

Fairfield Public Schools
Fairfield, CT 06825

TO: Dr. David Title and Members of the Board of Education

FROM: Salvatore Morabito

DATE: May 1, 2012

RE: Osborn Hill Window Replacement Project Testing
Initial PCB Testing of Window Materials **“Results”**

This letter is to notify you that the Fairfield Public School District has received the laboratory results for the initial Polychlorinated Biphenyl (PCB) testing of window materials at Osborn Hill School, and is scheduling additional testing of two locations reported to have high interior elevated levels of PCB's from the initial testing. The additional testing will be performed in classroom 116 and the corridor leading to the Gymnasium. This additional testing is scheduled for the evening of Friday, May 4, 2012.

All results are posted on the Fairfield Public Schools' website. The central office administration and the Osborn Hill principal will keep PCB test reports on file per State regulations.

If you have any questions or concerns regarding the PCB testing, please feel free to contact me at (203) 255-7363.

Thank you.

c: Bev Dyer
Central Office Administration
Sands Cleary

**PRE-RENOVATION HAZARDOUS MATERIALS INSPECTION
For Window Replacement Project**

PERFORMED AT:

Osborne Hill School

Fairfield, CT

PREPARED FOR:

**Mr. Sal Morabito
Town of Fairfield
501 Kings Highway East
Fairfield, CT 06824**



ENVIRONMENTAL, LLC

PREPARED BY:

**AMC ENVIRONMENTAL, LLC
P. O. BOX 423
STRATFORD, CONNECTICUT 06615
(203) 378-5020**

**Inspection Date: March 22, 23 & 24, 2012
Report Date: April 25, 2012**

1.0 INTRODUCTION

On March 22, 23 and 24, 2012, AMC Environmental, LLC conducted a pre-renovation hazardous materials inspection at Osborne Hill School, located at 760 Stillson Road in Fairfield, CT. The purpose of the inspection was to identify potential hazardous building materials that may be associated with the various types of window systems present throughout the building. The inspection included only window systems scheduled to be replaced during this project. The scope of this inspection is limited to the materials described below.

Asbestos Containing Materials (ACM)

The asbestos inspection was conducted in accordance with the Asbestos Hazard Emergency Response Act (AHERA), a provision of the Toxic Substances Control Act, which became law in 1986. Connecticut Regulations for Asbestos Work in Schools section 19a-333a states that schools must inspect any suspect material prior to disturbing it.

Asbestos inspection performed by: Richard Onofrio
State of Connecticut licensed Asbestos Inspector
License # 000715

Lead Based Paint

The lead-based paint screen was performed to satisfy the requirements set by the State Of Connecticut Department of Environmental Protection (DEP). Bureau of Waste Management "Guidance for the Management and Disposal of Lead-Contaminated Materials Generated in the Lead Abatement, Renovation, and Demolition Industries".

Additionally, OSHA regulates lead dust exposure to workers in the construction industry under 29 CFR 1926.62 Lead in Construction.

The lead based paint screen was performed by Richard Onofrio; a State of Connecticut Licensed Lead inspector/Risk Assessor (License # 002217).

Polychlorinated Biphenyls (PCBs)

The PCB inspection was performed to satisfy the Toxic Substances Control Act (TSCA) of 1976. This authorized U.S. EPA to control substances that were determined to cause unreasonable risk to public health or the environment. In 1979 the U.S. EPA banned the manufacture of new products containing PCBs and developed regulatory requirements for the storage, labeling, use, and disposal of materials containing PCBs at levels above the regulatory thresholds. As a result, caulking materials with concentrations above 50-ppm must be managed as PCB wastes and removed following special procedures. PCB concentrations below this threshold of 50 ppm are overseen on the state level and regulated by the State of Connecticut Department of Environmental Protection (DEP). IF PCB's are present over 1ppm in the caulking and glazing, additional samples

AMC Environmental, LLC
Stratford, CT

2.0 BUILDING DESCRIPTION

Osborne Hill School is a single story building located at 760 Stillson Road in Fairfield, Connecticut. AMC sampled and assessed the window systems and their components throughout the school prior to the start of a proposed window replacement project. The report identified approximately 5 types of windows present throughout the building. The inspection was conducted by organizing the different window types and building construction dates.

All windows assessed were of metal clad construction with either a stone or concrete sill. All windows were installed within painted concrete block or brick construction. Both operable and inoperable windows were noted. Typically, all windows contain interior and exterior window glazing compound and window frame caulk. Some windows contain a metal mullion cover that lays over the break between window sashes. A tan adhesive/caulk was identified under the cover, in the void separating window units.

3.0 ASBESTOS CONTAINING MATERIALS

Inspection

This asbestos-containing materials inspection included interior and exterior caulking, window wrap, and glazing associated with several different window systems within Osborne Hill School in Fairfield, CT. Semi-destructive testing techniques are utilized during the inspection process. Suspect building materials that are inaccessible for inspection and sampling are assumed to be ACM for the purpose of this report. Suspect materials for a project of this nature are generally located under windowsills, behind window panels or covers, behind window jambs, or in otherwise concealed areas of the window system.

During the inspection, the Inspector documents the location, quantity, class, and friability of each suspect material. Friability is an industry term that measures a materials resilience. Material that can be easily crumbled, pulverized, or reduced to powder (by hand) when dried is defined as being friable. Estimated quantities of identified ACM's are provided for positive material only. Each material is either quantified in square or linear footage, depending on the type of material. For a full list of ACM and Materials needing to be re-tested or assumed *see table 1*. For a full list of all non-asbestos containing materials tested *see table 2*.

Bulk Sampling

The United States Environmental Protection Agency (USEPA) has separated ACM into three categories. These categories are: Thermal System Insulation (TSI), Surfacing Materials, and Miscellaneous materials. TSI includes all materials that are used to prevent heat loss or gain, or water condensation on mechanical systems. Examples of TSI are pipe covering, boiler insulation, duct wrap, and mudded fitting cement. Surfacing includes any material that sprayed, toweled, or otherwise to an existing surface. Surfacing applications are commonly used in

fireproofing and acoustical applications. All other material fall into the miscellaneous category such as vinyl floor tiles, ceiling tiles and drywall. All sampling methods and sampling quantities are collected at AMC's discretion and meet or exceed requirements set by the USEPA.

Bulk Sample Analysis

Samples of suspect materials are transmitted directly to an independent, State of Connecticut Department of Public Health (DPH), laboratory for analysis by Polarized Light Microscopy (PLM). PLM is the acceptable method of analysis in accordance with the Environmental Protection Agency (EPA) "Interim Method for the Determination of Asbestos in Bulk Insulation", 40 CFR 763, Subpart F, Appendix A EPA 600/M4-82-020. The Inspector collected "sets" of samples for each homogenous material sampled. Each sample is analyzed in the set until one sample is determined to contain asbestos (more than 1%). Sample analyses are reported in percentage of asbestos. The USEPA defines ACM as any material that contains more than 1 % asbestos, by way of PLM. "NAD", refers to "No asbestos Detected", and "DNA" refers to "Did Not Analyze" due to stop at first positive. The State of Connecticut Department of Public Health, the USEPA, as well as the United States Department of Labor regulate any material determined to contain greater than 1% of asbestos.

Friable ACM

Other analytical methods are recommended for certain friable material samples. The Point Count Method can further analyze friable materials shown to contain less than 10% asbestos by PLM analysis. Recommended, by the United States Environmental Protection Agency, the Point Count Method is accepted as providing accurate analytical results when determining the percent content of bulk samples with very low asbestos concentrations. Friable material containing less than 1 % asbestos must be analyzed by the (PLM) Point Count Method.

Non-Friable ACM

Non-friable asbestos samples showing percentages containing less than 1%, NAD, or "TRACE", should be confirmed by the "NOB TEM ELAP 198.4 Method". This procedure is recommended by the USEPA. If the results from this analysis determine asbestos content to still be less than 1 %, the sample is considered not to be asbestos containing.

4.0 Conclusion

During the course of the building inspection, a total of forty-six (46) samples of suspect ACM were collected, all of which were analyzed by PLM "stop on first positive".

From the forty-six (46) samples, fifteen (15) ACM samples were identified. The materials identified include both interior and exterior materials and are separated into window types and building construction dates. The majority of the window types present on the building consists of type-1 and type-1a window systems. Window type-1 and 1a exist on the original portions of the building. The exterior window frame caulk associated with the type-1 windows tested

positive for asbestos. In some places, two applications of caulking are present, therefore requiring both layers to be removed and disposed of as ACM. Also associated with type-1 and or (1-a) windows on the exterior is a tan caulking that exist under the metal window mullion cover. On the interior of the building, the metal window glazing compound on type 1 and 1a windows were identified as an ACM. Any black replacement glazing identified should also be considered to be asbestos containing. Additionally, some window units also consisted of an integrated door system. A caulk was tested around the door frame and tested positive for asbestos. It should be assumed that any door frame caulk associated with this window type be handled and disposed of as an ACM.

Window type-5 was tested independently and identified only one type of ACM. The ACM identified is a black soft interior window glazing compound. This material was identified in room 122. This black glazing appeared to be a replacement glazing and was not found on any other type-5 window system.

Samples obtained are representative and may not fully represent all materials present within each window type. It is evident that repairs and replacements have occurred over time and that many windows have been re-caulked or glazed (see **Table 1** for a complete list of ACM and their locations). AMC recommends that a project specification with detailed drawing be developed to clearly identify the location of the ACM and the requirement for removal.

Additionally there were six samples of interior and exterior window-glazing compound that documented <1% asbestos, therefore these materials are considered to be non-asbestos containing. However OSHA standards and regulations still apply with any detectable amount of asbestos (see **Appendix A** for Analytical Results).

All regulated friable and non-friable asbestos containing material must be removed prior to demolition or renovations in which these materials will be disturbed. A State of Connecticut Licensed Abatement Contractor must be used to perform the removal work. A visual inspection must be performed by a Licensed Project Monitor at the completion of the abatement for each work area. Re-occupancy air clearance is required prior to any person re-entering the area.

The Abatement Contractor must submit a 10 day notice for asbestos abatement exceeding 10 linear feet or 25 square feet, to the State of Connecticut Department of Public Health. This notification can be hand delivered or postmarked 10 days prior to the start of asbestos abatement. For abatement jobs involving less than these threshold quantities, only a demolition notification is required.

5.0 RECOMMENDATIONS CONCERNING ASBESTOS

Laws govern all asbestos activities undertaken in the State of Connecticut. AMC Environmental, LLC suggests the following to ensure compliance with state, federal, or local asbestos regulations and to reduce possible liabilities.

- State of Connecticut, Department of Public Health; Standards for Asbestos Abatement (19a-332-1a through 19a-332a-16).
- State of Connecticut Licensure and Training Requirements for Persons Engaged in Asbestos Abatement and Consultation Services Section 20-440-1 through 20-440-9.
- The Federal Regulation governing asbestos is Title 40 of the Code of Federal Regulations (40 CFR), Part 61, Subpart M, Demolition and/or Renovation of Facilities with Asbestos-Containing Materials.

The following recommendations pertain to asbestos removal projects.

- A Licensed Asbestos Project Designer should develop a plan or specification to ensure asbestos is removed in a safe and proper manner. At a minimum, these specifications should include an effective asbestos removal plan, a thorough health and safety plan, reference to applicable legal standards, necessary regulatory notification, adequate insurance requirements and proper bidding procedures.
- A Licensed Project Monitor should monitor the asbestos removal. At a minimum, monitoring activities should include air sampling (before, during and after), inspection of contractor work practices and maintaining a daily monitoring log to thoroughly document removal activities.
- A Licensed Contractor must perform the asbestos removal.

Inaccessible Areas

Behind window jambs or under the window frame was not accessible during the inspection. Additional materials may be present. If any suspect materials are identified not listed in this report during the replacement of the window, work should stop and the materials should be tested.

Disclaimer

Any work performed by AMC Environmental, LLC was done using the degree of care and skill ordinarily exercised under similar circumstances by members of the profession practicing in the same or similar capacity. The standard of care shall exclusively be judged as of the date of services rendered and not according to later standards. The conclusions and recommendations contained in this report are based on limited environmental sampling and visual observations, and were arrived at in accordance with generally accepted standards of industrial hygiene practice. No other warranty, expressed or implied, is made.

TABLE 1

ASBESTOS CONTAINING MATERIALS SUMMARY

TABLE 1
ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE

Osborne Hill School
 Fairfield, CT

AMC Tracking # ASB041201		Laboratory: EMSL Analytical, Inc.				Laboratory Order # 241201414				
LOCATION(S)	MATERIAL TYPE	SAMPLE #	CLASS	BULK SAMPLE ANALYSIS RESULTS				QUANTITY	FINE	
				PLM	PC	TEM	NOB			ACM
Exterior Fac A Type 1A	Original layer exterior metal window frame caulk	0324/RO-03 0324/RO-04	MISC	5% Chrys				YES	TBD	NF
Exterior Fac A Type 1A	Brown adhesive under metal window mullion covers	0324/RO-05	MISC	4% Chrys				YES	TBD	NF
Exterior Fac D Type 2	Bottom layer, original brittle window frame caulk	0324/RO-11 0324/RO-12	MISC	3% Chrys				YES	TBD	NF
Exterior Fac C Type 1	Tan caulk behind metal window mullion cover	0324/RO-15	MISC	4% Chrys				YES	TBD	NF
Exterior Fac C Type 1	Original white window frame caulk	0324/RO-18	MISC	8% Chrys				YES	TBD	NF
Exterior Fac C Type 1	Tan adhesive under metal window mullion cover	0324/RO-19	MISC	3% Chrys				YES	TBD	NF
Interior Room 1 Type 1	Interior metal window glazing compound	0324/RO-24 0324/RO-25	MISC	2% Chrys				YES	TBD	NF
Interior Room 116 Type 1	Black replacement glazing	0324/RO-40 0324/RO-41	MISC	8% Chrys				YES	TBD	NF
Interior room 117	White door frame caulk	0324/RO-42 0324/RO-43	MISC	3% Chrys				YES	TBD	NF
Interior Room 122 Type 5	Interior soft window glazing compound	0324/RO-44	MISC	12% Chrys				YES	TBD	NF
Estimated Quantity:										

KEY	ANALYTICAL METHODS
NA - Not Analyzed	PLM PC - EPA 600/R-93/116 Quantitation 400 Point Count
NAD - No Asbestos Detected	TEM NOB - New York ELAP 198.4 Method
F - Friable	PLM - EPA 600-R-93/116 Method
NF - Non-Friable	PS - Previously Samples
TSI - Thermal Systems Insulation	ACM - Asbestos Containing Material
SURF - Type of Surfacing Material	ASSD - Assumed Asbestos Containing Material
MISC - Miscellaneous Material	

*** Please Note: Quantities are estimates. Determination of exact quantities for bidding purposes is the sole responsibility of the contractor.**

Samples Analyzed By EPA Method 600/R-93/116 (PLM)
IN ACCORDANCE WITH STATE OF CONNECTICUT REGULATIONS Section 19a333-5

NOTE Polarized Light Microscopy may not consistently detect asbestos in samples of roofing, flashing, floor tile, mastic and similar non-organically bound materials. Transmission Electron Microscopy is currently the only method that can definitely determine if this material contains asbestos > 0.1% by weight. However, the State of Connecticut Regulations state that bulk samples shall not be composited for analysis and shall be analyzed for asbestos content by polarized light microscopy (PLM), using the "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" found at Appendix A to subpart F in 40 CFR Part 763 as amended, or the current EPA method for the analysis of asbestos in building materials by polarized light microscopy.

TABLE 2

NON-ASBESTOS CONTAINING MATERIALS

TABLE 2
NON-ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE

Osborne Hill School
Fairfield, CT

AMC Tracking # ASB041201		Lab: EMSL Analytical, Inc.	Lab # 241201414
Sample #	Sample Location	Window Type	Sample Description
0324/RO-01	Ext. Fac A	1A	Outer layer exterior gray metal window frame caulk
0324/RO-02	Ext. Fac C	1	Outer layer exterior gray metal window frame caulk
0324/RO-05	Ext. Fac A	1A	Exterior replacement caulk used as WGC
0324/RO-06	Ext. Fac C	1	Exterior replacement caulk used as WGC
0324/RO-07	Ext. Fac A	1A	Brown exterior window glazing compound
<i>0324/RO-09</i>	<i>Ext. Fac A</i>	<i>1</i>	<i>White exterior window glazing compound</i>
<i>0324/RO-10</i>	<i>Ext. Fac C</i>	<i>1</i>	<i>Exterior metal window glazing compound</i>
0324/RO-13	Ext. Fac C	3	Outer layer gray exterior metal window frame caulk
0324/RO-14	Ext. Fac C	3	Original gray exterior metal window frame caulk
0324/RO-16	Ext. Fac B	M	Original exterior cream window frame caulk
<i>0324/RO-17</i>	<i>Ext. Fac B</i>	<i>M</i>	<i>Original exterior window glazing compound</i>
<i>0324/RO-20</i>	<i>Ext. Fac C</i>	<i>5</i>	<i>Original white window glazing compound</i>
0324/RO-21	Ext. Fac B	5	Original white window glazing compound
0324/RO-22	Ext. Fac C	5	Exterior gray window frame caulk
0324/RO-23	Ext. Fac B	5	Exterior gray window frame caulk
0324/RO-26	Int/Class 1	1	White window frame caulk @ wood window stop
0324/RO-27	Int/Class 6	1	White window frame caulk @ wood window stop
0324/RO-28	Int/Class 9	1	Replacement window glazing over original
0324/RO-29	Int. o/s gym	M	Replacement window glazing over original
0324/RO-30	Int/Class 11	3	White metal door frame caulk
0324/RO-31	Int/Class 11	3	White metal door frame caulk
0324/RO-32	Int/Class 11	3	Gray silicone caulk @ metal window frame
0324/RO-33	Int/Class 11	3	Gray silicone caulk @ metal window frame
0324/RO-34	Int. o/s gym	M	Metal window glazing compound
0324/RO-35	Int. o/s gym	M	Metal window glazing compound
0324/RO-36	Int/room 112	1	Interior metal window frame caulk
0324/RO-37	Int/room 112	1	Interior metal window frame caulk
<i>0324/RO-38</i>	<i>Int/boys bath</i>	<i>1</i>	<i>Interior metal window glazing compound</i>
<i>0324/RO-39</i>	<i>Int/room 112</i>	<i>1</i>	<i>Interior metal window glazing compound</i>
0324/RO-45	Int/room 120	5	Brittle white metal window glazing compound
0324/RO-46	Int/room 120	5	Brittle white metal window glazing compound

**Samples in italic and bold documented <1% asbestos. Further testing using TEM NOB method is recommended, if not further analyzed samples can be considered non-asbestos containing and can be discarded as construction debris. However OSHA work practices and regulations apply.*

6.0 LEAD-BASED PAINT

X-Ray Fluorescence Screen

The lead-based paint screening was performed using an X-Ray Fluorescence (XRF) Radiation Monitoring Device (RMD) Lead Paint Analyzer (LPA 1), serial number 1326. The screen includes accessible surfaces and building materials within the inspection area. The lead screen tests limited components and surfaces throughout the building. It is not intended to test all painted surfaces, but to achieve a representation of painted components for the purpose of characterizing the waste stream.

The X-ray Fluorescence Analyzer (XRF) is the most common and accepted means of field-testing for lead in paint. The XRF detects lead through gamma ray technology. It is designed to measure the total weight of lead in a measured area. The results are reported in milligrams per centimeter squared (mg/cm^2). Most states have set a legal limit for lead in paint; Connecticut uses the $1.0\text{mg}/\text{cm}^2$ threshold. The lead screen provides the data necessary to accurately identify the waste streams that will be generated as a result of the renovation activities. These waste streams can then be evaluated by the Toxicity Characteristic Leachate Procedure (TCLP) test to determine if the waste will need to be discarded as hazardous lead waste or non-hazardous solid waste.

The computer generated lead-based paint inspection report is provided in Appendix A. The report consists of three (3) sections: a coversheet, summary report, and detailed report. Surfaces with results greater than $1.0\text{ mg}/\text{cm}^2$ can be found in the summary report. All surfaces tested can be found in the detailed section of the report. The condition of the paint is also noted for each surface or component tested by either an "I" for Intact or a "P" for Poor. The Location of surfaces tested is illustrated by letters. "A" refers to street side, followed by B, C, and D, in a clockwise pattern.

Worker Protection

Toxic level lead-based paint as defined by the State of Connecticut Regulations means a level of lead which when present in a dried paint, plaster or other accessible surface in a residential dwelling contains more than 0.50 percent lead by dry weight as measured by atomic absorption spectrophotometry (AAS), or 1.0 milligrams lead per square centimeter of surface as measured on site by an X-ray fluorescence analyzer or other equipment deemed sufficiently accurate and reliable by the commissioner. OSHA regulates lead dust exposure to workers under 29 CFR 1926.62 and considers any detectable level of lead in paint (above or below Connecticut's level) to be a concern. Therefore OSHA requires exposure assessments be conducted for each task where painted surfaces or components are disturbed.

Lead Waste Characterization

The State of Connecticut Department of Environmental Protection regulates the disposal of hazardous waste. Lead containing waste is analyzed by a procedure known as a TCLP or Toxicity Leachate Procedure (Regulation of State DEP 22a-449©-101). This analytical test determines a buildings material waste classification.

The TCLP test requires a 100-gram sample of waste material, which is then analyzed and assessed for its ability to leach out lead into the environment. The waste is classified as
AMC Environmental, LLC
Stratford, CT

hazardous waste if the sample results are greater than 5.0 mg/l of lead. The wastes are classified as non-hazardous if the TCLP sample result is less than this threshold. All materials and components containing equal to or greater than 1.0mg/cm² of lead by XRF requires waste classification analysis.

Results

XRF Testing Results

Toxic Levels of lead-based paint were identified on seven (7) exterior surfaces and Thirty (30) interior surfaces. 348 painted surfaces and components were tested with 37 actionable (positive or inconclusive) level of lead. This was a previous inspection report conducted on December 7, 2010. The original purpose of the comprehensive inspection was for the day care that operates within the school. It is more than adequate for this report. Both poor and intact surfaces were identified. All like components within a given designation are assumed to have the same testing result as the actual component tested.

The computer generated lead-based paint inspection report is provided in **Appendix B**. The report consists of three (3) sections: a coversheet, summary report, and detailed report. Painted surfaces with results greater than 1.0 mg/cm² can be found in the summary report. All surfaces tested can be found in the detailed section of the report. The condition of the paint is also noted for each surface or component tested by either an "I" for Intact or a "P" for Poor. The Location of surfaces tested is illustrated by letters. "A" refers to street side, followed by B, C, and D, in a clockwise pattern.

The surfaces and components pertinent to the window replacement project include the windows and window components, the walls, and possibly the fascia and or soffits. The wood soffits around the school exceeded the threshold of 1.0 mg/cm². Also, the front entry door consists of an integrated window. The casing around the windows is lead-based paint. All remaining windows around the school contain a factory milled finish. No paint was identified on these windows.

As a supplement, AMC will inspect the doors that are scheduled to be replaced during the window inspection. The only doors that may be replaced are integrated with the windows.

A complete inventory of tested building materials is illustrated in Detailed Reports and can be found in **Appendix B**.

Conclusion

Toxic levels of lead were found on a limited number of surfaces that may be impacted by anticipated renovations. If any of the surfaces that were identified as lead-based paint will be disturbed during the window replacement project, lead-safe work practices must be used. Initial exposure assessments must be performed on employees who engage in activities that disturb building materials with any detectable levels of lead in paint. Personal protective

equipment must be provided to employees during such activities. Lead safe work practices and protocols must be followed. If the scope of work changes and includes surfaces not included in this report, additional sampling must be performed prior to the commencement of work.

7.0 (PCB's) POLYCHLORINATED BIPHENYLS

Inspection

PCB's can be found in a variety of items including transformers, capacitors, fluorescent light ballast, and other oil-containing equipment. Certain building materials such as flooring, caulking, roofing and insulation can also contain these materials. This PCB inspection focused on the caulking and window glazing associated with the various window systems found within the school. PCB's were extensively used between 1950 through 1977 in caulking material.

Potential PCB-containing caulking can exist in buildings constructed or renovated between 1950 and 1980. PCB caulking and glazing compounds can be found around windows frames and sills, door frames, masonry columns and other masonry building materials on interior and exterior surfaces, as well as in expansion joints. PCB containing items must be managed and disposed of properly in accordance with special requirements. Representative samples of caulking and window glazing material from the building's window systems were tested prior to the start of the window replacement project. Samples were obtained from both interior and exterior window components. If the results of the samples prove to be contaminated with PCB's, the surrounding soils and substrates also need to be surveyed to assess the potential for residual PCB contamination. PCB-containing caulking may leach PCBs into adjacent surfaces such as brick or block, soils, and impacted dust inside of buildings with PCB-containing caulking.

PCB concentrations in original caulking can vary from less than 50 parts per million (ppm) up to and exceeding 200,000 ppm. In locations where the original caulking has been replaced, PCBs may have leached into the surrounding substrate. In those locations where new caulking has replaced the original PCB caulking, PCBs may have also leached back into the new caulking at concentrations above the 50-ppm regulatory threshold.

Currently, the USEPA regulates the disposal of this material under the Toxic Substance Control Act (40 CFR761.62). The Toxic Substances Control Act (TSCA) of 1976 authorized U.S. EPA to control substances that were determined to cause unreasonable risk to public health or the environment. In 1979 the U.S. EPA banned the manufacture of new products containing PCBs and developed regulatory requirements for the storage, labeling, use, and disposal of materials containing PCBs at levels above the regulatory thresholds. In addition, the regulations under TSCA specify allowed or authorized uses of PCBs in certain situations. If a material or item is not specifically listed it is considered unauthorized. The U.S. EPA considers building materials containing PCBs, including caulking with PCB concentrations exceeding 50-ppm to be an unauthorized use. As a result, caulking materials with concentrations above 50-ppm must be managed as PCB wastes and removed following special procedures. PCB concentrations below this threshold of 50 ppm are overseen on the state level and regulated by the State of

Connecticut Department of Environmental Protection (DEP). Safe work practices are still necessary when workers are exposed or renovations disturb concentrations below this limit, and the waste generated is required to be properly disposed of properly.

Results

A total of five (5) interior and five (5) exterior bulk samples of window frame caulking and glazing were tested from the building. Of the ten (10) samples, two (2) interior samples and two (2) exterior samples identified the presence of PCB's greater than the threshold level of 50 parts per million (ppm). However, EPA states that slightly elevated PCB concentrations that are under the 50 ppm may still need to be categorized under TSCA. The reasoning is that the caulk may have been at one time above the 50 ppm threshold or that new caulk was applied over the original PCB containing caulk and the PCB's leached into the new caulk. Therefore, based on the data, PCB's are present with the window caulk and glazing. This warrants additional testing of both the source material and surrounding substrates. Soil sampling should also be included in the next phase of testing (see **Appendix C** for analytical results).

1 PPM (parts per million) = 1 mg/Kg

Sample Number	Component	Window Type	Location	Result in mg/Kg
3-24/PCB-01	Window Frame Caulk	2	Façade D – Exterior	ND
3-24/PCB-02	Window Frame Caulk	1	Façade C – Exterior	1.6
3-24/PCB-03	Window Glazing Compound (original)	M	Façade B – Exterior	580
3-24/PCB-04	Window Frame Caulk (original)	1	Façade C – Exterior	ND
3-24/PCB-05	Window Frame Caulk	5	Façade C – Exterior	6900
3-24/PCB-06	Window Glazing Compound (composite)	1	Rooms 1 & 5 – Interior	2.6
3-24/PCB-07	Window Glazing Compound	M	Gym Hall – Interior	94
3-24/PCB-08	Window Frame Caulk	1	Room 112 – Interior	9.6
3-24/PCB-09	Window Glazing Compound	1	Room 112 – Interior	4.4
3-24/PCB-10	Window Glazing Compound	1	Room 116 – Interior	710

Samples listed in bold exceed the 50 ppm threshold.

Discussion of Results

Based off of the initial preliminary findings, it appears that window type-1 located in the original section of the school, contains PCB's in the interior and exterior window caulk and glazing. Window type-5 contained PCB concentrations well above the EPA threshold of 50ppm in the AMC Environmental, LLC
 Stratford, CT

exterior window frame caulk. Lastly, the interior and exterior of window type M contained high levels of PCB's that exceeded EPA's threshold. Further testing is required to fully comprehend the extent of PCB contamination.

Conclusion

Initial composite and isolated samples of caulking and glazing compound were obtained from the interior and exterior of the school window systems. Both the interior and exterior samples identified several elevated levels of PCB's in the window frame caulk and window glazing. Both TSCA and non-TSCA concentrations were found. This phase of testing is preliminary and additional testing is needed to properly characterize and isolate PCB and non-PCB containing materials. Due to the high levels of some of the sample results, notification to the EPA is required and removal of the contaminated caulk and glazing is mandatory. Additionally, soil and substrate testing at and around the windows where PCB's were identified is needed in order to accurately identify the extent of the PCB contamination and migration path and will be included in the next phase of work. Once all additional testing is complete, a PCB Remediation plan must be developed and submitted for approval to the United States Environmental Protection Agency Region 1 office.

Report Written by:



Richard Onofrio
Environmental Consultant

Report Reviewed by:



Jason Pringle
Principal