>*030918763-0037* | ROOM 14A/ 2 X 4 FISSUSED CEILING TILE | Gray/White<br>Fibrous<br>Homogeneous | 40% Cellulose<br>20% Glass | | 40% Non-fibrous (other) | None Detected |
| 721JH-13A<br>*030918763-0038* | 2ND FLOOR D-WING HALL/ BROWN W/ BROWN & WHITE | Brown<br>Non-Fibrous<br>Homogeneous | | | 80% Ca Carbonate<br>20% Non-fibrous (other) | None Detected |
| 721JH-13B<br>*030918763-0039* | 1ST FLOOR D-WING CUSTODIAN CLOSET/ 12 X 12 FLOOR | Brown<br>Non-Fibrous<br>Homogeneous | | | 85% Ca Carbonate<br>15% Non-fibrous (other) | None Detected |
| 721JH-13C<br>*030918763-0040* | LOBBY HALL/ 12 X 12 FLOOR TILE | Brown<br>Non-Fibrous<br>Homogeneous | | | 80% Ca Carbonate<br>20% Non-fibrous (other) | None Detected |
| 721JH-14A<br>*030918763-0041* | ROOM 13A/ WHITE W/ GRAY AND TAN SPECKLES | Gray/White<br>Non-Fibrous<br>Heterogeneous | | | 80% Ca Carbonate<br>20% Non-fibrous (other) | None Detected |

Analyst(s)

*Alexander Balter (46)*

James Hall, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. New York 307 West 38th Street, New York NY NVLAP Lab Code 101048-9, AIHA IHLAP 102581, NYS ELAP 11506, CT PH-0170, MA AA000170

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Fuss & O' Neill EnviroScience, LLC**
**50 Redfield Street**
**Boston, MA 02122**

Fax: (413) 647-0018 Phone: (617) 282-4675

Project: **20070914.A2FL/ BOURNE PUBLIC SCHOOLS/ HIGH SCHOOL**

Customer ID: ENVI54C
Customer PO:
Received: 07/24/09 9:00 AM
EMSL Order: 030918763
EMSL Proj:
Analysis Date: 7/26/2009

## 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 |
| 721JH-14B<br>*030918763-0042* | MATH DEPARTMENT OFFICE/ 12 X 12 FLOOR TILE | Gray/White<br>Non-Fibrous<br>Heterogeneous | | 80% Ca Carbonate<br>20% Non-fibrous (other) | **None Detected** |
| 721JH-14C<br>*030918763-0043* | MAIN OFFICE/ 12 X 12 FLOOR TILE | Gray/White<br>Non-Fibrous<br>Heterogeneous | | 85% Ca Carbonate<br>15% Non-fibrous (other) | **None Detected** |
| 721JH-15A<br>*030918763-0044* | ROOM 14A/ WHITE W/ TAN SPECKLES 12 X 12 FLOOR TILE | White<br>Non-Fibrous<br>Homogeneous | | 90% Ca Carbonate<br>10% Non-fibrous (other) | **None Detected** |
| 721JH-15B<br>*030918763-0045* | ROOM 14A/ WHITE W/ TAN SPECKLES 12 X 12 FLOOR TILE | White<br>Non-Fibrous<br>Homogeneous | | 90% Ca Carbonate<br>10% Non-fibrous (other) | **None Detected** |
| 721JH-16A<br>*030918763-0046* | LANGUAGE ARTS DEPARTMENT OFFICE/ GRAY W/ WHITE | Gray<br>Non-Fibrous<br>Homogeneous | | 80% Ca Carbonate<br>20% Non-fibrous (other) | **None Detected** |
| 721JH-16B<br>*030918763-0047* | ROOM 20D/ GRAY W/ WHITE SPECKLES 12 X12 FLOOR TILE | Gray<br>Non-Fibrous<br>Homogeneous | | 85% Ca Carbonate<br>15% Non-fibrous (other) | **None Detected** |

Analyst(s)

*Alexander Balter (46)*

James Hall, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. New York 307 West 38th Street, New York NY NVLAP Lab Code 101048-9, AIHA IHLAP 102581, NYS ELAP 11506, CT PH-0170, MA AA000170

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Email: manhattanlab@emsl.com

Attn: **Fuss & O' Neill EnviroScience, LLC**
**50 Redfield Street**
**Boston, MA 02122**

Fax: (413) 647-0018 Phone: (617) 282-4675
Project: **20070914.A2FL/ BOURNE PUBLIC SCHOOLS/ HIGH SCHOOL**

Customer ID: ENVI54C
Customer PO:
Received: 07/24/09 9:00 AM
EMSL Order: 030918763
EMSL Proj:
Analysis Date: 7/26/2009

## 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** |
| 721JH-17A<br>*030918763-0048* | ROOM 26D/ TAN W/ BROWN AND WHITE SPECKLES 12 X 12 | Gray<br>Non-Fibrous<br>Heterogeneous | | | 80% Ca Carbonate<br>20% Non-fibrous (other) | **None Detected** |
| 721JH-17B<br>*030918763-0049* | ROOM 26D/ TAN W/ BROWN AND WHITE SPECKLES 12 X 12 | Gray<br>Non-Fibrous<br>Homogeneous | | | 85% Ca Carbonate<br>15% Non-fibrous (other) | **None Detected** |
| 721JH-18A<br>*030918763-0050* | LOBBY HALL/ BLACK MASTIC A/W BRWN W/ BROWN & WHITE | Brown/Black<br>Fibrous<br>Homogeneous | 5% | Cellulose | 95% Non-fibrous (other) | **None Detected** |
| 721JH-18B<br>*030918763-0051* | 1ST FLOOR D-WING HALL/ BLACK MASTIC A/W BROWN W/ | Gray<br>Fibrous<br>Heterogeneous | 20% | Cellulose | 50% Non-fibrous (other)<br>30% Quartz | **None Detected** |
| 721JH-18C<br>*030918763-0052* | 2ND FLOOR D-WING HALL/ BLACK MASTIC A/W BROWN W/ | Black<br>Non-Fibrous<br>Heterogeneous | 10% | Cellulose | 90% Non-fibrous (other) | **None Detected** |
| 721JH-18D<br>*030918763-0053* | MATH DEPARTMENT OFFICE/ BLACK MASTIC A/W WHITE W/ | Black<br>Non-Fibrous<br>Heterogeneous | 5% | Cellulose | 95% Non-fibrous (other) | **None Detected** |

Analyst(s)

*Alexander Balter (46)*

James Hall, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. New York 307 West 38th Street, New York NY NVLAP Lab Code 101048-9, AIHA IHLAP 102581, NYS ELAP 11506, CT PH-0170, MA AA000170

030918763

FUSS & O'NEILL
EnviroScience, LLC

50 Redfield Street, Suite 100 Boston, MA 02122

www.fando.com

(617) 282-4675 Fax: (617) 282-8253

53
0309187 63

09 JUL 24 AM 9:57

# SAMPLE LOG FOR ASBESTOS BULKS

Sheet 1 of 5

Project Name: Bourne Public Schools Project No. 20070914.A2B

Building: High School Project Manager: Bob May

| Sample ID | Sample Location | Material | Result (%) |
|---|---|---|---|
| 721JH-01A | C wing Boiler Room | Small Boiler insulation grey Top layer | |
| -01B | ↓ | ↓ | |
| -01C | ↓ | ↓ | |
| 721JH-02A | ↓ | Small Boiler Insulation white Bottom Layer | |
| -02B | ↓ | ↓ | |
| -02C | ↓ | ↓ | |
| 721JH-03A | ↓ | Boiler Breeching | |
| -03B | ↓ | ↓ | |
| -03C | ↓ | ↓ | |
| 721JH-04A | A wing Boiler Room | ↓ | |
| -04B | ↓ | ↓ | |

Analysis Method: ☒ PLM ☐ Other _____ Turnaround Time 48 hr

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____ Please call the EnviroScience Laboratory at (860) 953-2700 if analyses will be late.

#792097962462

RECEIVED
JUL 23 2009
By SA 0940

Fax Results To: EnviroScience Consultants, Inc. Laboratory at 413-647-0018

Special Instructions: Stop @ 1st positive in each

Samples Collected By: JH Date: 7/21/09 Time: AM

Samples [Rec'd][Sent By]: [ ][ JH ] Date: [ ][ 7/22/09 ] Time: [ ][ AM ]

Samples Received By: Katy Cx Date: 7/24/09 Time: 952 am

Shipped To: ☒ EMSL (State) _____ ☐ Other _____

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other _____

030918763

FUSS & O'NEILL
EnviroScience, LLC

50 Redfield Street, Suite 100 Boston, MA 02122

(617) 282-4675 Fax: (617) 282-8253

www.fando.com

030918763

# SAMPLE LOG FOR ASBESTOS BULKS

Sheet 2 of 5

Project Name: Bourne Public Schools Project No. 20070914.A2Z

Building: High School Project Manager: Bob May

| Sample ID | Sample Location | Material | Result (%) |
|---|---|---|---|
| -04C | ↓ | ↓ | |
| 721JH-05A | Pipe Tunnel (Art wing) | Hot water heater Breeching Insulation | |
| -05B | ↓ | ↓ | |
| -05C | ↓ | ↓ | |
| 721JH-06A | Music Room | Roof drain mudded fittings | |
| -06B | Biology lab | ↓ | |
| -06C | Women's Locker Room | ↓ | |
| 721JH-07A | Janitor's closet 1st Floor B wing | mudded fittings | |
| -07B | C-wing pipe Tunnel | ↓ | |
| -07C | A-wing pipe tunnel | ↓ | |
| -07D | ↓ | ↓ | |

Analysis Method: ☒ PLM ☐ Other _____ Turnaround Time 48 hr

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory at (860) 953-2700 if analyses will be late.

Fax Results To: EnviroScience Consultants, Inc. Laboratory at 413-647-0018

Special Instructions: Stop @ 1st positive in each set

Samples Collected By: JH Date: 7/21/09 Time: AM

Samples [Rec'd][Sent By]: [ ][JH] Date: [ ][7/22/09] Time: [ ][PM]

Samples Received By: KLK Date: 7/24 Time: 952 am

Shipped To: ☒ EMSL (State) _____ ☐ Other _____

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other _____

030918763

FUSS & O'NEILL
EnviroScience, LLC

50 Redfield Street, Suite 100 Boston, MA 02122

www.fando.com

(617) 282-4675 Fax: (617) 282-8253

030918763

09 JUL 21 AM 8:52

# SAMPLE LOG FOR ASBESTOS BULKS



Project Name: Bourne Public Schools Project No. 20070914.A2Z

Building: High School Project Manager: Bob May

| Sample ID | Sample Location | Material | Result (%) |
|---|---|---|---|
| 721JH-08A | Room Between Rooms 22C & 24C | Transite Fume Hood | |
| -08B | ↓ | ↓ | |
| -08C | ↓ | ↓ | |
| 721JH-09A | Room 14C | 1x1 Fissured Ceiling Tile | |
| -09B | C-wing Hall | ↓ | |
| -09C | C-wing men's Room | ↓ | |
| 721JH-10A | A-wing Hall | 1x1 pin hole ceiling tile | |
| -10B | B-wing Hall | ↓ | |
| -10C | Room 13B | ↓ | |
| 721JH-11A | Cafe Hall | 2x2 Fissured ceiling tile | |
| -11B | ↓ | ↓ | |

Analysis Method: ☒ PLM ☐ Other _____ Turnaround Time 48 hr

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory at (860) 953-2700 if analyses will be late.

Fax Results To: EnviroScience Consultants, Inc. Laboratory at 413-647-0018

Special Instructions: Stop @ 1st positive in each set

Samples Collected By: JH Date: 7/21/09 Time: AM

Samples [Rec'd][Sent By]: [ ][JH] Date: [ ][7/22/09] Time: [ ][PM]

Samples Received By: [illegible] Date: 7/24 Time: 9:52am

Shipped To: ☒ EMSL (State) _____ ☐ Other _____

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other _____

030918763

FUSS & O'NEILL
EnviroScience, LLC

030918763

www.fando.com

50 Redfield Street, Suite 100 Boston, MA 02122

(617) 282-4675 Fax: (617) 282-8253

09 JUL 24 AM 9:52

# SAMPLE LOG FOR ASBESTOS BULKS

Sheet 4 of 5

Project Name: Bourne Public Schools Project No. 20070914.A2Z

Building: High School Project Manager: Bob Mary

| Sample ID | Sample Location | Material | Result (%) |
|---|---|---|---|
| -11C | A-wing Hall | ↓ | |
| 721JH-12A | Main Lobby | 2x4 fissured Ceiling Tile | |
| -12B | Main OFFICE | ↓ | |
| -12C | Room 14A | ↓ | |
| 721JH-13A | 2nd Floor D-wing Hall | Brown w/ Brown + white speckles 12x12 Floor Tile | |
| -13B | 1st Floor D-wing custodian closet | | |
| -13C | Lobby Hall | ↓ | |
| 721JH-14A | Room 13A | white w/ grey + Tan speckles 12x12 Floor Tile | |
| -14B | Math Department office | | |
| -14C | Main Office | ↓ | |
| 721JH-15A | Room 14A | white w/ Tan Speckles 12x12 Floor Tile | |

Analysis Method: ☒ PLM ☐ Other _____ Turnaround Time 48 hr

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory at (860) 953-2700 if analyses will be late.

Fax Results To: EnviroScience Consultants, Inc. Laboratory at 413-647-0018

Special Instructions: Stop @ 1st positive in each set

Samples Collected By: JH Date: 7/21/09 Time: AM

Samples [Rec'd][Sent By]: [ ][JH] Date: [ ][7/22/09] Time: [ ][PM]

Samples Received By: [illegible] Date: 7/24 Time: 9:52 AM

Shipped To: ☒ EMSL (State) _____ ☐ Other _____

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other _____

030918763

FUSS & O'NEILL
EnviroScience, LLC 030918763

www.fando.com

50 Redfield Street, Suite 100 Boston, MA 02122 (617) 282-4675 Fax: (617) 282-8253

09 JUL 21 AM 9:52

# SAMPLE LOG FOR ASBESTOS BULKS

Sheet 5 of 5

Project Name: Bourne Public Schools Project No. 20070914.A2R

Building: High School Project Manager: Bob May

| Sample ID | Sample Location | Material | Result (%) |
|---|---|---|---|
| -15B | ↓ | ↓ | |
| 721JH-16A | Language Arts Department Office | grey w/ white speckles 12x12 Floor Tile | |
| -16B | Room 20D | ↓ | |
| 721JH-17A | Room 26D | Tan w/ Brown & white speckles 12x12 Floor Tile | |
| -17B | ↓ | ↓ | |
| 721JH-18A | Lobby Hall | Black mastic A/W Brown w/ Brown & white speckles 12x12 Floor Tile | |
| -18B | D-wing 1st floor Hall | ↓ | |
| -18C | 2nd Floor D-wing Hall | Black mastic A/W white w/ grey & Tan speckles 12x12 Floor Tile | |
| -18D | Math Department office | | |
| | | | |
| | | | |

Analysis Method: ☒ PLM ☐ Other _____ Turnaround Time 48 hr

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory at (860) 953-2700 if analyses will be late.

Fax Results To: EnviroScience Consultants, Inc. Laboratory at 413-647-0018

Special Instructions: Stop @ 1st positive in each set

Samples Collected By: JH Date: 7/21/09 Time: AM

Samples [Rec'd][Sent By]: [ ][JH] Date: [ ][7/22/09] Time: [ ][PM]

Samples Received By: Date: 7/24 Time: 9:57A

Shipped To: ☒ EMSL (State) _____ ☐ Other _____

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other _____

# Appendix F

## Newly Installed Materials Safety Data Sheets

**To be Provided by LEA**

# Appendix G

## Sample 6-Month Periodic Surveillance Form

FUSS & O'NEILL
EnviroScience, LLC

# Sample 6- Month Periodic Surveillance Form

Local Education Agency (LEA): Bourne Public Schools

Facility Name: Bourne High School

Date of Surveillance: _____

## ACBM Damage Report

| Asbestos-Containing Building Material | Location | Previous Condition | Present Condition | Change in Condition (Yes/No) | Estimated Damaged Quantity | Comments |
|---|---|---|---|---|---|---|
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | A-Wing, B-Wing, & C-Wing Pipe Tunnels | D | | | 2 EA at C-Wing (near pumps 7&8);<br>1 EA at A-Wing (above duct work) | 2 EA damaged @ C-Wing (near pumps 7&8);<br>1 EA damaged @ A-Wing (above duct work) |
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | Graphic Arts Room (near AHU in back), Chemical Storage in Graphic Arts Room, Art Room (at AHU above Kiln & in Closet by Classroom Door), Basement Electrical Vault, Basement Storage Room across from Art Room, Materials Storage Room across from Basement Exit, & Basement Janitor's Closet (with slop sink) | G | | | | 2 EA @ Graphic Arts AHU<br>8 EA @ Chemical Storage<br>2 EA @ Art Room Kiln/AHU<br>4 EA @ Art Room Closet<br>2 EA @ Electrical Vault<br>4 EA @ Materials Storage<br>3 EA @ Janitor's Closet |
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | Kitchen Storage (near AHU), Gymnasium, Duct Vault across from Gymnasium, Men's Bathroom Closet across from Cafeteria, & Girl's Locker Room Storage Closet | G | | | | 4 EA @ Kitchen Storage<br>5 EA @ Gymnasium<br>3 EA @ Duct Vault<br>8 EA @ Men's Bathroom<br>5 EA @ Girl's Storage |

FUSS & O'NEILL
EnviroScience, LLC

| Asbestos-Containing Building Material | Location | Previous Condition | Present Condition | Change in Condition (Yes/No) | Estimated Damaged Quantity | Comments |
|---|---|---|---|---|---|---|
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | Janitor's Closet in Boy's Bathroom across from Classroom 14C | G | | | | 2 EA |
| White Mudded Pipe-Fitting Insulation (associated with fiberglass pipe insulation) | Concealed above Splined Ceilings in A, B, & C-Wings | G | | | | |
| Roof Drain Mudded-Fitting Insulation | 2nd Floor Custodian's Closet (across from elevator) | G | | | | 2 EA |
| Roof Drain Mudded-Fitting Insulation | 2nd Floor Hallways above Splined Ceilings & Faculty Lunch Room | D | | | 1 EA | |
| Gray Fiber-Reinforced Cement Exhaust Duct | Classrooms 22C & 24C | G | | | | |
| Gray Fiber-Reinforced Cement Exhaust Duct | Concealed within Laboratory Benches in Classrooms 22C & 24C | G | | | | |
| Gray Fiber-Reinforced Cement Fume Hood | Storage Room between Classrooms 22A & 24A | G | | | | |
| White Vibration Isolator | Storage Room between Classrooms 22A & 24A | G | | | | 2 EA |
| Gray Fiber-Reinforced Cement Panel | Duct Vault across from Gymnasium | G | | | | |
| Gray Fiber-Reinforced Cement Panel | Above Splined Ceilings at Fire Doors in Hallways | G | | | | |

Conditions: D = Damaged; F = Fair; G = Good; IA = Inaccessible; N/A = Not Applicable; SD = Significant Damage; SF = Square Feet

Surveillance conducted by: _____ _____
(print name) (signature)

I, the LEA's Designated Person, have read and understood the findings noted above: _____
Date: _____

# Appendix H

## Preventive Measures

FUSS & O'NEILL
EnviroScience, LLC

# Preventive Measures
# for Various Asbestos-Containing Building Materials

## A. Surfacing Materials

"Surfacing Materials" means materials in a school building that are applied by spray, trowel, or otherwise applied to surfaces. These include sprayed-applied fireproofing materials on structural members, ceiling and wall plasters, or other materials applied to surfaces for acoustical, fireproofing, or other purposes.

Surfacing Materials are generally considered friable and can release asbestos fibers if damaged by impact, air erosion, vibration, and/or water intrusion. When properly implemented, the following procedures will reduce the potential for fiber release:

1. Sprayed-Applied Fireproofing

    a) Identify the materials and post warning signs on the laid-in or glued-in ceiling tile. If the decking is not covered, place the sign on the wall.
    b) Maintain the materials in intact state and undamaged condition. During winter, pigeons, squirrels and other rodents tend to roost in boiler/machine rooms and dislodge sprayed-applied fireproofing on the decking. Prevent such possibilities.
    c) Prevent water leakage. If the material is significantly damaged, removal is the best option. For minor damage, enclosure is a temporary solution. Encapsulation of damaged sprayed-on fireproofing material is not recommended.
    d) Train the custodial people who are responsible for care and maintenance of surfacing materials. Please note that the repair/removal can only be performed by a licensed abatement contractor.

2. Ceiling and Wall Plasters

    a) Identify the materials and post asbestos warning signs.
    b) Maintain the materials in intact state and undamaged condition. Avoid storing/stacking on/near the materials to reduce contact damage.
    c) Prevent water leakage. If the material is significantly damaged, removal is the best option. For minor damage, repair or enclosure is a temporary solution.
    d) Train the custodial people who are responsible for care and maintenance of surfacing materials.

## B. Thermal System Insulation (TSI)

"Thermal System Insulation (TSI)" means insulating materials applied to pipes, pipe fittings, boilers, breechings, tanks, ducts, or other components to prevent process heat loss or gain, water condensation, or for other purposes (e.g., fire door insulation core).

TSI are generally considered friable ACBM. This means they can be easily damaged, increasing the potential for fiber release. When properly implemented, the following procedures will reduce the potential for fiber release:

1. Boiler and Breeching Insulation

   a) Identify the locations and label the boiler. Warning signs should be posted outside the boiler room.
   b) Reduce the likelihood of fiber release by ensuring that the insulation is not damaged. Avoid storing/stacking on/near the boiler to reduce contact damage.
   c) Maintain the insulation in intact state and undamaged condition. Repair damaged areas as soon as possible to prevent further deterioration. If repair is not feasible due to extensive damage/deterioration, remove the material.
   d) Train the custodial people who are responsible for care and maintenance of TSI. Please note that the repair/removal can only be performed by a licensed abatement contractor.

2. Pipe, Pipe Fitting, Tank, Duct & Breeching Insulations

   a) Identify the locations and label the materials. Warning signs should be posted outside of rooms that have TSI materials.
   b) Reduce the likelihood of fiber release by ensuring that the materials are not damaged. Avoid storing/stacking near the materials to reduce contact damage.
   c) Maintain all TSI materials in intact state and undamaged condition. Inspect the protective jackets for damage. Repair damaged areas as soon as possible to prevent further deterioration. If repair is not feasible due to extensive damage/deterioration, remove the material.
   d) Train the custodial people who are responsible for care and maintenance of TSI. Please note that the repair/removal can only be performed by a licensed abatement contractor.

## C. Miscellaneous Materials

"Miscellaneous Materials" are the other ACBM in a school building that are not categorized as Surfacing Materials or TSI. These include floor tiles, floor tile and carpet mastics, gypsum wallboard and joint compound, ceiling tiles, glue daubs, asbestos cement panels, cove base and associated glue, window/door caulking and glazing compounds, etc. The following maintenance procedures are recommended for these materials:

1. Vinyl Asbestos Floor Tiles (VAT)

   Vinyl Asbestos Floor Tiles (VAT) are considered non-friable, however routine maintenance procedures such as spray-buffing, burnishing, wet scrubbing, and stripping can generate asbestos fibers. Following procedures, when properly implemented, will reduce the potential of fiber release:

a) Do not sand, grind, or abrade the tiles. Stripping of VAT should be done as infrequently as possible. When stripping becomes necessary, follow the appropriate work practices. Never perform dry stripping.
b) During spray-buffing or burnishing the floor, operate the machine at the lowest workable speed and use the least abrasive pad. Use a wet mop for routine cleaning whenever possible.
c) Routinely check whether chair and desk glides are in good condition and replace when necessary. Worn glides can gouge the floor and cause fiber release.
d) Place carpets/floor mats in all entrances to reduce abrasion of floor tiles by sand and pebbles. During winter, have parking lots and walkways swept to the extent possible to avoid the tracking of salt and ice-melting compounds into the school by the students.
e) Train the custodial people who are responsible for care and maintenance of VAT. Please note that the repair/removal can only be performed by a licensed abatement contractor.

2. Wallboard and Joint Compound Assembly

a) Since a number of different homogeneous assemblies may exist in a building, sheetrock/joint compound must be assumed to be ACBM unless sample results prove otherwise. If any specific areas are going to be disturbed, samples of the material in that area should be collected and analyzed.
b) Reduce the likelihood of fiber release by avoiding cutting or drilling holes through the sheetrock panels.

3. Ceiling Tile and Glue Daubs

a) Reduce the likelihood of fiber release by limiting access to the space above the ceiling tiles. Maintain the ceiling tiles in undamaged condition. Replace any damaged or water-stained tile.
b) If the ceiling tiles are non-asbestos, collect samples and analyze the glue daubs to identify asbestos-content before disturbing the tiles.

4. Asbestos Cement Panels, Window/Door Caulking and Glazing Compounds

a) Maintain asbestos cement panels and window/door caulking and glazing compounds in undamaged condition.

5. Carpet Glue, Blackboard/Tack Board Glue, Floor Tile Mastic, Cove Base, and Mastic

a) Reduce the likelihood of fiber release by leaving materials in place.
b) Maintain materials in good condition. Collect samples and analyze to identify asbestos-content before disturbing.

# Appendix I

## Fuss & O'Neill EnviroScience Asbestos Accreditations & Certifications

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

William D. McKinney,
Director

Asbestos Inspector

ROBERT C. MALLETT

**Eff. Date** 06/01/17
**Exp. Date** 06/01/18

18

**AI900557**

Member of C.O.N.E.S.

BOSR BOS-RENEW



*This is to certify that*

**Robert C. Mallett**

*has completed the requisite training, and has passed an examination for reaccreditation as:*

# Asbestos Inspector Refresher

pursuant to Title II of the Toxic Substance Control Act, 15 U.S.C. 2646

**Course Location**

**Institute for Environmental Education, Inc.**
**16 Upton Drive Wilmington, MA 01887**

**January 5, 2017**
Course Dates

**17-0369-106-260110**
Certificate Number

**January 05, 2017**
Examination Date

**January 05, 2018**
Expiration Date

Training Director

16 Upton Drive, Wilmington, MA 01887 Telephone 978.658.5272 www.ieetrains.com

**INSTITUTE FOR ENVIRONMENTAL EDUCATION**


Commonwealth of Massachusetts
Department of Labor Standards
William D. McKinney, Director
Asbestos Management Planner
DUSTIN A. DIEDRICKSEN
Eff. Date 03/21/17
Exp. Date 04/05/18
AP900425
Member of C.O.N.E.S.
BOSR BOS-RENEW
18

*This is to certify that*

# Dustin A. Diedricksen

*has completed the requisite training, and has passed an examination for reaccreditation*

## Asbestos Management Planner Refresher

pursuant to Title II of the Toxic Substance Control Act, 15 U.S.C. 2646

**Course Location**

**Institute for Environmental Education, Inc.**
**16 Upton Drive Wilmington, MA 01887**

| | | |
|---|---|---|
| **January 19, 2017** | **January 19, 2017** | |
| Course Dates | Examination Date | |
| **17-0393-136-208040** | **January 19, 2018** | |
| Certificate Number | Expiration Date | Training Director |

16 Upton Drive, Wilmington, MA 01887 Telephone 978.658.5272 www.ieetrains.com

**INSTITUTE FOR ENVIRONMENTAL EDUCATION**