Fairfield Public Schools
Fairfield, CT 06825

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

FROM: Thomas P. Cullen

DATE: December 12, 2011

RE: **Sherman Elementary School Renovation Project**

The Special Project Standing Building Committee (SPSBC) is working with the architectural firm of George C. Wiles as part of their work and investigation on this approved project. As part of the start of construction the architect has hired AMC Environmental to provide a "Pre-renovation Hazardous Materials Inspection Report" to determine if any hazardous materials would be disturbed and/or need to be removed during the project. This is standard procedure and will be required by the State of Connecticut, Department of Energy and Environmental Protection and Department of Public Health.

We just received an e-mail notification from the Special Project Standing Building Committee that the initial hazardous material testing report is ready for review by the project team. We are notifying you that we are in receipt of the initial testing report and are attaching the information for you with this letter. We will also be posting the information on our website for the public to view.

At this time, I want to provide you with some background information on the initial testing and I also want to assure you that the Sherman Elementary School building is safe. The hazardous materials identified are in direct contact with the renovation project and are not a problem until disturbed during removal/demolition. The information provided in the report is based on the materials being removed during demolition as part of the renovation project per the architects drawings and specifications. This removal will be performed under the requirements and conditions per the State of Connecticut Department of Energy and Environmental Protection and Department of Public Health.

The testing report is dated November 28, 2011 and was performed by AMC Environmental, LLC, based out of Stratford, Connecticut. Central Office is very familiar with this firm and we have used them with many of our own internal projects. The materials testing report explains the testing for asbestos containing materials, lead paint containing materials, and PCB (Polychlorinated Biphenyls) containing materials as they are related to the renovation project for removal.

The State of Connecticut Department of Energy and Environmental Protection and Department of Public Health have strict requirements on the testing of these existing

conditions and removal of materials which relate to older buildings. We will be following these requirements.

We will continue to follow the progress of this project as well as the hazardous material testing report and future additional testing reports and keep you informed along the way.

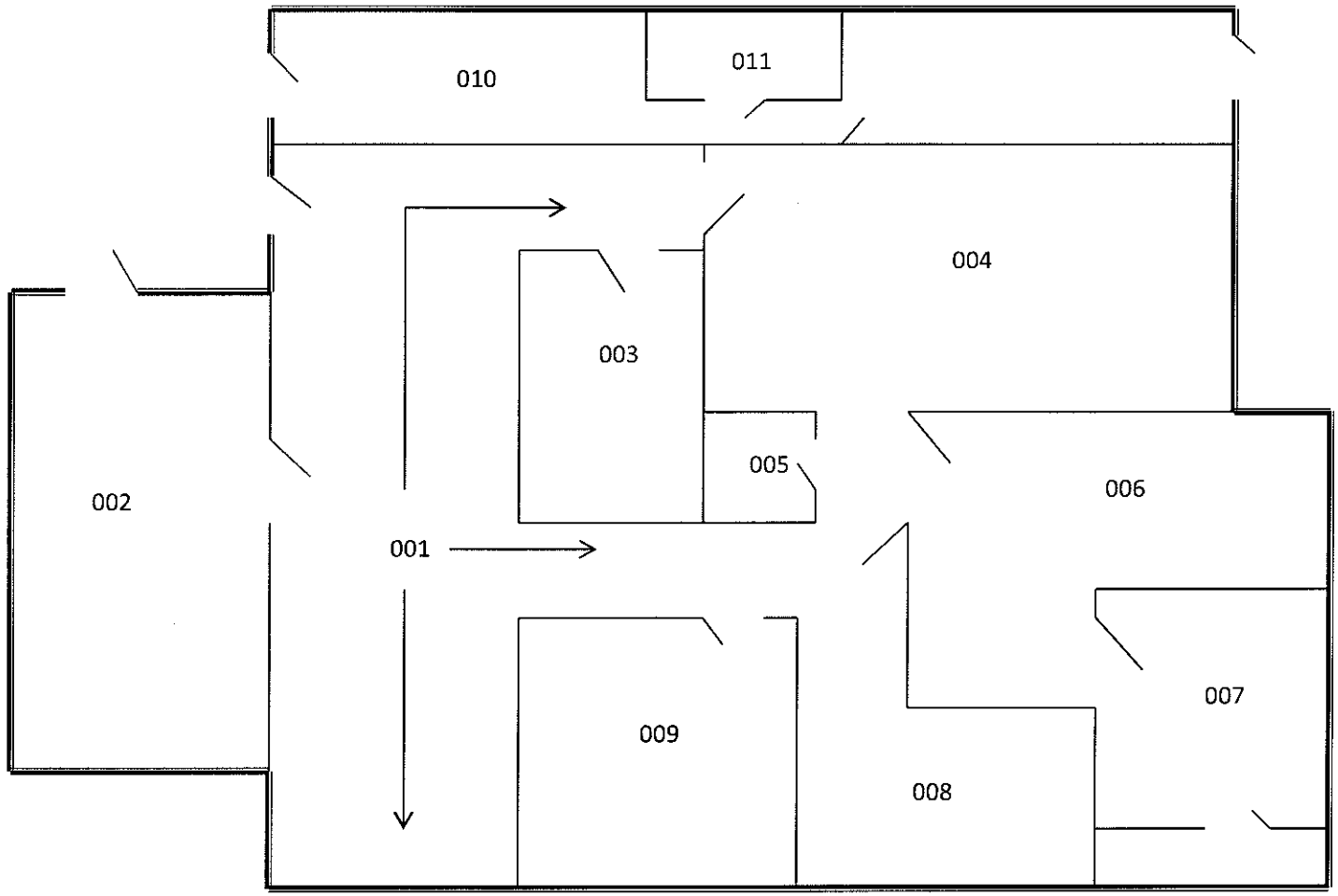
If you have any questions please feel free to contact me.

Thank you.

c: Beverly Dyer
Central Office Administration

Roger Sherman School
Renovation Project
Fairfield, CT

Side C



Side B

Side D

Side A

PRE-RENOVATION HAZARDOUS MATERIALS INSPECTION
For Renovation Project

PERFORMED AT:

Roger Sherman School
250 Fern Street
Fairfield, CT

PREPARED FOR:

Ms. Twig Holland
Director of Purchasing
Town of Fairfield
Sullivan Independence Hall
725 Old Post Road
Fairfield, Connecticut 06824

PREPARED BY:

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

Inspection Date: November 11 & 28, 2011
Report Date: November 29, 2011

1.0 INTRODUCTION

On November 11, 2011, AMC Environmental, LLC conducted a pre-renovation hazardous materials inspection at Roger Sherman School, located at 250 Fern Street in Fairfield, CT. The purpose of the Inspection was to identify potential hazardous building materials that may be present prior to renovation or demolition activities. 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).

2.0 BUILDING DESCRIPTION

Roger Sherman School is a one story building located at 250 Fern Street in Fairfield, Connecticut. The school was built in 1963. AMC sampled and assessed the administrative offices and janitorial office, which are slated for renovation. The exteriors and roof associated with this portion of the building were also included in the assessment. The interior portions of the building that were tested shared common building components. The interior walls are of painted concrete block construction. A limited amount of drywall was also present behind wood wall paneling. The ceilings were suspended with an acoustical ceiling tile. The floors are finished with multiple layers of resilient flooring. The windows systems are of metal construction. The door systems are a combination of wood and metal. The exterior is brick clad, and the foundation is poured concrete.

3.0 ASBESTOS CONTAINING MATERIALS

Inspection

This asbestos-containing materials inspection included interior and exterior building materials within Roger Sherman 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.

During the inspection, the Inspector documents the location, quantity, class, and friability of each suspect material. Friability is an industry term that measures a material's 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 ninety-one (91) samples of suspect ACM were collected, all of which were analyzed by PLM "stop on first positive".

From the ninety-one (91) samples, twenty-three (23) ACM samples were identified. In addition, three (3) materials were assumed to be asbestos containing. The materials identified included joint compound, interior door frame caulk, sink undercoating, 9"x9" vinyl asbestos floor tile, mudded pipe fittings on the mechanical distribution lines, interior and exterior window caulking, damp proofing applied over the exterior concrete foundation, vapor barrier membrane found in the upper and lower brick façade walls, as well as a limited amount of roofing tar located on the metal flashing around the rooftop HVAC systems. (see **Table 1** for a complete list of ACM their locations and quantities). Assumed materials found on Table 1 can be tested once the area is unoccupied and destructive sampling can be performed.

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

The building will continue to be occupied up to the start of the renovations. AMC was limited during the inspection, therefore additional materials may be present once the area is opened up. A final assessment when the area is not occupied is strongly recommended. If any additional suspect materials are found during the course of the renovations, work shall immediately stop and the material must be either tested or assumed to be asbestos.

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

AMC Environmental, LLC

P.O. Box 423, Stratford, CT 06615

TABLE 1

ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE

Roger Sherman School
250 Fern Street, Fairfield, CT

AMC Tracking #ASB111110, ASB111112		Laboratory: EMSL, Wallingford, CT					Laboratory Order #241104526, 24110453		
LOCATION(S)	MATERIAL TYPE	SAMPLE #	CLASS	BULK SAMPLE ANALYSIS RESULTS				QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
Room 001	Joint Compound	11-11/RO-21 11-11/RO-22	Misc	2%			Chrys	150-200 sf behind wood paneling	NF
Rooms 001, 003, 004, 005, 006, 007	Door frame caulk	11-11/RO-23 11-11/RO-24	Misc	5%			Chrys	001 – 2 doors 003 – 1 door 004 – 4 doors 005 – 1 door 006 – 2 doors 007 – 2 doors	NF
Room 004	Sink undercoating	11-11/RO-35 11-11/RO-36	Misc	12%			Chrys	1 sink	NF
Rooms 006, 010, 011	Brittle brown door frame caulk	11-11/RO-37 11-11/RO-38	Misc	6%			Chrys	006 – 1 door 010 – 2 doors 011 – 1 door	NF
Rooms 010, 011	Black 9x9 floor tile	11-11/RO-41 11-11/RO-42	Misc	5%			Chrys	010 – 350 SF 011 – 25 SF	NF
Room 010, main hallway & crawlspace below offices	Mudded pipe fittings on Mechanical distribution lines	11-11/RO-57 11-11/RO-58 11-11/RO-59	TSI	7%			Chrys	Approx. 15-20 @ ½ sf in room 010, 6 fittings @ ½ sf in main hallway, 12-15 fittings in crawl	F
Exterior – throughout	Caulk at window sill/wall	11-11/RO-60 11-11/RO-61	Misc	2%			Chrys	TBD	NF
Exterior	Black damp proofing over concrete foundation	11-11/RO-66 11-11/RO-67	Misc	4%			Chrys	TBD	NF

Roof 1/Exterior	Top layer black tar over rooftop HVAC metal flashing detail	11-28/RO-07 11-28/RO-08	Misc	8%				4 units @ 8 sf each	NF
Exterior	Black vapor barrier inside brick wall	11-28/RO-17 11-28/RO-18	Misc	25%				TBD	NF
Room 007	Black vapor barrier between brick wall/roof frame junction	11-28/RO-21 11-28/RO-22	Misc	20%				Identified in closet, quantity TBD	NF
Room 002	Adhesive on cement under stone window sill	Assumed	Misc						NF
Room 004	Adhesive under sink counter top	Assumed	Misc						NF
Room 010	Adhesive behind mirror over sink	Assumed	Misc						NF
Gymnasium – façade D wall	Adhesive behind wood wall paneling on block wall	Assumed	Misc						NF
						Estimated Quantity:			

KEY:		ANALYTICAL METHODS:
NA - Not Analyzed	SF - Square Feet	PLM PC – EPA 600/R-93/116 Quantitation 400 Point Count
NAD - No Asbestos Detected	LF - Linear Feet	TEM NOB – New York ELAP 198.4 Method
F - Friable	Chrys - Chrysotile	PLM – EPA 600-R-93/116 Method
NF - Non-Friable	Amos - Amosite	PS – Previously Samples
TSI - Thermal Systems Insulation	Anth - Anthophylite	ACM - Asbestos Containing Material
SURF - Type of Surfacing Material	Trem - Tremolite	ASSD – Assumed Asbestos Containing Material
MISC - Miscellaneous Material	Croc - Crocidolite	

TABLE 2

NON-ASBESTOS CONTAINING MATERIALS

TABLE 2

NON-ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE

Roger Sherman School
250 Fern Street, Fairfield, CT

AMC Tracking # ASB111110, ASB 111112	**Lab: EMSL, Wallingford, CT**	**Lab # 241104526, 24110453**
Sample #	**Sample Location**	**Sample Description**
11-11/RO-01	Room 001	2x2 pinhole acoustical ceiling tile
11-11/RO-02	Room 003	2x2 pinhole acoustical ceiling tile
11-11/RO-03	Room 001	Black 4" vinyl cove base
11-11/RO-04	Room 003	Black 4" vinyl cove base
11-11/RO-05	Room 001	Outer layer brown cove base adhesive
11-11/RO-06	Room 003	Outer layer brown cove base adhesive
11-11/RO-07	Room 001	Cream cove base adhesive on block wall
11-11/RO-08	Room 003	Cream cove base adhesive on block wall
11-11/RO-09 11-11/RO-10	Room 001	White coating on cork board on Façade C
11-11/RO-11	Room 001	Tan carpet adhesive on concrete floor
11-11/RO-12	Room 003	Tan carpet adhesive on concrete floor
11-11/RO-13 11-11/RO-14	Room 001	Gray interior wood window glazing compound
11-11/RO-15	Room 001	Gray interior window frame caulk
11-11/RO-16	Room 002	Gray interior window frame caulk
11-11/RO-17 11-11/RO-18	Room 001	Ceiling panel board insulation above drop ceiling
11-11/RO-19 11-11/RO-20	Room 001	Sheetrock
11-11/RO-25	Room 002	Stone window sill
11-11/RO-26	Room 004	Stone window sill
11-11/RO-27 11-11/RO-28	Room 004	Green 4" cove base on block
11-11/RO-29 11-11/RO-30	Room 004	Brown adhesive associated w/green cove base
11-11/RO-31 11-11/RO-32	Room 004	Top layer 12x12 white w/blue speck floor tile
11-11/RO-33 11-11/RO-34	Room 004	Brown adhesive associated w/12x12 floor tile
11-11/RO-39 11-11/RO-40	Room 005	Gray ceramic thin set
11-11/RO-43 11-11/RO-44	Room 010	Black mastic associated w/9x9 floor tile
11-11/RO-45 11-11/RO-46 11-11/RO-47 11-11/RO-48	Room 010	2x4 white hole & fissure ceiling tile

Roger Sherman School
250 Fern Street, Fairfield, CT

11-11/RO-49 11-11/RO-50	Room 010	Red fire caulk associated w/pipe penetration on block wall
11-11/RO-51 11-11/RO-52	Room 010	Interior window glazing compound above metal door
11-11/RO-53 11-11/RO-54	Room 010	White outer coating over fiberglass insulation
11-11/RO-55 11-11/RO-56	Room 011	Gray thin set at shower stall base
11-11/RO-62 11-11/RO-63	Exterior	Window glazing compound
11-11/RO-64 11-11/RO-65	Exterior	Window frame caulk
11-11/RO-68 11-11/RO-69	Exterior	Joint caulk

AMC ENVIRONMENTAL, LLC Lab: EMSL Analytical
AMC #: Roger Sherman (roof) ASB111116 Report Results to: Results@amcenviro.com

Sample #	Sample Location	Sample Description
11-28/RO-01	Ext. Roof 1	Top layer built up roofing
11-28/RO-02	Ext. Roof 1	Top layer built up roofing
11-28/RO-03	Ext. Roof 1	Fiberboard insulation
11-28/RO-04	Ext. Roof 1	Fiberboard Insulation
11-28/RO-05	Ext. Roof 1	Bottom layer black roofing membrane on roof deck
11-28/RO-06	Ext. Roof 1	Bottom layer black roofing membrane on roof deck
11-28/RO-07	Ext. Roof 1	Top layer black tar over roof top HVAC metal flashing
11-28/RO-08	Ext. Roof 1	Top layer black tar over roof top HVAC metal flashing
11-28/RO-09	Ext. Roof 1	Gray rolled roofing membrane under metal flashing at HVAC
11-28/RO-10	Ext. Roof 1	Gray rolled roofing membrane under metal flashing at HVAC
11-28/RO-11	Ext. Roof 1	Black flashing cement at skylight
11-28/RO-12	Ext. Roof 1	Black flashing cement at skylight
11-28/RO-13	Ext. Roof 1	Black tar at roof brick wall junction
11-28/RO-14	Ext. Roof 1	Black tar at roof brick wall junction
11-28/RO-15	Ext. Roof 1	Black roof tar at roof perimeter
11-28/RO-16	Ext. Roof 1	Black roof tar at roof perimeter
11-28/RO-17	Ext. Fac A	Black paper
11-28/RO-18	Ext. Fac A	Black paper
11-28/RO-19	Ext. Fac D	Pipe conduit underground
11-28/RO-20	Ext. Fac D	Pipe conduit underground
11-28/RO-21	Inter. Room 007	Black vapor barrier between brick wall and roof
11-28/RO-22	Inter. Room 007	Black vapor barrier between brick wall and roof

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 $1.0mg/cm^2$ 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 equal to or greater than 1.0 mg/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. Letters illustrates the Location of surfaces tested. "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 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

Forty-two (42) XRF readings were collected during the lead-based paint screen of the buildings interior and exterior surfaces. The lead-based paint screen identified no actionable levels of lead-based paint over the threshold of 1.0mg/cm2. No further action is necessary at this time.

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

Conclusion

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 renovation project. Samples were obtained from both interior and exterior surfaces within the building. 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 very 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 disposed of properly.

Results

A total of three (3) interior and three (3) exterior bulk samples of caulking and glazing were tested from the building. Of the six 6 samples, two (2) interior samples and one (1) exterior sample identified the presence of PCB's greater than the State of Connecticut action level of 1 part per million (ppm). Therefore, based on the data, further testing is required to confirm that no migration or contamination is evident in surroundings soils or substrates. (see **Appendix C** for analytical results).

Sample Number	Component	Location	Result in PPM
PCB-01	Window Frame Caulk	Interior – Façade A (rm 001)	ND
PCB-02	Door Frame Caulk	Interior – Room 003 & 006	4.3
PCB-03	Window Glazing Compound	Interior – Room 010	1.1
PCB-04	Brittle Hard Caulk a wind sill brick wall junction	Exterior FAC A & FAC D	1.6
PCB-05	Metal Window Frame Caulk	Exterior FAC A & FAC D	ND
PCB-06	Expansion Joint Caulk	Exterior FAC A & FAC D	ND

Samples listed in bold exceed the 50 ppm threshold.

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 some slightly elevated levels of PCB's in the window frame caulk and window glazing. Only non-TSCA concentrations were found. Additional testing is needed to properly characterize and isolate PCB and non-PCB containing materials. Due to the levels of some of the sample results, the State of Connecticut DEEP requires the removal of the contaminated materials. 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. Once all additional testing is complete, a PCB Remediation plan should be developed and contaminated surfaces be removed and properly disposed of..

Report Written by:

Richard Onofrio
Environmental Consultant

Report Reviewed by:

Jason Pringle
Principal