



**M.E. Small Elementary School
440 Higgins-Crowell Road
West Yarmouth, Massachusetts**

AHERA 3-YEAR RE-INSPECTION REPORT

August 2022

PREPARED FOR:

Dennis-Yarmouth Regional School District
296 Station Avenue
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Introduction

The Vertex Companies, LLC. (VERTEX) conducted a 3-Year Reinspection on August 3, 2022 as required by the 40 CFR 763 Asbestos Hazard Emergency Response Act (AHERA) at the M.E. Small Elementary School located at 440 Higgins-Crowell Road, West Yarmouth, Massachusetts. The AHERA regulation requires that each Local Education Agency (LEA) retain a certified/accredited Asbestos Inspector to conduct a re-inspection of all friable and non-friable known or assumed asbestos-containing building materials (ACBM) in each school building that they lease, own, or otherwise utilize as a school building every three years since the initial inspection. The AHERA re-inspection is to be performed by an accredited inspector at least once every three years from the time of implementation of the original management plan. . In addition, the LEA is required to assign a Designated Person (DP) to oversee the management of the identified ACBMs within the school which includes but not limited to conducting Six-Month Periodic Surveillance Inspections, Annual Notifications, Training, Record Keeping, etc. as required to effectively manage the identified ACBMs in place at the school.

The initial AHERA inspection was conducted by Universal Engineering Corporation (Universal) of Boston, MA in August 1988. Based on the initial inspection Universal prepared an Asbestos Management Plan (AMP) for the M.E. Small Elementary School in August 1988. The following is a list of dates and consultants that have conducted the required 3-Year Reinspections. Additionally, the following list of reinspections have been provided and maintained by the Dennis-Yarmouth (D-Y) Regional School District:

<u>Date</u>	<u>Consultant</u>
October 1991	Universal of Boston, MA
July 2000	FLI Environmental of Dedham, MA
July 2003	FLI Environmental of Dedham, MA
September 2011	FLI Environmental of Dedham, MA
June 2012(Revised 2011 Report)	FLI Environmental of Dedham, MA
May 2013	Vertex Air Quality Services, LLC, Weymouth, MA
August 2016	The Vertex Companies, Inc. Weymouth, MA
July 2019	The Vertex Companies, Inc. Weymouth, MA

The current AHERA 3-Year Re-inspection Report conducted by VERTEX is presented to the D-Y Regional School District as an addendum to the original Management Plan and should be incorporated into the school's Management Plan folder.

The D-Y Regional School District and/or the M.E. Small Elementary School may use the information obtained from the AHERA Re-inspection and the data compiled in the existing Management Plan to effectively manage the ACBMs present in the M.E. Small Elementary School in West Yarmouth, Massachusetts.

SECTION 1
INSPECTION REPORT

Section 1 **Inspection Report**

Re-inspection Protocol

Massachusetts Department of Labor Standards (DLS) Certified Asbestos Inspector, Jessica Woltemate (AI#901049) performed the AHERA Re-inspection. The updated Management Plan was developed by Massachusetts DLS Certified Asbestos Management Planner, Jason Mohre (AP#000080). The purpose of the reinspection was to identify if the hazard potential of the ACBMs or assumed ACBMs has changed since the last inspection as well as sample and assess any suspect materials not listed in the original management plan. As required by the AHERA regulation, the reinspection survey procedures must include a visual re-inspection and reassessment of the condition of all known locations of friable and non-friable ACBMs. The visual inspection consists of touching ACBM, which was previously considered non-friable to determine whether the ACBM has become friable since last re-inspection. It should be noted that under the AHERA regulations only ACBMs is inspected, other asbestos containing materials (ACMs) may be associated with the school that do not fall under AHERA ACBM definition. Examples of materials which have been found to contain asbestos include but are not limited to exterior window caulking, window glazing, and roofing material. Prior to school renovations any suspect materials not sampled or listed within the school's AMP, must be tested prior to disturbance. Furthermore, VERTEX recommends an Asbestos Containing Materials (ACMs) Survey be conducted prior to any renovation activities to comply with the Environmental Protection Agency (EPA) Title 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAPs) and the Massachusetts Department of Environmental Protection Regulations. Documentation for subsequent surveys not related to AHERA should be included in the overall Management Plan.

In addition, hazard assessment of known friable materials and newly determined friable materials must be recorded and submitted to the school's Designated Person. Assessment of potential asbestos hazards is subject to each individual inspector's judgment, and as a result, hazard assessments may vary.

Furthermore, the LEA Designated Person should assume that potential asbestos-containing pipe and fitting insulation may be located behind walls and ceilings not accessible. Any renovation/demolition work that may penetrate these areas should be inspection.

All available documentation of asbestos abatement projects, which have occurred since the initial AHERA inspection should be included with the reinspection report. VERTEX was not provided with any Abatement Records regarding past work activities at the M.E. Small Elementary School with the exception of the records indicating that they restricted access to the storage areas under the sinks within the classrooms.

In addition, VERTEX was provided and reviewed the maintained six-month surveillance inspections conducted since the past 3-year re-inspection. No concerns were noted upon review of the six-month surveillance inspections records.

Appendix D contains Certification Page for the Inspector and Management Planner involved with the reinspection of the school as well as a copy of the LEA's Designated Person's training.

Locations of the identified ACBMs with quantities observed, conditions assessed, homogeneous hazard assessment and changes since the previous re-inspection report are presented in Appendix A of this report.

Section 1
Inspection Report (cont.)

Bulk Sampling Methodology

Bulk samples were not collected during the current re-inspection activities in August 2022. However, VERTEX had collected and analyzed the following bulk samples of suspect homogeneous materials within the facility during an AHERA inspection conducted in April 2013. Please refer to Table 1 below for a summary of the bulk samples collected and analyzed.

Table 1 -Sample Locations and Results (April 2013)

Sample Number	Sample Description	Sample Location	Asbestos Content
B-417-01A	9" x 9" Off-White/Multi-Color Spec Floor Tile	UL, Room 101	4 % Chrysotile
B-417-01B	9" x 9" Off-White/Multi-Color Spec Floor Tile	UL, Room 308	Positive Stop
B-417-02A	9" x 9" Off-White/Multi-Color Spec FT Mastic	UL, Room 101	6 % Chrysotile
B-417-02B	9" x 9" Off-White/Multi-Color Spec FT Mastic	UL, Room 308	Positive Stop
B-417-03A	9" x 9" Tan Floor Tile	LL, Music Room	5 % Chrysotile
B-417-03B	9" x 9" Tan Floor Tile	UL, Room 105	Positive Stop
B-417-04A	9" x 9" Tan Floor Tile Mastic	LL, Music Room	4 % Chrysotile
B-417-04B	9" x 9" Tan Floor Tile Mastic	UL, Room 105	Positive Stop
B-417-05A	12" x 12" Gray Spec Floor Tile	UL, Main Office	None Detected
B-417-05B	12" x 12" Gray Spec Floor Tile	UL, Main Office	None Detected
B-417-06A	12" x 12" Gray Spec Floor Tile Mastic	UL, Main Office	None Detected
B-417-06B	12" x 12" Gray Spec Floor Tile Mastic	UL, Main Office	None Detected
B-417-07A	Brown Covebase	UL, Supply Closet E	None Detected
B-417-07B	Brown Covebase	UL, Supply Closet F	None Detected
B-417-08A	Brown Covebase Adhesive	UL, Supply Closet E	None Detected
B-417-08B	Brown Covebase Adhesive	UL, Supply Closet F	None Detected
B-417-09A	Black Sink Mastic	UL, Room 101	6 % Chrysotile
B-417-09B	Black Sink Mastic	UL, Room 310	Positive Stop
B-417-10A	Room Divider	UL, Room 101	None Detected
B-417-10B	Room Divider	UL, Room 301	None Detected
B-417-11A	Kitchen Curtain	UL, Kitchen	None Detected
B-417-11B	Kitchen Curtain	UL, Kitchen	None Detected
B-417-12A	2' x 4' Ceiling Tile (Speckled/Dot)	LL, Music Room	None Detected
B-417-12B	2' x 4' Ceiling Tile (Speckled/Dot)	LL, Music Room	None Detected
B-417-13A	Glue Daubs associated with 1' x 1' Foam Tiles	LL, Music Room	None Detected
B-417-13B	Glue Daubs associated with 1' x 1' Foam Tiles	LL, Music Room	None Detected
B-417-14A	Pipe Insulation	LL, Music Room	25 % Chrysotile
B-417-14B	Pipe Insulation	LL, Music Room	Positive Stop
B-417-14C	Pipe Insulation	LL, Music Room	Positive Stop
B-417-15A	Drywall	LL, Music Room	None Detected
B-417-15B	Drywall	LL, Music Room	None Detected
B-417-16A	Joint Compound	LL, Music Room	None Detected

Section 1
Inspection Report (continued)

Table I -Sample Locations and Results (April 2013)

Sample Number	Sample Description	Sample Location	Asbestos Content
B-417-16B	Joint Compound	LL, Music Room	None Detected
B-417-16C	Joint Compound	LL, Music Room	None Detected
B-417-17A	Drywall	UL, Room 101	None Detected
B-417-17B	Drywall	UL, Library	None Detected
B-417-18A	Joint Compound	UL, Hall adjacent to 108	Trace (< 1% Chrysotile)
B-417-18B	Joint Compound	UL, Library	Trace (< 1% Chrysotile)
B-417-18C	Joint Compound	UL, Room 205	Trace (< 1% Chrysotile)
B-417-18D	Joint Compound	UL, Staff Dinning	2 % Chrysotile
B-417-18E	Joint Compound	UL, Staff Dinning	Positive Stop
B-417-19A	Foil Back Paper on Fiberglass Insulation	UL, Storage C	None Detected
B-417-19B	Foil Back Paper on Fiberglass Insulation	UL, Storage C	None Detected
B-417-19C	Foil Back Paper on Fiberglass Insulation	Crawl Space	None Detected
B-417-20A	Boiler Insulation	LL, Boiler Room	None Detected
B-417-20B	Boiler Insulation	LL, Boiler Room	None Detected
B-417-20C	Boiler Insulation	LL, Boiler Room	None Detected

Based on sampling of homogenous suspect ACBMs identified by VERTEX within the facility, VERTEX has determined the following:

The following is a list of homogenous materials that were determined or assumed to be ASBESTOS-CONTAINING:

9" x 9" Off-White/Multi-Color Spec Floor Tile	9" x 9" Off-White/Multi-Color Spec FT Mastic
9" x 9" Tan Floor Tile	9" x 9" Tan Floor Tile Mastic
Black Sink Mastic	Joint Compound
Pipe Insulation	Pipe Fitting Insulation
Black Residual Mastic	Interior Boiler Materials
Pink Sink Mastic	

The following is a list of materials that were found and determined to be NON-ASBESTOS-CONTAINING:

12" x 12" Gray Spec Floor Tile	12" x 12" Gray Spec Floor Tile Mastic
Brown Covebase	Brown Covebase Adhesive
Room Divider	Kitchen Curtain
2' x 4' Ceiling Tile (Speckled/Dot)	Glue Daubs associated with 1' x 1' Foam Tiles
Drywall	Foil Back Paper on Fiberglass Insulation
Boiler Insulation	Wood Flooring Paper
Fire Doors	

Section 1
Inspection Report (continued)

Updated Hazard Assessment

All known locations of friable and non-friable ACBM were re-inspected to determine whether a change in the ACBM's condition has occurred since the initial AHERA inspection. From the reinspection, an asbestos hazard assessment was performed. Factors considered when assessing asbestos hazard include;

1. The friability of the material;
2. The condition of material including type, severity and extent of damage;
3. The material's potential for disturbance including accessibility and air flow;
4. The material's potential for damage.

The location, estimated quantities, condition and Homogenous Area Hazard Assessment Category for the identified ACBMs are presented in Appendix A. The following is an updated homogenous area assessment for each homogeneous area as well as new homogeneous areas identified during the current reinspection.

Homogeneous Area Assessment

Homogeneous Area #1-Pipe Fitting Insulation

Classification: Thermal System Insulation

Assumed asbestos-containing pipe fitting insulation is located at the school. The pipe fitting insulation is friable and presents a potential for damage. The pipe fitting insulation is located within the crawl space and assumed behind walls at the school. The pipe fitting insulation within the school should be assumed to be asbestos-containing.

Homogeneous Area #2- 9" x 9" Tan Floor Tile and Mastic

Classification: Non-Friable Miscellaneous ACBM

Asbestos-containing 9"x 9" Tan Floor Tile and Mastic is located within Rooms 103, 104, 105, 106, 107, 108, 201, 202, L-204C, L-204B, L-204A, Music Room, Music Room Hall, Main Office Closet and Janitor Closets by Supply Closet A, D, E, and H, Supply Closets A, C, D, and E at the school. The 9"x 9" Tan Floor Tile and Mastic is non-friable, in generally good condition with the exception of a few small areas and has a potential for damage.

Section 1
Inspection Report (continued)

Homogeneous Area #3- 9" x 9" Off-White Multi-Color Spec Tile and Mastic

Classification: Non-Friable Miscellaneous ACBM

Asbestos-containing 9"x 9" Off-White Multi-Color Spec Floor Tile and Mastic is located within Rooms 101, 102, Supply Closet B, Teachers Lounge, 205A (under carpet), 301, 302, 3030, 304, 305, 306, 307, 308, 309, 310 and the Nurse Clinic. The 9"x 9" Off-White Multi-Color Spec Floor Tile and Mastic is non-friable, in generally good condition with the exception of a few small areas and has a potential for damage.

Homogeneous Area #4- Black Residual Mastic

Classification: Non-Friable Miscellaneous ACBM

Asbestos-containing Black Residual Mastic is located within Storage Closet I by Men's and Women's Room. The black residual mastic is exposed on the concrete floor. Additionally, black residual mastic was identified under 12" Non-asbestos containing floor tiles within Nurse Bathroom and Main Office Bathroom. The Black Residual Mastic is non-friable and covered with the exception of exposed mastic within the Storage Closet I by Men's and Women's Room which presents the potential for damage.

Homogeneous Area #5-Pipe Insulation

Classification: Thermal System Insulation

Asbestos-containing Pipe Insulation is located above the drop ceiling within the lower level Music Room. The pipe insulation is friable however a protective pvc jacket was observed covering the pipe insulation as a preventive measure from potential damage.

Homogeneous Area #6- Black Sink Mastic

Classification: Non-Friable Miscellaneous ACBM

Asbestos-containing Black Sink Mastic is located within Rooms 101, 102, 103, 104, 105, 106, 107, 108, 202, 301, 302, 3030, 304, 305, 306, 307, 308, 309, 310 and Nurse Office. The Black Sink Mastic is non-friable and not readily accessible.

Homogeneous Area #7- Pink Sink Mastic

Classification: Non-Friable Miscellaneous ACBM

Assumed asbestos-containing Pink Sink Mastic is located within Main Office Area. The Pink Sink Mastic is non-friable is non-friable and not readily accessible.

Section 1
Inspection Report (continued)

Updated Hazard Assessment

Homogeneous Area #8- Wood Flooring Paper

Classification: Non-Friable Miscellaneous ACBM

Assumed asbestos-containing Wood Flooring Paper is assumed to be located under the Wood Floor within the Gym.

Homogeneous Area #9- Joint Compound

Classification: Non-Friable Miscellaneous ACBM

Trace asbestos-containing Joint Compound is located within the Staff Dining Room. The Drywall/Joint Compound is non-friable, in generally good condition and presents a potential for damage. It should be noted that trace asbestos-containing joint compound is also identified above the window and door areas throughout the interior of school. The trace asbestos-containing joint compound should be point counted to determine if the material is greater than 1 % asbestos in content.

Homogeneous Area #10- Fire Doors

Classification: Non-Friable Miscellaneous ACBM

Assumed asbestos-containing Fire Doors are located throughout the Upper Level Corridors at the school. The Fire Doors were observed to be in good condition.

SECTION 2

RESPONSE ACTION DETERMINATION

Section 2

Response Action Determination

The following is based on the Decision Tree for Thermal System Insulation Type ACM. The recommended response actions are determined utilizing the “decision tree” approach for Response Action Determination as outlined in EPA’s “Asbestos Hazard Emergency Response Act,” (AHERA) 40 CFR 763. Because of defined friability factors associated with surfacing and miscellaneous materials versus thermal system insulation, separate decision trees are utilized for each group of materials.

Decision Trees are used to estimate the risk associated with exposure to asbestos in a given homogeneous area, and to recommend certain response actions, which are consistent with regulatory requirements. Eight response actions are recommended for both thermal system insulation and for surfacing/miscellaneous insulation. The response section number given to each homogeneous area indicates a priority for action, the lower the number, the more serious the hazard. Most response actions call for an operations and maintenance program, assuming that this is the least burdensome method which still protects human health and environment. This does not prohibit the building owner from removal of ACM at any time, if that is the preferred response action.

Recommended response actions are based upon the material condition, disturbance, air-flow and the potential for damage. Potential response actions include the following:

1. Significantly Damaged Thermal System Insulation: **Response Action 1.** Isolate the area and restrict access to the area. ACM should be removed as soon as possible.
2. Damaged Thermal System Insulation with High Disturbance: **Response Action 2.** Continue O&M program and remove the ACM as soon as possible or reduce the potential for disturbance.
3. Damaged Thermal System Insulation with Moderate Disturbance and in the Presence of an Air Stream: **Response Action 2.** Continue with O&M Program and remove the ACM as soon as possible or reduce the potential for disturbance.
4. Damaged Thermal System Insulation with Moderate Disturbance: **Response Action 3.** Repair ACM, continue with O&M Program.
5. Damaged Thermal System Insulation with Low Disturbance and in the Presence of an Air Stream: **Response Action 4.** Repair ACM, continue with O&M Program.
6. Damaged Thermal System Insulation with Low Disturbance: **Response Action 5.** Repair ACM, continue with O&M Program.
7. Undamaged Thermal System Insulation with High Disturbance: **Response Action 6.** Continue with O&M Program and take preventative measures to reduce disturbance.
8. Undamaged Thermal System Insulation with Moderate Disturbance: **Response Action 7.** Continue with O&M Program and take preventative measure to reduce disturbance.
9. Undamaged Thermal System Insulation with Low Disturbance: **Response Action 7.** Continue with O&M Program and take preventative measure to reduce disturbance.

Section 2
Response Action Determination (continued)

The following is based on the Decision Tree for Surfacing and Miscellaneous ACM. Recommended response actions are based upon friability, material condition, disturbance, air flow and the potential for damage. Potential response actions include the following:

1. Friable Surfacing or Miscellaneous ACM with Significant Damage: **Response Action 1:** Isolate the area and restrict access to the area. Remove the ACM as soon as possible.
2. Friable Surfacing or Miscellaneous ACM with Damage and a High Disturbance: **Response Action 2:** Continue with O&M Program and remove ACM as soon as possible or reduce the potential for disturbance.
3. Friable Surfacing or Miscellaneous ACM with Damage, Moderate Disturbance and in the Presence of an Air Stream: **Response Action 2:** Continue with O&M Program and remove ACM as soon as possible or reduce the potential for disturbance.
4. Friable Surfacing or Miscellaneous ACM with Damage and Moderate Disturbance: **Response Action 3:** Continue with O&M Program and schedule removal when practical and cost-effective
5. Friable Surfacing or Miscellaneous ACM with Damage, Low Disturbance and in the Presence of an Air Stream: **Response Action 4:** Continue with O&M Program and schedule removal when practical and cost-effective
6. Friable Surfacing or Miscellaneous ACM with Damage and Low Disturbance: **Response Action 5.** Continue with O&M Program and schedule removal when practical and cost-effective
7. Friable Surfacing or Miscellaneous ACM with No Damage and High Disturbance: **Response Action 6.** Take preventative measures to reduce the disturbance.
8. Friable Surfacing or Miscellaneous ACM with No Damage and Moderate Disturbance: **Response Action 7.** Take preventative measure to reduce the disturbance.
9. Friable Surfacing or Miscellaneous ACM with No Damage and Low Disturbance: **Response Action 8.** Take preventative measure to reduce the disturbance.
10. Non-Friable Surfacing or Miscellaneous ACM: **Response Action 8:** Continue with O&M until major renovation or demolition requires removal under the EPA NESHAPS, or until hazard assessment factors change.

Section 2

Response Action Determination (continued)

Advantages and Disadvantage to Abatement Alternatives

The decision trees outlined in AHERA 40 CFR 763 are used to provide the “best” alternative for the specific conditions in each homogeneous area.

Below is a discussion of the alternative approaches to asbestos management in a building.

Long Term Operation & Maintenance Program

Advantages:

- *Low initial cost for implementation
- *Good interim plan
- *An O&M program may be implemented and carried out by in house trained personnel.

Disadvantages:

- *Asbestos remains in the building
- *Condition of the asbestos must be monitored
- *Cost of training and special work procedures may be significant
- *Effectiveness may be limited where control of the building occupants is difficult

Encapsulation

Advantages:

- *Reduces the risk of release of asbestos fibers
- *Initial cost is lower than the cost of asbestos removal
- *Asbestos-containing material may still serve its initial purpose
- *Quick temporary means of repair

Disadvantages:

- *Asbestos remains in the building and encapsulant makes removal more difficult
- *Improper encapsulation may cause the material to delaminate or pull away from substrate
- *Asbestos-containing material must have an O&M program
- *Similar preparation for asbestos removal is required for encapsulation
- *Long term cost may be greater than asbestos removal is periodic reapplication of the encapsulant is required

Section 2
Response Action Determination (continued)

Enclosure

Advantages:

- *Enclosure reduces immediate exposure
- *Initial cost of enclosure is lower than the cost of asbestos removal
- *Asbestos-containing material may still serve its initial purpose
- *Quick temporary means of repair

Disadvantages:

- *Asbestos remains in place and later removal is more difficult
- *If maintenance is required of the systems insulated with asbestos, the asbestos will be exposed
- *An O&M program will have to be implemented for the asbestos-containing material
- *Similar preparation for asbestos removal is required for enclosure

Removal

Advantages

- *Asbestos-containing material is eliminated from the building
- *There is no need for an O&M plan
- *Initial cost is great, but the future costs are eliminated

Disadvantages:

- *Reinsulation, refireproofing, or replacement of materials may be required
- *Improper removal may raise levels of airborne fibers higher than background levels
- *The initial cost of removal is very high
- *Areas of the building involved in asbestos removal may not be occupied during removal

SECTION 3

UPDATED RECOMMENDED RESPONSE ACTIONS

Section 3

Updated Recommended Response Actions

The updated recommended response actions are for all the homogenous areas found within the school. The response actions are determined utilizing the decision tree approach for Response Action Determination as described in Section 2.

Homogeneous Area #1-Pipe Fitting Insulation

Response Action 3: Several pipe fitting insulation units located within the Janitor/Supply Closet 1 by the Men's and Women's Room and Crawl Space display minor damage. Retain an Asbestos Project Designer to prepare a Work Plan for the repair of the damaged pipe fitting insulation and retain a Massachusetts certified Abatement Contractor to complete the response action following the Work Plan. Recommended completion date of the work activities: September 2022.

Response Action 7: The pipe fitting insulation located within the remaining areas identified is in generally good condition and has a potential for damage or significant damage. Limit the potential for disturbance and continue the Operations and Maintenance Program (O&M) until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Prior to renovation/demolition the material must be removed if it will be disturbed. It should be noted that asbestos-containing pipe fitting insulation may be located above hard ceilings and/or behind walls. As such, a thorough exploratory inspection should be conducted prior to any renovations that may impact wall or ceiling areas.

Homogeneous Area #2- 9" x 9" Tan Floor Tile and Mastic

Response Action 8: The 9"x 9" Tan Floor Tile and Mastic located within the Janitor Closets by Supply Closets A, D, E, and H display minor to severe damage. Retain an Asbestos Project Designer to prepare a Work Plan for the repair of the damaged floor tile and retain a Massachusetts certified Abatement Contractor to complete the response action following the Work Plan. Recommended completion date of the work activities: February 2023.

Response Action 8: The 9"x 9" Tan Floor Tile and Mastic located within the remaining areas identified is in generally good condition, non-friable and presents a potential for damage. Continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Prior to renovation/demolition the material must be removed if it will be disturbed.

Section 3
Updated Recommended Response Actions (Continued)

Homogeneous Area #3- 9" x 9" Off-White Multi-Color Spec Tile and Mastic

Response Action 8: The 9"x 9" Off-White Multi-Color Spec Floor Tile and Mastic located within L-204A and B display minor damage at the entryways. Additionally, 9"x 9" Off-White Multi-Color Spec Floor Tile and Mastic located within the Teachers Lounge Bathrooms display minor damage. Retain an Asbestos Project Designer to prepare a Work Plan for the repair of the damaged floor tile and retain a Massachusetts certified Abatement Contractor to complete the response action following the Work Plan. Recommended completion date of the work activities: February 2023.

Response Action 8: The 9"x 9" Off-White Multi-Color Spec Floor Tile and Mastic located within the remaining areas identified is in generally good condition, non-friable and presents a potential for damage. Continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Prior to renovation/demolition the material must be removed if it will be disturbed.

Homogeneous Area #4- Black Residual Mastic

Response Action 8: The Black Residual Mastic located within the Storage Closet I by Men's and Women's Room is exposed and presents a potential for damage. Retain an Asbestos Project Designer to prepare a Work Plan for the encapsulation of the exposed mastic and retain a Massachusetts certified Abatement Contractor to complete the response action following the Work Plan. Recommended completion date of the work activities: February 2023.

Response Action 8: The Black Residual Mastic located under the 12" Non-asbestos containing floor tiles within Nurse Bathroom and Main Office Bathroom is in good condition and covered. Continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Prior to renovation/demolition the material must be removed if it will be disturbed.

Homogeneous Area #5-Pipe Insulation

Response Action 7: The pipe insulation located above the drop ceiling within the lower level Music Room is covered with protective pvc jacket. Limit the potential for disturbance and continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Prior to renovation/demolition the material must be removed if it will be disturbed. It should be noted that asbestos-containing pipe insulation may be located above hard ceilings and/or behind walls. As such, a thorough exploratory inspection should be conducted prior to any renovations that may impact wall or ceiling areas.

Section 3
Updated Recommended Response Actions (Continued)

Homogeneous Area #6- Black Sink Mastic

Response Action 8: The Black Sink Mastic located under the sink areas within Rooms 101, 102, 103, 104, 105, 106, 107, 108, 202, 301, 302, 3030, 304, 305, 306, 307, 308, 309, 310 and Nurse Office is non-friable and was observed not readily accessible. Continue O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Prior to renovation/demolition the material must be removed if it will be disturbed.

Homogeneous Area #7- Pink Sink Mastic

Response Action 8: Assumed asbestos-containing Pink Sink Mastic is located under the sink area within Main Office. The Pink Sink Mastic is non-friable and was observed not readily accessible. Continue O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. This Pink Sink Mastic is assumed to be asbestos-containing and should be tested prior to any activities that may disturb this material.

Homogeneous Area #8- Wood Flooring Paper

Response Action 8: Assumed asbestos-containing Wood Flooring Paper is located under the wood floor within the gym. The Wood Flooring Paper is assumed to be non-friable and covered. Implement an O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. This Wood Flooring Paper is assumed to be asbestos-containing and should be tested prior to any activities that may disturb this material.

Homogeneous Area #9- Joint Compound

Response Action 8: The joint compound and contaminated drywall located within the Staff Dining Room is in generally good condition, non-friable and presents a potential for damage. Implement an O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Do not drill, sand, cut into and/or hang items on the drywall system. Prior to renovation/demolition the material must be removed if it will be disturbed.

Response Action 8: The joint compound and contaminated drywall located above the window and door areas throughout the interior of school is in generally good condition, non-friable, trace asbestos-containing and presents a potential for damage. Continue O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Do not drill, sand, cut into and/or hang items on the drywall system.. Prior to any work activities that may disturb the trace asbestos-containing joint compound, sufficient bulk samples should be collected by a certified asbestos inspector and submitted for point count analysis to determine if the material is greater than 1 % asbestos in content for proper removal and disposal activities

Section 3
Updated Recommended Response Actions (Continued)

Homogeneous Area #10- Fire Doors

Response Action 8: Assumed asbestos-containing Fire Doors are located throughout the Upper Level Corridors at the school. Interior insulating materials are assumed to be located within the Fire Doors. Continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Prior to renovation/demolition the material should be inspected for and tested if necessary and must be removed if it will be disturbed.

SECTION 4

RECORDKEEPING REQUIREMENTS AND RECOMMENDATIONS

Section 4 **Recordkeeping Requirements and Recommendations**

The AHERA regulations have very specific requirement for the maintenance of records associated with the management of asbestos in the school. The following is a list of some of the key items that the LEA Designated Person must maintain as part of the package:

- Initial AHERA inspection report and Asbestos Management Plan
- Subsequent 3-year reinspection reports.
- 6-month surveillance reports.
- Documentation for minor and major fiber release episodes. This includes abatement work performed by outside contractors as well as work performed by 16 hour trained maintenance personnel no matter how small.
- Documentation for completion of response actions (i.e. clearance testing). This should always include applicable training & licensure documentation for whomever performs the work.
- Labeling of ACBM (friable)
- Yearly notice to parents, teachers and staff.
- Training and medical exams for 16-hour trained personnel. Although training does not require renewal. Medicals are to be performed every year. In addition, 16-hour personnel should be fit tested every six months.
- Two hour awareness training for staff. Any new workers are required to receive this training at start of employment. Training should include specific review of ACBM in building their working in.

The above items are some of the key items, which need to be incorporated into the plan. The following are some recommendations are how best to maintain for easy access and review by outside parties:

- Maintain an update the three- ring binder for the school. Have a duplicated copy, one for administration office and one for the facilities office.
- Create tab sections in the binder. Each section should contain the information above. This will allow for easy review and update.
- Ensure that for every major and minor fiber release episode, that all documentation is received.

- As you updated your file, ensure the school's is updated.

Section 4

Recordkeeping Requirements and Recommendations (cont.)

In addition, it is also required that if outside contractors enter building perform work that they review areas where asbestos may be present that will be near their work. Have a log at the school for them to sign that they have read and understand. This will protect the school from liability and ensure outside contractors will not disturb asbestos. Finally, periodically review program internally and with your 16-hour persons to ensure compliance.

Several pipe fitting insulation units located within the Storage Closet I by Men's and Women's Room and Crawl Space display minor damage. Retain an Asbestos Project Designer to prepare a Work Plan for the repair of the damaged pipe fitting insulation and retain a Massachusetts certified Abatement Contractor to complete the response action following the Work Plan. Recommended completion date of the work activities: September 2022.

The 9"x 9" Tan Floor Tile and Mastic located within the Janitor Closets by Supply Closets A, D, E, and H display minor to severe damage. Retain an Asbestos Project Designer to prepare a Work Plan for the repair of the damaged floor tile and retain a Massachusetts certified Abatement Contractor to complete the response action following the Work Plan. Recommended completion date of the work activities: February 2023.

The Black Residual Mastic located within the Storage Closet I by Men's and Women's Room is exposed and presents a potential for damage. Retain an Asbestos Project Designer to prepare a Work Plan for the encapsulation of the exposed mastic and retain a Massachusetts certified Abatement Contractor to complete the response action following the Work Plan. Recommended completion date of the work activities: February 2023.

Continue the periodic cleaning schedule. Properly trained staff (i.e. 2-Hour Asbestos Awareness) should conduct the cleaning activities utilizing HEPA-vacuums and/or wet wiping and floor tile maintenance as outlined in the recommended Operations and Maintenance procedures.

A required six-month periodic surveillance inspection should be scheduled for February 2023..

VERTEX recommends an ACMs Survey be conducted prior to any renovation activities to comply with the EPA Title 40 CFR Part 61, NESHAPs and the Massachusetts Department of Environmental Protection Regulations.

SECTION 5

ESTIMATED RESOURCES REQUIRED TO COMPLETE THE RESPONSE ACTIONS

Section 5

Estimated Resources Required to Complete the Response Actions

This section contains the estimated resources required to complete the abatement activities of the identified damaged ACBMs. These estimates will vary according to competitive bidding, accessibility, location, and condition of ACMs, phasing of work, etc. The cost estimate below does not include abatement contractor mobilization, abatement design and/or project monitoring services.

Estimated Cost to complete the Response Actions at the M.E. Small Elementary School located in West Yarmouth, Massachusetts:

\$1,200.00

Cost Estimate Worksheet can be found in Appendix B.

*The estimated cost provided above does not include costs that may be associated with abatement consulting, contractor mobilization, two-hour asbestos awareness training, OSHA 16-hr Operations and Maintenance Training and/or the labor to conduct the required six-month surveillance re-inspections. Please refer below for estimated costs associated costs mentioned above:

2-Hour Asbestos Awareness Training= \$75/person
OSHA 16-hr Operations and Maintenance Training = \$300/person
Six-Month Periodic Surveillance Inspection = \$400/inspection
Abatement Work Plan/Design Specification = \$500-\$2,500.00
Mobilization = \$1,500.00-\$2,500.00
Project Monitoring/Clearance Testing = \$520.00-\$600.00/per shift
Transmission Electron Microcopy (TEM) Analysis = \$75.00-\$100.00/sample
Phase Contrast Microscopy (PCM) Analysis = No Charge -\$15.00/sample
Clearance Report Preparation = \$350.00-\$800.00

SECTION 6

ESTIMATED RESOURCES REQUIRED FOR THE ABATEMENT OF THE IDENTIFIED ACBMs

Section 6
Estimated Resources Required For Abatement of the Identified ACBMs

This section contains the estimated resources required to perform the removal of identified ACBMs, however EPA recommends the ACBMs to be managed in place if they are not damaged. Alternative abatement costs are estimated using current Abatement Contractor Estimates. These estimates will vary according to competitive bidding, accessibility, location, and condition of ACBs, phasing of work, etc. The cost estimate below is a worst case scenario if all identified ACBMs were to be removed. The cost estimate below does not include abatement contractor mobilization, abatement design and/or project monitoring services.

Estimated Cost for the Removal of ACBMs from the M.E. Small Elementary School located in West Yarmouth, Massachusetts:

\$313,179.00

Cost Estimate Worksheet can be found in Appendix C.

** The estimated cost provided above is developed from current Abatement Contractor Unit pricing. These estimates will vary according to competitive bidding, accessibility, location, and condition of ACBs, phasing of work, etc. In addition, the costs above do not include mobilization of the Abatement Contractor, Abatement Work Plan/Design, Project Monitoring and/or Clearance Testing Services for the completion of the response actions. Please refer for below unit pricing regarding costs for the Contractor Mobilization and Clearance Testing Services:

Abatement Work Plan/Design Specification = \$500-\$2,500.00
Mobilization = \$1,500.00-\$2,500.00
Project Monitoring/Clearance Testing = \$520.00-\$600.00/per shift
Transmission Electron Microcopy (TEM) Analysis = \$75.00-\$100.00/sample
Phase Contrast Microscopy (PCM) Analysis = No Charge -\$15.00/sample
Clearance Report Preparation = \$350.00-\$800.00

SECTION 7

OPERATIONS AND MAINTENANCE

Section 7 Operations and Maintenance Program

INTRODUCTION

The DYRS has established an overall asbestos control program that is designed to minimize exposure of all occupants of the school to asbestos fibers located at the M.E. Small Elementary School located in West Yarmouth, Massachusetts. This Operations and Maintenance (O&M) Plan is an integral part of the overall program. It sets guidelines for the proper in-place management of all assumed and identified asbestos-containing building materials (ACBM) located in the building.

This O&M plan contains the following sections:

- A. A description of the **duties of the LEA Designated Person (DP)**.
- B. A procedure for **notifying** workers, tenants, and other visitors where ACBM are located, and stressing the importance of avoiding disturbing the ACBM in any way.
- C. The detailed description of **O&M Activities**, including:
 - 1. **Emergency procedures** for both major and minor episodes of fiber release;
 - 2. **Periodic surveillance** of ACBM, so that any changes in the condition of ACBM can be noted, assessed, and documented; and
 - 3. Detailed descriptions of **work procedures** for both general maintenance and Asbestos Associated Project Workers, which must be used so that workers can avoid or minimize fiber release when performing activities that may disturb ACBM.
- D. A list of **records** that must be kept to document O&M and abatement activities.
- E. **Training requirements** for the DP, and custodial and maintenance staff.

In general, asbestos represents a health hazard **only** if fibers are breathed into the lungs or, in rare cases, are swallowed. Asbestos-containing materials that are non-friable (i.e. cannot be easily broken or crumbled by hand pressure) are not hazardous as long as they are intact and in good condition. Because friable materials can be easily crumbled or crushed, they are more susceptible to airborne fiber release than are non-friable materials.

It is a policy of the DYRS that untrained employees and outside contractors **DO NOT** handle, touch or otherwise disturb any material that is asbestos or suspected of containing asbestos. A properly qualified and trained individual must handle any material that is, or may contain asbestos. Non-asbestos materials have been and may be identified by the asbestos coordinator using one or more of the following criteria: (1) lab analysis, (2) results of previous lab analysis, (3) product composition labels, (4) receipts, and so forth. At no time will any employee, student, or outside contractor assume a material to be asbestos-free. An inventory of ACBMs identified from the inspection are presented in Appendix A.

Section 7
Operations and Maintenance Program (Continued)

1. DUTIES OF THE ASBESTOS MANAGEMENT PLAN DESIGNATED PERSON

The DP oversees the implementation and management of the O&M plan. Duties of the DP include (1) notifying building staff, workers, and outside contractors where ACBM is located in the building, (2) assigning workers to tasks involving work that may disturb ACBM, (3) ensuring that abatement and O&M activities are conducted by trained qualified personnel, and (4) keeping records of all asbestos-related activities at the property.

The DP must receive training related to asbestos issues (see “Training Requirements” of this plan).

2. NOTIFICATION

The DP shall ensure that building workers, outside contractors, and tenants are notified of the location, quantity, and physical condition of identified and assumed ACBM that they might disturb. Such notification shall be accomplished by written notice, by personal communication, by posting signs at entrances to mechanical areas, and/or by labeling ACBM. By informing occupants of potential hazards in their vicinity, the notification reduces the possibility that occupants will accidentally disturb ACBM. The notification must stress that persons who disturb ACBM may accidentally release asbestos fibers into the air, and that therefore everyone must avoid disturbing ACBM. This notification will assure compliance with Occupational Health and Safety Administration (OSHA) Regulation 29 CFR Part 1926.1101, which regulates asbestos exposure as it relates to construction work (including building maintenance) and with 29 CFR 1910.1001, which regulates asbestos exposure in general industry (including normal housekeeping).

If asbestos-related construction, abatement, of O&M activities is conducted, the DP shall also notify the following persons about the presence, location, and quantity of ACBM:

- A. Employees of the building, such as maintenance and custodial personnel who will work in or adjacent to areas containing ACBM:
- B. Staff who will occupy areas containing ACBM.
- C. Prospective employers applying for or bidding for work if their employees will be expected to work in or adjacent to areas containing ACBM.
- D. Multiple employers occupying a work-site in the building, any of whose employees will be performing work within or adjacent to areas containing ACBM.

Section 7
Operations and Maintenance Program (Continued)

Before conducting any work in the building that has the potential to impact ACBM, contractors will be required to sign the Contractor's Asbestos Notification and Acknowledgment Form. In addition, all contractors and contractor's employees who work on the site will be required to notify the DP of the presence, location, and quantity of newly discovered ACBM within 24 hours (or sooner if ACBM is disturbed) of the discovery. If any building materials are discovered, the asbestos content of which is unknown, the material shall be presumed to contain asbestos, until the results of sampling and analysis prove otherwise. Appropriate sampling of the material shall be conducted by a Massachusetts Department of Labor and Work Force Development Division of Labor Standards accredited asbestos inspector and analyzed at an appropriately licensed asbestos analytical laboratory.

The DP shall ensure that all required warning signs are posted during abatement and O&M activities during which the release of asbestos fibers into the air is possible. Warning signs shall demarcate all regulated areas and shall bear the following information:

DANGER
ASBESTOS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE
CLOTHING ARE REQUIRED IN THIS AREA

Contractors and in-house personnel who remove ACBM within the site shall label all waste containers that contain ACBM waste in accordance with OSHA and EPA guidelines.

The Massachusetts Department of Environmental Protection (DEP) and the Massachusetts Division of Labor Standards (DLS) will be notified anytime work will impact any quantity of ACBM at the school.

The DP shall ensure that all previously installed ACBM that have been identified in the facility are labeled or identified by signs, as feasible. All ACBM that are friable and accessible, such as TSI located in mechanical areas or below suspended ceilings, will be labeled. Labels shall be attached to or posted in areas where employees, residents, and outside contractors who are likely to be exposed will clearly notice (such as at the entrance to mechanical rooms).

The labels shall bear the following information:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST

Posted signs may be used in lieu of labels to indicate the type and location of each ACBM.

Section 7
Operations and Maintenance Program (Continued)

3. OPERATIONS AND MAINTENANCE ACTIVITIES

Operations and maintenance activities include:

- A. Emergency procedures to be followed in the event of a major or minor episode of fiber release;
- B. Periodic surveillance of ACBM within at the school building;
- C. Work procedures associated with planned maintenance activities that may disturb ACBM. Only properly trained personnel under the control and direction of the DP shall conduct operations and maintenance activities.
- D. Periodic Cleaning Activities

A. Emergency Procedures for Fiber Release Episodes

Fiber release episodes are categorized as *major* (the falling or dislodging of more than 3 square feet or 3 linear feet of friable ACBM), or *minor* (the falling or dislodging of fewer than 3 square feet or 3 linear feet of friable ACBM)

PROCEDURE FOR MAJOR EPISODE

- 1. Restrict entry into the area.
- 2. Immediately contact the DP
- 3. Post sign to prevent anyone from entering the area except persons necessary to perform the response action.
- 4. Shut off or temporarily modify the air-handling system to prevent the fibers from being distributed to other areas in the building.
- 5. The DP shall contact an accredited designer of abatement to prepare an abatement plan that specifies the appropriate response actions.
- 6. The DP shall ensure that only a Massachusetts Certified Asbestos Abatement Contractor conducts the response actions.

Section 7
Operations and Maintenance Program (Continued)

PROCEDURE FOR MINOR EPISODE

1. Thoroughly saturate the debris using all wetting methods necessary.
2. Clean the area using wet wiping techniques followed by vacuuming with a specially equipped High Efficiency Particulate Air (HEPA) vacuum.
3. Place all debris and all contaminated cleaning supplies (mop heads, rags, etc.) into a leak tight container, such as a 6-mil thick polyethylene waste bag, and seal the container. Place the sealed container into a second 6-mil thick polyethylene bag. If labeled waste bags are not used, apply warning label to outside of each bag used.
4. Repair the area of damaged ACBM, as follows:
 - a. Use materials such as asbestos-free spackling, plaster, cement, or insulation; or
 - b. Seal the area with latex paint or an encapsulate; or
 - c. Immediately implement other appropriate response action.

B. Periodic Surveillance

Periodic surveillance of all known and assumed ACBM shall be conducted once every six months. The purpose of the regularly scheduled surveillance is to ensure that any ACBM that are damaged or that have deteriorated are detected in a timely manner. The DP shall use the information from the periodic surveillance in conjunction with ongoing reports from the periodic surveillance in conjunction with ongoing reports from service workers of changes in the condition of the ACBM to take corrective action.

The periodic surveillance consists of a visual inspection of all known and assumed ACBM. Periodic surveillance shall also include a visual and physical evaluation of ACBM in order to determine the degree of damage and to assess the likelihood of future fiber release. The area in the immediate vicinity shall also be examined for potential loose ACBM debris. The DP shall record the cause of the damage.

Only persons who have received at least the minimum asbestos-awareness training (see "Training Requirements", of this plan) shall conduct the periodic surveillance. The results of the surveillance shall be recorded on the periodic surveillance inspection form.

Section 7
Operations and Maintenance Program (Continued)

C. Work Procedures for General Maintenance Personnel

The following work practices shall be prohibited in all circumstances:

- Drilling holes in ACBM;
- Damaging ACBM while moving furniture or other objects;
- Sweeping or dusting floors, ceilings, moldings, or other surfaces in asbestos-contaminated environments;
- Using an ordinary vacuum to clean up asbestos-containing or asbestos contaminated debris (only vacuums equipped with a HEPA filter should be used);
- Removing potentially contaminated ventilation system filters without thoroughly wetting them; and
- Shaking potentially contaminated ventilation system filters.

D. Periodic Cleaning

The following is a general outline to be utilized for the properly trained personnel to conduct the periodic cleaning activities:

- Utilization of disposable rags to wet wipe of all non-porous horizontal surfaces followed by the use of a HEPA-equipped vacuum. Dry sweeping and/or dusting is not permitted to be used to clean the surfaces.
- The collected debris within the lined HEPA-equipped vacuum and disposal rags should be properly disposed of in a labeled asbestos-waste bag accompanied by a Waste Shipment Record for future disposal at a permitted facility that accepts asbestos waste.
- Document the Name of the individual conducting the work activities, location date and time of cleaning for proper recordkeeping. These records should be included within the AMP for the school.

Section 7
Operations and Maintenance Program (Continued)

4. RECORDKEEPING REQUIREMENTS

The building owner shall maintain the following documentation pertaining to ACBM in the facility:

- All data that are relied upon to demonstrate that suspect ACBM do not in fact contain asbestos.
- All data communicated and received that identify the locations and quantities of ACBM.
- All records associated with abatement projects and O&M activities. These documents shall be maintained during the term of ownership. They shall then be transferred to successive owners, in accordance with OSHA Regulation 1926.1101 (n).
- If the owner's employees conduct activities that may potentially cause them to be exposed to asbestos fibers, the owner shall keep the following additional records:
 - All employee exposure-monitoring records pursuant to OSHA Regulation 1926.1101(f).
 - All information relative to medical surveillance of employees pursuant to OSHA Regulation 1926.1101(m). Medical surveillance shall be required only if:
 1. Employees are required to conduct tasks that would result in their exposure to airborne concentrations of asbestos above the OSHA permissible exposure limit (PEL); or
 2. If employees conduct asbestos abatement tasks for more than 30 days per year.
- The owner shall maintain all employee-training records for one year beyond the employee's last date of employment.

5. TRAINING REQUIREMENTS

The extent of asbestos training for facility employees depends on the type of asbestos-related activities they will conduct. For most employees who will require training, a two-hour awareness course will be sufficient but necessary. For employees who are involved in activities where exposure to airborne asbestos fibers is likely, a more comprehensive 16-hour training course is necessary.

Section 7

Operations and Maintenance Program (Continued)

AWARENESS TRAINING

The curriculum shall include instruction in the following:

- The location, quantity, and physical condition of all ACBM located in the facility.
- Recognition of damage, deterioration, and delaminating of ACBM.
- The health effects associated with asbestos exposure, including the relationship between smoking and asbestos in producing lung cancer.
- Procedures to be implemented in the event of a minor or major episode of fiber release.
- The requirements for posting signs and affixing labels, and the meaning of the required legends for such signs and labels.

COMPREHENSIVE WORKER TRAINING

The curriculum shall include instruction in the following:

- All awareness training information described above.
- The nature of operations that could result in exposure to asbestos, and the importance of necessary protective controls and of procedures for minimizing exposure, including:
 - engineering controls
 - work practices,
 - respirators,
 - housekeeping procedures,
 - hygiene facilities,
 - protective clothing,
 - decontamination procedures,
 - emergency procedures,
 - waste disposal procedures and any necessary instruction in the use of these controls and procedures.

Section 7

Operations and Maintenance Program (Continued)

- The purpose, proper use, fitting instructions, and limitations of respirators.
- Medical surveillance program requirements
- The contents of the OSHA standard (1926.1101) regarding asbestos in construction.
- Hands-on-training in the use of respiratory protection, other personal protection measures, and work practices.

Detailed procedures for conducting small-scale, short duration abatement activities, as defined in Appendix A to Subpart E to EPA Regulation 40 CFR Part 763.

APPENDIX A

LOCATIONS OF THE ASBESTOS CONTAINING BUILDING MATERIALS AND UPDATED CONDITONS

Appendix A 3-Year AHERA Re-Inspection August 2022 Locations of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, West Yarmouth, Massachusetts						
Location	ACBM Description	Estimated Quantity	VERTEX 2019 Cond.	VERTEX 2022 Updated Cond.	Fri.	HAHAC #
Upper Level						
Room 101	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G	MD (1 ft ²)	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Room 102	9" x 9" Off-White Multi-Color Spec Floor Tile	990 ft ²	G	MD (1 ft ²)	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Room 103	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Room 104	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Janitor Closet by Supply Closet A	9" x 9" Tan Floor Tile and Mastic	36 ft ²	D (8 ft ²)	D (16 ft ²)	N	5
Supply Closet A	9" x 9" Tan Floor Tile and Mastic	36 ft ²	G	MD (2 ft ²)	N	5
Room 105	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Room 106	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6

Appendix A 3-Year AHERA Re-Inspection August 2022 Locations of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts						
Location	ACBM Description	Estimated Quantity	VERTEX 2019 Cond.	VERTEX 2022 Updated Cond.	Fri.	HAHAC #
Upper Level (Continued)						
Room 107	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Room 108	9" x 9" Tan Floor Tile and Mastic	990 ft ²	MD (3 ft ²)	MD (3 ft ²)	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Supply Closet B	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	50 ft ²	G	MD (1 ft ²)	N	5
Supply Closet C	9" x 9" Tan Floor Tile and Mastic	28 ft ²	G	MD (1 ft ²)	N	5
Supply Closet D	9" x 9" Tan Floor Tile and Mastic	36 ft ²	G	G	N	5
Janitor Closet by Supply Closet D	9" x 9" Tan Floor Tile and Mastic	36 ft ²	D (10 ft ²)	D (10 ft ²)	N	6
Room 201	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
Room 202	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
L-204/Library	Drywall/Joint Compound*	360 ft ²	G	G	N	5
L-204C/Computer Room	9" x 9" Tan Floor Tile and Mastic	405 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
L-204A	9" x 9" Tan Floor Tile and Mastic	960 ft ²	MD (4 ft ²)	MD (4 ft ²)	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5

Appendix A 3-Year AHERA Re-Inspection August 2022 Locations of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts						
Location	ACBM Description	Estimated Quantity	VERTEX 2019 Cond.	VERTEX 2022 Updated Cond.	Fri.	HAHAC #
Upper Level (Continued)						
L-204B	9" x 9" Tan Floor Tile and Mastic	960 ft ²	MD (2 ft ²)	MD (2 ft ²)	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
Teacher Lounge and Bathrooms	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	180 ft ²	D (3 ft ²)	D (3 ft ²)	N	5
Room 205A (Psyc Office)	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic (Under Carpet)	200 ft ²	C	C	N	5
	Contaminated Carpet	200 ft ²	G	G	N	5
Room 205 (Art)	Drywall/Joint Compound*	220 ft ²	G	G	N	5
Room 310	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Supply Closet E	9" x 9" Tan Floor Tile and Mastic	36 ft ²	G	G	N	5
Janitor Closet by Supply Closet E	9" x 9" Tan Floor Tile and Mastic	36 ft ²	D (12 ft ²)	D (12 ft ²)	N	5
Room 309	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Supply Closet F	9" x 9" Tan Floor Tile and Mastic	36 ft ²	G	MD (2 ft ²)	N	5
Supply Closet G	9" x 9" Tan Floor Tile and Mastic	28 ft ²	G	MD (2 ft ²)	N	5

Appendix A 3-Year AHERA Re-Inspection August 2022 Locations of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts						
Location	ACBM Description	Estimated Quantity	VERTEX 2019 Cond.	VERTEX 2022 Updated Cond.	Fri.	HAHAC #
<i>Upper Level (Continued)</i>						
Room 308	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G	MD (1 ft ²)	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Room 307	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Supply Closet H	9" x 9" Tan Floor Tile and Mastic	36 ft ²	MD	MD (1 ft ²)	N	5
Janitor Closet by Supply Closet H	9" x 9" Tan Floor Tile and Mastic	36 ft ²	D (20 ft ²)	D (20 ft ²)	N	5
Room 306	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	MD (3 ft ²)	MD (3 ft ²)	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Room 305	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Room 304	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G	G	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Room 303	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G	MD (3 ft ²)	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6

Appendix A 3-Year AHERA Re-Inspection August 2022 Locations of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts						
Location	ACBM Description	Estimated Quantity	VERTEX 2019 Cond.	VERTEX 2022 Updated Cond.	Fri.	HAHAC #
Upper Level (Continued)						
Room 302	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G	MD (2 ft ²)	N	5
	Drywall/Joint Compound*	100 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Room 301	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	MD (3 ft ²)	MD (3 ft ²)	N	5
	Drywall/Joint Compound*	100 ft ²	MD (1 ft ²)	MD (1 ft ²)	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
Supply Closet/Janitor Closet I by Men's/Women's Room	Black Residual Mastic	28 ft ²	Exposed	Exposed	N	6
	Pipe Fitting Insulation	3 Units	G	G	Y	6
Gym	Wood Flooring Paper (Assumed)	2646 ft ²	C	C	N	5
Gym Office Hatch	Flexible Duct Connector Cloth	1 Unit	G	G	N	5
Clinic (Nurse) and Bathroom	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	220 ft ²	G	G	N	5
	Black Sink Mastic	1 Unit	NA*	NA*	N	6
	Black Residual Mastic	20 ft ²	C	C	N	5
	12" x 12" Blue Floor Tile (Contaminated)	20 ft ²	G	G	N	5
Main Office Area (Conference, Principal, Guidance)	Pink Sink Mastic (Assumed)	1 Unit	NA*	NA*	N	6
	Drywall/Joint Compound*	180 ft ²	G	G	N	5
Main Office Bathroom	Black Residual Mastic	20 ft ²	C	C	N	5
	12" x 12" Blue Floor Tile (Contaminated)	20 ft ²	G	G	N	5
Main Office Closet	9" x 9" Tan Floor Tile and Mastic	36 ft ²	G	G	N	5
	Pipe Fitting Insulation	6 Units	G	G	Y	6

Appendix A 3-Year AHERA Re-Inspection August 2022 Locations of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts						
Location	ACBM Description	Estimated Quantity	VERTEX 2019 Cond.	VERTEX 2022 Updated Cond.	Fri.	HAHAC #
Upper Level (Continued)						
Kitchen/Cafeteria	Drywall/Joint Compound*	650 ft ²	G	G	N	5
Staff Dining	Drywall/Joint Compound*	220 ft ²	G	G	N	5
Upper-Level Corridors	Drywall/Joint Compound*	2000 ft ²	G	G	N	5
	Fire Doors (Assumed)	12 Units	G	G	N	5
Lower Level						
Boiler Room	Interior Boiler Materials	2 Boilers	U	U	U	5
Hall to Music Room	9" x 9" Tan Floor Tile and Mastic	60 ft ²	G	G	N	5
Music Room	9" x 9" Tan Floor Tile and Mastic	3250 ft ²	MD	MD	N	5
	Pipe Insulation (Above Ceiling under Plastic Jacket)	230 lf	G	G	Y	5
Crawl Space	Pipe Fitting Insulation	229 Units	D (7 Units)	D(10 Units)	Y	1/5

Notes:

ft ² = Square Foot	Cond. = Condition	U = Unknown
lf = Linear Foot	G = Good	C = Covered
Unit = Each	MD = Minor Damage	NA* = Not Accessible
Y = Yes	D = Damaged	
N = No	Fri. = Friable	

HAHAC # = Homogenous Area Hazard Assessment Category

- 1 = Damaged/Significantly Damaged Thermal System Insulation
- 2 = Damaged Friable Surfacing ACBM
- 3 = Significantly Damaged Friable Surfacing ACBM
- 4 = Damaged or Significantly Damaged Friable Miscellaneous ACBM
- 5 = ACBM with Potential for Damage
- 6 = ACBM with Potential for Significant Damage
- 7 = Any Remaining Friable ACBM of Friable Suspected ACBM
- NA = Not Applicable

APPENDIX B

ESTIMATED RESOURCES REQUIRED TO COMPLETE THE RESPONSE ACTIONS

Appendix B 3-Year AHERA Re-Inspection August 2022 Estimated Resources to Complete the Response Actions M.E. Small Elementary School - 440 Higgins-Crowell Road, West Yarmouth, Massachusetts					
Location	ACBM Description	Estimated Quantity	Recommended Response Action	Estimated Costs	Recommended Date of Completed Response Action
<i>Upper Level</i>					
Room 101	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	1 ft ²	Remove/Repair	\$9.00	February 2023
Room 102	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	1 ft ²	Remove/Repair	\$9.00	February 2023
Janitor Closet by Supply Closet A	9" x 9" Tan Floor Tile and Mastic	16 ft ²	Remove/Repair	\$144.00	February 2023
Supply Closet A	9" x 9" Tan Floor Tile and Mastic	2 ft ²	Remove/Repair	\$18.00	February 2023
Room 108	9" x 9" Tan Floor Tile and Mastic	3 ft ²	Remove/Repair	\$27.00	February 2023
Supply Closet B	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	1 ft ²	Remove/Repair	\$9.00	February 2023
Supply Closet C	9" x 9" Tan Floor Tile and Mastic	1 ft ²	Remove/Repair	\$9.00	February 2023
Janitor Closet by Supply Closet D	9" x 9" Tan Floor Tile and Mastic	10 ft ²	Remove/Repair	\$90.00	February 2023
L-204A	9" x 9" Tan Floor Tile and Mastic	4 ft ²	Remove/Repair	\$36.00	February 2023
L-204B	9" x 9" Tan Floor Tile and Mastic	2 ft ²	Remove/Repair	\$18.00	February 2023
Teacher Lounge and Bathrooms	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	3 ft ²	Remove/Repair	\$27.00	February 2023
Janitor Closet by Supply Closet E	9" x 9" Tan Floor Tile and Mastic	12 ft ²	Remove/Repair	\$108.00	February 2023
Supply Closet F	9" x 9" Tan Floor Tile and Mastic	2 ft ²	Remove/Repair	\$18.00	February 2023
Supply Closet G	9" x 9" Tan Floor Tile and Mastic	2 ft ²	Remove/Repair	\$18.00	February 2023
Room 308	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	1 ft ²	Remove/Repair	\$9.00	February 2023
Supply Closet H	9" x 9" Tan Floor Tile and Mastic	1 ft ²	Remove/Repair	\$9.00	February 2023
Janitor Closet by Supply Closet H	9" x 9" Tan Floor Tile and Mastic	20 ft ²	Remove/Repair	\$180.00	February 2023
Room 306	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	3 ft ²	Remove/Repair	\$27.00	February 2023
Room 303	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	3 ft ²	Remove/Repair	\$27.00	February 2023
Room 302	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	2 ft ²	Remove/Repair	\$18.00	February 2023
Room 301	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	3 ft ²	Remove/Repair	\$27.00	February 2023
	Drywall/Joint Compound*	1 ft ²	Remove/Repair	\$6.00	February 2023

Appendix B 3-Year AHERA Re-Inspection August 2022 Estimated Resources to Complete the Response Actions M.E. Small Elementary School - 440 Higgins-Crowell Road, West Yarmouth, Massachusetts					
Location	ACBM Description	Estimated Quantity	Recommended Response Action	Estimated Costs	Recommended Date of Completed Response Action
Upper Level					
Supply Closet I by Men's and Women's Room	Pipe Fitting Insulation	3 Units	Remove/Repair	\$75.00	February 2023
Crawl Space	Pipe Fitting Insulation	10 Units	Remove/Repair	\$250.00	February 2023

Notes:

ft² = Square Foot
 Unit = Each

* The estimated cost provided above is developed from current Abatement Contractor Unit pricing. These estimates will vary according to competitive bidding, accessibility, location, and condition of ACMs, phasing of work, etc. In addition, the costs above do not include mobilization of the Abatement Contractor, Abatement Work Plan/Design, Project Monitoring and/or Clearance Testing Services for the completion of the response actions. Please refer for below unit pricing regarding costs for the Contractor Mobilization and Clearance Testing Services:

Abatement Work Plan/Design Specification = \$500-\$2,500.00
 Abatement Contactor Mobilization = \$1,500.00-\$2,500.00
 Project Monitoring/Clearance Testing = \$520.00-\$600.00/per shift
 Transmission Electron Microcopy (TEM) Analysis = \$75.00-\$100.00/sample
 Phase Contrast Microscopy (PCM) Analysis = No Charge -\$15.00/sample

M.E. Small Elementary School
440 Higgins-Crowell Road, West Yarmouth, Massachusetts
Project # 80960
Clearance Report Preparation = \$350.00-\$800.00

Response Actions

Page 3

**The estimated cost provided above does not include costs that may be associated with two-hour asbestos awareness training, OSHA 16-hr Operations and Maintenance Training, and/or the labor to conduct the required six-month surveillance re-inspections. Please refer below for estimated costs that may be associated with the mentioned above:

2-Hour Asbestos Awareness Training = \$75/person
OSHA 16-hr Operations and Maintenance Training = \$300/person
Six-Month Periodic Surveillance Inspection = \$400/inspection

APPENDIX C

ESTIMATED RESOURCES REQUIRED FOR THE ABATEMENT OF THE IDENTIFIED ACBMs

Appendix C 3-Year AHERA Re-Inspection August 2022 Estimated Costs for the Removal of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts			
Location	ACBM Description	Estimated Quantity	Estimated Costs
<i>Upper Level</i>			
Room 101	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Room 102	9" x 9" Off-White Multi-Color Spec Floor Tile	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Room 103	9" x 9" Tan Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Room 104	9" x 9" Tan Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Janitor Closet by Supply Closet A	9" x 9" Tan Floor Tile and Mastic	36 ft ²	\$324.00
Supply Closet A	9" x 9" Tan Floor Tile and Mastic	36 ft ²	\$324.00
Room 105	9" x 9" Tan Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Room 106	9" x 9" Tan Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00

Appendix C 3-Year AHERA Re-Inspection August 2022 Estimated Costs for the Removal of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts			
Location	ACBM Description	Estimated Quantity	Estimated Costs
<i>Upper Level (Continued)</i>			
Room 107	9" x 9" Tan Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Room 108	9" x 9" Tan Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Supply Closet B	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	50 ft ²	\$450.00
Supply Closet C	9" x 9" Tan Floor Tile and Mastic	28 ft ²	\$252.00
Supply Closet D	9" x 9" Tan Floor Tile and Mastic	36 ft ²	\$324.00
Janitor Closet by Supply Closet D	9" x 9" Tan Floor Tile and Mastic	36 ft ²	\$324.00
Room 201	9" x 9" Tan Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
Room 202	9" x 9" Tan Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
L-204/Library	Drywall/Joint Compound*	360 ft ²	\$2,160.00
L-204C/Computer Room	9" x 9" Tan Floor Tile and Mastic	405 ft ²	\$3,645.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
L-204A	9" x 9" Tan Floor Tile and Mastic	960 ft ²	\$8,640.00
	Drywall/Joint Compound*	100 ft ²	\$600.00

Appendix C 3-Year AHERA Re-Inspection August 2022 Estimated Costs for the Removal of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts			
Location	ACBM Description	Estimated Quantity	Estimated Costs
<i>Upper Level (Continued)</i>			
L-204B	9" x 9" Tan Floor Tile and Mastic	960 ft ²	\$8,640.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
Teacher Lounge and Bathrooms	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	180 ft ²	\$1,620.00
Room 205A (Psyc Office)	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic (Under Carpet)	200 ft ²	\$1,800.00
	Contaminated Carpet	200 ft ²	\$1,800.00
Room 205 (Art)	Drywall/Joint Compound*	220 ft ²	\$1,980.00
Room 310	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Supply Closet E	9" x 9" Tan Floor Tile and Mastic	36 ft ²	\$324.00
Janitor Closet by Supply Closet E	9" x 9" Tan Floor Tile and Mastic	36 ft ²	\$324.00
Room 309	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Supply Closet F	9" x 9" Tan Floor Tile and Mastic	36 ft ²	\$324.00
Supply Closet G	9" x 9" Tan Floor Tile and Mastic	28 ft ²	\$252.00

Appendix C 3-Year AHERA Re-Inspection August 2022 Estimated Costs for the Removal of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts			
Location	ACBM Description	Estimated Quantity	Estimated Costs
<i>Upper Level (Continued)</i>			
Room 308	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Room 307	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Supply Closet H	9" x 9" Tan Floor Tile and Mastic	36 ft ²	\$324.00
Janitor Closet by Supply Closet H	9" x 9" Tan Floor Tile and Mastic	36 ft ²	\$324.00
Room 306	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Room 305	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Room 304	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Room 303	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00

Appendix C 3-Year AHERA Re-Inspection August 2022 Estimated Costs for the Removal of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts			
Location	ACBM Description	Estimated Quantity	Estimated Costs
Upper Level (Continued)			
Room 302	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Room 301	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	\$8,910.00
	Drywall/Joint Compound*	100 ft ²	\$600.00
	Black Sink Mastic	1 Unit	\$50.00
Supply Closet/Janitor Closet I by Men's/Women's Room	Black Residual Mastic	28 ft ²	\$252.00
	Pipe Fitting Insulation	11 Units	\$275.00
Gym	Wood Flooring Paper (Assumed)	2646 ft ²	\$21,168.00
Gym Office Hatch	Flexible Duct Connector Cloth	1 Unit	\$100.00
Clinic (Nurse) and Bathroom	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	220 ft ²	\$1,980.00
	Black Sink Mastic	1 Unit	\$50.00
	Black Residual Mastic	20 ft ²	\$90.00
	12" x 12" Blue Floor Tile (Contaminated)	20 ft ²	\$90.00
Main Office Area (Conference, Principal, Guidance)	Pink Sink Mastic (Assumed)	1 Unit	\$50.00
	Drywall/Joint Compound*	180 ft ²	\$1,080.00
Main Office Bathroom	Black Residual Mastic	20 ft ²	\$90.00
	12" x 12" Blue Floor Tile (Contaminated)	20 ft ²	\$90.00
Main Office Closet	9" x 9" Tan Floor Tile and Mastic	36 ft ²	\$324.00
	Pipe Fitting Insulation	6 Units	\$150.00

Appendix C 3-Year AHERA Re-Inspection August 2022 Estimated Costs for the Removal of the Identified Asbestos-Containing Building Materials M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts			
Location	ACBM Description	Estimated Quantity	Estimated Costs
<i>Upper Level (Continued)</i>			
Kitchen/Cafeteria	Drywall/Joint Compound*	650 ft ²	\$3,900.00
Staff Dining	Drywall/Joint Compound*	220 ft ²	\$1,320.00
Upper Level Corridors	Drywall/Joint Compound*	2000 ft ²	\$12,000.00
	Fire Doors (Assumed)	12 Units	\$1,800.00
<i>Lower Level</i>			
Boiler Room	Interior Boiler Materials	2 Boilers	
Hall to Music Room	9" x 9" Tan Floor Tile and Mastic	60 ft ²	\$540.00
Music Room	9" x 9" Tan Floor Tile and Mastic	3250 ft ²	\$29,250.00
	Pipe Insulation (Above Ceiling under Plastic Jacket)	230 lf	\$5,750.00
Crawl Space	Pipe Fitting Insulation	229 Units	\$5,725.00

Notes:

ft² = Square Foot

lf = Linear Foot

Unit = Each

APPENDIX D

PERSONNEL CERTIFICATIONS

The Vertex Companies, LLC

ACCREDITATION PAGE

Accredited Inspector

Name: Jessica Woltemate

Accreditation Number: AI901049



Signature: _____

Date: 8/23/22

Accredited Management Planner

Name: Jason Mohre

Accreditation Number: AP000080



Signature: _____

Date: 8/23/22

APPENDIX E

DESIGNATED PERSON ASSURANCES SIGN-OFF

DESIGNATED PERSON ASSURANCES

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

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

Name of Designated Person:

Designated Person's Signature:

Date:

APPENDIX F
SIX-MONTH SURVEILLANCE

AHERA Six-Month Surveillance Inspection Date: _____

Inspector (Print Name): _____

Inspector Signature: _____

M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts

Location	ACBM Description	Estimated Quantity	VERTEX 2022 Cond.	Feb 2023 Cond.	Aug 2023 Cond.	Feb 2024 Cond.	Aug 2024 Cond.	Feb 2025 Cond.
<i>Upper Level</i>								
Room 101	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	MD (1 ft ²)					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Room 102	9" x 9" Off-White Multi-Color Spec Floor Tile	990 ft ²	MD (1 ft ²)					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Room 103	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Room 104	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Janitor Closet by Supply Closet A	9" x 9" Tan Floor Tile and Mastic	36 ft ²	D (16 ft ²)					
Supply Closet A	9" x 9" Tan Floor Tile and Mastic	36 ft ²	MD (2 ft ²)					
Room 105	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Room 106	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					

AHERA Six-Month Surveillance Inspection Date: _____

Inspector (Print Name): _____

Inspector Signature: _____

M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts

Location	ACBM Description	Estimated Quantity	VERTEX 2022 Cond.	Feb 2023 Cond.	Aug 2023 Cond.	Feb 2024 Cond.	Aug 2024 Cond.	Feb 2025 Cond.
Upper Level (Continued)								
Room 107	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Room 108	9" x 9" Tan Floor Tile and Mastic	990 ft ²	MD (3 ft ²)					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Supply Closet B	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	50 ft ²	MD (1 ft ²)					
Supply Closet C	9" x 9" Tan Floor Tile and Mastic	28 ft ²	MD (1 ft ²)					
Supply Closet D	9" x 9" Tan Floor Tile and Mastic	36 ft ²	G					
Janitor Closet by Supply Closet D	9" x 9" Tan Floor Tile and Mastic	36 ft ²	D (10 ft ²)					
Room 201	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
Room 202	9" x 9" Tan Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
L-204/Library	Drywall/Joint Compound*	360 ft ²	G					
L-204C/Computer Room	9" x 9" Tan Floor Tile and Mastic	405 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
L-204A	9" x 9" Tan Floor Tile and Mastic	960 ft ²	MD (4 ft ²)					
	Drywall/Joint Compound*	100 ft ²	G					

AHERA Six-Month Surveillance Inspection Date: _____

Inspector (Print Name): _____

Inspector Signature: _____

M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts

Location	ACBM Description	Estimated Quantity	VERTEX 2022 Cond.	Feb 2023 Cond.	Aug 2023 Cond.	Feb 2024 Cond.	Aug 2024 Cond.	Feb 2025 Cond.
Upper Level (Continued)								
L-204B	9" x 9" Tan Floor Tile and Mastic	960 ft ²	MD (2 ft ²)					
	Drywall/Joint Compound*	100 ft ²	G					
Teacher Lounge and Bathrooms	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	180 ft ²	D (3 ft ²)					
Room 205A (Psyc Office)	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic (Under Carpet)	200 ft ²	C					
	Contaminated Carpet	200 ft ²	G					
Room 205 (Art)	Drywall/Joint Compound*	220 ft ²	G					
Room 310	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Supply Closet E	9" x 9" Tan Floor Tile and Mastic	36 ft ²	G					
Janitor Closet by Supply Closet E	9" x 9" Tan Floor Tile and Mastic	36 ft ²	D (12 ft ²)					
Room 309	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Supply Closet F	9" x 9" Tan Floor Tile and Mastic	36 ft ²	MD (2 ft ²)					
Supply Closet G	9" x 9" Tan Floor Tile and Mastic	28 ft ²	MD (2 ft ²)					

AHERA Six-Month Surveillance Inspection Date:_____

Inspector (Print Name):_____

Inspector Signature:_____

M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts

Location	ACBM Description	Estimated Quantity	VERTEX 2022 Cond.	Feb 2023 Cond.	Aug 2023 Cond.	Feb 2024 Cond.	Aug 2024 Cond.	Feb 2025 Cond.
<i>Upper Level (Continued)</i>								
Room 308	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	MD (1 ft ²)					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Room 307	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Supply Closet H	9" x 9" Tan Floor Tile and Mastic	36 ft ²	MD (1 ft ²)					
Janitor Closet by Supply Closet H	9" x 9" Tan Floor Tile and Mastic	36 ft ²	D (20 ft ²)					
Room 306	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	MD (3 ft ²)					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Room 305	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Room 304	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	G					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Room 303	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	MD (3 ft ²)					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					

AHERA Six-Month Surveillance Inspection Date: _____

Inspector (Print Name): _____

Inspector Signature: _____

M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts

Location	ACBM Description	Estimated Quantity	VERTEX 2022 Cond.	Feb 2023 Cond.	Aug 2023 Cond.	Feb 2024 Cond.	Aug 2024 Cond.	Feb 2025 Cond.
Upper Level (Continued)								
Room 302	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	MD (2 ft ²)					
	Drywall/Joint Compound*	100 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
Room 301	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	990 ft ²	MD (3 ft ²)					
	Drywall/Joint Compound*	100 ft ²	MD (1 ft ²)					
	Black Sink Mastic	1 Unit	NA*					
Supply Closet/Janitor Closet I by Men's/Women's Room	Black Residual Mastic	28 ft ²	Exposed					
	Pipe Fitting Insulation	11 Units	G					
Gym	Wood Flooring Paper (Assumed)	2646 ft ²	C					
Gym Office Hatch	Flexible Duct Connector Cloth	1 Unit	G					
Clinic (Nurse) and Bathroom	9" x 9" Off-White Multi-Color Spec Floor Tile and Mastic	220 ft ²	G					
	Black Sink Mastic	1 Unit	NA*					
	Black Residual Mastic	20 ft ²	C					
	12" x 12" Blue Floor Tile (Contaminated)	20 ft ²	G					
Main Office Area (Conference, Principal, Guidance)	Pink Sink Mastic (Assumed)	1 Unit	NA*					
	Drywall/Joint Compound*	180 ft ²	G					
Main Office Bathroom	Black Residual Mastic	20 ft ²	C					
	12" x 12" Blue Floor Tile (Contaminated)	20 ft ²	G					
Main Office Closet	9" x 9" Tan Floor Tile and Mastic	36 ft ²	G					
	Pipe Fitting Insulation	6 Units	G					

AHERA Six-Month Surveillance Inspection Date: _____

Inspector (Print Name): _____

Inspector Signature: _____

M.E. Small Elementary School - 440 Higgins-Crowell Road, South Yarmouth, Massachusetts

Location	ACBM Description	Estimated Quantity	VERTEX 2022 Cond.	Feb 2023 Cond.	Aug 2023 Cond.	Feb 2024 Cond.	Aug 2024 Cond.	Feb 2025 Cond.
<i>Upper Level (Continued)</i>								
Kitchen/Cafeteria	Drywall/Joint Compound*	650 ft ²	G					
Staff Dining	Drywall/Joint Compound*	220 ft ²	G					
Upper Level Corridors	Drywall/Joint Compound*	2000 ft ²	G					
	Fire Doors (Assumed)	12 Units	G					
<i>Lower Level</i>								
Boiler Room	Interior Boiler Materials	2 Boilers	U					
Hall to Music Room	9" x 9" Tan Floor Tile and Mastic	60 ft ²	G					
Music Room	9" x 9" Tan Floor Tile and Mastic	3250 ft ²	MD					
	Pipe Insulation (Above Ceiling under Plastic Jacket)	230 lf	G					
Crawl Space	Pipe Fitting Insulation	229 Units	D (10 Units)					

Notes:

ft² = Square Foot

lf = Linear Foot

Unit = Each

Y= Yes

N = No

Cond. = Condition

G = Good

MD = Minor Damage

D = Damaged

Fri. = Friable

U = Unknown

C = Covered

NA*= Not Accessible

APPENDIX G

SCHEMATICS

MARGUERITE E. SMALL SCHOOL FLOOR PLAN

