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June 3, 2016

Mr. Thomas Geary
Director of Facilities
Haverhill Public Schools
4 Summer Street
Haverhill, MA 01832

VIA EMAIL

Project 01288.003

RE: AHERA 3-Year Re-inspection, Nettle Middle School, 150 Boardman Street, Haverhill, MA

Dear Mr. Geary,

Axiom Partners, Inc. (AXIOM) conducted a 3-year AHERA¹ re-inspection of the Nettle Middle School at the above-referenced address. The re-inspection was performed to continue the Local Education Agency's (LEA's) compliance with AHERA which requires periodic assessment of known asbestos-containing building materials (ACBMs) located in this school building.

A. AHERA 3-YEAR RE-INSPECTION

The re-inspection was performed in compliance with the Environmental Protection Agency's Asbestos Hazard Emergency Response Act (AHERA), 40 CFR Part 763, Section 763.85.

The re-inspection was performed on March 14, 2016 by experienced Massachusetts-licensed Asbestos Inspector, Ms. Heather R. Forgione (License Number AI000177). The re-inspection included all accessible interior areas of the building.

A summary table prepared for the school is attached to this letter. The table includes:

- | | | |
|------------------|--------------------------------|----------------------------------|
| • ACBMs | • Friability | • Previous Response Actions |
| • Presumed ACBMs | • Hazard/Condition Assessments | • Recommended Response Actions |
| • Quantities | • Changes in Condition | • Newly-identified Suspect ACBMs |
| • Locations | | |

To ensure compliance with AHERA, a copy of this re-inspection report must be included in the Asbestos Management Plan for the school.

AXIOM recommends labeling of certain ACBMs specified by AHERA and the continued management of these ACBMs in place until they are removed.

¹ EPA's Asbestos Hazard Emergency Response Act, 1986



B. RECOMMENDATIONS/ACTION ITEMS

Ms. Forgione spoke with Maintenance representative Mr. Corcoran during the course of the site visit, who reported that the building underwent a complete gut renovation in 2001.

Based on this information and AXIOM's observations during this 3-year AHERA re-inspection, we recommend the following:

- Perform a complete building asbestos survey with limited sampling. Destructive sampling methods are not recommended. It would be beneficial to discreetly sample items such as wall board, joint compound, ceiling tiles and other materials which are likely to be impacted by students, faculty or maintenance during routine activities (e.g., hanging artwork, installing telecomm lines). Materials which are present in large quantities such as floor tile and associated adhesive, and which would therefore be costly abatement items, should also be sampled in an effort to remove them from the list of suspect materials.
- Attempt to locate documentation from the architect or general contractor responsible for the 2001 renovation efforts to evaluate whether all ACBMs were completely removed during renovations. Request a letter from either the architect or general contractor which states that no ACBMs were used during renovation activities.
- Consider having an environmental consultant prepare a new asbestos management plan for the school to incorporate information from the 2001 renovation efforts and a current building survey. This will provide clear documentation of the presence or absence of ACBMs to school administration and facilities personnel in the event of future repairs or renovations.

C. LIMITATIONS AND EXCLUSIONS

This inspection effort included our review of available AHERA documentation. The original 1988 Management Plan and the most recent 3-year inspection report were used as guidance documents. Historical documentation did not include supporting asbestos bulk sample data (laboratory analytical reports). AXIOM did not collect any bulk samples for asbestos analysis.

The re-inspection was performed by AXIOM to ensure that the LEA is in compliance with AHERA, however this inspection is not NESHAP² compliant, which is required for building demolition or renovation including testing of exterior suspect ACBMs. The potential for concealed ACBMs to remain in this school exists. Inaccessible building areas, systems, structural components or surfaces which may not have been observed may include the following:

- Buried or otherwise concealed pipe trenches and utility vaults/corridors;
- Buried foundations (except as specifically identified);
- Electrical equipment/wire (except as specifically identified);
- Multi-layered flooring material applications;
- Most pipe and vessel gaskets;
- Inside boilers and other mechanical equipment, ductwork and air handling equipment;
- Enclosed wall and ceiling cavities;
- Fire door cores;
- Interior window and door caulking that have been replaced or in-filled;
- Roofing materials; and
- Exterior window and door caulking.

² EPA's National Emission Standard for Hazardous Air Pollutants

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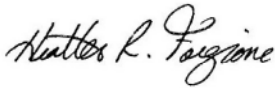
AHERA 3-Year Re-inspection Report
Nettle Middle School
Haverhill, Massachusetts

Please note that, while roofing materials, window and door caulking and other exterior materials are not regulated by AHERA, these materials would require sampling prior to demolition, renovations or repairs that may impact them.

AXIOM made every reasonable effort to address potential ACBMs at the school; however, the potential remains that concealed ACBMs could be encountered during future building renovations. If suspect ACBMs are encountered that are not discussed herein, testing should be performed and results should be incorporated into the School's Asbestos Management Plan.

Please call us if you have any questions.

Sincerely,



Heather R. Forgione
Project Manager/Asbestos Inspector



Stephen E. Minassian
Principal

attachments: AHERA Summary Table

projects\01288\003\AHERA 3Year Nettle 060316

AHERA SUMMARY TABLE

LEA/School System: Haverhill Public Schools

Building: Nettle Middle School

Inspection Date: March 14, 2016

Re-inspection Findings for ACBMs							Management Planner Recommendations		
								Schedule	
Material Description	Location(s)	Quantity ¹	Friability	Assessment Category ²	Assessment Justification	Change in Assessment	Preventive Measures; Response Actions	Begin	Complete
Spray-on Fireproofing	Mech Rm at Rm 107, Boiler Rm, Presumed Above 100s Ceilings	TBD	Friable	7	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Black Vibration Dampener	Mech Rm at Rm 107, Boiler Rm, Rm 102 St, Electrical Closet Across from Rm 500	7 EA	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Pipe Hanger Insulation	Boiler Room	6 EA	Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Gypsum Wall Board	Ceilings in Boiler Rm, Chiller Rm 109, Rm 105; Walls in Rm 201, 202	~2,000 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Joint Compound	Ceilings in Boiler Rm, Chiller Rm 109, Rm 105; Walls in Rm 201, 202	~2,000 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Red Fire Stop	Boiler Room, St at Rm 203	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		

¹ SF = Square Feet; LF = Linear Feet; EA = Each

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

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Material Description	Location(s)	Quantity ¹	Friability	Assessment Category ²	Assessment Justification	Change in Assessment	Preventive Measures; Response Actions	Begin	Complete
Weil McLain Boiler Gasket	Boiler Room	2 Boilers	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Weil McLain Boiler Internal Insulation	Boiler Room	2 Boilers	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Fiberglass Insulating Panel Button Adhesive	Boiler Rm, Chiller Rm 109	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Fabric Wrap on Strainer Fiberglass Insulation	Chiller Room 109	~50 LF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Grey Interior Door Caulking	Boiler Rm, Electrical Rm, Exit 3 Doors	3 Doors	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
2" Ceramic Floor Tile Grout (Tan, Yellow, Green, Pink Tile)	Boys'/Girls' at Rms 102, 203, 301, 317, 417, 513; Men's/ Women's at Rm 107, 312, 501, Guidance; Boys'/Girls' Locker Rms; Front Entry, Cafetorium	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
2" Ceramic Floor Tile Thinset/ Adhesive (Tan, Yellow, Green, Pink)	Boys'/Girls' at Rms 102, 203, 301, 317, 417, 513; Men's/ Women's at Rm 107, 312,	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		

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Re-inspection Findings for ACBMs							Management Planner Recommendations		
								Schedule	
Material Description	Location(s)	Quantity ¹	Friability	Assessment Category ²	Assessment Justification	Change in Assessment	Preventive Measures; Response Actions	Begin	Complete
Tile)	501, Guidance; Boys'/Girls' Locker Rms; Front Entry, Cafetorium								
Grey Duct Seam Sealant	Room 102 St, Potentially in Other Areas	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
12" x 12" Floor Tile in Pattern (Blue, Green, Light Green, Yellow, Pink, Tan)	Cafetorium, Halls in 100s, 200s, 300s, 400s & 500s; Rms 201-212, 223-228, 301-306, 312-318, 406, 411-414, 417, 500-516	~51,000 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
12" x 12" Floor Tile in Pattern (Blue, Green, Light Green, Yellow, Pink, Tan) Adhesive	Cafetorium, Halls in 100s, 200s, 300s, 400s & 500s; Rms 201-212, 223-228, 301-306, 312-318, 406, 411-414, 417, 500-516	~51,000 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
12" x 12" Tan Floor Tile	Rms 101, 103, 104, 106-108, 221, 222	2,900 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
12" x 12" Tan Floor Tile Adhesive	Rms 101, 103, 104, 106-108, 221, 222	2,900 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
4" Green Cove Base	Halls in 100s, 200s;	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection;		

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								Schedule	
Material Description	Location(s)	Quantity ¹	Friability	Assessment Category ²	Assessment Justification	Change in Assessment	Preventive Measures; Response Actions	Begin	Complete
	Cafetorium, Main Office, Guidance, Dance, Rms 101, 103-108, 201-212, 220-228, 301-306, 309-318, 401, 402, 405, 406, 411-414, 417, 500-516						maintain O&M Plan		
4” Green Cove Base Adhesive	Halls in 100s, 200s; Cafetorium, Main Office, Guidance, Dance, Rms 101, 103-108, 201-212, 220-228, 301-306, 309-318, 401, 402, 405, 406, 411-414, 417, 500-516	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
2’ x 4’ Faux 2’ x 2’ Ceiling Tile – Dots & Small Fissures	Guidance, Guidance Work Room, Main Office; Halls in 100s; Rms 201-212, 220, 222-228, 301-303, 305, 306, 309-318, 401, 405, 417, 501-516	~44,000 SF	Friable	4	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		

AHERA SUMMARY TABLE

LEA/School System: Haverhill Public Schools

Building: Nettle Middle School

Inspection Date: March 14, 2016

Re-inspection Findings for ACBMs							Management Planner Recommendations		
								Schedule	
Material Description	Location(s)	Quantity ¹	Friability	Assessment Category ²	Assessment Justification	Change in Assessment	Preventive Measures; Response Actions	Begin	Complete
2' x 4' Ceiling Tile – Dots & Small Fissures	Guidance Work Room; Rms 103, 104, 106, 107, 221, 406, 414 (10%), 417	3,350 SF	Friable	4	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Grey Sink Undercoating	Guidance Work Room, Rms 103-104, 106, 201, 203, 205, 206, 212, 223-225, 227, 301-303, 305, 306, 312-314, 316-318, 406, 501, 502, 504-510, 515	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Green Carpet Adhesive	Guidance, Main Office, Rms 220, 309-311, 401, 402, 405, 414, 413 Practice Rms	5,300 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
4" Ceramic Wall Tile Grout	Hall in 200s, Front Entry, Men's/ Women's Rms at 312	3,500 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
4" Ceramic Wall Tile Thinset/ Adhesive	Hall in 200s, Front Entry, Men's/ Women's Rms at 312	3,500 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Black Laboratory	Rooms 202, 227, 228, 301,	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection;		

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Material Description	Location(s)	Quantity ¹	Friability	Assessment Category ²	Assessment Justification	Change in Assessment	Preventive Measures; Response Actions	Begin	Complete
Countertop	302, 317, 318, 503, 516						maintain O&M Plan		
Black Laboratory Countertop Adhesive	Rooms 202, 227, 228, 301, 302, 317, 318, 503, 516	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Green Stair Tread	Stairs	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Green Stair Tread Adhesive	Stairs	TBD	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Fibrous Ceiling Panels	Room 304 St	100 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
12" Green Ceramic Floor Tile Grout	Front Entry	1,200 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
12" Green Ceramic Floor Tile Thinset/ Adhesive	Front Entry	1,200 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
Hardwood Flooring Paper	Stage, Gymnasium, Room 415	2,900 SF	Friable	7	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
6" Brown Ceramic Floor Tile Grout	Kitchen	1,200 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
6" Brown Ceramic Floor Tile Thinset/ Adhesive	Kitchen	1,200 SF	Non-Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		
2' x 4' Ceiling Tile – Smooth	Kitchen	1,200 SF	Friable	5	PACM; Intact	---	Not identified in 2011 Hub inspection; maintain O&M Plan		

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LEA/School System: Haverhill Public Schools

Building: Nettle Middle School

Inspection Date: March 14, 2016

General Comments

- According to a letter from Hub dated April 2011, a complete gut renovation was performed in 2000. According to maintenance representative Mr. Corcoran who accompanied AXIOM during our site visit, renovations were completed in 2001. There is no evidence of a letter from the architect or general contractor regarding the asbestos content of new construction materials used in the building. Everything in this table is listed as presumed ACBM until a letter can be obtained or sampling and analysis can be performed.
- Concealed pipe/fitting insulation may be located in wall cavities.

Suggested Action Items

- Perform a complete building asbestos survey with limited sampling. Destructive sampling methods are not recommended. It would be beneficial to discreetly sample items such as wall board, joint compound, ceiling tiles and other materials which are likely to be impacted by students, faculty or maintenance during routine activities (e.g., hanging artwork, installing telecomm lines). Materials which are present in large quantities such as floor tile and associated adhesive, and which would therefore be costly abatement items, should also be sampled in an effort to remove them from the list of suspect materials.
- Attempt to locate documentation from the architect or general contractor responsible for the 2001 renovation efforts to evaluate whether all ACBMs were completely removed during renovations. Request a letter from either the architect or general contractor which states that no ACBMs were used during renovation activities.
- Consider having an environmental consultant prepare a new asbestos management plan for the school to incorporate information from the 2001 renovation efforts and a current building survey. This will provide clear documentation of the presence or absence of ACBMs to school administration and facilities personnel in the event of future repairs or renovations.

Were additional samples of this ACBM collected: NO	Date Management Planner Review: June 3, 2016
Inspector Name: Heather R. Forgione	Management Planner Name: Heather R. Forgione
Inspector Signature: 	Management Planner Signature: 
Accreditation No. / State: AI000177 / Massachusetts	Accreditation No. / State: AP900433 / Massachusetts
Expiration Date: September 9, 2016	Expiration Date: September 9, 2016

I, the LEA's Designated Person have read and understood the recommendations made above: Thomas Geary	Signature (LEA Designate):
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