HAZARDOUS MATERIALS SURVEY REPORT
OF THE
3505 HAMILTON STREET
HYATTSVILLE, MARYLAND

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AMA Job# 16255

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1.0 EXECUTIVE SUMMARY

Aerosol Monitoring & Analysis, Inc. (AMA) was contracted to perform a hazardous materials survey of the accessible, interior and exterior areas the future police building, located at 3505 Hamilton Street, in Hyattsville, Maryland. No sub-grade assessments were conducted during this investigation. The purpose of the investigation was to identify potential hazardous materials such as asbestos-containing materials (ACM), lead-based paint (LBP), lead-containing surface coatings, and fluorescent fixtures containing mercury vapor lamps (MVL) and polychlorinated biphenyls (PCB) that may be disturbed by the proposed renovation to the building. Between June 6th, 2015 and July 9th, 2016, AMA representatives Mr. Caleb Jones and Mr. Ron Stallard were on-site to identify and evaluate ACMs, LBP, lead surface coatings, MVLs, and PCBs. Refer to Table 3 (Hazardous Material Inventory) for a tabular listing of the hazardous materials identified and the quantities assessed during the investigation of the building.

1.1 ASBESTOS-CONTAINING MATERIALS

AMA collected one-hundred fifty three (153) bulk samples of suspect ACMs, which were identified throughout the accessible interior and exterior areas of the building Of the 153 bulk samples collected, fifty six (56) were identified as containing greater than one percent (>1%) asbestos by polarized light microscopy (PLM) analysis. The EPA and State of Maryland have determined that materials containing >1% asbestos are considered asbestos containing materials and must be treated as such. Since the main building and annex had separate constructions, AMA sampled each building separately.

Based on the results of the investigation, following materials were found to be asbestos containing by laboratory analysis and/or assumption:

Main Building	Annex
Black pipe seam sealant	Black pipe seam sealant
Tan floor tile mastic	Black vapor barrier
Brown ceiling tile mastic dots	Textured ceiling plaster
Black vapor barrier	Black floor tile mastic
Cal/mag pipe and fitting insulation	Mudded pipe fitting insulation on fiberglass
Cardboard pipe and fitting insulation	Drywall joint compound
Black and white terrazzo	9”x9” beige w/brown streaks floor tile
Textured ceiling plaster	Exterior door caulk
2’x4’ large and small hole ceiling tile	9”x9” gray w/white specks floor tile
Black duct seam sealant	Flange gaskets (assumed)
Cork pipe insulation	Fire doors (assumed)
9”x9” black w/white streaks floor tile	
9”x9” gray w/white streaks floor tile	
Black floor tile mastic	
Tan baseboard mastic	
Exterior door caulk	
Window glazing	
Flange gaskets (assumed)	
Fire doors (assumed)	
Elevator door and cab insulation (assumed)	
Cloth vibration isolator (assumed)	

It was observed by AMA at the time of the inspection that certain areas of the building were inaccessible, which may contain suspect asbestos-containing materials. Therefore, AMA made assumptions on the locations of possible suspect asbestos-containing materials, which may exist in these areas, and they are as follows:

- Assumed asbestos-containing materials within labeled fire doors
- Assumed asbestos-containing pipe and pipe fitting insulation within wall cavities/ pipe chases/ above fixed ceilings, associated with wet walls and unit ventilators (these materials are ACM, but quantities are estimated)
- Assumed asbestos-containing pipe flange gaskets
- Assumed elevator door and cab insulation
- Assumed cloth vibration isolators

1.2 LEAD-BASED PAINT

One hundred sixty five (165) surfaces finished with suspect lead-based paint (LBP) were tested during the screening with the use of a NITON model XLP 300 x-ray fluorescence spectrum analyzer (XRF). Fifteen (15) of the surfaces tested were determined to contain >0.7 milligram of lead per square centimeter (mg/cm^2) of surface area tested, the amount defined as a lead-containing substance according to the State of Maryland. Refer to Table II at the end of the report for a listing of positive LBP components.

In general, the following building components were finished with lead based paint and/or lead surface coatings:

Main Building	Annex
Structural steel	Porcelain sinks
Tan ceramic wall tile	
Wood window sills	
Wood doors	
Wood door casings	
Plaster walls	
Wood window casing	
Wood exterior trim	

1.3 POLYCHLORINATED BIPHENYL'S

Small capacitors and fluorescent light ballasts manufactured after 1978 have been labeled "NO PCB's" by the manufacturers. Prior to 1978, small capacitors and fluorescent light ballasts were not labeled as to whether they contained PCBs; therefore, all unlabeled capacitors and ballasts were assumed to contain PCBs.

AMA performed a visual evaluation of representative light fixture ballasts utilizing a random selection method. Any ballast absent of the "No PCB's" label was assumed to contain PCBs. Based on this assessment, AMA identified assumed PCB containing light ballasts in various locations of the building. As some ballasts were

inaccessible at the time of the inspection, each light fixture should be inspected and appropriately disposed of during renovation/ demolition activities. AMA identified approximately 330 light ballasts throughout the building.

1.4 MERCURY VAPOR LAMPS/ THERMOSTATS

Reportable quantities of mercury are often found in fluorescent lamps and thermostats. Because of this fact, the fluorescent lamps located throughout the building, should be considered a hazardous waste for mercury under the Resource Conservation and Recovery Act (RCRA); 40 CFR 261. Based on the observations at the site, it was determined that there are approximately 1144 fluorescent lamps/ bulbs and two (2) mercury thermostats. It should be assumed that these lamps and thermostats have mercury levels requiring proper waste disposal and the demolition contractor must perform TCLP testing to prove otherwise.

Unless Toxic Characteristic Leachate Procedure (TCLP) testing for mercury is performed, the light tubes located at the property should be assumed to exceed the regulatory limit of 0.2 milligrams per liter for mercury. These tubes/bulbs and thermostats must be disposed of as mercury containing waste unless testing proves otherwise.

2.0 METHODOLOGY

2.1 ASBESTOS-CONTANING MATERIALS

2.1.1 SAMPLE COLLECTION

The initial phase of the evaluation for ACM involved the visual evaluation of the building. After reviewing and compiling documentation pertaining to the materials in the building, a strategy to sample suspect materials was formulated. The sampling involved observing accessible areas of the building and collecting bulk samples of suspect materials. Sample results can be found in Table I, which is attached to this report.

Samples were collected with a core bore or utility knife which was driven through the suspect material to the substrate so as to obtain a sample containing each discrete layer. The samples were then placed in sterilized “whirl-pak” bags and assigned unique identifiers, which were recorded on the bags and the bulk survey sampling sheets.

2.1.2 BULK SAMPLE ANALYSIS

Bulk samples were submitted to AMA Analytical Services, Inc. in Lanham, Maryland. AMA Analytical Services, Inc. is accredited by the National Institute of Standards and Technology (NIST) through the National Voluntary Laboratory Accreditation Program (NVLAP #101143) for bulk sample analysis and by the American Industrial Hygiene Association (AIHA #8863.)

Samples of bulk material were analyzed using PLM following the EPA,

"Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93-116). PLM is an optical microscopic technique used to distinguish the different types of asbestos fibers by their shape and unique optical properties. The technique is based on the refraction of light from the various crystalline asbestos structures and observing the corresponding color changes through the microscope. Sample analysis results are listed in Table I of this report.

2.1.3 CHAIN OF CUSTODY

A chain of custody form was completed for the bulk samples. The samples were logged in and assigned unique laboratory numbers. Upon completion of analytical services, AMA Analytical Services, Inc. retained the remaining sample materials.

2.2 LEAD-BASED PAINT

2.2.1 TESTING STRATEGY

The initial phase of the evaluation for LBP involved a visual evaluation of painted surfaces. After reviewing and compiling documentation pertaining to the materials inside the building, a strategy to test suspect surfaces was formulated.

2.2.2 XRF TESTING

The screening was performed with a Niton XLp 300A X-Ray Fluorescence (XRF) lead-based paint analyzer, Serial #93050. This XRF contains a small Cadmium 109 radioactive source that releases radiation when the instrument is pressed flatly against a surface and the operator engages the trigger. If the paint contains lead, the radiation will stimulate the lead atoms to re-emit x-rays that are sensed by a detector in the unit. The XRF then converts these signals to a final reading in milligrams of lead per square centimeter of surface area (mg/cm^2). The Niton XRF is capable of achieving a ninety-five percent (95%) confidence level in the readings.

Calibration of the Niton XLp was conducted in accordance with the manufacturer's instructions. Prior to obtaining readings from suspect surfaces, three (3) calibration readings taken in K+ L Mode were performed on a calibration sheet and recorded. The calibration films used contains approximately 1.0 mg/cm^2. Calibration checks were performed prior to and at the end of the inspection.

The XLp features two modes of operation when in use: K+L Mode and Standard Mode. K+L Mode is a quantitative analysis which allows you to determine the statistical confidence of the reading to a 95% confidence level while allowing you to test longer. As stated in the XRF Performance Characteristics Sheet (PCS), Edition No. 1, developed under a contract with the U.S. Department of Housing and Urban Development (HUD), no substrate correction is needed when the XRF is in the K+L Mode. The K+L Mode was used during the course of the inspection.

Surfaces with lead levels >0.7 mg/cm^2 and/or > 0.50% lead are defined by the State of Maryland as lead containing substances, in COMAR 26.16.01.02.

2.3 POLYCHLORINATED BIPHENYL'S/ MERCURY VAPOR LAMPS & THERMOSTATS

A visual assessment of equipment that may contain hazardous materials was made by AMA throughout the building. During the assessment, AMA observed and quantified suspect PCB containing light ballasts and mercury vapor lamps/bulbs associated with fluorescent light fixtures. No sampling was performed of the electric fluid within the equipment.

3.0 RESULTS

3.1 ASBESTOS-CONTAINING MATERIALS

AMA collected 153 bulk samples of suspect ACMs, which were identified throughout the accessible, interior and exterior areas of the building. Of the 153 bulk samples collected, 56 were identified as containing greater than one percent (>1%) asbestos by PLM analysis. The EPA and State of Maryland have determined that materials containing greater than (>) 1% asbestos are considered asbestos containing materials and must be treated as such.

Based on the results of the inspection, ACM was identified within the following materials:

Main Building	Annex
Black pipe seam sealant	Black pipe seam sealant
Tan floor tile mastic	Black vapor barrier
Brown ceiling tile mastic dots	Textured ceiling plaster
Black vapor barrier	Black floor tile mastic
Cal/mag pipe and fitting insulation	Mudded pipe fitting insulation on fiberglass
Cardboard pipe and fitting insulation	Drywall joint compound
Black and white terrazzo	9"x9" beige w/brown streaks floor tile
Textured ceiling plaster	Exterior door caulk
2'x4' large and small hole ceiling tile	9"x9" gray w/white specks floor tile
Black duct seam sealant	Flange gaskets (assumed)
Cork pipe insulation	Fire doors (assumed)
9"x9" black w/white streaks floor tile	
9"x9" gray w/white streaks floor tile	
Black floor tile mastic	
Tan baseboard mastic	
Exterior door caulk	
Window glazing	
Flange gaskets (assumed)	
Fire doors (assumed)	
Elevator door and cab insulation (assumed)	
Cloth vibration isolator (assumed)	

It was observed by AMA at the time of the inspection that certain areas of the building were inaccessible, which may contain suspect asbestos-containing

materials. Therefore, AMA made assumptions on the locations of possible suspect asbestos-containing materials, which may exist in these areas, and they are as follows:

- Assumed asbestos-containing materials within labeled fire doors
- Assumed asbestos-containing pipe and pipe fitting insulation within wall cavities/ pipe chases/ above fixed ceilings, associated with wet walls and unit ventilators (these materials are ACM, but quantities are estimated)
- Assumed asbestos-containing pipe flange gaskets
- Assumed elevator door and cab insulation
- Assumed cloth vibration isolators

The comprehensive table, contained within this report, lists the sample number, the type of material collected, sample location, and the results of the laboratory analysis (See Table I). For a detailed description of the locations where the bulk samples were collected, refer to the "Bulk Sampling Survey Sheets" located in Appendix A of this report. Asbestos material quantities and locations are located in the attached Hazardous Materials Inventory, Table III.

3.2 LEAD-BASED PAINT

AMA tested 165 surfaces finished with suspect LBP and/or lead surface coatings throughout building, with the use of a Niton model XLP x-ray fluorescence spectrum analyzer (XRF). Of the 165 surfaces tested, 15 tests/surfaces/building components were determined to contain greater than (>0.7) milligram of lead per square centimeter (mg/cm^2) of surface area tested, the amount defined as a lead-containing substance according to the State of Maryland.

In general, the following building components were finished with lead based paint and/or lead surface coatings:

Main Building	Annex
Structural steel	Porcelain sinks
Tan ceramic wall tile	
Wood window sills	
Wood doors	
Wood door casings	
Plaster walls	
Wood window casing	
Wood exterior trim	

Refer to the Niton XLP 300A XRF Field Forms for a description of the location of the tests, components tested, color of paint, substrate, condition of paint, and results of the tests located in Appendix B of this report. The building components finished with LBP/ lead surface coatings are listed in the Positive XRF Readings (Table II).

3.3 POLYCHLORINATED BIPHENYL'S

Small capacitors and fluorescent light ballasts manufactured after 1978 have been labeled "NO PCB's" by the manufacturers. Prior to 1978, small capacitors and

fluorescent light ballasts were not labeled as to whether they contained PCBs; therefore, all unlabeled capacitors and ballasts were assumed to contain PCBs.

AMA performed a visual evaluation of representative light fixture ballasts utilizing a random selection method. Any ballast absent of the "No PCB's" label was assumed to contain PCBs. Based on this assessment, AMA identified assumed PCB containing light ballasts in various locations of the Building. As some ballasts were inaccessible at the time of the inspection, each light fixture should be inspected and appropriately disposed of during renovation/ demolition activities. AMA identified approximately 330 light ballasts throughout the building.

3.4 MERCURY VAPOR LAMPS/ THERMOSTATS

Reportable quantities of mercury are often found in fluorescent lamps/ bulbs and thermostats. Because of this fact, the fluorescent lamps/bulbs and thermostats found in the building, should be considered a hazardous waste for mercury under the Resource Conservation and Recovery Act (RCRA); 40 CFR 261. Based on the observations at the site, it was determined that there are approximately 1144 fluorescent lamps/bulbs and 2 thermostats located throughout the building.

4.0 CONCLUSIONS

4.1 ASBESTOS-CONTAINING MATERIALS

The identified asbestos materials located in the accessible interior and exterior areas of the building included:

- Black pipe seam sealant
- Cal/mag pipe and fitting insulation
- Cardboard pipe and fitting insulation
- Mudded pipe fitting insulation on fiberglass
- Cork pipe insulation
- Pipe flange gaskets (assumed)
- Black vapor barrier
- Tan floor tile mastic (Main building only)
- Black floor tile mastic
- Black and white terrazzo
- Textured ceiling plaster
- 9"x9" floor tile (various colors)
- Tan baseboard mastic (Main building only)
- Window glazing
- Exterior door caulk
- Drywall joint compound (Annex only)
- 2'x4' large and small hole ceiling tile
- Black duct seam sealant
- Cloth vibration isolators (assumed)
- Fire doors (assumed)
- Elevator door and cab insulation (assumed)

Pipe and fitting insulation quantities are assumed above the fixed plaster ceilings, wet walls, and unit ventilator walls. These materials were sampled in accessible

locations and are asbestos containing.

In dealing with asbestos materials during demolition and renovation projects, the Environmental Protection Agency (EPA) regulation 40 CFR Part 61, Subpart M (NESHAP), the Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101 (Asbestos in Construction Standard) and State of Maryland COMAR 26.11.21 (Control of Asbestos) would be the primary regulations impacting the work.

The EPA defines a **"friable asbestos material"** as *"any material containing greater than one percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, PLM, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure."* The mudded pipe fitting insulation, cal-mag pipe and fitting insulation, textured ceiling plaster, cardboard pipe and fitting insulation, 2'x4' large and small hole ceiling tiles, drywall joint compound, and inaccessible pipe & pipe fitting insulation (assumed within wall cavities, wall pipe chases, and above fixed ceilings) are considered friable ACM's.

Within the EPA's National Emissions Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M,) the various 9"x9" floor tiles, pipe flange gaskets, tan floor tile mastic, and black floor tile mastic are classified as Category I non-friable ACM, while the remaining ACMs are classified as Category II non-friable ACMs.

OSHA's "Asbestos in Construction Standard" (29 CFR 1926.1101), defines work involving the disturbance of thermal system insulation (TSI) and surfacing materials as Class I work. Abatement of the pipe insulation and textured ceiling plaster are considered by OSHA to be Class I removal operations. Disturbance and/or removal of these materials must be performed in accordance with the requirements set forth in 29 CFR 1926.1101 for Class I work.

The asbestos abatement involving the remaining miscellaneous ACMs are considered by OSHA as Class II removal activities. All asbestos abatement of the miscellaneous ACMs must be performed in accordance with the requirements set forth for Class II work.

If the identified or assumed materials were to be impacted by the renovation/ demolition activities, then the asbestos materials would be required to be removed prior to disturbance. The removal would have to be conducted by trained and licensed asbestos abatement personnel utilizing approved engineering controls and personal protective equipment (PPE) established under the regulations. Among other requirements for asbestos removal is proper notification to the appropriate agencies and occupants as well as re-occupancy (final) air sampling at the completion of the asbestos work.

However, if the identified asbestos materials are *not* to be impacted by renovation/ demolition activities, the materials do not have to be removed, but those who conduct work in the areas must be made aware of the presence, quantity and location of any asbestos.

AMA cautions that additional forms of asbestos may be located within inaccessible

areas, such as in wall chases, wall cavities, above fixed ceilings, or other inaccessible locations. We have included estimated quantities of such materials within our report and inventory tables, but additional materials may be encountered during renovation/ demolition activities.

4.2 LEAD-BASED PAINT

For projects, which will disturb lead containing paint and lead surface coatings, the paint must be handled in accordance with the requirements established by the EPA and OSHA.

There is no federal requirement to remove lead paint prior to demolition activities, only that painted components be tested to determine the disposal requirements and that contractors be made aware of the existence of any paint containing lead in detectable amounts (lead containing paint, LCP), so their workers can be adequately protected.

Regulations established in OSHA's "Lead in Construction Standard" (29 CFR 1926.62), with Maryland Amendments, must be adhered to during demolition and renovation of the surfaces finished with paint containing lead in detectable amounts. This standard established the permissible exposure level (PEL) for lead at 50 micrograms per cubic meter (ug/m^3) as an eight hour time weighted average (TWA); the action level has been established at 30 ug/m^3 as an eight hour TWA. This regulation also requires employers to use engineering controls and special work practices to reduce worker lead exposure to, at, or below the PEL. It also triggers several requirements regarding exposure monitoring, biological monitoring, and employee training when a worker is exposed to airborne lead levels at or above the action level.

Prohibited methods of lead paint removal include: sanding (except with equipment fitted with HEPA filters), burning with an open flame torch, or any methods, which produce uncontrolled dust or fumes. If components are to be removed and disposed of, 40 CFR 261 which is the RCRA, requires that the waste stream be tested by the Toxic Characteristic Leaching Procedure (TCLP) for lead in order to determine if the material must be disposed of as a lead hazardous waste. The waste shall be considered as hazardous when the concentration of lead exceeds 5 parts per million (ppm) by the TCLP. Metal components should be recycled, and glazed finishes are to be disposed of as general construction debris.

4.3 POLYCHLORINATED BIPHENYL'S

AMA performed a visual evaluation of representative light fixture ballasts throughout the building, utilizing a random selection method. Any ballast absent of the "No PCB's" label was assumed to contain PCBs. Based on this assessment, AMA identified assumed PCB containing light ballasts in various locations of the building. As some ballasts were inaccessible at the time of the inspection, the demolition contractor should check the labels on the 330 light ballasts identified in the building, for the "NO PCBs" logo. If the "NO PCBs" logo does not appear on the ballasts, the ballasts must be disposed of accordingly, following EPA regulations. There are two primary Federal laws that affect the disposal of PCB containing light ballasts, which are as follows:

- Toxic Substances Control Act (TSCA)
- Comprehensive Environmental Response, Compensation and Liability Act of "CERCLA" (Superfund)

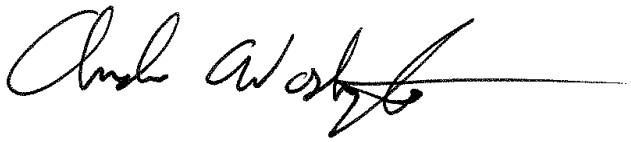
4.4 MERCURY VAPOR LAMPS/ THERMOSTATS

Reportable quantities of mercury are often found in fluorescent lamps/bulbs and thermostats. Because of this fact, the fluorescent lamps/bulbs and assumed mercury containing thermostats located throughout the Building, should be considered a hazardous waste for mercury under the Resource Conservation and Recovery Act (RCRA); 40 CFR 261. Based on the observations at the site, it was determined that there are approximately 1144 fluorescent lamps/ bulbs and 2 mercury thermostats.

Unless Toxic Characteristic Leachate Procedure (TCLP) testing for mercury is performed, the light tubes/ bulbs and thermostats located at the property should be assumed to exceed the regulatory limit of 0.2 milligrams per liter for mercury. These tubes/bulbs and thermostats must be disposed of as mercury containing waste unless testing proves otherwise. There are no specific training requirements for MVL and thermostat removal and packaging; however, all workers should be trained in the hazards of mercury, as well as handling procedures.

Enclosed, please find copies of the field data sheets and laboratory certificates. If you should have any questions regarding this report, please contact our office at (410) 684-3327.

Sincerely,



Andrew Washington, CIH
Project Manager

TABLE I: ASBESTOS BULK SAMPLE RESULTS

TABLE II: POSITIVE XRF READINGS TABLE

TABLE III: HAZARDOUS MATERIALS INVENTORY TABLE

APPENDIX A: ASBESTOS-CONTAINING MATERIAL DOCUMENTATION

APPENDIX B: LEAD-BASED PAINT DOCUMENTATION

APPENDIX C: AREA DESIGNATION DRAWINGS