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

for

Bourne Public School Administration Building
36 Sandwich 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 Public Schools Administration Building
36 Sandwich 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 Public Schools Administration Building located at 36 Sandwich 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 building 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 Public Schools Administration Building

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 ACBMs 6
4.4 Physical Assessment of ACBMs 6

5 Management Plan Update 7
5.1 Recommended Response Actions 7
5.2 Periodic Surveillance 8
5.3 Preventive Measures 8
5.4 Abatement (Removal) Cost Estimates 9

6 EPA Accreditation Requirements 9

Appendices

End of Report

APPENDIX A EXISTING RECORDS CHECKLIST
APPENDIX B RE-INSPECTION FORM 1
APPENDIX C RE-INSPECTION FORM 2
APPENDIX D PREVIOUSLY SAMPLED MATERIALS LABORATORY REPORT
APPENDIX E NEWLY INSTALLED MATERIALS SAFETY DATA SHEETS
APPENDIX F SAMPLE 6-MONTH PERIODIC SURVEILLANCE FORM
APPENDIX G PREVENTIVE MEASURES
APPENDIX H 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

The Bourne Public Schools Administration Building is a multi-level, wood-framed structure that houses the administrative offices; it was reportedly constructed in 1935. Functional spaces within the building include the following: reception area; offices; conference room; bathrooms; and mechanical room. The building includes approximately 3,830 square feet of interior space.

One hot-water boiler provides radiant heating throughout the building via tube radiators.

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**, identifies previous inspection data gathered during the initial AHERA inspection and subsequent re-inspections (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 2**, is used to provide information and justification regarding re-assessment of the ACBM (refer to *Appendix C*). 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.

The laboratory report for previously collected and analyzed samples is included as *Appendix D*.

Using EPA protocol and criteria, the following materials existing in the Bourne Public Schools Administration Building at the time of this three-year re-inspection have been 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
Interior Boiler Components	Boiler Room	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
White Textured Ceiling Skim Coat	Business Administrative Office (Basement) & Basement Men's Room	EnviroScience Sample Report December 2012 (Sample IDs: 1025DD-01A – 01C)
White Ceiling Plaster Rough Coat	Business Administrative Office (Basement) & Basement Men's Room	EnviroScience Sample Report December 2012 (Sample IDs: 1025DD-02A – 02C)
White Textured Ceiling Skim Coat	Stairway to Basement, Main Lobby, Stairway to 2nd Floor, Reception Area, & 2nd Floor Break Room	EnviroScience Sample Report December 2012 (Sample IDs: 1025DD-03A – 03E)
Gray Ceiling Plaster Rough Coat	Stairway to Basement, Main Lobby, Stairway to 2nd Floor, Reception Area, & 2nd Floor Break Room	EnviroScience Sample Report December 2012 (Sample IDs: 1025DD-04A – 04E)
Gray Drywall	Stairway to Basement, Lobby, & 2nd Floor Break Room	EnviroScience Sample Report December 2012 (Sample IDs: 1025DD-05A – 05C)
White Joint Compound	Stairway to Basement, Lobby, & 2nd Floor Break Room	EnviroScience Sample Report December 2012 (Sample IDs: 1025DD-06A – 06C)

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 ACBMs

No new materials were identified during this re-inspection.

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 E*.

4.4 Physical Assessment of ACBMs

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 condition of the ACBM, the following response actions are recommended:

1. Removal: Not Applicable
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 F* 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 building.

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
Interior Boiler Components	Boiler Room	1 EA	$10,000

EA=Each

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

Table 4
Asbestos Training Cost Estimates

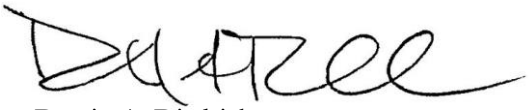
Training Course	Estimated Cost
Two-Hour Asbestos Awareness Training (Annual)	$75/Person/Year
Asbestos Coordinator/LEA Designated Person Initial Training	$250/Person
Asbestos Coordinator/LEA Designated Person Annual Refresher Training	$200/Person/Year
Asbestos Operations & Maintenance Initial Training	$300/Person
Asbestos Operations & Maintenance Annual Refresher Training	$150/Person/Year
Three-Year Re-Inspection & AMP Update	$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

FUSS & O'NEILL
EnviroScience, LLC

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 Public Schools Administration Building

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 the three-year re-inspection.

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

FUSS & O'NEILL
EnviroScience, LLC

School: Bourne Public Schools Administration Building
Address 36 Sandwich Road, Bourne, MA

Date(s) of Original Inspection: 1988
Date(s) of Subsequent Re-Inspections: 1994, 2001, 2004, 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					
Assumed ACBM	Assumed ACBM	Interior Boiler Components	Misc.	NF	5	Boiler Room	

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

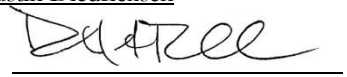
FUSS & O'NEILL
EnviroScience, LLC

Appendix C

Re-Inspection Form 2

FUSS & O'NEILL
EnviroScience, LLC

School: Bourne Public Schools Administration Building
Date of Re-Inspection: December 8, 2017
Homogeneous Material: Interior Boiler Components
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**
Boiler Room	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 Inspector Signature:  Accreditation #/State: AI900557/MA Expiration Date: 06/01/2018					Management Planner Name: Dustin Diedricksen Management Planner Signature:  Accreditation #/State: AP900425/MA Expiration Date: 04/05/2018	

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

Date: _____

FUSS & O'NEILL
EnviroScience, LLC

Appendix D

Previously Sampled Materials Laboratory Reports

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

EMSL Order:	131205816
CustomerID:	ENVI54
CustomerPO:	
ProjectID:	

Attn: **Dustin Diedricksen**
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Phone:	(860) 646-2469
Fax:	(888) 838-1160
Received:	12/03/12 4:40 PM
Analysis Date:	12/5/2012
Collected:	10/25/2012

Project: **20121141.A2E / Bourne Public Schools; Administration Building**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1025DD-01A *131205816-0001*	Business Admin Office; Basement - Textured Ceiling Skim	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-01B *131205816-0002*	Business Admin Office; Basement - Textured Ceiling Skim	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-01C *131205816-0003*	Basement; Men's Bathroom - Textured Ceiling Skim	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-02A *131205816-0004*	Business Admin Office - Rough Ceiling Plaster/Backerboard	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-02B *131205816-0005*	Business Admin Office - Rough Ceiling Plaster/Backerboard	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-02C *131205816-0006*	Basement; Men's Bathroom - Rough Ceiling Plaster/Backerboard	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Kevin Pine (14)
Steve Grise (8)

Renaldo Drakes, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102

Initial report from 12/05/2012 13:07:47

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

EMSL Order:	131205816
CustomerID:	ENVI54
CustomerPO:	
ProjectID:	

Attn: **Dustin Diedricksen**
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Phone:	(860) 646-2469
Fax:	(888) 838-1160
Received:	12/03/12 4:40 PM
Analysis Date:	12/5/2012
Collected:	10/25/2012

Project: **20121141.A2E / Bourne Public Schools; Administration Building**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1025DD-03A *131205816-0007*	Stairway to Basement - Textured Ceiling Skim	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-03B *131205816-0008*	Main Lobby - Textured Ceiling Skim	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-03C *131205816-0009*	Stairway to 2nd Floor - Textured Ceiling Skim	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-03D *131205816-0010*	Reception Area - Textured Ceiling Skim	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-03E *131205816-0011*	2nd Floor Break Room - Textured Ceiling Skim	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-04A *131205816-0012*	Stairway to Basement - Rough Coat/Backerboard	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-04B *131205816-0013*	Main Lobby - Rough Coat/Backerboard	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1025DD-04C *131205816-0014*	Stairway to 2nd Floor - Rough Coat/Backerboard	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Kevin Pine (14)
Steve Grise (8)

Renaldo Drakes, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102

Initial report from 12/05/2012 13:07:47

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

EMSL Order:	131205816
CustomerID:	ENVI54
CustomerPO:	
ProjectID:	

Attn: **Dustin Diedricksen**
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Phone:	(860) 646-2469
Fax:	(888) 838-1160
Received:	12/03/12 4:40 PM
Analysis Date:	12/5/2012
Collected:	10/25/2012

Project: **20121141.A2E / Bourne Public Schools; Administration Building**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
1025DD-04D *131205816-0015*	Reception Area - Rough Coat/Backerboard	Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**
1025DD-04E *131205816-0016*	2nd Floor Break Room - Rough Coat/Backerboard	Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**
1025DD-05A *131205816-0017*	Stairway to Basement - Drywall	Non-Fibrous Homogeneous	2%	Cellulose	98% Non-fibrous (other)	**None Detected**
1025DD-05B *131205816-0018*	Lobby - Drywall	Gray/Tan Fibrous Heterogeneous	10%	Cellulose	90% Non-fibrous (other)	**None Detected**
1025DD-05C *131205816-0019*	2nd Floor Break Room - Drywall	Gray/Tan Fibrous Heterogeneous	5%	Cellulose	95% Non-fibrous (other)	**None Detected**
1025DD-06A *131205816-0020*	Stairway to Basement - Joint Compound	White Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**
1025DD-06B *131205816-0021*	Lobby - Joint Compound	White Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**
1025DD-06C *131205816-0022*	2nd Floor Break Room - Joint Compound	White Non-Fibrous Homogeneous			100% Non-fibrous (other)	**None Detected**

Analyst(s)

Kevin Pine (14)
Steve Grise (8)

Renaldo Drakes, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102

Initial report from 12/05/2012 13:07:47

131205816

FUSS & O'NEILL
EnviroScience, LLC

131205816

www.fando.com

50 Redfield St, Suite 100, Boston, MA 02122

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

SAMPLE LOG FOR ASBESTOS BULKS

Sheet 1 of 2

Project Name: BOURNE PUBLIC SCHOOLS Project No. 20121141.A2E

Building: ADMINISTRATION BUILDING Project Manager: DUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
1	1025DD-01A	BUSINESS ADMIN OFFICE (BASEMENT)	TEXTURED CEILING, SKIM	
2	-01B	↓	↓	
3	-01C	BASEMENT MEN'S BATHROOM	↓	
4	1025DD-02A	BUSINESS ADMIN OFFICE	ROUGH CEILING PLASTER/BACKERBOARD	
5	-02B	↓	↓	
6	-02C	BASEMENT MEN'S BATHROOM	↓	
7	1025DD-03A	STAIRWAY TO BASEMENT	TEXTURED CEILING, SKIM	
8	-03B	MAIN LOBBY	↓	
9	-03C	STAIRWAY TO 2ND FLOOR	↓	
10	-03D	RECEPTION AREA	↓	
11	-03E	2ND FLOOR BREAK ROOM	↓	
12	1025DD-04A	STAIRWAY TO BASEMENT	ROUGH COAT/BACKERBOARD	

Analysis Method: [X] PLM [ ] Other

Turnaround Time ~~5 Days~~ 24 Hour

SW 12/4/12

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 888-838-1160.

Special Instruction: STOP ~~POSITIVE~~ AT 1ST POSITIVE COUNT IN EACH HOMOGENEOUS SET; NO POINT COUNTING.

Samples collected by: D. DIEDRICKSEN Date: 10/25/12 Time: AM

Samples [Rec'd] [Sent by] [ ] [LM] Date: [ ] [12/3/12] Time: PM

Samples Received by: _____ Date: _____ Time: _____

Shipped To: [X] EMSL State MA [ ] Other _____

Method of Shipment: [ ] Fed Ex [ ] UPS Overnight [ ] UPS Ground [X] Other DROP OFF

RECEIVED
DEC 03 2012
By SPA 1640
walkin

131205816

FUSS & O'NEILL
EnviroScience, LLC

50 Redfield St, Suite 100, Boston, MA 02122

www.fando.com

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

131205816

SAMPLE LOG FOR ASBESTOS BULKS

Sheet 2 of 2

Project Name: BOURNE PUBLIC SCHOOLS Project No. 20121141.A2E

Building: ADMINISTRATION BUILDING Project Manager: DUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
13	-04B	MAIN LOBBY		
14	-04C	STAIRWAY TO 2ND FLOOR		
15	-04D	RECEPTION AREA		
16	-04E	~~2ND FLOOR~~ 2ND FLOOR BREAK ROOM		
17	1025DD-05A	STAIRWAY TO BASEMENT	DRYWALL	
18	-05B	LOBBY		
19	-05C	2ND FLOOR BREAK ROOM		
20	1025DD-06A	STAIRWAY TO BASEMENT	JOINT COMPOUND	
21	-06B	LOBBY		
22	-06C	2ND FLOOR BREAK ROOM		

Analysis Method: [X] PLM [ ] Other

Turnaround Time ~~24 Hour~~ 24 Hour

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: _____. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 888-838-1160.

Special Instruction: SEE 1ST PAGE

Samples collected by: ~~SEE~~ D. DIEDRICKSEN **Date:** 10/25/12 **Time:** AM

Samples [Rec'd][Sent by] [ ][A.D.] **Date:** [ ][12/3/12] **Time:** PM

Samples Received by: _____ **Date:** _____ **Time:** _____

Shipped To: [X] EMSL State MA [ ] Other _____

Method of Shipment: [ ] Fed Ex [ ] UPS Overnight [ ] UPS Ground [X] Other DROP OFF

RECEIVED
DEC 03 2012
By SPG 1640

Appendix E

Newly Installed Materials Safety Data Sheets

To be Provided by LEA

FUSS & O'NEILL
EnviroScience, LLC

Appendix F

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 Public Schools Administration Building

Date of Surveillance: _____

ACBM Damage Report

Asbestos-Containing Building Material	Location	Previous Condition	Present Condition	Change in Condition (Yes/No)	Estimated Damaged Quantity	Comments
Interior Boiler Components	Boiler Room	IA				

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: _____

FUSS & O'NEILL
EnviroScience, LLC

Appendix G

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.

FUSS & O'NEILL
EnviroScience, LLC

Appendix H

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