

Prepared For:

Town of Amherst
4 Boltwood Avenue
Amherst, MA 01002

***HAZARDOUS MATERIALS
INSPECTION REPORT***

SITE:

Jones Library
43 Amity Street
Amherst, MA

Prepared By:



73 William Franks Drive
West Springfield, MA 01089

ATC Group Services LLC Project Number: 183BS00991

September 29, 2016

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B..... *LIST OF ASBESTOS-CONTAINING MATERIALS*

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D..... *SUMMARY OF LEAD SAMPLING AND ANALYSIS*

E..... *ENVIRONMENTAL CHECKLIST*

F..... *LABORATORY REPORTS AND CHAIN OF CUSTODY*

LIST OF ACRONYMS AND ABBREVIATIONS

ACBM	<i>Asbestos-Containing Building Material</i>
ACM	<i>Asbestos-Containing Material</i>
AHERA	<i>Asbestos-Hazard Emergency Response Act</i>
CFR	<i>Code of Federal Regulations</i>
DPH	<i>Department of Public Health</i>
EPA	<i>Environmental Protection Agency</i>
LBP	<i>Lead Based Paint</i>
NESHAP	<i>National Emission Standards for Hazardous Air Pollutants</i>
NOB	<i>Non-Friable Organically Bound</i>
OSHA	<i>Occupational Safety and Health Administration</i>
PACM	<i>Presumed Asbestos-Containing Material</i>
PCB	<i>Poly Chlorinated Bi-phenyl</i>
PLM	<i>Polarized Light Microscopy</i>
RACM	<i>Regulated Asbestos-Containing Building Material</i>
TEM	<i>Transmission Electron Microscopy</i>
XRF	<i>X-Ray Fluorescent</i>

1.0 SITE INSPECTION SUMMARY

SITE: Jones Library
43 Amity Street
Amherst, MA

CLIENT: Town of Amherst
4 Boltwood Avenue
Amherst, CT 01002

The enclosed Hazardous Materials Inspection Report was performed and prepared by ATC Group Services LLC (ATC). The survey included an inspection of the Jones Library at 43 Amity Street in Amherst, MA. ATC's visual observations and laboratory reports forms the basis for the conclusions contained in this report.

The following licensed and accredited inspector performed the inspection:

Steve Ganzel

Steve Ganzel
Massachusetts Asbestos Inspector #: AI900695

The report was reviewed and approved by:



Brian Williams
Branch Manager

2.0 SITE DESCRIPTION

The Jones Library, located at 43 Amity Street, Amherst, MA is a three story building. The building structure is constructed primarily on brick or formed concrete walls on a concrete slab foundation. The building's construction date was unknown at the time of the survey. There is an addition on the northwest side of the building. Interior finishes of the building include: sheetrock ceilings and walls, plaster ceilings and walls, stained and painted wood, carpet, vinyl tile and wood flooring.

2.1 SURVEY LIMITATIONS

Only accessible areas of the building at the Jones Library were included in the site inspection conducted by ATC. Some areas of the building were not accessed during the time of the inspection. These areas include but are not limited to:

- Interior of Furnaces and HVAC Mechanical Units
- Foundation and wall waterproofing
- Underground pipe tunnels and electrical chases
- Electrical wiring
- Roofing
- Beneath wall and floor surfaces
- Locked and or obstructed Areas

3.0 ASBESTOS INSPECTION

ATC's Scope of Work included a limited Asbestos Inspection of the above referenced building. Outlined below is a description of ATC's testing methodology.

3.1 ASBESTOS PROTOCOL

ATC performed a limited asbestos survey to identify suspect asbestos-containing materials in the above referenced building. The Asbestos Inspection included a visual assessment of accessible suspect asbestos-containing materials and subsequent bulk sampling and analysis.

EPA and OSHA define ACM as any material containing greater than one percent (>1%) asbestos. THE ACM inspection and bulk sampling was performed in accordance with the methods outlined in the U.S. EPA guidance document titled, Guidance for Controlling Asbestos-Containing Materials in Buildings (Document No. 560/5-85/024). In addition, bulk sampling of asbestos was performed in general accordance with 40 CFR

Part 763., Asbestos Hazard Emergency Response Act (AHERA) requirements for number of samples and types of ACM to be sampled. According to these requirements, materials are classified as either surfacing (e.g., ceiling plaster, wall plaster, spray-applied fireproofing), thermal system insulation (e.g., pipe insulation, pipe fitting insulation, boiler insulation), or miscellaneous materials (e.g., floor tile, ceiling tile, wallboard). The number of samples collected from each material varies based on the classification of the material and increases as the potential for a non-uniform mixture of asbestos in the material increases.

Samples collected for asbestos analysis were obtained by qualified and certified (Certified State of Massachusetts Site Inspector) personnel utilizing proper safety measures such as wetting the material prior to sampling, cleaning up the area by wet wiping any resulting residual debris, and wearing proper protective equipment, as needed. In order to be certain of sampling the entire thickness of a material, coring tools and knives were utilized to penetrate all layers of a material. All collected samples were then placed in appropriately labeled airtight containers for shipment to the laboratory for analysis.

3.2 ASBESTOS ANALYSIS

All samples collected were transported under chain-of-custody protocol to EMSL lab in New York, NY. Bulk samples were analyzed for asbestos content using Polarized Light Microscopy (PLM) with Dispersion Staining (EPA Method 600/R-93/116 and/or EPA Method 600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Building Materials). To qualify as asbestos-containing, the material must be determined to contain greater than or equal to one percent ($\geq 1\%$) from a homogeneous material area set of samples.

Consequently, according to the EPA/AHERA and State of Massachusetts Department of Environmental Protection criteria, all bulk samples from a homogeneous area must be found to contain less than one percent ($< 1\%$) asbestos in order to be classified as non-asbestos-containing.

4.0 LEAD-BASED PAINT (LBP) TESTING

ATC performed a limited lead paint determination of painted, stained or varnished components located throughout the building. Outlined below is a description of ATC's testing methodology.

4.1 LBP PROTOCOL

All testing was performed utilizing a portable X-Ray Fluorescent (XRF) Analyzer in general accordance with Massachusetts Department of Public Health (DPH) 105 CMR 460 regulations for lead determination. For the purpose of reporting, the building was divided into “testing combinations”. Testing combinations are defined as types of painted building components which appear uniform in paint color and architectural feature.

4.2 LBP ANALYSIS

A Niton spectrum analyzer lead detector was used for all on-site XRF testing. The instrument adjusts the length of each reading based upon the substrate, until a 95% confidence level is achieved. All personnel who operated the portable XRF analyzer were trained by the manufacturer in safety measures and testing protocols. In accordance with the Occupational Safety and Health Administration (OSHA) 29 CFR 1926.62 Regulations, an XRF can determine the presence of lead, however, not the absence of lead.

5.0 FINDINGS

Refer to the following Attachments for a summary of each material tested, location, abatement cost estimates and analytical results:

- A SUMMARY OF ASBESTOS-CONTAINING MATERIALS
- B LIST OF ASBESTOS-CONTAINING MATERIALS
- C SUMMARY OF NON-ASBESTOS MATERIALS
- D SUMMARY OF LEAD SAMPLING AND ANALYSIS
- E ENVIRONMENTAL CHECKLIST
- F LABORATORY REPORTS AND CHAIN OF CUSTODY

6.0 CONCLUSIONS

Several hazardous materials were identified in building materials. The following response actions are required to be implemented to properly manage hazardous materials at the site:

- A. In accordance with EPA’s National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations, all materials found to be asbestos-containing in the building will be required to be removed prior to demolition activities. In addition, all asbestos

abatement work is required to be performed by a Massachusetts state licensed Asbestos Abatement Contractor in accordance with local, state and federal regulations.

- B. Any suspect asbestos-containing material discovered during the course of renovation/demolition which is not included in this report shall be assumed to be asbestos-containing until further bulk sampling and analysis is performed.
- C. The Massachusetts Department of Environmental Protection (DEP), as well as the U.S. Environmental Protection Agency (EPA) currently recognize Polarized Light Microscopy (PLM) analysis as an acceptable analytical method for determining the Asbestos content in non-friable, organically bound (NOB) materials.

However, comparative studies between PLM analysis and Transmission Electron Microscopy (TEM) analysis have shown that PLM analysis may yield false negative analytical results for NOB's such as floor tiles.

ATC recommends that, prior to Renovation/Demolition activities, one sample from each homogeneous area of floor tiles and other non-friable organically bound (NOB) materials that originally tested negative by PLM undergo confirmatory analysis by TEM, utilizing ELAP-198.4 TEM Method for Identifying and Quantifying Asbestos in NOB bulk samples.

- D. For materials which contain less than 1 percent asbestos several OSHA requirements still apply. These include requirements regarding:
 - the use of wet methods
 - prompt clean-up and disposal of waste and debris contaminated with asbestos in leak tight containers
 - and record keeping requirements associated with negative exposure assessment

These requirements apply as long as neither asbestos permissible exposure limit (PEL) is exceeded or might be exceeded.

Massachusetts Department of Environmental Protection defines waste material which contain less than 1% asbestos to be Asbestos Containing Waste Material (ACWM).

- E. All demolition work, which disturbs lead-containing materials, will be subject to OSHA 29 CFR 1926.62 "Lead in Construction Regulations". Under OSHA, the employer is responsible for protection of their employees when performing renovation and/or demolition work which disturbs lead materials. Compliance shall

include written programs, medical monitoring, exposure assessment testing and engineering controls.

Other regulated metals (e.g. chromium, cadmium, etc.) may be present in paint that were not evaluated as part of this limited survey.

- F. To comply with OSHA's Hazard Communication Standard, (29 CFR 1910.1200) workers shall be notified of the presence of lead containing materials and asbestos containing materials and trained on proper handling methods. This shall include, but not be limited to:
- wearing work clothes and gloves
 - washing hands prior to eating
 - not smoking or eating within the work area
 - employing methods that minimize the generation of dust when disturbing materials to the extent practicable.
- G. Prior to the start of the work, hazardous material abatement specifications shall be developed to outline project requirements. Air monitoring shall be performed to determine the effectiveness of abatement. The Contractor shall be required to provide a written description detailing the means and methods to achieve compliance with the provisions outlined herein.
- H. When the final renovation scope of work is known, suspect Polychlorinated Biphenyl (PCB) building materials such as caulking and glazing which as installed prior to 1980 should either be tested to determine PCB content or presumed to contain >50 parts per million PCB. ATC does not recommend testing caulking or glazing for PCBs until the renovation scope is known and the project has been fully funded and authorized to proceed.

Attachment A

Summary of Asbestos-Containing Materials

Summary Asbestos-Containing Materials

Window Exterior Caulking

Plaster Base Coat

9"x 9" Beige Floor Tile in Maintenance Office

Orange 9"x 9" Floor Tile

Black Mastic on Boiler Room Floor

Black mastic on HVAC 1 Floor

Wallboard Joint Compound Patch

❖ See Section 2.1 Survey Limitations

Attachment B

List of Asbestos-Containing Materials

<i>Asbestos-Containing Materials</i>				
<i>Jones Library, 43 Amity Street, Amherst, MA</i>				
<i>Location</i>	<i>Material Description</i>	<i>Amount</i>	<i>Units</i>	<i>Comments</i>
Boiler Room	Black Mastic	120	SF	Remains from previous abatement
HVAC 1 Room	Black Mastic	90	SF	Remains from previous abatement
Maintenance Office	Beige 9"x9" Floor Tile	500	SF	Ground Floor
South East Storage Room	Orange 9"x9" Floor Tile	600	SF	Ground floor
Throughout Building	Older window/door interior/exterior frame caulk	155	EA	Some previously exterior windows are now interior windows
Throughout Building	Plaster brown/base coat	30,000	SF	
Throughout Building	Wallboard Joint Compound	3	SF	Patch in HVAC Attic Space
Underground Utility lines	Transite sewer lines	n/a	n/a	Assumed to be present

The estimated cost to remove all asbestos containing materials is \$350,000 to \$400,000

Attachment C
Non-Asbestos Containing Materials

Non-Asbestos Materials Table

Jones Library, 43 Amity Street, Amherst, MA

<i>Material Description</i>	<i>Location</i>	<i>Bulk Sample Reference #</i>
Black floor tile mastic	Throughout main building	02 a-b
White mastic on pipe cover	Throughout main building	03 a-c
4" brown cove base	Basement	04 a-b
Tan cove base mastic	Basement	05 a-c
12" x 12" beige streaked floor tile	Throughout	06 a-c
Black mastic with #6	Throughout	07 a-c
Plaster skim coat, white	Throughout	09 a-e, 50 a-c, 52 a-b
Gray refractory cement	Flues from furnaces	11 a-b
Mineral wool boiler insulation	4 furnaces, Boiler room	12 a-c
Bathroom tile grout	Boiler room	13 a-b
Gray HVAC sealant	Throughout	14 a-c
Black HVAC sealant	Throughout	15 a-b
Gold vinyl stair cover adhesive	Basement/1 st floor	16 a-b
Black floor tile mastic with #20	Basement	21 a-b
2'x 2' ceiling tile	Throughout building	22 a-b
Black coating on wall	Basement/1 st floor	23 a-b
Gray window glazing	Newer exterior windows	24 a-b
Spline ceiling tiles	1 st floor around atrium	25 a-b
Tan window glazing	Older windows	26 a-b
Gray building caulking	Throughout	28 a-b
12"x 12" beige mottled floor tile	2 nd floor	29 a-b
Gold mastic with #29	2 nd floor	30 a-b
Gray floor levelastic	Attic HVAC room	31 a-c
Fireplace mortar	1 st floor	32 a-b
Black panels in HVAC units	Throughout	33 a-b
Bathroom tile grout	2 nd floor bathroom	34 a-b
Spray-on fireproofing	Ground/1 st floor by elevator	35 a-c
Bathroom tile grout	2 nd floor staff bath	36 a-b
Bathroom tile grout	1st floor men/women baths	37 a-c
Black HVAC insulation	Interior of ducts	39 a-c
Drywall & Joint Compound	Throughout	50a-g, 51a-g, 50 a-h 53a-c, 54 a-c

Attachment D

Summary of Lead Sampling and Analysis

XRF Lead Paint Determination Summary

Jones Library, Amherst MA

<i>Sample Number</i>	<i>Location</i>	<i>Testing Combination</i>	<i>XRF Results (mg/cm²)</i>	<i>Notes</i>
1	Maintenance Office	White wall, concrete	0.1	Ground Floor
2	Maintenance Office	White wall, brick	0.0	Ground Floor
3	Maintenance Office	White wall, drywall	0.6	Ground Floor
4	East Entry	White double doors, wood	20	Ground Floor
5	East Entry	White door frame, wood	22	Ground Floor
6	East Entry	White door surround, concrete	2.8	Ground Floor
7	East Entry	White wall by door, drywall	0.0	Ground Floor
8	East Entry	White ceiling deck, steel	0.0	Ground Floor
9	East Entry	White ceiling, drywall	0.0	Ground Floor
10	East Entry	Brown hand rail, steel	0.0	Ground Floor
11	East Entry	White window sash, wood	15.5	Ground Floor
12	East Entry	White window frame, wood	11.2	Ground Floor
13	East Hallway	Brown door, steel	0.0	Ground Floor
14	East Hallway	Brown door casing, steel	0.0	Ground Floor
15	East Hallway	White HVAC duct, metal	0.0	Ground Floor
16	East Hallway	Brown door, wood	0.0	Ground Floor
17	East Hallway	Brown door casing, wood	0.0	Ground Floor
18	East Hallway	White wall, plaster	0.0	Ground Floor
19	East Ramp	Black wall, brick	0.03	Ground Floor
20	East Hallway	White wall, concrete	4.7	Ground Floor
21	Boiler room	White window frame, wood	0.0	Ground Floor
22	Boiler room	Beige/white ceramic tile	0.0	Ground Floor
23	Southeast stairwell	Stained newel post, wood	0.0	Ground Floor
24	Southeast stairwell	Stained baluster, wood	0.0	Ground Floor
25	Southeast stairwell	Stained stair tread, wood	0.2	Ground Floor

XRF Lead Paint Determination Summary

Jones Library, Amherst MA

<i>Sample Number</i>	<i>Location</i>	<i>Testing Combination</i>	<i>XRF Results (mg/cm²)</i>	<i>Notes</i>
26	Southeast stairwell	Red stair landing, wood	0.0	Ground Floor
27	Southeast stairwell	White stair stringer, wood	0.0	Ground Floor
28	Southeast stairwell	White wall, drywall	0.0	Ground Floor
29	Bathrooms	Blue tile, ceramic	0.0	Ground Floor
30	Bathrooms	Beige tile, ceramic	0.0	Ground Floor
31	South entryway	White wall, plaster	7.5	1 st Floor
32	South entryway	White side lights, wood	15.6	1 st Floor
33	South entryway	White wall, wood	0.0	1 st Floor
34	Southeast corner	White window sash, wood	12.6	1 st Floor
35	Southeast corner	White window sill, wood	0.21	1 st Floor
36	Southeast corner	White window trough, wood	14.8	1 st Floor
37	Southeast corner	Gray fireplace, concrete	0.0	1 st Floor
38	Southeast corner	White wall, plaster	13.1	1 st Floor
39	Interior atrium	White ornate column, wood	0.0	1 st Floor
40	Interior atrium	White wall, drywall	0.0	1 st Floor
41	Interior atrium	White wall, brick	0.4	1 st Floor
42	Interior atrium	White window sill, wood	49.3	Older style
43	Interior atrium	White window frame, wood	46.3	Older style
44	Interior atrium	White hall entrance, wood	0.0	1 st Floor
45	Interior atrium	Stained hall opening, wood	0.26	1 st Floor
46	Main West Room	Stained door, wood	0.0	1 st Floor
47	Main West Room	Stained door stop, wood	0.0	1 st Floor
48	Main West Room	Stained door casing, wood	0.0	1 st Floor
49	Main West Room	White wall, plaster	3.9	1 st Floor
50	Main West Room	White wall, drywall	0.0	1 st Floor

XRF Lead Paint Determination Summary

Jones Library, Amherst MA

<i>Sample Number</i>	<i>Location</i>	<i>Testing Combination</i>	<i>XRF Results (mg/cm²)</i>	<i>Notes</i>
51	Northeast corner	White window frame, wood	7.8	Former entry
52	Northeast stairwell	White structural steel	2.1	1 st Floor
53	Northeast stairwell	White window sill, plaster	2.9	1 st Floor
54	Northeast stairwell	White wall, plaster	1.9	1 st Floor
55	Northeast stairwell	Gray door, steel	24.4	Double doors
56	Northeast stairwell	Gray door frame, steel	20.3	1 st Floor
57	Northwest corner	White window sash, wood	0.0	2 nd Floor
58	Northwest corner	White wall, drywall	0.0	2 nd Floor
59	Northwest corner	White wall, drywall	0.0	At elevator
60	West perimeter	White window sash, wood	14.6	Older style
61	Southwest corner	Stained wood floor	0.0	2 nd Floor
62	Southwest corner	White wall, plaster	8.7	Perimeter
63	Southwest corner	Stained wood window sill	0.2	2 nd Floor
64	Northeast corner	White doors, wood	42	Exterior
65	Northeast corner	White door frame, wood	62.6	Exterior
66	Northeast corner	White window frame, wood	44.2	Exterior
67	Northeast corner	White window sash, wood	45.1	Exterior
68	Northeast corner	White window sill, wood	2.3	Exterior
69	East rear stairs	White newel post, wood	45.4	Exterior
70	East rear stairs	White baluster, wood	46.4	Exterior
71	East rear stairs	White wall, brick	0.8	Faded patch
72	East rear stairs	White door frame, wood	45.6	Exterior
73	East rear stairs	White door casing, wood	41.2	Exterior
74	East wall	Gray louvers, metal	0.0	Exterior
75	East wall	Black grate, metal	2.5	Exterior

*XRF Lead Paint Determination Summary**Jones Library, Amherst MA*

<i>Sample Number</i>	<i>Location</i>	<i>Testing Combination</i>	<i>XRF Results (mg/cm²)</i>	<i>Notes</i>
76	East wall	White trim, wood	43.7	Exterior
77	East wall	White wall, wood clapboards	56.3	Exterior
78	East wall	White window frame, wood	47.6	Exterior
79	East wall	White window sash, wood	55.4	Exterior
80	East wall	White window apron, wood	47.4	Exterior
81	East wall	Black handrail, metal	0.4	Exterior
82	South side	White wall trim, wood	42	Exterior
83	South side	Cream wall, wood clapboard	45.9	Exterior
84	South side	White window frame, wood	49.5	Exterior
85	South side	White sign post, wood	0.0	Exterior
86	At entrance	Black newel post, metal	0.09	Exterior
87	At entrance	Black handrail, metal	0.05	Exterior
88	South side	White door, wood	43.7	Exterior
89	South side	White door frame, wood	32.8	Exterior
90	South side	Black bench, metal	0.03	Exterior
91	South side	White window sill, wood	3.4	Exterior
92	West side	Cream wall, wood clapboard	1.3	Exterior
93	West side	White wall trim, wood	1.5	Exterior
94	West side, at step	White door, wood	0.0	Newer
95	West side, at step	White door casing, wood	0.0	Newer
96	West side	White handrail, wood	0.0	Exterior
97	Northwest, newer	White window sill, wood	0.1	Exterior
98	Northwest, newer	White window frame, wood	0.04	Exterior
99	Northwest, newer	Cream wall, wood clapboard	0.0	Exterior
100	Northwest, newer	White wall trim, wood	0.0	Exterior

XRF Lead Paint Determination Summary

Jones Library, Amherst MA

<i>Sample Number</i>	<i>Location</i>	<i>Testing Combination</i>	<i>XRF Results (mg/cm²)</i>	<i>Notes</i>
101	Garden	Black fence, metal	0.0	Exterior
102	Garden	Brown fence, wood lattice	0.0	Exterior
103	North newer	White door, wood	0.0	Exterior
104	North newer	White door casing, wood	0.0	Exterior
105	North newer	White window frame, wood	0.0	Exterior
106	North newer	White window sill, wood	0.0	Exterior
107	North newer	White window sash, wood	0.0	Exterior
108	North newer	White ornate column, wood	0.0	Exterior
109	North newer	Black trashcan, metal	0.1	Exterior
110	East side, newer	Cream wall, wood clapboard	0.0	Exterior
111	East side, newer	White wall trim, wood	0.0	Exterior
112	East side, newer	White window frame, wood	0.0	Exterior
113	East side, newer	White window sill, wood	0.0	Exterior

Attachment E

Environmental Checklist

SITE VISIT SUMMARY

Site Information: Jones Library
Amherst, MA

Date of Site Visit: August 25, 2016

Site Description: Jones library is a three story building.

Construction	Wood / Concrete/ brick/ plaster/ steel
Building Use	Commercial
Structure Dimensions	135' wide x 140' long x 50' tall
Underground Storage Tanks (USTs)	None observed
Aboveground Storage Tanks (ASTs)	2 elevator oil tanks, estimated less than 200 gallons total
Aboveground Storage Tanks (ASTs)	Glycol storage tanks in HVAC Room
Fluorescent bulbs	Estimated 710 four foot bulbs and 20 two foot bulbs
Ballasts	Estimated 271 ballasts
Misc.	Various containers of solvent, paints and cleaners
Interior Refuse	Minimal
Exterior Refuse	Minimal
Mercury Thermostats	Less than 10 observed
Emergency Lighting (Lead Batteries)	None Observed
Stained soil	None observed
Distressed Vegetation	None observed
Dry wells	None observed
Floor drains	Assumed
Cooling System	Large scale glycol system and several individual units
Heating System	Gas, warm air duct system Electric domestic hot water

Discussion:

Attachment F

Laboratory Reports and Chain of Custody