

**GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF GENERAL SERVICES**

**DESIGN-BUILD SERVICES
BROOKLAND MIDDLE SCHOOL**

Solicitation #:DCAM-13-CS-0124

**Addendum No. 4
Issued: March 15, 2013**

This Addendum Number 04 is issued by e-mail on March 15, 2013. Except as modified hereby, the Request for Proposals (“RFP”) remains unmodified.

Item #1

Below are a list of questions received and the Department’s responses:

1. Will quantities of the HAZMAT surveyed and/or abatement specification be provided? **Response: Yes. See attached report and specification from ECS dated March 2013.**
2. Shall the windows, copy machines, and AC units on the ground floor be included in the abatement proposal and demolition? **Response: Yes. Contrary to what was stated during the site walk, abatement bids shall include disposal of all these materials. They are included on page 8 of the Quantities Report attached.**
3. Shall the lump sum price for razing the building include site demolition? **Response: The lump sum price for razing the building shall include all efforts required prior to implementing a foundation-to-grade or support-of-excavation permit scope of work. This shall include abatement throughout, removal of the outdoor underground storage tank, demolition of the existing building, removal of all debris components offsite, and cut/cap of all site utilities far enough from the building to safely demolish it.**
4. Should the lump sum price for abatement and raze include 3rd party abatement monitoring and air sampling? **Response: No, DGS will procure its own 3rd party monitoring services.**
5. Is the fireproofing to be treated as hazardous material? **Response: No. Based on the tests taken the fireproofing shall be assumed to be non-hazardous material.**
6. Shall the drywall with joint compound testing positive for hazardous material be treated as a regulated material? **Response: Yes, the base bid for abatement shall assume all such drywall is a regulated material. Please provide a deduct alternate price if the drywall was to be treated as a non-regulated material. A revised bid form is attached.**
7. Shall all the ceiling tile be treated as hazardous even though the tests on levels 1 and 2 were negative? **Response: Yes. Base bids shall consider all ceiling tile as hazardous material based on the fact that the tile on level 3 tested positive. These are included in the quantities report.**

8. What is feeding the flow of water that can be heard at the boiler room sump pumps?
Response: Bidders shall assume this is due to groundwater entering the sump basins from the network subsoil drainage shown on the existing building drawings and take into consideration when preparing costs to raze the building.

Item #2

Site Visit Sign-In Sheets: Please see attached PDF of sign in sheet from the March 11, 2013 site visit.

Item #3

The bid date is hereby changed. Proposals are due by **March 22, 2013 at 2:00 pm EDT.** Proposals that are hand-delivered should be delivered to the attention of: Danyel Riley, Contract Specialist, at **Frank D. Reeves Center, 2000 14th Street, NW, 8th floor, Washington, DC 20009.**

- End of Addendum No. 4 -

Attachment B

[Offeror's Letterhead]

[Insert Date]

District of Columbia Department of General Services
2000 14th Street, NW
Washington, DC 20009

Att'n: Mr. Brian Hanlon
Acting Director

Reference: Request for Proposals
Design-Build Services for Brookland Middle School

On behalf of [INSERT NAME OF BIDDER] (the "Offeror"), I am pleased to submit this proposal in response to the Department of General Services' (the "Department" or "DGS") Request for Proposals (the "RFP") to provide Design-Build Services for Brookland Middle School. The Offeror has reviewed the RFP and the attachments thereto, any addenda thereto, and the proposed Form of Contract (collectively, the "Bid Documents") and has conducted such due diligence and analysis as the Offeror, in its sole judgment, has deemed necessary in order to submit its Proposal in response to the RFP. The Offeror's proposal, the Preconstruction Fee, the Design-Build Fee (as defined in paragraph A), the General Conditions Budget (as defined in paragraph B), the Hazardous Materials Abatement and Demolition Lump Sum and the add/alternate price (as defined in paragraph C) are based on the Bid Documents as issued and assume no material alteration of the terms of the Bid Documents. (Collectively, the proposal, the Preconstruction Fee, the Design-Build Fee, the General Conditions Budget, the Hazardous Materials Abatement and Demolition Lump Sum, and the add/alternate price are referred to as the "Offeror's Bid".)

The Offeror's Bid is as follows:

A. The Preconstruction Fee is: \$ _____

The Design-Build Fee is: \$ _____

The Offeror acknowledges and understands that the Preconstruction Fee, and the Design-Build Fee are firm, fixed prices and other than as permitted in the Form of Contract will not be subject to further adjustment. The Offeror also acknowledges that ten (10%) of the Design-Build Fee is at-risk, and the selected Offeror will only be entitled to such amount as set forth in the Form of Contract.

B. The estimated cost of the Design-Builder's general conditions (the "General Conditions Budget") is set forth below. The General Conditions Budget consists of the following elements:

Cost of construction staff (only field staff are reimbursable)	\$ _____
Fringe Benefits associated with field staff costs	\$ _____
Payroll taxes and payroll insurance associated with field staff costs	\$ _____
Staff costs associated with obtaining permits and approvals	\$ _____
Out-of-house consultants	\$ _____
Travel, Living and Relocation expenses	\$ _____
Job vehicles	\$ _____
Field office for CM including but not limited to:	\$ _____
• Trailer purchase and/or rental	
• Field office installation, relocation and removal	
• Utility connections and charges during the Construction Services phase	
• Furniture	
• Field offices for the Office and Program Manager	
• Office supplies	
Office equipment including but not limited to:	\$ _____
• Computer hardware and software	
• Fax machines	
• Copy machines	
• Telephone installation, system and uses charges	
Job radios	\$ _____
Local delivery and overnight delivery costs	\$ _____
Field computer network	\$ _____
Watchmen	\$ _____
First aid facility	\$ _____
Progress photos	\$ _____
Consumption charges for utility service during construction	\$ _____
Printing cost for drawings, bid packages, etc.	\$ _____
Other (please itemize)	\$ _____
 Total General Conditions Budget	 \$ _____

The Offeror acknowledges and understands that the General Conditions Budget will be incorporated into the contract and that the Offeror will not be permitted to exceed the General Conditions Budget unless it first obtains the written approval of the Office.

C. The Hazardous Materials Abatement and Demolition Lump Sum is: \$ _____

Add/Alternate Deduct Price if the drywall was to be treated as a non-regulated material: \$ _____

The Offeror acknowledges and understands that the Hazardous Materials Abatement and Demolition Lump Sum is a firm, fixed price to fully complete abate and demolish the existing structure, including, but not limited to, labor, materials, trade subcontractor costs, general conditions, insurance and bonding, home office overhead and profit.

- D. In addition, the Offeror hereby represents that, based on its current rating with its surety, the indicated cost of a payment and performance bond is [INSERT PERCENTAGE].

The Offeror's Bid is based on and subject to the following conditions:

1. The Offeror agrees to hold its proposal open for a period of at least one hundred and twenty (120) days after the date of the bid.
2. Assuming the Offeror is selected by the Department and subject only to the changes requested in paragraph 5, the Offeror agrees to enter into a contract with the Department on the terms and conditions described in the Bid Documents within ten (10) days of the notice of the award.
3. Both the Offeror and the undersigned represent and warrant that the undersigned has the full legal authority to submit this bid form and bind the Offeror to the terms of the Offeror's Bid. The Offeror further represents and warrants that no further action or approval must be obtained by the Offeror in order to authorize the terms of the Offeror's Bid.
4. The Offeror and its principal team members hereby represent and warrant that they have not: (i) colluded with any other group or person that is submitting a proposal in response to the RFP in order to fix or set prices; (ii) acted in such a manner so as to discourage any other group or person from submitting a proposal in response to the RFP; or (iii) otherwise engaged in conduct that would violate applicable anti-trust law.
5. The Offeror's proposal is subject to the following requested changes to the Form of Contract: [INSERT REQUESTED CHANGES. OFFERORS ARE ADVISED THAT THE CHANGES SO IDENTIFIED SHOULD BE SPECIFIC SO AS TO PERMIT THE DEPARTMENT TO EVALUATE THE IMPACT OF THE REQUESTED CHANGES IN ITS REVIEW PROCESS. GENERIC STATEMENTS, SUCH AS "A MUTUALLY ACCEPTABLE CONTRACT" ARE NOT ACCEPTABLE. OFFERORS ARE FURTHER ADVISED THAT THE DEPARTMENT WILL CONSIDER THE REQUESTED CHANGES AS PART OF THE EVALUATION PROCESS.]
6. The Offeror hereby certifies that neither it nor any of its team members have entered into any agreement (written or oral) that would prohibit any contractor, subcontractor or subconsultant that is certified by the District of Columbia Office of Department of Small and Local Business Enterprises as a Local, Small, Resident Owned or Disadvantaged Business Enterprise (collectively, "LSDBE Certified Companies") from participating in the work if another company is awarded the contract.
7. This bid form and the Offeror's Bid are being submitted on behalf of [INSERT FULL LEGAL NAME, TYPE OF ORGANIZATION, AND STATE OF FORMATION FOR THE OFFEROR].

Sincerely,

By: _____

Name: _____

Its: _____

NAME	FIRM	EMAIL OR PHONE
Muhammad Abdul Ali	FET Construction	Muhammad@forneyent.com
MIKE CATANEO	ASBESTOS SPECIALISTS (ASI)	MIKE@ASIBAGEMENT.COM
ED GERSHKOVICH	GOLDIN & STAFFORD	egerzhkovich@goldinandsanford.com
Pamela Murray Johnson	Skanska	Pamola.M.Johnson@skanska.com
Ty Pate	Tompkins	ty.pate@tbius.com
K C Goel	Goel Services	KC@Goel.com
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TIMOTHY D. SHORT	GOEL SERVICES	TIMOTHY.SHORT@GSA.COM
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ROB WILSON	ACECO	RWILSON@ACECO1000.COM
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Tony Farnella	Potomac Asbestosment	Tony@PotomacAsbestosment.com
Tom BERKNEIS	BUBBLE BEE REC & DEMO	TOR@BUBBLE-BEE.COM
Brian McCarthy	AHLeatic Site Demol	BSMcCarthy@Cox.net
CHINEDUM OYEMEZIKE	PAR PARKINSON CONSTRUCTION	CHINEDUM@PARKINSONCONSTRUCTION.COM
YASH VAGHELA	FET Construction	YASH@FORNEYENT.COM



ABATEMENT PROJECT SPECIFICATION

**BROOKLAND SCHOOL
1150 MICHIGAN AVENUE, NE
WASHINGTON, DC**

ECS PROJECT NO. 01:20705-C

FOR

HARTMAN-COX

MARCH 2013



March 2013

Mr. Graham Davidson
Hartman-Cox
1074 Thomas Jefferson Street, NW
Washington, DC 20007

ECS Project No. 01:20705-C

Reference: Abatement Project Specification, Brookland School, 1150 Michigan Avenue,
NE, Washington, DC 20017

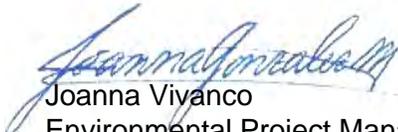
Dear Mr. Davidson:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Hartman-Cox with an abatement project specification for the above referenced building. This Specification is in general conformance with ECS Proposal No.01:43413-EP, dated February 28, 2013.

If there are questions regarding this Specification or need further information, please do not hesitate to contact us at (703) 471-8400.

Respectfully,

ECS MID-ATLANTIC, LLC


Joanna Vivanco
Environmental Project Manager


Stephen R. Geraci
Senior Environmental Project Manager

Enclosure: Site Plat
Hazardous Material Survey Report prepared by ECS, dated, February 18,
2013 (ECS Project No.01:20705-A)

I:\Environmental\RPT\20000\20705-C Specs

**SECTION 13280
HAZARDOUS MATERIALS REMEDIATION – GENERAL**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

All applicable parts of DIVISION 1 – GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.02 WORK INCLUDED

- A. It is the responsibility of the Contractor to verify any and all existing conditions and quantities of materials to be removed prior to submittal of Bid. The Contractor shall, at a minimum, submit a Bid based on information and methodologies set forth in this Specification. If the Contractor feels an alternate method of remediation other than described herein would improve the efficiency and cost effectiveness or quality of the final product, the Contractor may submit an alternate Bid based upon those means and methods. Shop drawings and/or other relevant information regarding the alternative methods must be submitted along with the alternate bid. The Owner and/or the Owner's Representative will review alternative methods prescribed in the alternate bid. Alternative methods may not be utilized without written approval from the Owner and/or the Owner's Representative.
- B. The scope of work included in this Specification requires the Contractor to provide all labor, equipment, materials, and transportation necessary to complete the environmental abatement, remediation, and testing as specified herein.
- C. The materials identified in the following table contain asbestos, therefore by regulation, and this Specification, require special handling and care. The purpose of this Section and Section 13282 is to outline the procedures to be followed during the removal of these materials.
- D. The Contractor shall remove and properly dispose the following estimated quantities of asbestos containing materials in accordance with this Specification. The quantities listed represents estimates only and are not guaranteed. The Contractor shall not use quantities listed herein as a sole basis for preparing bids. Materials identified as Asbestos Containing Materials shall be reviewed completely and thoroughly by bidders during the pre-bid site visit and other viewing times made available by the Owner. It is the responsibility of the bidders to review and confirm all quantities and field conditions, including: locations, surface area, thickness, cross-sectional area, component layers, and substrate conditions. Neither the Owner, nor the Owner's representatives, will be responsible for errors or omissions and/or changes for extra work arising from any bidders' failure to become familiar with the existing site conditions, requirements of the work, and the results to be produced. By submitting a bid, the bidder further agrees that the description contained herein (i.e., quantities, descriptions, locations, areas, thickness, etc.) are adequate and that the bidder will produce the required results.



The Contractor shall remove and properly dispose of all of the following asbestos-containing materials:

Base Bid:

<u>Location</u>	<u>Material</u>	<u>Friability</u>	<u>Estimated Quantity</u>
ROOF			
Door to access the building and at brick structure/chimney on roof	Exterior Door Caulk	Category II Non-Friable	2 EA
Stairwell, stair landing and stairs (West)	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	450 SF
3rd FLOOR			
South storage room 300, speech room, east teacher storage room 302, and west storage room 301	12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Category I Non-Friable	600 SF
Stairwells, stair landings and stairs (South, East and West)	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	1,800 SF
Behind walls and hard ceilings	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable	500 LF*
Behind walls and hard ceilings	Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline	Category II Non-Friable	500 LF*
Throughout floor	2'x4' White Fissured Ceiling Tile	Friable	10,500 SF
Above ceiling throughout floor	Brown Mastic on Metal Duct Pin	Category II Non-Friable	6,000 SF*



Throughout floor	Joint Compound Associated with Drywall	Category II Non-Friable	5,000 SF
Kitchenettes (South, East and West)	Black Sink Undercoat	Category II Non-Friable	4 EA
Bathroom foyer and hallways in center area, and southwest open area	Black Mastic Associated with 12"x12" Reddish Brown Flecked Floor Tile	Category I Non-Friable	1,600 SF
Perimeter wall	Beige Interior Window Caulk on 12'x4' Windows	Category II Non-Friable	24 EA
Stairwells (South, East and West)	Gray Interior Window Caulk on 6'x6' Windows	Category II Non-Friable	6 EA
Above plaster ceiling in stairwells (South, East and West)	Black Mastic on Metal Duct	Category II Non-Friable	6 SF
2nd FLOOR			
South, east and west teacher storages	12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Category I Non-Friable	600 SF
Stairwells, stair landings and stairs (South, East and West)	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	1,800 SF
Behind walls and hard ceilings	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable	500 LF*
Behind walls and hard ceilings	Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline	Category II Non-Friable	500 LF*
Throughout floor	2'x4' White Fissured Ceiling Tile	Friable	10,500 SF



Above ceiling throughout floor	Brown Mastic on Metal Duct Pin	Category II Non-Friable	6,000 LF*
Throughout floor	Joint Compound Associated with Drywall	Category II Non-Friable	5,000 SF
South kitchenette, and southeast and northeast rooms	Black Sink Undercoat	Category II Non-Friable	3 EA
Southeast and northeast rooms	12"x12" Tan Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	300 SF
Southeast open space, bathroom foyer and hallways in center area	Mastic Associated with 12"x12" Reddish Brown Flecked Floor Tile	Category I Non-Friable	1,500 SF
Perimeter wall	Beige Interior Window Caulk on 12'x4' Windows	Category II Non-Friable	24 EA
Stairwells (South, East and West)	Gray Interior Window Caulk on 6'x6' Windows	Category II Non-Friable	6 EA
Above plaster ceiling in stairwells (South, East and West)	Black Mastic on Metal Duct	Category II Non-Friable	6 SF
Mezzanine			
Foyers at stairwells (south, east and west), room adjacent to east stairwell, east-west hallway	12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Category I Non-Friable	2,300 SF
Stairwells, stair landings and stairs (South, East and West)	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	1,800 SF
Behind walls and hard ceilings	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable	500 LF*



Behind walls and hard ceilings	Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline	Category II Non-Friable	500 LF*
Throughout floor, excluding kindergarten room (west)	2'x4' White Fissured Ceiling Tile	Friable	4,400 SF
Above ceiling throughout floor	Brown Mastic on Metal Duct Pin	Category II Non-Friable	6,000 LF*
Throughout floor	Joint Compound Associated with Drywall	Category II Non-Friable	4,000 SF
Classroom adjacent to east stairwell and kindergarten room (west)	Black Sink Undercoat	Category II Non-Friable	5 EA
Storage room inside classroom adjacent to east stairwell and rooms inside kindergarten room (west)	12"x12" Tan Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	1,000 SF
Classrooms at perimeter walls	Tan Interior Window Caulk on 2'x20' windows and 8'x20' windows/doors	Category II Non-Friable	10 EA and 2 EA
Classrooms at perimeter walls	Brown Interior Window Glazing on 2'x20' windows and 8'x20' windows/doors	Category II Non-Friable	10 EA and 2 EA
Classrooms at perimeter walls	Gray Exterior Window Glazing on 2'x20' windows and 8'x20' windows/doors	Category II Non-Friable	10 EA and 2 EA
Above plaster ceiling in stairwells (South, East and West)	Black Mastic on Metal Duct	Category II Non-Friable	6 SF



Emergency exit door	White Interior Door Caulk	Category II Non-Friable	15 EA
1st Floor			
Hallway between kitchen and trash room (north), foyer at west stairwell and hallways	12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Category I Non-Friable	4,000 SF
Hallway between kitchen and trash (north), and room adjacent to south stairwell	Yellow/Black Mastic Associated with Tan with Brown Flecks Floor Tile	Category I Non-Friable	750 SF
Cafeteria, stairwells, stair landings and stairs (South, East and West)	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	3,500 SF
Behind walls and hard ceilings	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable	500 LF*
Behind walls and hard ceilings	Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline	Category II Non-Friable	500 LF*
Throughout floor	2'x4' White Fissured Ceiling Tile	Friable	7,500 SF
Above ceiling throughout floor	Brown Mastic on Metal Duct Pin	Category II Non-Friable	6,000 LF*
Classroom adjacent to west stairwell	Black Sink Undercoat	Category II Non-Friable	1 EA
Above plaster ceiling in west stairwell	Black Mastic on Metal Duct	Category II Non-Friable	2 SF



Emergency exit door	White Interior Door Caulk	Category II Non-Friable	10 EA
Basement			
East stairwell, stair landings, stairs, foyer/elevator lobby, and custodial office	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	1,000 SF
2" riser pipeline in boiler room and hallway	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable	500 LF
COND & WP pipeline in custodial supply room	Beige Mastic on Fiberglass Pipe Bridging Insulation	Category II Non-Friable	14 EA
Emergency exit door in boiler room	White Interior Door Caulk	Category II Non-Friable	1 EA
Materials Assumed to Contain Asbestos			
<u>Location</u>	<u>Material</u>	<u>Friability</u>	<u>Estimated Quantity</u>
At stairwells and any location requiring a fire rated door	Fire Door Insulation**	Friable	90 EA
Boiler room in basement	Gaskets**	Unknown	Unknown
Boiler room in basement	Interior Boiler Material**	Unknown	Unknown
Inaccessible windows in 2 nd and 3 rd floors (48 12'x4' windows at perimeter walls and 12 6'x6' windows at stairwells)	Exterior Window Caulk and Glazing***	Category II Non-Friable	100 SF



Elevator	Elevator's switch deflector plate, brakes, cab and doors**	Unknown	Unknown
Hidden behind walls and hard ceilings	Thermal System Insulation (TSI)****	Friable	Unknown

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

* These quantities are assumed, since the identified asbestos-containing materials are reported to be hidden behind walls and hard ceilings. Contractor is to verify during remediation/abatement.

** These materials were not sampled due to the destructive means that sampling requires and should be presumed to be asbestos-containing materials (ACMs). Contractor is to verify during remediation/abatement.

*** These materials were not accessible; therefore, they could not be sampled and should be presumed to be asbestos-containing materials (ACMs). Contractor is to verify during remediation/abatement.

**** This material was not observed. However, if this material is uncovered during demolition activities, it should be presumed to be asbestos-containing materials (ACMs). Contractor is to verify during remediation/abatement.

Site plat developed by ECS with approximate ACM locations is attached to this Specification. However, CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES. Any exception taken should be noted with bid submission.

1.03 PRE-EXISTING CONTAMINATION

The Contractor will be responsible for cleaning all pre-existing contamination associated with the identified asbestos containing materials. The identified asbestos-containing ceiling tile and joint compound are reported to be damaged on floors throughout the building. Pre-cleaning efforts shall be performed as Class II work in accordance with federal and local applicable regulations and this Specification.

Various items are stored in the cafeteria and other areas in 1st floor. The Contractor shall consider the following items as asbestos-contaminated which shall be cleaned with HEPA vacuum and amended water and then removed from the area:

- 110 cooling units in cafeteria;
- 24 air conditioning units in cafeteria;
- 200 new windows in cafeteria;
- 100 2'x4' plywood in cafeteria;
- 40 copy/printer machines in kitchen;
- 60 3'x4' metal stands in west-south hallway.
-

1.04 ADDITIONAL ABATEMENT NOTES

- A. For informational purpose, Asbestos Containing Materials contained herein have been previously determined to contain the following asbestos concentrations:



<u>Material</u>	<u>Amount</u>	<u>Type of Asbestos</u>
Roof Exterior Door Caulk	4%	Chrysotile
12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Tile - 3% Mastic - 5%	Chrysotile Chrysotile
Yellow/Black Mastic Associated with Tan with Brown Flecks Floor Tile and	Mastic - 5%	Chrysotile
12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Tile - 4% Mastic - 5%	Chrysotile Chrysotile
Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	5%	Chrysotile
Beige Mastic on Fiberglass Pipe Bridging Insulation	4%	Chrysotile
White Interior Door Caulk	4%	Chrysotile
2'x4' White Fissured Ceiling Tile	5%	Amosite
Brown Mastic on Metal Duct Pin	8-10%	Chrysotile
Tan Interior Window Caulk	4%	Chrysotile
Brown Interior Window Glazing	4%	Chrysotile
Joint Compound Associated with Drywall	3%	Chrysotile
Black Sink Undercoat	3%	Chrysotile
12"x12" Tan Flecked Floor Tile and Associated Black Mastic	Tile - 4% Mastic - 8%	Chrysotile Chrysotile



Gray Exterior Window Glazing	5%	Chrysotile
Mastic Associated with 12"x12" Reddish Brown Flecked Floor Tile	8%	Chrysotile
Beige Interior Window Caulk (at perimeter walls)	4%	Chrysotile
Gray Interior Window Caulk (at stairwells)	4%	Chrysotile
Black Mastic on Metal Duct	10%	Chrysotile

B. The Contractor shall provide units costs for the removal of the following materials:

1. TSI (various diameters per linear foot – glove bag removal);
2. TSI (various diameters per linear foot – removal within existing containment);
3. Pipe flange gasket (various diameters – per flange);
4. Fiberglass duct insulation (per square foot);
5. Fiberglass pipe insulation (per linear foot);

Note 1: For unit cost pricing, the Contractor shall assume that all mobilization, insurance, notification, profit etc. are to be included in the unit cost estimate. The Contractor shall assume that the work will be performed during the scope of the contracted asbestos abatement work and not requires a second mobilization, notification or permit.

Note 2: The quantities indicated are for informational purposes only. The Contractor is responsible for verifying all quantities to be removed to complete the scope of work. The Owner's Representative will be present during abatement activities to verify quantities removed. Where actual quantities vary from the estimated quantities herein in this Specification, the Contractor's base bid scope of work may be adjusted based on the actual quantity of materials removed using the submitted unit cost rates.

Note 3: During the performance of the project, the Contractor will be subject to inspection by the Owner's Representative. If the Contractor is found not in compliance with this Specification, the Contractor will stop all work immediately to resolve the violation. Standby time shall be at the contractor's expense.

Note 4: The Contractor shall remove asbestos-containing materials listed above within containment under negative pressure (minimum neg. pressure 0.02" w.g.).



Note 5: Ceiling Tile Removal; Gentle removal of the ceiling tile at the perimeter of the regulated work area needs to be performed prior to gross removal, in order to seal space between metal grid and ceiling deck. Wipe-cleaning of metal ceiling grid and lighting fixtures shall be conducted following ceiling tile removal.

Note 6: Carpet contaminated with asbestos shall be removed and disposed as ACM.

Note 7: Exploratory demolition of plaster ceiling and concrete block walls inside bathrooms is necessary to expose riser pipelines associated with asbestos-containing mastic on fiberglass pipe bridging insulation. Due to unknown condition of the asbestos-containing mastic, this exploratory demolition shall be performed within containment under negative pressure as Class II Work in accordance with federal and local applicable regulations and this Specification. If uncovered pipe insulation is found to be damaged, debris generated from the exploratory demolition shall be considered contaminated and shall be disposed as asbestos-containing material.

Note 8: For pipe insulation removal, the Contractor will be responsible under the base bid estimate to clean and decontaminate any areas where pipe insulation is to be removed.

Note 9: The Abatement Contractor shall coordinate with the Mechanical, Electrical, Plumbing, and General Contractors to ensure that all appropriate systems that will be impacted by the Work have been properly decommissioned prior to the start of any work.

Note 10: The Abatement Contractor shall coordinate with the General Contractor selected for this project to verify that the structure will support the planned activities and comply with local building codes and OSHA requirements.

1.05 RELATED WORK

- A. Section 13281 Hazardous and Universal Waste Management
- B. Section 13282 Removal and Disposal of Asbestos-Containing Materials
- C. Section 13283 Lead Control Procedures

1.06 SUB-CONTRACTING REQUIREMENTS

- A. In the event that the Environmental Abatement Contractor (EAC) sub-contracts a portion of the Work, the sub-contractor to the EAC must meet all requirements of the EAC specified herein and within related contract documents. All sub-contractors must be approved, in writing, by the Owner and Owner's Representative prior to the EAC and sub-contractor entering into an agreement to perform work on-site.



1.07 NOTIFICATION TO CONTRACTOR

A. Asbestos-Containing Materials

1. The Work included within this Specification involves the disturbance of asbestos-containing materials (ACMs) and presumed asbestos-containing materials (PACMs). All ACMs and PACMs known to be present at the work-site are presented in Section 13282 of this Specification. The discovery of additional ACM(s) by the Contractor shall require immediate notification to the Owner's Representative, the employees of all other trades present on-site, and superintendent or foreman assigned to the project. All newly discovered ACM(s) will be bulk sampled by the Owner's Representative. No newly discovered ACM(s) are to be disturbed until instructed as such by the Owner's Representative.
2. Removing or otherwise disturbing ACM may release asbestos fibers into building's atmosphere creating a health risk to all building occupants. The Contractor shall inform all laborers, supervisors, foreman, superintendents, and other employees of the location of ACMs within the subject areas of the building and ensure care is taken while working around the ACMs to ensure the materials are not disturbed and be certain all employees on-site are informed of proper work procedures following an unplanned disturbance.
3. The Contractor shall ensure that during his work any encounter or disturbance to ACMs will be performed in accordance with all applicable regulations and requirements set forth herein.

1.08 COORDINATION

- A. Coordinate the remediation/abatement of the materials listed within this Specification with other sub-contractors on-site in order to maintain efficient and orderly completion of the Work.
 1. Scheduling of operations shall be in a manner required to achieve the most satisfactory results where the completion of one aspect of the Work is essential to the commencement of work involving other components.
- B. Notifications
 1. It is the Work of the Contractor to inform all employees and contractors on-site the nature of the asbestos work, location of ACMs, applicable regulations, and any relevant requirements listed in this Specification. Notification prior to the start of work must be made to:
 - a. Employees performing environmental remediation/abatement;
 - b. Employees who will be in the work area during the performance of environmental remediation/abatement; and
 - c. Employers of employees who work and/or will be working in areas adjacent to the environmental remediation/abatement while the work is in progress.
 2. Contractor is responsible for submitting notification of emergency service agencies including fire, ambulance, police or other agency that may service the work site in case of an emergency. Methods of entering work area and emergency entry and exit locations must be made available to all emergency service agencies.
 3. Notifications of Emergency: Any employee or visitor to the job site may notify emergency service agencies at any time without change to the Contract and/or Contract Sum.
 4. Notify Federal and State Agencies: The Contractor shall notify the EPA Region III and the District of Columbia of the pending Asbestos Abatement Work in writing 10 working days



prior to commencement of work and is responsible for all permits and fees associated with the project notification.

5. 3-Day Posting of Notification: The Contractor shall post notification signs of the abatement work, at all building entrances, 3 days prior to commencement of work.

C. Emergency Directory

1. Develop a directory of all emergency contacts involved in the project. Include the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site. List business name, contact person, normal business and emergency telephone, mobile phone and fax numbers and addresses of:
 - a. Owner, Owner's Representative, and Project Administrator;
 - b. Contractor's General Superintendent, supervisory personnel and Contractor's home office;
 - c. Environmental Remediation Sub-Contractor's Superintendent, supervisory personnel and Contractor's home office;
 - d. Emergency services including but not limited to fire, ambulance, doctor, hospital, police, power and gas companies, telephone company; and
 - e. Local, state, and federal agencies with jurisdiction over the project.
2. Post copies of the Emergency Directory adjacent to the entrance to clean room of Decontamination Unit.

D. Alternate Procedures: Contractor shall comply with procedures specified in all applicable regulations and this Specification. Worker protective measures, engineering controls, and work practices all must be in compliance with this Specification and applicable regulations.

1. Variance: If procedures within this Specification cannot be implemented due to site-specific conditions or if the Contractor is aware of a more efficient approach, the Contractor may complete and submit a Request for Variance to the Project A/E, either prior to bidding or during the course of the project. The Request for Variance must include:
 - a. Details of the problem(s) encountered – or potential time/cost savings – and recommended alternatives.
 - b. The Project A/E will review such variance submittal(s) for compliance with Federal, State, and Local/Municipal regulations and submit recommendations for acceptance or rejection of the request for variance.
 - c. Alternative methods described in all Request for Variance proposals must, at a minimum, comply with:
 - i. Those recommended by manufacturer of approved materials.
 - ii. Those required by pertinent regulations of authority-having-jurisdiction.
2. Methods described in the Contractor's Request for Variance may not be implemented without written approval by the Project A/E and/or the Owner's Representative

1.09 ENVIRONMENTAL ABATEMENT SUB-CONTRACTOR QUALIFICATIONS

A. RESERVED

- B. Project Supervisor: The Contractor shall employ a Project Supervisor who has experience in managing asbestos abatement projects and implementing engineering controls as well as being familiar with allowable work practices, personal and atmospheric protective measures,



disposal of asbestos procedures, etc. The Contractor's Project Supervisor will serve as the Competent Person as required by federal and District of Columbia regulations. The Project Supervisor will be responsible for performing the Work described herein in accordance with all applicable federal and District of Columbia regulations as well as this Specification. Additionally, the Project Supervisor shall meet the following minimum criteria:

1. **Training:** The Supervisor must have a valid, non-expired training certification from a District of Columbia approved trainer for a course that meets the requirements of the EPA Model Accreditation Plan for asbestos abatement contractor/supervisor and licensed by the District of Columbia as an Asbestos Worker Supervisor.
 2. **Experience:** The Supervisor must:
 - a. Have a minimum of five (5) years experience in the on-site management of asbestos abatement projects; and
 - b. Have served as Project Supervisor on a minimum of five (5) asbestos abatement projects of similar size and scope of work.
 3. **Responsibilities:**
 - a. Inspect asbestos removal work for conformance with all applicable regulations and current industry standards;
 - b. Perform or oversee OSHA monitoring and ensure proper personal protective equipment (PPE) is being utilized by all abatement personnel;
 - c. Ensure work is performed as described within this Specification at all times;
 - d. Continuously evaluate engineering controls established to prevent hazardous exposure to personnel and to the environment at all times.
 4. The Supervisor must meet all the requirements as a Competent Person as required by OSHA 29 CFR 1926.
 5. The Supervisor must be an employee of the EAC.
- C. **Foreman:** If the EAC will staff more than ten (10) asbestos abatement workers, the Contractor shall provide a Foreman to directly supervise and manage no more than ten (10) environmental remediation workers at any time. Each Foreman will act as the Competent Person as required by OSHA 29 CFR 1926 for the workers the Foreman is responsible for. The Foreman shall be responsible for oversight of the workers and report directly to the Project Supervisor. If there are 10 or fewer workers on the environmental remediation project the Supervisor may fill the Foreman's position. The Foreman must meet all the requirements as a Competent Person as required by OSHA 29 CFR 1926. The Foreman must be an employee of the EAC.

1.10 RECORD KEEPING

- A. **Daily Log:** The Contractor shall maintain a Daily Log posted in an area accessible to the Owner, the Owner's Representative, and the GC. The Daily Log must consist of the following items:
1. Meetings: reason, attendants, summary of discussion;
 2. Special or unusual events, i.e. barrier breaching, equipment failures, loss of electrical power;
 3. Accidents: injured individual, nature of injury, treatment, etc.;
 4. Documentation of Contractor's completion of the following:
 - a. Inspection of work area preparation prior to start of removal and daily thereafter;
 - b. Removal of any sheet plastic barriers;
 - c. Removal of waste materials from work area;



- d. Decontamination of equipment (list items);
 - e. Final inspection/final air test analysis;
 - f. List of subcontractors at the site;
 - g. Count of personnel at the site;
 - h. High and low temperatures, general weather for outdoor work;
 - j. Stoppages, delays, shortages, losses;
 - k. Emergency procedures;
 - l. Orders and requests of governing authorities.
- B. Entry/Exit Log: Maintain a daily log, placed adjacent to the entrance to each work area, documenting the dates and time of, but not limited to, the following items:
- 1. Visitors, permitted and unauthorized, with the following information:
 - a. Name
 - b. Organization
 - c. Entry time
 - d. Exit Time
 - e. Respiratory protection
 - 2. Personnel, by name, entering and leaving the work area with the following information:
 - a. Printed Name
 - b. Identification Number
 - c. Entry Time
 - d. Exit Time
 - e. Respiratory Protection
- C. The following information shall be posted on-site in a location accessible to workers, A/E, Owner's Representative, and Project Administrator:
- 1. Air Monitoring Results: Finals to be transmitted via fax or email to the Owner/Owner's Representative within 24 hours of sample analysis. Post the respiratory protection requirements for the work in progress;
 - 2. Documentation of inspections by OSHA, EPA or local authority;
 - 3. Respiratory Protection Program;
 - 4. Telephone numbers and locations of emergency services including, but not limited to, fire, ambulance, doctor, hospital, police, power and gas companies, telephone company;
 - 5. Other records:
 - a. Waste Manifests and shipping records.
 - b. Landfill receipts.
 - c. Accident reports.
- D. Special Reports:
- 1. General: All special reports are to be submitted directly to the Owner's Representative unless otherwise instructed by the Owner. Special reports shall be submitted within 24 hours of events requiring a special report. The Owner and any other parties involved or affected by the occurrence shall receive copies of each special report.
 - 2. Reporting Unusual Events: If an unplanned event of significant nature occurs during the project (examples: failure of pressure differential system, rupture of temporary enclosures, injury to personnel, etc), prepare and submit report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information.



1.11 PROJECT MONITOR

- A. The Owner shall contract an Industrial Hygiene Consultant (IHC) to provide on-site project monitoring and over-sight of the EAC. The IHC shall not have any direct or indirect association with the GC or the EAC. The IHC shall employ and provide the services of an on-site Project Monitor (PM).
- B. Project Monitor Qualifications
 - 1. The PM shall hold a current EPA AHERA Supervisor or Project Monitor training accreditation and be trained through the National Institute of Occupational Safety and Health (NIOSH) 582 (or equivalency) course.
 - 2. IHC shall maintain a laboratory deemed proficient through the NIOSH Proficiency Testing Program (PAT) for Phase Contrast Microscopy (PCM) for analysis of asbestos air samples.
- C. Project Monitor Responsibilities
 - 1. The PM shall be responsible for daily air monitoring, to ensure the building's atmosphere outside the work area remains uncontaminated with airborne particulates.
 - 2. The PM shall be responsible for overseeing the EAC's work practices while ensuring compliance with this Specification and all applicable federal and District of Columbia regulations.
 - 3. The PM shall perform visual inspections of the work area(s) throughout each shift, including prior to the start of work, to ensure all containment barriers are sealed, negative pressure is adequate, and proper engineering controls are in place.
 - 4. It is the work of the PM to perform final clearance visual inspections to ascertain that all visible asbestos has been removed and that no visible dust and/or debris remain in the work areas.

1.12 SAMPLING

- A. Baselines
 - 1. Due to existing damage condition of identified asbestos-containing ceiling tile and joint compound reported on floors throughout the building, baselines air sampling will not be performed inside areas assumed to be asbestos-contaminated.
 - 2. Air Samples: Prior to the initiation of asbestos abatement work, the PM may collect Phase Contrast Microscopy (PCM) air samples inside areas where identified ACM(s) is(are) reported to be in good condition to determine existing conditions and establish baseline levels of fiber concentrations.
- B. Sampling During Work
 - 1. Air Sampling Outside Work Area: The PM shall collect air samples from outside the work area during each shift. A minimum of two (2) air samples from outside the work area shall be collected during each shift.
 - a. Asbestos: Maintain fiber concentrations at lowest possible levels, not to exceed 0.010 fibers/cubic centimeter (f/cc). If concentrations rise above or equal to 0.010 f/cc, stop abatement work and re-evaluate engineering controls. The PM shall determine source of the high reading and suggest appropriate measures to reduce airborne fiber concentrations.



2. Air Sampling Inside Work Area: The PM shall monitor airborne fiber concentrations within the work area. The purpose of this sampling is to continuously evaluate engineering controls established within the work area. A minimum of one (1) inside work area sample must be collected every four (4) hours of each shift while the removal of asbestos is in progress.
 - a. Asbestos: Maintain fiber concentrations at lowest possible levels, not to exceed 0.100 f/cc. If concentrations rise above this figure, revise work procedures to lower fiber levels.
3. It is the work of the PM to analyze air samples collected during work via Phase Contrast Microscopy (PCM) in accordance with NIOSH 582 and federal and District of Columbia regulations.

C. Final Clearance

1. It is the work of the PM to collect final clearance air samples following the successful completion of a final visual inspection which verifies all specified ACMs have been removed from the work area and no dust or debris remain.
2. Air Sampling: Upon completion of abatement work and successful final clearance visual inspection, the PM shall perform final clearance air sampling for asbestos in accordance with the District of Columbia regulations. Final clearance shall be by PCM analysis.
 - a. PCM Analysis: PCM air samples will be collected from within each work area. Each of the samples collected from within the work area shall not exceed 0.010 f/cc as required by the District of Columbia. Air samples shall have a minimum volume of 1,200 liters per sample.
 - b. The Contractor shall be responsible for re-cleaning of the work area, following the analysis, of final clearance air samples resulting in unacceptable concentrations of asbestos at no additional cost to the Owner.
3. The Contractor shall be responsible for any additional cost due to the Owner for the re-collection of final clearance air samples due to unacceptable initial results.

D. OSHA Monitoring: OSHA Monitoring is work of the EAC and is not covered in this Section. However, it must be conducted daily as required and in accordance with 29 CFR 1926.1101.

E. Stop Work: The PM may issue a stop work order only when the integrity of the enclosure is breached, results of sampling performed outside of the work area exceed baseline levels (or >0.01 f/cc), or results of inside work area sampling reveals inadequate engineering controls. The EAC shall correct the fault in work area enclosure and/or work procedures at no cost to the Owner.

1.13 SUBMITTALS

Five (5) days prior to the start of work, **submit two (2) copies** of the following to the Owner's Representative for review. Do not start work until these submittals are approved by the Owner's Representative indicating that the submittal is returned for unrestricted use.

A. Environmental Abatement Contractor - General

1. Reserved
2. Contingency Plans;
3. Emergency Directory;
4. Notifications: Copy of notification sent to EPA Region III and the District of Columbia;



5. Resumes for Supervisor and Foremen;
 6. Accreditation: Submit evidence in the form of training course certificate and District of Columbia Asbestos Worker or Worker Supervisor license for the Supervisor, Foreman and workers as being trained in asbestos health and safety in accordance District of Columbia regulations and EPA AHERA protocols;
 7. Medical surveillance for Supervisor, Foreman, and workers;
 8. RESERVED;
 9. Testing Laboratory information for laboratory performing OSHA monitoring and/or sample analysis;
 10. Hazard Communication Program as required by 29 CFR 1910.1200 (e);
 11. Chemical Information List:
 - a. Submit written chemical information list for hazardous materials that are intended to be used at the Site.
 - b. Prepare chemical information list using an inventory of hazardous materials and their respective material safety data sheets. Arrange list in alphabetical order according to common name. Include chemical name, and identify locations where the hazardous materials are intended to be used.
 - c. Submit complete chemical information list of hazardous materials and associated material safety data sheets at least two weeks prior to commencement of Project (not just before a specific activity using hazardous materials commences). This information is required in advance for adequate planning purposes.
 12. Material Safety Data Sheets:
 - a. Submit Material Safety Data Sheets (MSDS) for all products that contain hazardous constituents and are intended to be used in the Work or stored on site.
 - i. The Contractor must comply with manufacturer's recommendations for handling, storage, use, and disposal of all materials including hazardous constituents.
 - b. Submit material safety data sheets five (5) days prior to the Pre-Construction meeting as specified above. No product shall be used for which a MSDS has not been previously submitted.
 - c. If a change in material(s) used is required during the Work, submit appropriate MSDS for the new materials and amend all applicable documentation (hazard communication program, respiratory protection program, etc) as required. Submission of MSDS and amended documents must be completed ten (10) days prior to the delivery of the new material(s) to the site.
- B. Environmental Abatement Contractor - Licenses and Qualifications: The Owner shall make the final determination regarding the approval of the EAC's qualifications in reference to this Work. The Owner shall require at a minimum the following qualifications to be met in order to remove ACMs from the facility:
1. EAC shall submit all training accreditations and District of Columbia licenses for employees who will be used to perform the specified work.
 2. EAC shall submit a statement, notarized and signed (by an Owner, Partner, Officer, or Principle of the company), which verifies the accuracy of the following information which shall be submitted to the Owner:
 - a. Documentation of successful completion of at least three (3) abatement projects of similar size, scope, and dollar value.
 - i. Reference names, telephone numbers, and addresses of Owner representatives for the above referenced three (3) abatement projects.



- ii. Include air monitoring data from an independent monitoring firm demonstrating compliance with OSHA airborne hazardous particulate concentrations during the work
 - b. Names of EAC representatives who shall have complete authority to speak for and make commitments for the EAC (including size and dollar value) of individual projects previously supervised.
- 3. OSHA Compliance: Submit evidence of full compliance with medical surveillance and respiratory protection provisions of existing regulations. Include at a minimum:
 - a. Written respiratory protection,
 - b. Medical surveillance programs, and
 - c. Proof of respirator fit testing.
- 4. Disclosure Statement: Contractor shall submit the following statement notarized and signed (by a principle of the company) verifying accuracy and truth of the following information:
 - a. Description of any asbestos abatement or other environmental remediation projects which have been prematurely terminated, including the circumstances surrounding such termination.
 - b. List of any contractual penalties which the EAC has incurred for breach or non-compliance with Contract Specifications on previous projects, such as overruns of completion time leading to liquidated damages.
 - c. List of any citations levied against the EAC by any governmental entity for violations related to asbestos abatement, or other environmental remediation work including the name and location of the project, date(s) of violation(s), and allegation resolution.
 - d. Description of all legal proceeding, lawsuits or claims which have been filed or levied against the EAC or any of his past or present employees for asbestos abatement, or other environmental remediation related activities.
 - e. Acknowledgement of any of the above circumstances will not necessarily result in automatic disqualification.
 - i. Failure to disclose any of this information shall be cause for automatic disqualification.
 - ii. The Owner shall be the sole determinant of the EAC's ability to remove hazardous materials competently and correctly.
 - f. Affirmation that the no principle(s) has/have been suspended, debarred or otherwise restricted by any Department or Agency of the Federal Government or of a State Government from doing business with such Department or Agency.

PART 2 PRODUCTS

2.01 HAZARDOUS MATERIALS

The Contractor is required to have onsite at all times, MSDS on products being utilized during the execution of work. The Owner may, at his discretion, refuse to allow any products which he feels may for any reason jeopardize the safety of building occupants and/or workers within the building. In this event, the Contractor must submit a substitute product that is less hazardous. If an appropriate substitute product is not available, the Contractor may submit an alternative plan for protecting the building occupants/workers from exposure to the hazardous material. The Owner has the final authorization for all products being used by the Contractor.



2.02 MATERIALS AND EQUIPMENT

The Contractor's use of equipment, protective clothing, special facilities and/or devices shall be in accordance with applicable regulations and manufacturer's instructions.

PART 3 EXECUTION

3.01 VENTILATION

- A. Provide adequate ventilation of the Work as required to ensure that Owner, workers and visitors are not potentially exposed to asbestos containing materials.
- B. Provide and maintain ventilation in functional, efficient working order for the duration of the Project.
- C. Prevent fumes, vapors, and dust related to the Work from infiltrating other parts of the building or adjacent buildings which may be occupied.
- D. Upon completion of work with wet pollutant emitters (e.g., paints, mastic, glues, and/or mastic/glue removers) purge all work areas of airborne contaminants by supplying adequate outside air and exhausting contaminants to the building exterior.

3.02 PROTECTION

- A. Where feasible, work areas shall be fenced, barricaded or otherwise blocked off to prevent unauthorized entry by the public.
- B. Comply with applicable federal and state regulations related to hearing conservation programs.



END OF SECTION



**SECTION 13281
HAZARDOUS AND UNIVERSAL WASTE MANAGEMENT**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All applicable parts of DIVISION 1 – GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.02 WORK INCLUDED

This Section covers the demolition, use, handling, storage, transporting, accumulation and disposal or recycling of hazardous materials/substances that may be encountered within the scope of work by the Contractor during the course of the work. The Contractor is made aware by this Specification that hazardous materials/substances are regulated by several statutes and regulations and require special care. Work under this Section includes the proper removal, packaging, and recycling (or disposal where applicable) of the following:

<u>Fixture Type / Material</u>	<u>Estimated Quantity</u>
Fluorescent Lamps	11,568 LF
Lamp Ballasts	1,530 EA
High-Intensive Discharge (HID) Lamps	10 EA
Lead Acid Emergency and Exit Light Batteries	40 EA
Fire Extinguisher	10 EA
Walk-in Refrigerator	1 EA

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

CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXACT QUANTITIES

Note: Due to the presence of fluorescent lamps broken throughout the building, the Contractor shall assume that the impacted areas contain mercury product on the floors and other surfaces and conduct clean-up activities in accordance with applicable regulations and this Specification.



1.03 RELATED WORK

- A. Section 13280 Hazardous Materials Remediation – General
- B. Section 13282 Removal and Disposal of Asbestos-Containing Materials
- C. Section 13283 Lead Control Procedures

1.04 CODES AND REGULATIONS

- A. General Applicability of Codes and Regulations, Guidelines and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, guidelines and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.
- B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Designer harmless for failure to comply with any applicable work, safety, health or other regulation on the part of himself, his employees, or his subcontractors.
- C. Federal Requirements: which govern hazardous material abatement work or hauling and packaging of hazardous waste materials include but are not limited to the following:
 - 1. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, including but not limited to:

29 CFR 1910-1990	- Occupational Safety and Health
29 CFR 1910.134	- Respiratory Protection
29 CFR 1910.145	- Specifications for Accident Prevention Signs and Tags
29 CFR 1910.1200	- Hazardous Communication
29 CFR 1910.20	- Sub-part C, General Safety and Health Provisions
29 CFR 1926.55	- Gases, Vapors, Fumes, Dusts, and Mists
29 CFR 1926 Subpart E	- Personal Protective and Life Saving Equipment
29 CFR 1910.1030	- Bloodborne Pathogens.
 - 2. EPA: U. S. Environmental Protection Agency, including but not limited to:

40 CFR 61	- National Emissions Standards for Hazardous Air Pollutants
40 CFR 9 & 82	- Protection of Stratospheric Zone (CFCs), Clear Air Act Amendments of 1990
40 CFR 122 & 125	- National Pollutant Discharge Elimination System, Clean Water Act
40 CFR 260-272	- Solid and Hazardous Wastes, Resource



- | | |
|----------------------|---|
| 40 CFR 165 | Conservation and Recovery Act |
| | - Disposal and Storage of Pesticides and Pesticide Containers |
| 40 CFR Subchapter J, | - Superfund, Emergency Planning, and Parts 300-373 |
| | Community Right-to-Know Programs |
| 40 CFR 700-799 | - Toxic Substances Control Act (TSCA) |

3. DOT: U. S. Department of Transportation, including but not limited to:

- | | |
|----------------|--------------------------------|
| 49 CFR 171-180 | - Department of Transportation |
|----------------|--------------------------------|

D. State Requirements: RESERVED.

E. Local Requirements: Abide by all local requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials, and the management, packaging, salvaging, and recycling of hazardous and universal waste.

F. Building Codes: Comply with applicable provision of state and/or local building codes that govern any part of the work.

G. Reference Standards: Comply with the following applicable reference standards:

1. American National Standards Institute (ANSI):
Z288.2-1992 - Standard for Respiratory Protection

1.05 WORKER PROTECTION

A. Worker Training: The Contractor must ensure that every person is trained pursuant to the directions in 49 CFR 172.202 who:

1. Prepares hazardous materials for packaging, salvaging, and recycling;
2. Handles, loads, unloads or moves hazardous materials;
3. Fills out forms for the transportation of hazardous materials; or
4. Is in any way responsible or accountable for any hazardous materials at the site.

B. Contractor personnel must possess all personal licenses, permits, and certifications required to perform their duties.

1.06 SUBMITTALS

Before the start of work, submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

A. Copy of state and local licenses for waste hauler.



- B. U.S. EPA Identification Number of waste hauler.
- C. Copy of EPA “Notice of Hazardous Waste Activity” form.
- D. Copy of forms requires by state and local agencies.
- E. Sample of disposal label to be used.
- F. PCB Plan of Action : Provide a PCB Plan of Action addressing all requirements set forth in Section 3.03.E. including qualifications of transporter, methods of packaging, salvaging, and recycling hazardous waste, and a description of the methods to be employed to prevent release to the environment.
- G. Emergency Response Plan : Provide an Emergency Response Plan addressing the steps that will be taken in the event of a hazardous material spill or leak including name, emergency phone numbers, and notification of the closest hazardous material emergency response unit; reporting procedures; and spill controls.

PART 2 - PRODUCTS

2.01 PROTECTIVE CLOTHING

- A. Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the work area. Provide a sufficient number for all required changes, for all workers in the work area. Dispose of coveralls as contaminated waste at the end of each day.
- B. Hard Hats: Provide head protectives (hard hats) as required by OSHA for all workers, and provide four (4) spares for use by Owner's Representative, Project Monitor and Owner. Require hard hats to be worn at all times that work is in progress that may potentially cause head injury. Provide hard hats of type with plastic strap type suspension. Require hats to remain in the work area throughout the work. Thoroughly clean and decontaminate hats before removing them from work area at the end of the project.
- C. Gloves: Provide work gloves to all workers and require that they be worn at all times in the work area. Gloves must be secured to the coveralls using duct tape to protect arms and hands. Do not remove gloves from Work Area. Dispose of as clothing waste at the end of the work.

2.02 WASHING FACILITIES

- A. Provide washing facilities to be used by all workers when exiting the work area.
 - 1. Provide temporary sink with hot and cold water supply. Filter all waste water.
 - 2. Supply a sufficient quantity of soap and towels for the workers and authorized visitors.



2.03 EYEWASH STATION

Where the eyes of employees may be exposed to injurious corrosive materials, suitable facilities for flushing of the eyes shall be provided within the work area for immediate emergency use.

2.04 FIRST AID

Comply with governing regulations and recognized recommendations within the construction industry.

2.05 FIRE EXTINGUISHERS

Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type "ABC" dry chemical extinguishers, or a combination of several.

2.06 DISPOSAL BAGS

Provide 6 mil (0.15 mm) thick leak-tight polyethylene bags.

2.07 SMALL QUANTITY STORAGE CONTAINERS

Provide five (5) gallon or less capacity containers for small quantity waste segregation, manufactured with structurally durable materials compatible with the hazardous waste type(s) used.

2.08 DOT HAZARDOUS WASTE DISPOSAL DRUMS

Provide DOT 17-H Open -Top Drums (55 gallon) in accordance with DOT regulations title 49 CFR Parts 173, 178, and 179.

2.09 DOT HAZARDOUS WASTE LABELS

Provide Hazardous Waste Labels in accordance with DOT regulations Title 49 CFR parts 173, 178, and 179.



PART 3 - EXECUTION

3.01 PROTECTION

- A. Storage: The Contractor shall provide a temporary construction trailer as a storage area for tools, equipment and supplies. Waste generated during abatement shall be stored in an additional construction trailer provided by the Contractor.
- B. Electrical Service:
 - 1. General: Provide a weatherproof, grounded, temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of work. The Contractor shall deactivate and lock out electrical service to the work areas prior to the removal of light fixtures from the ceiling system. The lock out of electrical equipment shall be performed in accordance with 29 CFR 1910.147 "Control of Hazardous Energy (Lockout/Tagout)".
 - 2. Lockout: Lockout all existing power to or through the work area. Unless specifically noted otherwise existing power and lighting circuits to the work area are not to be used. All power and lighting to the Work Area is to be provided from outside of the work area.
- C. Securing Work Area: Secure work area from access by public, occupants, staff or users of the building. Accomplish this where possible, by locking doors, windows, or other means of access to the area.
- D. Demarcation of Work Area: Provide warning signs at each locked door.
- E. Housekeeping: Maintain all surfaces within the Work Area free of accumulations of debris to prevent dispersion and contamination. Give meticulous attention to restricting the spread of debris, keep waste from being distributed over the general area or to other areas in the building. Post appropriate hazard warning signs. Equip personnel engaged in cleaning up scrap and waste with appropriate personal protective clothing.

3.02 REMOVAL

- A. Identified asbestos-containing ceiling tile and joint compound associated with drywall wallboards were reported to be damaged throughout the building, and debris generated from this condition was also reported on floors, fixtures, and furniture; therefore, lighting fixtures with associated lamps and broken lamps reported on floors throughout the building are assumed to be contaminated with asbestos. Cleaning up of asbestos-contaminated lighting fixtures shall be performed as a Class II Work, and broken lamps on floor shall be disposed as asbestos-containing material (ACM) in accordance with applicable federal, state and local regulations and this Specification.



- B. Removal of components containing mercury: Following abatement activities that include decontamination of the lighting fixtures, the Contractor shall segregate all materials containing mercury and prevent mercury from being combined with other liquid or solid hazardous or non-hazardous materials.
1. The Contractor shall remove the fluorescent lamps from each fixture and place them in a cardboard shipping container or similar carton. Care is to be exercised so as to not break the lamps.
 2. Mercury and mercury-containing materials shall be stored in appropriate containers that are clearly labeled to identify the contents. Appropriate containers are those that will not deteriorate or react with mercury or allow mercury to leak into the environment during normal use handling, and disposal procedures. Regulations for containing and labeling mercury and mercury-containing materials can be found in 49 CFR 172.101.
- C. Removal of components containing PCB's:
1. The Contractor shall remove the light fixtures from the ceiling system and access the ballasts in each fixture.
 2. The Contractor shall provide approved 55 gallon steel drums and labels for the packaging of light ballasts. A minimum of two (2) layers of 6 mil polyethylene sheeting shall be placed on the floor beneath the disposal drums. In addition, fluorescent light ballasts and HID capacitors shall be containerized separately.
 3. The Contractor shall place all light ballasts in properly labeled steel drums. No more than 200 ballasts are to be placed in each 55 gallon steel drum.
 4. If the Contractor encounters any light ballast which has leaked, the Contractor shall remove the contaminated components of the light fixture (if any) and wrap them in two (2) layers of 6-mil polyethylene sheeting. The contaminated components or fixture shall then be placed in the labeled steel drum for proper recycling/disposal.
- D. Removal of lead acid emergency and exit light batteries
1. The Contractor shall remove the emergency and exit lights from the ceilings/walls and access the batteries in each fixture.
 2. The Contractor shall provide approved labeled containers for the packaging of batteries.
 3. If the Contractor encounters any battery which has leaked, the Contractor shall remove the contaminated components of the fixture (if any) and wrap them in two (2) layers of 6-mil polyethylene sheeting. The contaminated components or fixture shall then be placed in the container for proper recycling/disposal.



3.03 PRECAUTIONS AND HANDLING SPILLS

- A. Personal Protective Equipment (PPE) shall be worn when working with PCB ballasts. When handling ballast and/or components contaminated by a leaking ballast, and when cleaning up small spillage, workers shall wear acid resistant gloves. When a ballast is being removed from equipment, safety glasses should also be worn.
- B. When leaking PCB's come into contact with heat sources, the PCB material may vaporize. Inhalation of these vapors may cause respiratory problems; therefore, the work area shall be ventilated and proper respiratory protection shall be provide to the worker by the Contractor.
- C. If PCB liquids should get into the eyes, the eyes should be irrigated with water for a minimum of 15 minutes. If PCB's come into contact with an open wound or abrasion, the affected area shall be cleaned with soap and water at least three (3) times. Workers should contact their supervisor immediately. This should be followed up by an examination by the worker's personal physician.
- D. Liquid PCB spills should be cleaned up using rags and/or other absorbent materials. The residual PCB's should be removed using a petroleum solvent. The solvent should be used sparingly on a cloth. Caution shall be exercised when using the solvents, as prolonged breathing of the vapors or contact with the skin should be avoided. Solvent resistant gloves and proper respiratory protection shall be provided to the worker by the Contractor pursuant to the MSDS for the solvent.
- E. Most solvents are highly flammable and shall be kept away from heat and sparks. Solvent containers shall be kept tightly sealed when not in use. Workers shall wear safety glasses and protective gloves when using solvents. The rags, gloves, and absorbent material, when contaminated with solvent, shall be discarded in an impermeable container, i.e., double strength plastic bags.

3.04 PACKAGING AND LABELING

- A. All fluorescent lamps shall be packaged, unbroken, in boxes clearly labeled with the name and address of the generator and a description of the material.
- B. Broken lighting tubes/lamps reported throughout the building shall be cleaned up in accordance with OSHA applicable regulations, placed in double plastic bags sealed with tape, and disposed as universal waste as required by the EPA and District of Columbia.
- C. All non-PCB labeled and PCB ballasts shall be segregated and packaged separately in a 55-gallon, open head, steel drum that meets Federal Department of Transportation (DOT) criteria for a 17C specification container. This is common 18-gauge steel. When ordering, the DOT 17C specification must be emphasized, and is required.
- D. The packaging of all PCB ballasts and PCB contaminated components shall be performed in a way that will prevent potential PCB leakage during shipment to the recycler.
- E. If the ballasts are leaking, six (6) to twelve (12) inches of absorbent material shall be added to the bottom of the drums before filling with ballasts. Additional absorbent material shall be



placed in the interstitial areas between ballasts. Absorbent shall not be used in packaging of non-leaking ballasts.

- D. The drums shall be packed full to prevent materials from shifting during shipment. However, drums shall not be "overpacked." No more than 200 ballasts shall be placed into a single drum and the weight shall not exceed 1,000 pounds.
- E. Place all used disposable protective clothing, plastic, and contaminated rags in the drum.
- F. All drums shall be properly sealed to prevent any leakage.
- G. Each drum holding PCB ballasts and/or PCB contaminated lighting fixture components shall be labeled as follows:
 - 1. On two (2) parallel sides of the container:

"POLYCHLORINATED BIPHENYLS (PCB'S) ORM-E UN2315, BALLASTS."
 - 2. On two (2) opposite sides, use a "THIS END UP" label, with arrows pointing to the top of the drum.
 - 3. If the above labels are not commercially available, the proper marking can be hand or mechanically ink printed. They must, however, be in a sharply contrasting color from the drum, and not be obscured by other labels or attachments.
 - 4. The name and address of the generator and the date the ballasts were removed shall be placed on each drum.

3.05 DETERMINATION OF HAZARDOUS WASTE MATERIALS

- A. All material outlined in the scope of work section as unidentified shall be characterized prior to disposal/recycling. The requirements of RCRA shall be utilized in determining whether a material is hazardous or non-hazardous.
- B. Testing of waste shall be performed by an American Association for Laboratory Accreditation (AALA) accredited laboratory retained by the Contractor. Include the cost of testing in the contract sum and supply all test results to the Owner.

3.06 PACKAGING OF WASTE

- A. The Contractor shall ensure that each segregated Hazardous Waste Type A - H is packaged in specified containers as follows (IMPORTANT: Do Not Mix Waste Streams - each Waste Type shall be mixed in drums containing only an identical Waste Type);
 - 1. DOT 17-H Open-Top Drums
 - a. Fill to Capacity with either Waste Type A, B or G, but not mixed (do not mix waste streams).



- b. Install Gasket on Lid, Apply Lock Ring, and Seal.
 - c. Apply Hazardous Waste Label to Drum Side.
 - d. Enter DOT Shipping Data as follows:
 - i. For Waste Types A or B: RQ Hazardous Waste Solid, NOS, 9, NA3077, PG-III, (D008).
 - ii. For Waste Type G: RQ Waste Polychlorinated Biphenols, 9, UN-2315, PG-II, (M001).
 - e. Adjacent to each label, enter the date indicating when waste was first placed in each drum.
2. DOT 17-H Open-Top Drums with Polyethylene Disposal Bag liners
- a. Fill liner bags with either Waste Type C, D or H, but not both (do not mix waste streams). Neck liner bags down into DOT 17-H Open-Top Drum and seal with duct tape.
 - b. Install Gasket on Lid, Apply Lock Ring, and Seal.
 - c. Apply Hazardous Waste Label to Drum Side.
 - d. Enter DOT Shipping Data as follows:
 - i. For Waste Type C or D; RQ Waste Corrosive Solid, NOS, Corrosive Material, UN1759 (D002 D008).
 - ii. For Waste Type H; RQ Hazardous Waste Solid, NOS, 9, NA3077, PG-III, (D009).
 - e. Adjacent to each label, enter the date indicating when waste was first placed in each drum.
3. DOT 17-E Closed-Head Drums
- a. Carefully pour either Waste Types E or F, but not both (do not mix waste streams), into DOT 17-E Closed-Head Drum leaving a minimum three inch (3") headspace. [Note: For projects generating twenty-five (25) gallons or less of Waste Type E or F, use small quantity storage containers.]
 - b. Secure all drum closures.
 - c. Apply Hazardous Waste Label to Drum Side.
 - d. Enter DOT Shipping Data as follows:



- i. For Waste Type E Enter: RQ Waste Alkaline Liquid, NOS, Corrosive Material, NA1719 (D002 D008).
 - ii. For Waste Type F Enter: RQ Waste Flammable Liquid, NOS, Flammable Liquid, UN 1993 (D001) (D002 D008).
 - e. Adjacent to each label, enter the date indicating when waste was first placed in each drum.
4. Hazardous Waste Roll-Off Containers
- a. Use only for hazardous Waste Type A.
 - b. Fill to capacity and seal with a tarp.
 - c. Apply Hazardous Waste Label to Roll-Off Side.
 - d. Enter DOT Shipping Data as follows: RQ Hazardous Waste Solid, NOS, ORM-E NA9189 (D008).
 - e. Adjacent to each label, enter the date indicating when waste was first placed in each roll-off.
 - f. Contractor shall anticipate quantities to be generated to avoid time delays.
 - g. Smaller generated quantities of solid hazardous waste (<20 cubic yards) may be cut to size and drummed as above.
 - h. Strict Prohibition: No liquid hazardous waste shall be dispensed into Roll-Off Containers.
5. Sealed and Labeled Containers Shall Remain Sealed.
- a. Do not reopen sealed containers.
 - b. Place no additional waste in sealed containers.

3.07 TEMPORARY STORAGE

- A. Partially filled containers of hazardous waste may be stored at the work site for intermittent packaging provided:
 - 1. Each container is properly labeled when it is first placed in service;
 - 2. Each container remains closed at all times except when compatible waste types are added; and
 - 3. The storage container is secured from public access.



3.08 SHIPPING

- A. A manifest must be prepared when fluorescent lamps and PCB waste and other materials outlined in the scope of work are offered for transport for off-site treatment, storage, and recycling. The waste manifest fulfills requirements for a material's Bill of Lading. Waste Manifests shall be properly completed by the Contractor for each waste shipment and shall list each transportation container including any non-hazardous waste or hazardous materials shipped. The manifest shall contain all information required by applicable Federal, State, and local hazardous waste or materials regulations. The Contractor shall provide all data required for waste transportation, treatment, and recycling, and for completion of hazardous waste or material generator report as required by the regulatory agency of jurisdiction.
- B. To complete the waste document, the information provided shall include, but is not limited to Proper Shipping Name (i.e., ORM-E. UN2315); Total Shipment in Pounds, and the Quantity of Material being shipped.
- C. A shipping label containing the appropriate address information shall be prepared and placed on top of the shipping drum/box and covered with transparent adhesive tape.
- D. Recycling of all specified materials shall be in accordance with all State and Federal regulations.
- E. All fluorescent lamps shall be transported to an approved recycling facility. The Contractor may have the drum(s) and other PCB materials transported to an approved ballast recycling facility which dismantles the ballast, segregates, and packages the PCB components of a ballast for incineration and then reclaims non-contaminated metals. All PCB-contaminated materials remaining after recycling are to be destroyed by incineration.
- F. The Contractor and the Transporter must comply with the DOT Emergency Response Communication Standards applicable to the shipment of hazardous materials.
- G. All recycling sites shall be in compliance with all Federal, State, and local regulations.

3.09 RECYCLING OF NON-HAZARDOUS AND NON-HAZARDOUS MATERIALS

- A. All materials regardless of hazard classification shall be manifested for recycling and shall be recycled in accordance with all applicable Federal, State and local regulations.
 - 1. Contact, EPA, State and local authorities to determine specific material recycling requirements.
 - 2. The recycler will be required to properly store and secure waste at all times. No debris shall be left in the yard or in uncovered or unlocked trucks or dumpsters. Incineration of debris is unacceptable.
- B. Recycling of Hazardous Liquid or Solid Wastes:
 - 1. Comply with RCRA, State and local regulations.
 - 2. Retain all documents from the recycling site.



3. At completion of hauling and recycling of each load submit copy of Uniform Hazardous Waste Manifest to the APM and Owner's Agent.



END OF SECTION



**SECTION 13282
 REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

The BIDDING REQUIREMENTS, CONTRACTING REQUIRMENTS and CONDITIONS OF THE CONTRACT, and applicable parts of DIVISION 1 – GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.02 WORK INCLUDED

The Contractor shall remove and properly dispose/recycle the following estimated quantities of hazardous materials in accordance with this Specification. The quantities listed represents estimates only and are not guaranteed. The Contractor shall not use quantities listed herein as a sole basis for preparing bids. Materials identified as Hazardous and Asbestos Containing Materials shall be reviewed completely and thoroughly by bidders during the pre-bid site visit and other viewing times made available by Owner and Owner's Representatives. It is the responsibility of the bidders to review and confirm all quantities and field conditions, including: locations, surface area, thickness, cross-sectional area (including materials identified under non asbestos components), component layers, or substrate conditions. Neither the Owner nor the Owner's representatives will be responsible for errors or omissions and/or changes for extra work arising from any bidders failure to become familiar with the existing site conditions, requirements of the work and the results to be produced. By submitting a bid, the bidder further agrees that the description contained herein (i.e., quantities, descriptions, locations, areas, thickness, etc.) are adequate and that the bidder will produce the required results.

A. Asbestos Containing Materials

The Contractor shall remove and properly dispose of all of the following asbestos-containing materials:

Base Bid:

<u>Location</u>	<u>Material</u>	<u>Friability</u>	<u>Estimated Quantity</u>
ROOF			
Door to access the building and at brick structure/chimney on roof	Exterior Door Caulk	Category II Non-Friable	2 EA



Stairwell, stair landing and stairs (West)	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	450 SF
3rd FLOOR			
South storage room 300, speech room, east teacher storage room 302, and west storage room 301	12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Category I Non-Friable	600 SF
Stairwells, stair landings and stairs (South, East and West)	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	1,800 SF
Behind walls and hard ceilings	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable	500 LF*
Behind walls and hard ceilings	Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline	Category II Non-Friable	500 LF*
Throughout floor	2'x4' White Fissured Ceiling Tile	Friable	10,500 SF
Above ceiling throughout floor	Brown Mastic on Metal Duct Pin	Category II Non-Friable	6,000 SF*
Throughout floor	Joint Compound Associated with Drywall	Category II Non-Friable	5,000 SF
Kitchenettes (South, East and West)	Black Sink Undercoat	Category II Non-Friable	4 EA
Bathroom foyer and hallways in center area, and southwest open area	Black Mastic Associated with 12"x12" Reddish Brown Flecked Floor Tile	Category I Non-Friable	1,600 SF



Perimeter wall	Beige Interior Window Caulk on 12'x4' Windows	Category II Non-Friable	24 EA
Stairwells (South, East and West)	Gray Interior Window Caulk on 6'x6' Windows	Category II Non-Friable	6 EA
Above plaster ceiling in stairwells (South, East and West)	Black Mastic on Metal Duct	Category II Non-Friable	6 SF
2nd FLOOR			
South, east and west teacher storages	12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Category I Non-Friable	600 SF
Stairwells, stair landings and stairs (South, East and West)	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	1,800 SF
Behind walls and hard ceilings	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable	500 LF*
Behind walls and hard ceilings	Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline	Category II Non-Friable	500 LF*
Throughout floor	2'x4' White Fissured Ceiling Tile	Friable	10,500 SF
Above ceiling throughout floor	Brown Mastic on Metal Duct Pin	Category II Non-Friable	6,000 LF*
Throughout floor	Joint Compound Associated with Drywall	Category II Non-Friable	5,000 SF
South kitchenette, and southeast and northeast rooms	Black Sink Undercoat	Category II Non-Friable	3 EA



Southeast and northeast rooms	12"x12" Tan Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	300 SF
Southeast open space, bathroom foyer and hallways in center area	Mastic Associated with 12"x12" Reddish Brown Flecked Floor Tile	Category I Non-Friable	1,500 SF
Perimeter wall	Beige Interior Window Caulk on 12'x4' Windows	Category II Non-Friable	24 EA
Stairwells (South, East and West)	Gray Interior Window Caulk on 6'x6' Windows	Category II Non-Friable	6 EA
Above plaster ceiling in stairwells (South, East and West)	Black Mastic on Metal Duct	Category II Non-Friable	6 SF
Mezzanine			
Foyers at stairwells (south, east and west), room adjacent to east stairwell, east-west hallway	12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Category I Non-Friable	2,300 SF
Stairwells, stair landings and stairs (South, East and West)	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	1,800 SF
Behind walls and hard ceilings	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable	500 LF*
Behind walls and hard ceilings	Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline	Category II Non-Friable	500 LF*
Throughout floor, excluding kindergarten room (west)	2'x4' White Fissured Ceiling Tile	Friable	4,400 SF



Above ceiling throughout floor	Brown Mastic on Metal Duct Pin	Category II Non-Friable	6,000 LF*
Throughout floor	Joint Compound Associated with Drywall	Category II Non-Friable	4,000 SF
Classroom adjacent to east stairwell and kindergarten room (west)	Black Sink Undercoat	Category II Non-Friable	5 EA
Storage room inside classroom adjacent to east stairwell and rooms inside kindergarten room (west)	12"x12" Tan Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	1,000 SF
Classrooms at perimeter walls	Tan Interior Window Caulk on 2'x20' windows and 8'x20' windows/doors	Category II Non-Friable	10 EA and 2 EA
Classrooms at perimeter walls	Brown Interior Window Glazing on 2'x20' windows and 8'x20' windows/doors	Category II Non-Friable	10 EA and 2 EA
Classrooms at perimeter walls	Gray Exterior Window Glazing on 2'x20' windows and 8'x20' windows/doors	Category II Non-Friable	10 EA and 2 EA
Above plaster ceiling in stairwells (South, East and West)	Black Mastic on Metal Duct	Category II Non-Friable	6 SF
Emergency exit door	White Interior Door Caulk	Category II Non-Friable	15 EA
1st Floor			
Hallway between kitchen and trash room (north), foyer at west stairwell and hallways	12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Category I Non-Friable	4,000 SF



Hallway between kitchen and trash (north), and room adjacent to south stairwell	Yellow/Black Mastic Associated with Tan with Brown Flecks Floor Tile	Category I Non-Friable	750 SF
Cafeteria, stairwells, stair landings and stairs (South, East and West)	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	3,500 SF
Behind walls and hard ceilings	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable	500 LF*
Behind walls and hard ceilings	Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline	Category II Non-Friable	500 LF*
Throughout floor	2'x4' White Fissured Ceiling Tile	Friable	7,500 SF
Above ceiling throughout floor	Brown Mastic on Metal Duct Pin	Category II Non-Friable	6,000 LF*
Classroom adjacent to west stairwell	Black Sink Undercoat	Category II Non-Friable	1 EA
Above plaster ceiling in west stairwell	Black Mastic on Metal Duct	Category II Non-Friable	2 SF
Emergency exit door	White Interior Door Caulk	Category II Non-Friable	10 EA
Basement			
East stairwell, stair landings, stairs, foyer/elevator lobby, and custodial office	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable	1,000 SF



2" riser pipeline in boiler room and hallway	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable	500 LF
COND & WP pipeline in custodial supply room	Beige Mastic on Fiberglass Pipe Bridging Insulation	Category II Non-Friable	14 EA
Emergency exit door in boiler room	White Interior Door Caulk	Category II Non-Friable	1 EA
Materials Assumed to Contain Asbestos			
<u>Location</u>	<u>Material</u>	<u>Friability</u>	<u>Estimated Quantity</u>
At stairwells and any location requiring a fire rated door	Fire Door Insulation**	Friable	90 EA
Boiler room in basement	Gaskets**	Unknown	Unknown
Boiler room in basement	Interior Boiler Material**	Unknown	Unknown
Inaccessible windows in 2 nd and 3 rd floors (48 12'x4' windows at perimeter walls and 12 6'x6' windows at stairwells)	Exterior Window Caulk and Glazing***	Category II Non-Friable	100 SF
Elevator	Elevator's switch deflector plate, brakes, cab and doors**	Unknown	Unknown
Hidden behind walls and hard ceilings	Thermal System Insulation (TSI)****	Friable	Unknown

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



* These quantities are assumed, since the identified asbestos-containing materials are reported to be hidden behind walls and hard ceilings. Contractor is to verify during remediation/abatement.

** These materials were not sampled due to the destructive means that sampling requires and should be presumed to be asbestos-containing materials (ACMs). Contractor is to verify during remediation/abatement.

*** These materials were not accessible; therefore, they could not be sampled and should be presumed to be asbestos-containing materials (ACMs). Contractor is to verify during remediation/abatement.

**** This material was not observed. However, if this material is uncovered during demolition activities, it should be presumed to be asbestos-containing materials (ACMs). Contractor is to verify during remediation/abatement.

Site plat developed by ECS with approximate ACM locations is attached to this Specification. However, CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES. Any exception taken should be noted with bid submission.

1.03 PRE-EXISTING CONTAMINATION

The Contractor will be responsible for cleaning all pre-existing contamination associated with the identified asbestos containing materials. The identified asbestos-containing ceiling tile and joint compound are reported to be damaged on floors throughout the building. Pre-cleaning efforts shall be performed as Class II work in accordance with federal and local applicable regulations and this Specification.

Various items are stored in the cafeteria and other areas in 1st floor. The Contractor shall consider the following items as asbestos-contaminated which shall be cleaned with HEPA vacuum and amended water and then removed from the area:

- 110 cooling units in cafeteria;
- 24 air conditioning units in cafeteria;
- 200 new windows in cafeteria;
- 100 2'x4' plywood in cafeteria;
- 40 copy/printer machines in kitchen;
- 60 3'x4' metal stands in west-south hallway.
-

1.04 ADDITIONAL ABATEMENT NOTES

- A. For informational purpose, Asbestos Containing Materials contained herein have been previously determined to contain the following asbestos concentrations:

<u>Material</u>	<u>Amount</u>	<u>Type of Asbestos</u>
Roof Exterior Door Caulk	4%	Chrysotile
12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Tile - 3% Mastic - 5%	Chrysotile Chrysotile



Yellow/Black Mastic Associated with Tan with Brown Flecks Floor Tile and	Mastic - 5%	Chrysotile
12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Tile - 4% Mastic - 5%	Chrysotile Chrysotile
Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	5%	Chrysotile
Beige Mastic on Fiberglass Pipe Bridging Insulation	4%	Chrysotile
White Interior Door Caulk	4%	Chrysotile
2'x4' White Fissured Ceiling Tile	5%	Amosite
Brown Mastic on Metal Duct Pin	8-10%	Chrysotile
Tan Interior Window Caulk	4%	Chrysotile
Brown Interior Window Glazing	4%	Chrysotile
Joint Compound Associated with Drywall	3%	Chrysotile
Black Sink Undercoat	3%	Chrysotile
12"x12" Tan Flecked Floor Tile and Associated Black Mastic	Tile - 4% Mastic - 8%	Chrysotile Chrysotile
Gray Exterior Window Glazing	5%	Chrysotile
Mastic Associated with 12"x12" Reddish Brown Flecked Floor Tile	8%	Chrysotile



Beige Interior Window Caulk (at perimeter walls)	4%	Chrysotile
Gray Interior Window Caulk (at stairwells)	4%	Chrysotile
Black Mastic on Metal Duct	10%	Chrysotile

- B. The Contractor shall provide units costs for the removal of the following materials:
1. TSI (various diameters per linear foot – glove bag removal);
 2. TSI (various diameters per linear foot – removal within existing containment);
 3. Pipe flange gasket (various diameters – per flange);
 4. Fiberglass duct insulation (per square foot);
 5. Fiberglass pipe insulation (per linear foot);

Note 1: For unit cost pricing, the Contractor shall assume that all mobilization, insurance, notification, profit etc. are to be included in the unit cost estimate. The Contractor shall assume that the work will be performed during the scope of the contracted asbestos abatement work and not requires a second mobilization, notification or permit.

Note 2: The quantities indicated are for informational purposes only. The Contractor is responsible for verifying all quantities to be removed to complete the scope of work. The Owner's Representative will be present during abatement activities to verify quantities removed. Where actual quantities vary from the estimated quantities herein in this Specification, the Contractor's base bid scope of work may be adjusted based on the actual quantity of materials removed using the submitted unit cost rates.

Note 3: During the performance of the project, the Contractor will be subject to inspection by the Owner's Representative. If the Contractor is found not in compliance with this Specification, the Contractor will stop all work immediately to resolve the violation. Standby time shall be at the contractor's expense.

Note 4: The Contractor shall remove asbestos-containing materials listed above within containment under negative pressure (minimum neg. pressure 0.02" w.g.).

Note 5: Ceiling Tile Removal; Gentle removal of the ceiling tile at the perimeter of the regulated work area needs to be performed prior to gross removal, in order to seal space between metal grid and ceiling deck. Wipe-cleaning of metal ceiling grid and lighting fixtures shall be conducted following ceiling tile removal.



Note 6: Carpet contaminated with asbestos shall be removed and disposed as ACM.

Note 7: Exploratory demolition of plaster ceiling and concrete block walls inside bathrooms is necessary to expose riser pipelines associated with asbestos-containing mastic on fiberglass pipe bridging insulation. Due to unknown condition of the asbestos-containing mastic, this exploratory demolition shall be performed within containment under negative pressure as Class II Work in accordance with federal and local applicable regulations and this Specification. If uncovered pipe insulation is found to be damaged, debris generated from the exploratory demolition shall be considered contaminated and shall be disposed as asbestos-containing material.

Note 8: For pipe insulation removal, the Contractor will be responsible under the base bid estimate to clean and decontaminate any areas where pipe insulation is to be removed.

Note 9: The Abatement Contractor shall coordinate with the Mechanical, Electrical, Plumbing, and General Contractors to ensure that all appropriate systems that will be impacted by the Work have been properly decommissioned prior to the start of any work.

Note 10: The Abatement Contractor shall coordinate with the General Contractor selected for this project to verify that the structure will support the planned activities and comply with local building codes and OSHA requirements.

1.05 RELATED WORK

- A. Section 13280 Hazardous Materials Remediation – General.
- B. Section 13281 Hazardous and Universal Waste Management
- C. Section 13283 Lead Control Procedures

1.06 CODES AND REGULATIONS

- A. General Applicability of Codes, Regulations and Standards : Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable codes and regulations have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.
- B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Designer



harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of the contractor, the contractor's employees, or subcontractors.

C. Federal Requirements: Abide by all Federal requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials including, but not limited to, the following:

1. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration including but not limited to:

29 CFR 1910.1001	- Asbestos, Tremolite, Anthophyllite, Actinolite; 29
CFR 1926.1101	- Asbestos in Construction
29 CFR 1910.134	- Respiratory Protection;
29 CFR 1926.103	- Respiratory Protection;
29 CFR 1910.146	- Permit Required Confined Space;
29 CFR 1926.20	- General Safety and Health Provisions;
29 CFR 1926.21	- Safety Training and Education;
29 CFR 1926.23	- First Aid;
29 CFR 1926.24	- Fire Protection;
29 CFR 1926.25	- Housekeeping;
29 CFR 1926.28	- Personal Protective Equipment;
29 CFR 1926.51	- Sanitation;
29 CFR 1926.55	- Gases, Vapors, Fumes, Dusts, and Mists;
29 CFR 1926.56	- Illumination;
29 CFR 1926.57	- Ventilation;
29 CFR 1926.59	- Hazard Communication;
29 CFR 1910.1200	- Hazard Communication;
29 CFR 1926.200	- Accident Prevention Signs and Tags;
29 CFR 1926.300, 301, 302	- Hand and Power Tools;
29 CFR 1926.451	- Scaffolding;
29 CFR 1926.500, 502, 503	- Fall Protection;
29 CFR Subpart E	- Personal Protective and Life Saving Equipment

2. DOT: U. S. Department of Transportation, including but not limited to:

49 CFR 171 and 172	- Hazardous Substances;
49 CFR 171-180	- General Awareness and Training Requirements for Handlers, Loaders and Drivers;
49 CFR 171-180	- Editorial and Technical Revisions

3. EPA: U. S. Environmental Protection Agency including but not limited to:

40 CFR 61-SUBPART A	- General Provisions
40 CFR 61-SUBPART M	- National Emission Standard for Asbestos
40 CFR 61-Appendix A to SUBPART M Operations	- Interpretive Rule Governing Roof Removal
40 CFR 763	- Asbestos Containing Material in



Schools

- D. Local Requirements: Abide by all local requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials.
- E. Building Codes: Comply with applicable provision of state and/or local building codes that govern any part of the work, including but not limited to the following:
 - 1. BOCA Chapter 33 Site Work, Demolition, and Construction with special attention to:
 - a. BOCA 3304 Protection of the Public
 - b. BOCA 3307 Health Hazards

1.07 REFERENCE STANDARDS

- A. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in the Contract Documents, are defined to mean the associated names. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents.

ACGIH	American Conference of Governmental Industrial Hygienists 1330 Kemper Meadow Dr. Cincinnati, OH 45240 (513) 742-2020
AIA	The American Institute of Architects 1735 New York Ave., NW Washington, DC 20006 (202) 626-7300
AIHA	American Industrial Hygiene Assoc. 2700 Prosperity Ave., Suite 250 Fairfax, VA 22031 (703) 849-8888
ANSI	American National Standards Institute 1899 C Street, NW, 11 th Floor Washington, DC 20036
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329 (404) 636-8400
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, PA 19428-2959 (610) 832-9585
ISO	International Standards Organization NEC National Electrical Code (from NFPA) NECA National Electrical Contractors Assoc. 3 Bethesda Metro Center, Suite 1100



Bethesda, MD 20814 (301) 657-3110

NFPA	National Fire Protection Assoc. One Batterymarch Park P.O. Box 9101 Quincy, MA 02269-9101 (617) 770-3000 (800) 344-3555
RFCI	Resilient Floor Covering Institute 115 Broad Street, Suite 201 Lagrange, GA 30240
UL	Underwriters Laboratories 333 Pfingsten Rd. Northbrook, IL 60062 (708) 272-8800

- B. Federal Government Agencies: Names and titles of federal government standard- or Specification-producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of standard- or Specification-producing agencies of the federal government.

USCE	Corps of Engineers (U.S. Department of the Army)
CFR	Code of Federal Regulations
CPSC	Consumer Product Safety Commission
CS	Commercial Standard (U.S. Department of Commerce)
DOC	Department of Commerce
DOT	Department of Transportation
EPA	Environmental Protection Agency
FS	Federal Specification (from GSA)
GSA	General Services Administration
MIL	Military Standardization Documents (U.S. Department of Defense)
MSA	Mine Safety and Health Administration (U.S. Department of Commerce)
NIST	National Institute of Standards and Technology (U.S. Department of Commerce)



OSHA Occupational Safety and Health Administration
(U.S. Department of Labor)

1.08 DEFINITIONS

- A. Accreditation: A formal recognition that an organization (e.g. laboratory) is competent to carry out specific tasks or type of tests.
- B. Accredited Laboratory: A laboratory that has been evaluated and given approval to perform a specified measurement or task (such as the National Voluntary Laboratory Accreditation Program), usually for a specific property or analyze for a specified period of time.
- C. Accredited Training Provider: A training provider that meets the standards established by EPA to train supervisors and workers.
- D. Adequately Wet: To sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from the asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.
- E. Air Sampling: Sampling of asbestos concentrations within the asbestos control area and inside the physical boundaries which is representative of the airborne asbestos concentrations which may reach the breathing zone of personnel potentially exposed to asbestos. The PM shall be responsible for all area monitoring.
- F. Amended Water: Water containing a wetting agent or surfactant with a maximum surface tension of 2.9 Pa (29 dynes per square centimeter) when tested in accordance with ASTM D 1331.
- G. Area Monitoring: Sampling of asbestos concentrations within the asbestos control area and inside the physical boundaries which is representative of the airborne asbestos concentrations which may reach the breathing zone of personnel potentially exposed to asbestos. The PM shall be responsible for all area monitoring.
- H. Asbestos: The term asbestos includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite and any of these minerals that has been chemically treated or altered. Materials are considered to contain asbestos if the asbestos content of the material is determined to be at least one percent.
- I. Asbestos Control Area: That area where asbestos removal operations are performed which is isolated by physical boundaries which assist in the prevention of the uncontrolled release of asbestos dust, fibers, or debris.
- J. Asbestos-Containing Material (ACM): Any material containing more than 1% asbestos as determined using the methods specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy.



- K. Asbestos-Containing Waste Material: Any waste that contains asbestos. This term includes filters or other materials contaminated with asbestos. This term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.
- L. Asbestos Debris: Pieces of ACM that can be identified by color, texture, or composition, or dust, if the dust is determined by an accredited inspector to be ACM.
- M. Asbestos Fibers: Those fibers having an aspect ratio of at least 3:1 and longer than 5 micrometers as determined by National Institute for Occupational Safety and Health (NIOSH) Method 7400.
- N. Background: The ambient airborne asbestos concentration in an uncontaminated area as measured prior to any asbestos hazard abatement efforts. Background concentrations for other (contaminated) areas are measured in similar but asbestos free locations.
- O. Blank: A non-exposed sample of the medium used for testing, such as a wipe or filter, which is analyzed like other samples to determine whether (1) samples are contaminated with asbestos before samples are collected (e.g., at the factory, or at the testing site), (2) the samples are contaminated after sample collection (e.g., during transportation to the laboratory or in the laboratory).
- P. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches around the nose and mouth of the face.
- Q. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.
- R. CFR - The Code of Federal Regulations: The basic component of the Federal Register publication system. The CFR is a codification of the regulations of the various Federal Agencies.
- S. Change Rooms and Shower Facilities: Rooms equipped with separate storage facilities for clean protective work clothing and equipment and for street clothes which prevent cross-contamination with a shower facility in between.
- T. Competent Person: An individual who meets the requirements of OSHA as a "competent person" for the specific activity involved in the work. The "competent person" must meet the requirements of 29 CFR 1926.32(f), and 29 CFR 1926.1101.
- U. Containment: A process to protect workers and the environment by controlling exposures to asbestos dust and debris created during abatement.
- V. Decontamination Room: Room for removal of contaminated personal protective equipment (PPE).
- W. Detection Limit: The minimum of a component that a method can reliably measure.



- X. Eight Hour Time Weighted Average (TWA): Airborne concentration of asbestos to which an employee is exposed, averaged over an 8-hour time work day.
- Y. Encapsulants: Specific materials in various forms used to chemically or physically entrap asbestos fibers in various configurations to prevent these fibers from becoming airborne. There are four types of encapsulants as follows which must comply with performance requirements as specified herein.
1. Removal Encapsulant (can be used as a wetting agent).
 2. Bridging Encapsulant (used to provide a tough, durable surface coating to asbestos containing material).
 3. Penetrating Encapsulant (used to penetrate the asbestos containing material encapsulating all asbestos fibers and preventing fiber release due to routine mechanical damage).
 4. Lock-Down Encapsulant (used to seal off or "lock-down" minute asbestos fibers left on surfaces from which asbestos containing material has been removed).
- Z. Engineering Controls: Measures other than respiratory protection or administrative control that are implemented at the work site to contain, control, and/or otherwise reduce exposure to asbestos-contaminated dust and debris. The measures include process and product substitution, isolation, and ventilation.
- AA. Exposure Monitoring: The personal air monitoring of an employee's breathing zone to determine the amount of contaminant (e.g. asbestos) to which he/she is exposed.
- BB. Federal Register: A document published daily by the Federal government that contains either proposed or final regulations.
- CC. Friable Asbestos Material: One percent asbestos containing material that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
- DD. Glovebag Technique: Those asbestos removal and control techniques put forth in 29 CFR 1926.1101 Appendix G.
- EE. HEPA Filter Equipment: High efficiency particulate air (HEPA) filtered vacuum and/or exhaust ventilation equipment with a filter system capable of collecting and retaining asbestos fibers. Filters shall retain 99.97 percent of particles 0.3 microns or larger as indicated in UL 586.
- FF. Intact: ACM that has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix.
- GG. Leak-tight: That solids or liquids cannot escape or spill out. It also means dust-tight.
- HH. Negative Pressure Enclosure (NPE): A pressure differential and ventilation system where the work area is maintained at a negative pressure relative to air pressure outside the work area.
- II. Non-friable Asbestos Material: Material that contains asbestos in which the fibers have been immobilized by a bonding agent, coating, binder, or other material so that



the asbestos is well bound and will not normally release asbestos fibers during any appropriate use, handling, storage or transportation. It is understood that asbestos fibers may be released under other conditions such as demolition, removal, or mishap.

- JJ. Permissible Exposure Limit (PEL) (for asbestos fibers): 0.1 fibers per cubic centimeter of air as an 8 hour time weighted averaged as determined by 29 CFR 1926.1101.
- KK. Personal Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.
- LL. Personal Samples (for sampling asbestos fibers): Air samples collected from within the breathing zone of a worker, but outside the respirator. The samples are collected with a personal sampling pump, pulling 1 to 2.5 liters/minute of air.
- MM. Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
- NN. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.
- OO. Surfacing Material: Material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).
- PP. Thermal System Insulation (TSI): Insulation applied to pipes, fittings, boilers, breeching, tanks, ducts or other components to prevent heat loss or gain.
- QQ. Visible Emissions: Any emissions containing particulate material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
- RR. Wetting Agent: A chemical added to water to reduce the water's surface tension thereby increasing the water's ability to soak into the material to which it is applied. An equivalent wetting agent must have a surface tension of at most 2.9 Pa (29 dynes per square centimeter) when tested in accordance with ASTM D 1331.
- SS. Work Area: The area where asbestos abatement or related work is performed which is defined and/or isolated to prevent the spread of asbestos fibers, or debris, and entry by unauthorized personnel.
- TT. Work Practice: A procedure followed by workers that is intended to minimize exposure to the worker and the environment.



1.09 WORKER PROTECTION

A. Worker Training

1. AHERA Accreditation: All workers/supervisors are to be accredited as Asbestos Workers/Supervisors as required by the EPA Model Accreditation Plan (MAP) asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).
2. OSHA Training: All workers/supervisors performing asbestos work shall be trained in accordance with 29 CFR 1926.1101 for Class I work. Provide training for all workers/supervisors who will perform any asbestos related activity (including non-friable asbestos activities). Training method and length shall be in accordance with the EPA Model Accreditation Plan (MAP) asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).

B. Medical Surveillance

1. Before exposure to airborne asbestos fibers or use of negative pressure respirators, provide workers with a comprehensive medical examination as required by 29 CFR 1926.1101 and 29 CFR 1910.134.
2. Medical examination shall be performed initially and annually thereafter.

C. Medical Records: Maintain complete and accurate records of employees' medical examinations, medical records, and exposure data for a period of 30 years after termination of employment and make records of the required medical examinations and exposure data available for inspection and copying to: The Assistant Secretary of Labor for Occupational Safety and Health (OSHA), or authorized representatives of them, and an employee's physician upon the request of the employee or former employee.

D. Environment, Safety and Health Compliance: In addition to detailed requirements of this Specification, comply with those applicable laws, ordinances, criteria, rules, and regulations of Federal, State, regional, and local authorities regarding handling, storing, transporting, and disposing of asbestos waste materials. Comply with the applicable requirements of the current issue of 29 CFR 1926.1101, 40 CFR 61-SUBPART A and 40 CFR 61-SUBPART M. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting the work. Where the requirements of this Specification, applicable laws, rules, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirement shall apply.

E. Respiratory Protection Program

1. Instruct and train each worker in proper respirator use and require that each worker always wear a respirator, properly fitted on the face, in the Work Area.
2. Furnish each employee required to wear a negative pressure or powered air purifying respirator with a respirator fit test at the time of initial fitting and at least every 6 months thereafter as required by 29 CFR 1926.1101.
3. Establish and implement a respirator program as required by ANSI Z88.2, 29 CFR 1926.1101, and 29 CFR 1926.103.



4. The Contractor shall provide the appropriate type of respirators for each task as stipulated by 29 CFR 1926.1101, 29 CFR 1926.103, and 29 CFR 1910.134 or provide and initial exposure assessment as outlined below.
 5. Initial Exposure Assessment: Submit level of respiratory protection intended for each operation required by the project. Base this selection on an "Initial Exposure Assessment" as required by OSHA 29 CFR 1926.1101. Submit information to support this "Initial Exposure Assessment."
 - a. Submit data from exposure monitoring for the PEL and EL from prior asbestos jobs within 12 months;
 - b. Submit monitoring and analysis that were performed in compliance with the OSHA asbestos standard in effect;
 - c. Submit data that was obtained under workplace conditions "closely resembling" those that will exist during the work;
 - d. Submit data from past asbestos jobs where the type of asbestos abatement and other work, material, control methods, work practices, and environmental conditions closely resemble those that will exist during the work;
 - e. Submit exposure data from prior asbestos jobs where the work that was conducted by employees whose training and experience are no more extensive than that of employees performing the current job;
 - f. Based on the exposure data from the previous asbestos jobs, select respiratory protection for the Work that will, to a high degree of certainty, prevent worker exposures (inside the respirator) that exceed the Permissible Exposure Limits (PEL) set forth in this Section of the specifications.
 6. Require that respiratory protection be used at all times that there is any possibility of disturbance of ACM whether intentional or accidental.
 7. Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy.
 8. Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used be Powered air-purifying respirators with high efficiency filters.
 9. Do not allow the use of single-use, disposable, quarter-face or half-face respirators for any purpose.
- F. Hazardous Communication Program: Establish and implement a Hazardous Communication Program as required by 29 CFR 1926.59.

1.10 SUBMITTALS

Before the start of work, submit the following to the Owner's Representative for review. Do not begin work until these submittals are returned with the Owner's Representative's action stamp indicating that the submittals are returned for unrestricted use.

- A. Notification of Asbestos Project to U.S. EPA and District of Columbia.
- B. The Environmental Abatement Contractor's District of Columbia License to perform Asbestos Abatement Work.
- C. Manufacturer's Catalog Data.



- D. Qualifications of Competent Person.
- E. Certification of medical examinations.
- F. Employee training certifications.
- G. Rental Equipment Notification: Provide a copy of the written notification to the rental company concerning the intended use of the equipment and the possibility of asbestos contamination of the equipment.
- H. Respiratory Protection Program.
- I. Copy of DOT and state or local license for waste hauler.
- J. Name and address of landfill where Asbestos Containing Materials are to be buried. Include contact person and telephone number.
- K. Chain of Custody form and form of waste manifest proposed.
- L. Testing Laboratory Qualifications: Submit the name, address, and telephone number of each testing laboratory selected for the sampling, analysis, and reporting of airborne concentrations of asbestos fibers for personal air sampling required by OSHA, along with certification that each laboratory is American Industrial Hygiene Association (AIHA) accredited and that persons counting the samples have been judged proficient by current inclusion on the AIHA Asbestos Analysis Registry (AAR) and/or successful participation of the laboratory in the Proficiency Analytical Testing (PAT) Program.
- M. Asbestos Hazard Abatement Plan: Submit a detailed plan of the safety precautions such as lockout, tag-out, fall protection, and confined space entry procedures and equipment and work procedures to be used in the removal of materials containing asbestos. Such plan shall include but not be limited to the precise personal protective equipment to be used including, but not limited to, respiratory protection, type of whole-body protection, shop drawings indicating the location of asbestos control areas including clean and dirty areas, buffer zones, showers, storage areas, change rooms, removal method, methods for compliance with 29 CFR 1926.1101, Appendix F, interface of trades involved in the construction, sequencing of asbestos related work, disposal plan, type of wetting agent and asbestos sealer to be used, locations of local exhaust equipment, and a detailed description of the method to be employed in order to control environmental pollution. The plan shall also include both fire and medical emergency response plans. The Asbestos Hazard Abatement Plan must be approved in writing prior to starting any asbestos work.



PART 2 PRODUCTS

2.01 RESPIRATORS

- A. Respirator Bodies: Provide full face powered air purifying respirators (PAPR's). Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit (0 degrees Celsius).
- B. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with 42 CFR Part 84 and ANSI Z228.2. Also, additional cartridge sections may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH Certification.
- C. Non-permitted Respirators: Do not use single use, disposable or quarter face respirators.
- D. Supplied Air Respirator Systems: If deemed to be necessary through compliance with 29 CFR 1926.103 and/or 29 CFR 1910.146, Supplied Air Respirator Systems shall comply with the following:
 - 1. Provide air used for breathing in supplied air respiratory systems that meets or exceeds standards set for C.G.A. type 1 (Gaseous Air) Grade D.
 - 2. Facepiece and Hose: Provide full facepiece and hose by same manufacturer that has been certified by NIOSH/MSHA as an approved Type "C" respirator assembly operating in pressure demand mode with a positive pressure facepiece.
 - 3. Auxiliary backup system: In atmospheres which contain sufficient oxygen (greater than or equal to 19.5 percent oxygen) provide a pressure-demand full facepiece supplied air respirator equipped with an emergency back up HEPA filter.
 - 4. Escape air supply: In atmospheres which are oxygen deficient (less than 19.5 percent oxygen) provide a pressure-demand full facepiece supplied air respirator incorporating an auxiliary self-contained breathing apparatus (SCBA) which automatically maintains an uninterrupted air supply in pressure demand mode with a positive pressure face piece.
 - 5. Backup air supply: Provide a reservoir of compressed air located outside the Work Area which will automatically maintain a continuous uninterruptible source of air automatically available to each connected facepiece and hose assembly in the event of compressor shut-down, contamination of air delivered by compressor, power loss or other failure. Provide sufficient capacity in the back-up air supply to allow a minimum escape time of one-half hour times the number of connections available to the Work Area. Air requirement at each connection is the air requirement of the respirators in use plus the air requirement of an average-sized adult male engaged in moderately strenuous activity.
 - 6. Warning device: Provide a warning device that will operate independently of the building's power supply. Locate so that alarm is clearly audible above the noise level produced by equipment and work procedures in use, in all parts of the Work Area and at the compressor. Connect alarm to warn of:
 - a. Compressor shut down or other fault requiring use of backup air supply
 - b. Carbon Monoxide (CO) levels in excess of 5 PPM/V



7. Compressor Motor: Provide a compressor driven by an electric motor. Do not use a gas or diesel engine to drive compressor. Insure that electrical supply available at the work site is adequate to energize motor.
8. Air Intake: Locate air intake remotely from any source of automobile exhaust or any exhaust from engines, motors, auxiliary generator or buildings.

2.02 PROTECTIVE CLOTHING

- A. Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.
- B. Boots: Provide work boots with non-skid soles, and where required by OSHA, foot protectives, for all workers. Provide boots at no cost to workers. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with ACM. Dispose of boots as asbestos-contaminated waste at the end of the work.
- C. Hard Hats: Provide head protectives (hard hats) as required by OSHA for all workers, and provide 4 spares for use by Designer, Project Administrator, and Owner. Require hard hats to be worn at all times that work is in progress that may potentially cause head injury. Provide hard hats of type with plastic strap type suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean, decontaminate and bag hats before removing them from Work Area at the end of the work.
- D. Goggles: Provide eye protection (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work.
- E. Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from Work Area and dispose of as asbestos-contaminated waste at the end of the work.

2.03 SHOWER FACILITIES

- A. Provide pre-fabricated or site-built shower facilities. Supply hot and cold water to shower head which can be controlled from inside shower.
- B. Filters: Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter.
 1. Primary Filter - Passes particles 20 microns and smaller
 2. Secondary Filter - Passes particles 5 microns and smaller
- C. Supply a sufficient quantity of soap and towels for the workers and authorized visitors.



2.04 EQUIPMENT FOR VISITORS

Disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the PM, Owner's Representative, Owner, or other authorized visitors for entry into and inspection of the asbestos work area. If a Supplied Air Respiratory System is in use, the Contractor shall provide authorized visitors with facepiece, hose, and hook-up to the Supplied Air Unit. The Contractor will not be responsible for providing other types of respiratory protection (i.e., negative pressure or powered air purifying respirators).

2.05 ELECTRICAL SERVICE

- A. General: Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.
- B. Ground Fault Protection: Equip all circuits for any purpose entering the Work Area with ground fault circuit interrupters (GFCI). Locate GFCI's exterior to Work Area so that circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters equipped with test button and reset switch for circuits to be used for any purpose in work area, decontamination units, exterior, or as otherwise required by national electrical code, OSHA or other authority. Locate in panel exterior to Work Area.
- C. Electrical Power Cords: Provide grounded extension cords. Use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
- D. Lamps and Light Fixtures: Provide general service incandescent lamps, sealed quartz halogen construction lights, or fluorescent lamps of wattage required for adequate illumination as required by the work. Protect lamps with guard cages or tempered glass enclosures, where fixtures are exposed to breakage by construction operations. Provide vapor tight fixtures in work area and decontamination units. Provide exterior fixtures where fixtures are exposed to the weather or moisture. Provide lighting with a secure base to insure that they will not be knocked over. Keep lights away from combustible materials.

2.06 SCAFFOLDING

- A. Provide scaffolding, ladders and/or staging, etc. as necessary to accomplish the work of this contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of scaffolding shall comply with applicable OSHA provisions.
- B. Equip rungs of metal ladders, etc. with an abrasive non-slip surface.
- C. Provide a nonskid surface on scaffold surfaces subject to foot traffic.



2.07 FIRST AID

- A. Comply with governing regulations and recognized recommendations within the construction industry.
- B. At a minimum, the onsite first aid kits will be sufficient for the numbers of workers onsite and shall include the following:
 - 1. Various sizes and types of bandages
 - 2. Sterile sponges
 - 3. Constricting bandage
 - 4. Eye patches
 - 5. Antiseptic wipes
 - 6. First aid cream
 - 7. Triangular bandage
 - 8. Disposable gloves
 - 9. Eye irrigating solution
 - 10. Aspirin or non-aspirin pain reliever
 - 11. Scissors
 - 12. Tweezers
 - 13. Rescue blanket
 - 14. First aid guide
 - 15. First aid tape
 - 16. Non-stick pads
 - 17. Cold/hot packs
 - 18. Splints
 - 19. Stretch gauze

2.08 FIRE EXTINGUISHERS

Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.

2.09 HEPA FILTERED FAN UNITS

- A. General: Supply the required number of HEPA filtered fan units to the site in accordance with this Specification. Use units that meet the following requirements.
- B. Cabinet: Constructed of durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than 30 inches [0.76 meters] to fit through standard-size doorways. Provide units whose cabinets are:
 - 1. Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance;
 - 2. Arranged to provide access to and replacement of all air filters from intake end;
 - 3. Mounted on casters or wheels.



- C. Fans: Rate capacity of fan according to usable air-moving capacity under actual operating conditions.
- D. HEPA Filters: Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.
 - 1. Provide units with a continuous rubber gasket located between the filter and the filter housing to form a tight seal.
 - 2. Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent.
 - 3. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.
 - 4. Provide filters that are marked with: the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.
- E. Pre-filters, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. Provide units with the following pre-filters:
 - 1. First-stage pre-filter: low-efficiency type (e.g., for particles 100 um and larger).
 - 2. Second-stage (or intermediate) filter: medium efficiency (eg., effective for particles down to 5 um).
- F. Provide units with pre-filters and intermediate filters installed either on or in the intake grid of the unit and held in place with special housings or clamps.
- G. Instrumentation: Provide units equipped with:
 - 1. Manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed;
 - 2. A table indicating the usable air-handling capacity for various static pressure readings on the Magnehelic gauge affixed near the gauge for reference, or the Magnehelic reading indicating at what point the filters should be changed, noting Cubic Feet per Minute (CFM) (Liters / Second (LPS)) air delivery at that point;
 - 3. Elapsed time meter to show the total accumulated hours of operation.
- H. Safety and Warning Devices: Provide units with the following safety and warning devices:
 - 1. Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter;
 - 2. Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter or blocked air discharge;
 - 3. Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red);
 - 4. Audible alarm if unit shuts down due to operation of safety systems.
- I. Electrical Components: Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.



2.10 CLEANING AND DECONTAMINATION

- A. Plastic Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6 mil (0.15 mm) thick, clear, frosted, or black as indicated.
- B. Disposal Bags: Provide 6 mil (0.15 mm) thick leak-tight polyethylene bags labeled with three labels with text as follows:
 - 1. First Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE FIBERS IS
HAZARDOUS TO YOUR HEALTH

- 2. Second Label: Provide in accordance with U. S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances

RQ-ASBESTOS WASTE
CLASS 9
NA2212-PG III

- 3. Third Label: Provide the name of the waste generator (Owner's name), the location from which the waste was generated and the names and addresses of the contractor and transporter. This label must be durable, able to repel dirt and moisture (e.g., permanent marker). Label must be placed directly on disposal bag(s) in a legible format.

2.11 WETTING MATERIALS

- A. Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the ACM and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50 percent polyoxyethylene ester and 50 percent polyoxyethylene ether mixed with five gallons (19 liters) of water.
- B. Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of ACM. Use a material which results in wetting of the ACM and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50 percent polyoxyethylene ester and 50 percent polyoxyethylene ether in five gallons (19 liters) of water.



2.12 GLOVEBAGS

- A. Glove bag abatement is allowed on the project only if performed in a critical barrier containment and with the written permission of the Owner's Representative.

2.13 ENCAPSULANTS

All encapsulants shall conform to current USEPA requirements, shall contain no toxic or hazardous substances as defined in 29 CFR 1926.59, and shall conform to the following performance requirements.

A. Bridging Encapsulant

<u>Requirement</u>	<u>Test Standard</u>
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Life Expectancy - 20 years	ASTM C 732 Accelerated Aging Test
Permeability - Minimum 0.4 perms	ASTM E 96
Fire Resistance - Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance - Minimum 245.5 mm/N (43 in/lb)	ASTM D 2794 Gardner Impact Test
Flexibility - no rupture or cracking	ASTM D 522 Mandrel Bend Test

B. Penetrating Encapsulant

<u>Requirement</u>	<u>Test Standard</u>
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Life Expectancy - 20 years	ASTM C 732 Accelerated Aging Test
Permeability - Minimum 0.4 perms	ASTM E 96
Cohesion/Adhesion Test - 729.5 N of force/meter (50 pounds of force/foot)	ASTM E 736
Fire Resistance - Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance - Minimum 245.5 mm/N (43 in/lb)	ASTM D 2794 Gardner Impact Test
Flexibility - no rupture or cracking	ASTM D 522 Mandrel Bend Test



C. Removal Encapsulants

<u>Requirement</u>	<u>Test Standard</u>
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Life Expectancy - 20 years	ASTM C 732 Accelerated Aging Test
Permeability - Minimum 0.4 perms	ASTM E 96

D. Lock-down Encapsulant

<u>Requirement</u>	<u>Test Standard</u>
Flame Spread: 25, Smoke Emission - 50	ASTM E 84
Life Expectancy: 20 years	ASTM C 732 Accelerated Aging Test
Permeability: Minimum 0.4 perms	ASTM E 96
Fire Resistance: Negligible affect on fire resistance rating over 3 hour test (Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119
Bond Strength: 1459 N of force/meter (100 pounds of force/foot) (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

PART 3 EXECUTION

3.01 PROTECTION

- A. Permits and Notifications: Obtain necessary permits in conjunction with asbestos removal, encapsulation, hauling, and disposition, and furnish notification of such actions required by Federal, State, regional, and local authorities prior to the start of work. Notify the U.S. EPA and District of Columbia, Department of Air Quality, in writing 10 working days prior to commencement of work. Post notification signs of the abatement work at all entrances to the building 3 days prior to commencement of work.
- B. Equipment
1. Respirators: At a minimum, all Class I work will be performed utilizing PAPR's. Provide personnel engaged in pre-cleaning, cleanup, handling, encapsulation and removal of asbestos materials with respiratory protection as indicated in 29 CFR 1926.1101 and 29 CFR 1926.103.
 2. Protective Clothing: Provide personnel exposed to asbestos with disposable "non-breathable," whole body outer protective clothing, head coverings, gloves, and foot coverings. Provide disposable gloves to protect hands. Make sleeves secure at the wrists, make foot coverings secure at the ankles, and make clothing secure at the neck by the use of tape.



3. Eye Protection: Provide goggles to personnel engaged in asbestos abatement operations when the use of a full face respirator is not required.
- C. Storage: Waste generated during abatement shall be stored in a construction trailer provided by the Contractor.
- D. Electrical Service:
 1. General: If necessary, provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of work.
 2. Lockout: Lockout all existing power to or through the work area. Unless specifically noted otherwise existing power and lighting circuits to the work area are not to be used. All power and lighting to the Work Area is to be provided from outside of the work area.
- E. Heating, Ventilating and Air Conditioning (HVAC) Systems: Shut down, lock out, and isolate HVAC systems that supply, exhaust, or pass through the asbestos work areas. Seal intake and exhaust vents in the asbestos work area with 6 mil thick plastic sheet and tape. Seal seams in HVAC components that pass through the asbestos work area.
- F. Securing Work Area: Secure work area from access by public, occupants, staff or users of the building. Accomplish this where possible, by locking doors, windows, or other means of access to the area.
- G. Access: Limit access to regulated areas to authorized persons as defined by OSHA, and to the Owner, Designer, Project Administrator or a representative authorized by one of these entities.
- H. Demarcation of Work Area: Provide bilingual warning signs printed in English and Spanish at all approaches to asbestos control areas. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide vertical format conforming to 29 CFR 1926.200, and 29 CFR 1926.1101 (minimum 20" by 14") displaying the following:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE
CLOTHING ARE REQUIRED IN
THIS AREA

- I. Warning Labels: Provide labels and affix to all asbestos materials, scrap, waste, debris, and other products contaminated with asbestos. Provide labels conforming to 29 CFR 1926.1101 of sufficient size to be clearly legible, displaying the following legend:



DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING ASBESTOS DUST MAY
CAUSE SERIOUS BODILY HARM

3.02 WORK AREA ENCLOSURE

- A. Pre-cleaning: Prior to establishment of the enclosure, wet wipe and HEPA vacuum all surfaces potentially contaminated with asbestos. Clean movable objects and remove them from the work area. Mobile objects will be assumed to be asbestos contaminated and are to be cleaned with HEPA vacuum and amended water and then removed from the area. Coordinate with the Building Owner if any mobile object, especially miscellaneous items reported to be stored in the cafeteria and other areas in 1st floor listed above, can be wrapped and then disposed of as asbestos-contaminated waste.
- B. Completely isolate the Work Area from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the Work Area(s) become contaminated with asbestos-containing dust or debris as a consequence of the Work, clean those areas in accordance with the procedures indicated in this Section. Perform all such required cleaning or decontamination at no additional cost to Owner.
- C. Each enclosure consists of a work area and a decontamination area. The work area where the asbestos removal operations occur are to be separated from the decontamination area by physical curtains, doors, and/or airflow patterns that force any airborne contamination back into the work area.
- D. Inspection Windows: If requested by the Owner's, install inspection windows in locations with unobstructed vision from outside to inside of the Work Area. A sufficient number of windows are to be installed to provide observation of all portions of the Work Area that can be made visible from adjacent areas. Inspection windows that open into uncontrolled area are to be covered with a removable plywood hatch secured by lock and key. Provide keys to PM for all such locks.
- E. Critical Barriers
 - 1. Completely separate the Work Area from other portions of the building, and the outside by closing all openings with sheet plastic barriers at least 6 mil in thickness, or by sealing cracks leading out of Work Area with duct tape.
 - 2. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into the Work Area with duct tape alone or with polyethylene sheeting at least 6-mil in thickness, taped securely in place with duct tape. Maintain seal until all work including Decontamination is completed. Take care in sealing of lighting fixtures to avoid melting or burning of sheeting.



3. Provide Sheet Plastic barriers at least 6 mil in thickness as required to seal openings completely from the Work Area into adjacent areas. Seal the perimeter of all sheet plastic barriers with duct tape or spray cement.
4. Cleaning and Sealing Surfaces: After cleaning with water and a HEPA vacuum, surfaces of stationary objects should be covered with two layers of plastic sheeting. The sheeting should be secured with duct tape or an equivalent method to provide a tight seal around the object.

F. Primary Barrier

1. Protect building and other surfaces in the Work Area from damage from water and high humidity or from contamination from asbestos-containing debris, slurry or high airborne fiber levels by covering with a primary barrier as described below.
2. Sheet Plastic: Protect surfaces in the Work Area with two (2) layers of plastic sheeting on floor and walls.
3. Stairs and Ramps: Do not cover stairs or ramps with unsecured sheet plastic. Where stairs or ramps are covered with plastic, provide 3/4 inch exterior grade plywood treads securely held in place over plastic. Do not cover rungs or rails with any type of protective materials.
4. Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting which has been damaged by removal operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.

G. Stop Work: If the Critical or Primary barrier falls or is breached in any manner stop asbestos removal work immediately. Do not start work until authorized by the PM.

H. Extension of Work Area: If the Critical Barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then add affected area to the Work Area, enclose it as required by this Section and decontaminate.

I. Secondary Barrier: Place a secondary layer of plastic as a drop cloth to protect the primary layer from debris generated by the asbestos abatement work is specified in the appropriate work sections.

J. Negative Pressure Enclosure

1. Isolate the Work Area from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.
2. HEPA Ventilation: Provide a local exhaust system in accordance with ANSI Z9.2 and 29 CFR 1926.1101 that will provide a negative pressure within the work area. Local exhaust equipment shall be operated 24 hours per day, until the asbestos work area is removed and shall be leak proof to the filter and equipped with HEPA filters. In no instance shall the building ventilation system be used as the local exhaust system for the asbestos work area.
3. The local exhaust system shall terminate out of doors and remote from any public access or ventilation system intakes unless authorized in writing by the Owner's Representative.



4. Arrange Work Area and decontamination units so that the majority of make up air comes through the Decontamination Units. Use only the Personnel or Equipment Decontamination Unit at any time and seal the other so that make up air passes through unit in use. Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room. At each opening, the air flow velocity must be sufficient to provide visible indications of air movement into the work area.
5. Relative Pressure in Work Area: Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of 0.02 inches of water.
6. Use a differential pressure meter or manometer to demonstrate the required pressure differential at every barrier separating the Work Area from the balance of the building, equipment, ductwork or outside.
7. Air Flow Tests: Air flow patterns will be checked before removal operations begin, at least once per operating shift and any time there is a question regarding the integrity of the enclosure. The primary test for air flow is to trace air currents with smoke tubes or other visual methods. Flow checks are made at each opening and at each doorway to demonstrate that air is being drawn into the enclosure and at each worker's position to show that air is being drawn away from the workers location and toward the HEPA filtration unit.
8. Isolation of elevators, stair towers, and return air intakes: Erect seals with an air space at doors to elevators and stair towers. Pressurize this space with clean or outside air or air that has been HEPA-filtered air so that it is at a pressure greater than either the Work Area elevator shaft or stair tower.

K. Personal Decontamination Unit

1. Provide decontamination units with a shower that comply with 29 CFR 1926.51(f)(4)(ii) through (v) for each asbestos work area. Decontamination units shall be physically attached to the Work Area.
2. Build a Personnel Decontamination Unit and Equipment Decontamination Unit onto and integral with each work area.
3. Each individual shall perform the following decontamination procedures upon exiting work area:
 - a. HEPA vacuum and remove asbestos contaminated disposable protective clothing while still wearing respirators in the equipment room and seal in two impermeable bags for disposal. Label the outer bag as asbestos contaminated waste.
 - b. Proceed to shower located between the equipment and clean rooms. Require that all employees shower before changing into street clothes.
 - c. Wash and remove respirator.
 - d. Proceed to clean room.
4. Collect used shower water and filter with approved water filtration equipment to remove asbestos contamination. Dispose of filters and residue as asbestos waste. Discharge clean water to the sanitary system.
5. Dispose of asbestos contaminated work clothing as asbestos contaminated waste.



3.03 SCAFFOLDING (when needed)

- A. During the erection and/or moving of scaffolding, care must be exercised so that the polyethylene floor covering is not damaged.
- B. Clean, as necessary, debris from non-slip surfaces.
- C. At the completion of abatement work clean construction aids within the Work Area, wrap in one layer of 6-mil thick polyethylene sheet and seal before removal from the Work Area.

3.04 WORK PROCEDURE

- A. Class I Work: At this time, TSI nor surfacing materials have been reported to contain asbestos; however, if these materials are uncovered during work and found to contain asbestos, the removal shall be performed as follow:
 - 1. All Class I work is to be performed in a full containment. Cover floor and wall surfaces with plastic sheeting sealed with tape and glue securely, as required. Use a minimum of two (2) layers of 6-mil polyethylene sheeting on floors that are not identified as ACM.
 - 2. As specified, a pressure differential across any physical or critical barrier within containment must be equal or exceed a static pressure of 0.02 inches of water.
 - 3. Attach a three(3)-station Personnel Decontamination Unit for worker decontamination to the Work Area.
- B. Class II Work:
 - 1. When removing non-friable material(s), a full containment is not required; however, it requires a minimum of two (2) workers to remove asbestos containing material(s) in a gradual manner, with continuous application of the amended water or wetting agent in such a manner that no asbestos material is disturbed prior to being adequately wetted. One individual shall remove the material(s) while the second worker applies the wetting agent and HEPA vacuums or bags up any debris generated.
 - 2. All Class II work is to be performed in a critical barrier containment with 6-mil polyethylene drop sheeting demarcated to restrict public access.
 - 3. As specified, a pressure differential across any physical or critical barrier within containment must be equal or exceed a static pressure of 0.02 inches of water.
 - 4. When removing joint compound, ceiling tile and floor mastic using mechanical methods, a three (3)-station Personnel Decontamination Unit for worker decontamination, with operating shower, shall be attached to the Work Area.
 - 5. Ceiling Tile Removal: Gently remove ceiling tile at perimeter of the regulated work area and then seal the area between the metal grid and ceiling deck with 6-mil polyethylene sheeting sealed with tape and glue securely, as required. Protect floors identified as non-asbestos containing materials after pre-cleaning efforts.
 - 6. Cleaning of mobile objects/items contaminated with asbestos-containing materials shall consider a Class II work.
 - 7. Asbestos-contaminated carpet shall be removed as Class II work and disposed as ACM.



- C. Exploratory Demolition:
 - 1. The Contractor shall conduct demolition of plaster ceilings and concrete block walls throughout the building, especially inside the bathrooms, in order to uncover identified and/or suspect ACM(s).
 - 2. If any uncovered identified and/or suspect ACM is found to be damaged, debris generated from demolition shall be considered to be asbestos-contaminated and disposed as ACM.
- D. Glove Bag Method:
 - 1. Glove bag abatement may be allowed on the project only if performed in a critical barrier containment with 6-mil polyethylene drop sheeting to remove certain sections of pipe insulation.
 - 2. Glove bag abatement must be approved with the written permission of the Owner's Representative.
- E. Wrap and Cut Method:
 - 1. Wrap and cut abatement may be allowed on the project only if performed in a critical barrier containment with 6-mil polyethylene drop sheeting to remove certain sections of pipe insulation following glove bag method. Pipe shall be wrapped prior to removal with at least two (2) layers of 6-mil polyethylene sheeting properly sealed with glue and tape and labeled in accordance with federal, state and local regulations. And then cut through the sections where pipe insulation had been removed using glove bag method.
 - 3. Fire doors can be also wrapped prior to removal with at least two (2) layers of 6-mil polyethylene sheeting properly sealed with glue and tape and labeled in accordance with federal, state and local regulations.
 - 2. Wrap and cut abatement must be approved with the written permission of the Owner's Representative.
- F. Do not allow eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics in the Work Area.
- G. Perform asbestos related work in accordance with 29 CFR 1926.1101, 40 CFR 61-SUBPART M, and as specified herein.
- H. Personnel of other trades not engaged in the removal and demolition of asbestos containing material shall not be exposed at any time to airborne concentrations of asbestos unless all the personnel protection and training provisions of this specification are complied with by the trade personnel.
- I. Pre-clean all work areas of pre-existing contamination/debris to include asbestos containing material fragments that have been dislodged. Pre-abatement visual cleanliness will be determined by the PM.
- J. Wet Removal techniques shall be used. Dry removal will not be permitted.
- K. Coordinate abatement in a manner to minimize the number of work areas that will require final clearance air sampling.



- L. High pressure washers are not permitted for the removal of ACM.
- M. Wet asbestos material with a fine spray of amended water prior to and during removal, cutting, or other handling so as to reduce the emission of airborne fibers.
- N. Remove material and immediately place in 6 mil thick plastic disposal bags.
- O. Evacuate air from disposal bags with a HEPA filtered vacuum cleaner before sealing. Twist neck of bags, bend over, and seal with minimum three wraps of duct tape. Clean outside and move to Wash Down Station adjacent to Equipment Decontamination Unit.
- P. Any asbestos waste material which will not fit inside pre-structured polyethylene bags shall be sealed in three (3) layers of six (6) mil polyethylene, labeled, and inspected by the PM prior to removal from the Equipment Decontamination Unit.
- Q. Housekeeping: Maintain surfaces of the asbestos control area free of accumulations of asbestos fibers. Give meticulous attention to restricting the spread of dust and debris; keep waste from being distributed over the general area. Use HEPA filtered vacuum cleaners. The use of compressed air as a means of asbestos removal or decontamination is prohibited.
- R. Stop Work: If an asbestos fiber release or spill occurs outside of the asbestos control area, stop work immediately, correct the condition to the satisfaction of the PM and Owner's Representative including clearance sampling, prior to resumption of work. In addition, the PM has Stop Work authority.

3.05 ALTERNATIVE REMOVAL METHODS

- A. All alternate methods shall be pre-approved by the Owner and the PM prior to execution.
- B. Mini-Enclosures
 - 1. A mini enclosure is a small walk-in enclosure which accommodates no more than two persons. Provide a fabricated or job-made enclosure constructed of 6 mil thick plastic. Place the enclosure under negative pressure by means of a HEPA filtered vacuum or similar HEPA filtered ventilation unit.
 - 2. Provide a remote Personnel Decontamination Unit for worker decontamination.
 - 3. Work Room: Construct Work Room in the same manner as a Primary Barrier fabricated from 6 mil thick sheet plastic. Arrange so that Primary Barrier provides both a Critical and Primary Barrier. Line walls and floor of Work Room with a continuous Secondary Barrier.
 - 4. Change Room: Provide a Change Room attached to each Work Room. Fabricate Change Room from 6 mil thick sheet plastic in the same manner as a Primary Barrier. Locate so that access to Work Area is through Change Room.
 - 5. Step Off Area: Cover floor in front of entry to Change Room with one layer of 6 mil thick sheet plastic. Securely anchor sheet plastic to prevent slipping.
 - 6. Flapped Door Construction: Provide flapped door as entry to Change Room and entry from Change Room to Work Room. Fabricate each flapped door from overlapping contacting layers of sheet plastic. Fasten each layer on the top and one side. Each flap is to be 3 inches longer than door opening. Reinforce free side and bottom of each sheet



- with duct tape. Alternate sides that are fastened on each layer. Form arrows pointing to entry side using duct tape on inside and outside of door.
7. Signage: At entry to Change Room post caution sign as required by 29 CFR 1926.
 8. Testing: The mini-enclosure shall be inspected for leaks and smoke tested to detect breaches, and breaches sealed.

3.06 CLEAN-UP

- A. Wet wipe, using a water and surfactant solution, all surfaces within the work area including plastic barriers with paper towels or disposable rags. The surfactant shall be of a type that penetrates friable asbestos materials so that the material is thoroughly wetted.
- B. When the surfaces have dried, HEPA vacuum all surfaces in the room starting at the ceiling, then top of wall and working downward to the floor.
- C. HEPA vacuum the floor using a floor attachment with rubber floor seals and adjustable floor to attachment height. Vacuum the floor in parallel passes with each pass overlapping the previous by one half the width of the floor attachment. At the completion of one cleaning, vacuum the floor a second time at right angles to the first.
- D. Repeat wet wiping and HEPA vacuuming until no visible residue remains.
- E. Remove used HEPA unit pre-filters and replace with clean filters. Use filters are to be disposed of as asbestos contaminated waste.

3.07 FINAL CLEARANCE

- A. Prior to removal of plastic barriers and after pre-clearance clean up of gross contamination, the PM shall conduct a visual inspection of all areas affected by the removal to ascertain that all specified ACM has been removed and no visible dust or debris remains within the work area.
- B. If visible ACM, dust or debris is visibly identified by the PM, the Contractor shall re-clean the work area.
- C. Upon obtaining a satisfactory final visual inspection from the PM, the Contractor shall apply a lock-down encapsulant. The encapsulant shall be spray applied to ceiling, walls, floors, and other areas exposed in the removal area. The exposed area shall include but not be limited to plastic barriers, furnishings, and articles to be discarded as well as dirty change room, air locks for bag removal and decontamination chambers.
- D. When encapsulant is dry to the touch, the PM shall conduct final clearance sampling in accordance with Section 13280 of this Specification.
- E. Within 24 hours of receiving final clearance sample results, the Contractor shall submit copies to the District of Columbia, Department of Air Quality.



3.08 TEAR-DOWN

- A. After acceptable airborne concentration are attained but before the HEPA unit is turned off and the enclosure removed, remove all pre-filters on the building HVAC system and provide new pre-filters. Dispose of filters as asbestos contaminated materials.
- B. Reestablish HVAC mechanical and electrical systems in proper working order.
- C. Plastic sheeting, duct tape, etc. utilized in the construction of the asbestos containment shall be disposed of as asbestos-contaminated waste.

3.09 DISPOSAL OF ASBESTOS

- A. Waste generated as a result of asbestos removal shall be disposed of at an Environmental Protection Agency (EPA) and District of Columbia-approved asbestos landfill.
- B. Each asbestos disposal bag and wrapped material shall be affixed with a warning and Department of Transportation (DOT) label.
- C. The name of the waste generator and the location at which the waste was generated shall be clearly indicated on the outside of each container.
- D. Prevent contamination of the transport vehicle. These precautions include lining the vehicle cargo area with plastic sheeting (similar to work area enclosure) and thorough cleaning of the cargo area after transport and unloading of asbestos debris is complete.
- E. Procedure for hauling and disposal shall comply with 40 CFR 61-SUBPART M, State, regional, and local standards.
- F. Workers unloading the asbestos disposal bags shall wear appropriate respirators and personal protective equipment when handling asbestos materials at the disposal site.



END OF SECTION



SECTION 13283 LEAD CONTROL PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS and CONDITIONS OF THE CONTRACT, and applicable parts of DIVISION 1 – GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.02 WORK INCLUDED

The work outlined in this Specification involves the removal of lead containing products and steps needed to limit occupational and environmental exposure to lead hazards. Lead Based Paint was identified only on orange metal elevator doors and door jamb in 3rd floor of the building on the representative XRF testing performed by ECS in February 1, 2013.

However, it is important to note that other painted surfaces are reported to contain lead in concentration less than 1.0 milligrams per square centimeter ($< 1.0 \text{ mg/cm}^2$). These surfaces may still contain concentration of lead in the paint, which when disturbed, may generate lead dust greater than the Permissible Exposure Limit (PEL) of 50 micrograms per cubic millimeter ($\mu\text{g/m}^3$) as an 8-hour Time Weighted Average (TWA) established by U.S. Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1926.62 – Lead in Construction. Therefore, any disturbances to lead-based and lead-containing painted components shall be performed in accordance with OSHA regulation 29 CFR 1926.62 – Lead in Construction and this Specification.

1.03 RELATED WORK

- A. Section 13280 Hazardous Materials Remediation - General
- B. Section 13281 Hazardous and Universal Waste Management
- C. Section 13282 Removal and Disposal of Asbestos-Containing Materials

1.04 CODES AND REGULATIONS

- A. General Applicability of Codes and Regulations, Guidelines and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, guidelines and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.
- B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, protection of workers, visitors to the site, and persons occupying areas adjacent to



the site and packaging, salvaging, and delivering lead-containing materials. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Designers harmless for failure to comply with any applicable work, packaging, salvaging, delivering, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

C. Federal Requirements: which govern lead based paint work or packaging, salvaging, and delivering of hazardous waste materials include but are not limited to the following:

1. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

- | | |
|---------------------------|---|
| 29 CFR 1910.134 | - Respiratory Protection; |
| 29 CFR 1926.103 | - Respiratory Protection; |
| 29 CFR 1926.20 | - General safety and health provisions; |
| 29 CFR 1926.21 | - Safety training and education; |
| 29 CFR 1926.23 | - First Aid; |
| 29 CFR 1926.24 | - Fire Protection; |
| 29 CFR 1926.25 | - Housekeeping; |
| 29 CFR 1926.28 | - Personal protective equipment; |
| 29 CFR 1926.51(f) | - Washing facilities; |
| 29 CFR 1926.55 | - Gases, vapors, fumes, dusts, and mists; |
| 29 CFR 1926.56 | - Illumination; |
| 29 CFR 1926.57 | - Ventilation; |
| 29 CFR 1926.59 | - Hazard Communication; |
| 29 CFR 1910.1200 | - Hazard Communication; |
| 29 CFR 1926.55 | - Gases, Vapors, Fumes, Dusts, and Mists |
| 29 CFR 1926.62 | - Lead Construction Standard; |
| 29 CFR 1926.200 | - Accident Prevention Signs and Tags; |
| 29 CFR 1926.353 | - Ventilation: Welding, cutting or heating of metals of toxic significance; |
| 29 CFR 1926.300, 301, 302 | - Hand and power tools; |
| 29 CFR 1926.451 | - Scaffolding; |
| 29 CFR 1926.500, 502, 503 | - Fall Protection. |
| 29 CFR 1926 Subpart E | - Personal Protective and Life Saving Equipment |

2. DOT: U. S. Department of Transportation, including but not limited to:

- | | |
|--------------------|------------------------|
| 49 CFR 171 and 172 | - Hazardous Substances |
|--------------------|------------------------|

3. EPA: U. S. Environmental Protection Agency (EPA), including but not limited to:

- | | |
|-----------------------------------|--|
| 40 CFR 260, 261, 262, 263 and 264 | -Resource Conservation and Recovery Act (RCRA) |
| RRP Rules | - Lead Renovation, Repair and Painting (RRP) Program |



- D. State Requirements: RESERVED.
- E. Local Requirements: Abide by all local requirements which govern lead abatement work or packaging, salvaging, and delivering of hazardous waste materials.
- F. Building Codes: Comply with applicable provision of state and/or local building codes that govern any part of the work including but not limited to the following:
1. National Fire Protection Association (NFPA) Codes (as adopted by the District of Columbia);
 2. NFPA 70 / National Electrical Code (1996);
 3. BOCA Building Codes (1996);
 4. ICC International Mechanical Codes (1998);
 5. WSSC Plumbing and Gas Fitting Regulations [Latest Edition].

1.05 REFERENCE STANDARDS

- A. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in Contract Documents, are defined to mean the associated names. Names and addresses are subject to change and are believed, but not assured, to be accurate and up-to-date as of date of the Contract Documents.

ACGIH	American Conference of Governmental Industrial Hygienists 1330 Kemper Meadow Dr. Cincinnati, OH 45240 (513) 742-2020
AIA	The American Institute of Architects 1735 New York Ave., NW Washington, DC 20006 (202) 626-7300
AIHA	American Industrial Hygiene Assoc. 2700 Prosperity Ave., Suite 250 Fairfax, VA 22031 (703) 849-8888
ANSI	American National Standards Institute 1899 C Street, NW, 11 th Floor Washington, DC 20036
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329 (404) 636-8400
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, PA 19428-2959 (610) 832-9585



ISO	International Standards Organization NEC National Electrical Code (from NFPA) NECA National Electrical Contractors Assoc. 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814 (301) 657-3110
NFPA	National Fire Protection Assoc. One Batterymarch Park P.O. Box 9101 Quincy, MA 02269-9101 (617) 770-3000 (800) 344-3555
RFCI	Resilient Floor Covering Institute 115 Broad Street, Suite 201 Lagrange, GA 30240
UL	Underwriters Laboratories 333 Pfingsten Rd. Northbrook, IL 60062 (708) 272-8800

- B. Federal Government Agencies: Names and titles of federal government standard- or Specification-producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of standard- or Specification-producing agencies of the federal government. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents.

USCE	Corps of Engineers (U.S. Department of the Army)
CFR	Code of Federal Regulations
CPSC	Consumer Product Safety Commission
CS	Commercial Standard (U.S. Department of Commerce)
DOC	Department of Commerce
DOT	Department of Transportation
EPA	Environmental Protection Agency
FS	Federal Specification (from GSA)
GSA	General Services Administration
MIL	Military Standardization Documents (U.S. Department of Defense)
MSA	Mine Safety and Health Administration (U.S. Department of Commerce)



NIST	National Institute of Standards and Technology (U.S. Department of Commerce)
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor)

1.06 DEFINITIONS

- A. Accreditation: A formal recognition that an organization (e.g. laboratory) is competent to carry out specific tasks or type of tests.
- B. Accredited Laboratory: A laboratory that has been evaluated and given approval to perform a specified measurement or task (such as the National Lead Laboratory Accreditation Program), usually for a specific property or analyze for a specified period of time.
- C. Accredited Training Provider: A training provider that meets the standards established by EPA to train risk assessors, inspectors, supervisors, and workers.
- D. Action Level: Employee exposure, without regard to use of respirators, to an airborne concentration of lead of thirty micrograms per cubic meter ($30 \mu\text{g}/\text{m}^3$) of air averaged over an 8-hour period in an occupational/industrial environment. In a domicile or other environment where 24-hour exposure is possible, the action level is: exposure to an airborne time weighted average (24 hours) of concentration of lead of eight micrograms per cubic meter ($8 \mu\text{g}/\text{m}^3$) of air.
- E. Area Monitoring: Sampling for lead concentrations within the lead control area and inside the physical boundaries which is representative of the airborne lead concentrations that may reach the breathing zone of personnel potentially exposed to lead. The PM shall be responsible for all area monitoring.
- F. Blank: A non-exposed sample of the medium used for testing, such as a wipe or filter, which is analyzed like other samples to determine whether (1) samples are contaminated with lead before samples are collected (e.g., at the factory, or at the testing site), (2) the samples are contaminated after sample collection (e.g., during transportation to the laboratory or in the laboratory).
- G. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches around the nose and mouth of the face.
- H. Building Component: Any part of a building coated with paint.
- I. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.
- J. CFR - The Code of Federal Regulations: The basic component of the Federal Register publication system. The CFR is a codification of the regulations of the various Federal Agencies.
- K. Detection Limit: The minimum of a component that a method can reliably measure.



- L. Eight-Hour Time Weighted Average (TWA): Airborne concentration of lead to which an employee is exposed, averaged over an 8-hour workday as indicated in 29 CFR 1926.62.
- M. Engineering Controls: Measures other than respiratory protection or administrative control that are implemented at the work site to contain, control, and/or otherwise reduce exposure to lead-contaminated dust and debris. The measures include process and product substitution, isolation, and ventilation.
- N. Exposure Monitoring: The personal air monitoring of an employee's breathing zone to determine the amount of contaminant (e.g. lead) to which he/she is exposed.
- O. Federal Register: A document published daily by the Federal government that contains either proposed or final regulations.
- P. Hazardous Waste: As defined in RCRA the term "hazardous waste" means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may:
 - 1. Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
 - 2. Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.
 - 3. As defined in the regulations, a solid waste is hazardous if it meets one of four conditions:
 - a. Exhibits a characteristic of a hazardous waste (40 CFR Sections 261.20 through 262.24).
 - b. Has been listed as hazardous (40 CFR Section 261.31 through 261.33).
 - c. Is a mixture containing a listed hazardous waste and a non-hazardous solid waste (unless the mixture is specifically excluded or no longer exhibits any of the characteristics of hazardous waste).
 - d. Is not excluded from regulation as a hazardous waste.
- Q. HEPA - High Efficiency Particulate Air: A filter capable of filtering out particles of 0.3 microns or greater from a body of air at 99.97% efficiency or greater.
- R. Landfill: A disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well.
- S. Lead Based Paint (LBP): Protective or decorative coating which contains lead in quantities greater than EPA and District of Columbia allowable concentrations.
- T. µg - Micrograms: The prefix "micro-" means "1/1,000,000 of" (one millionth of). A microgram is 1/1,000,000 of a gram and 1/1,000 of a milligram. A microgram is equal to about 35/1,000,000,000 (thirty-five billionths) of an ounce. 28,400,000 µg is equal to 1 ounce.
- U. Permissible Exposure Limit (PEL): Fifty micrograms per cubic meter (50 µg/m³) of air as an 8-hour time weighted average as determined by 29 CFR 1926.62. If an employee is exposed for more than 8 hours in a work day, the PEL shall be determined by the following formula: $PEL \text{ (micrograms/cubic meter of air)} = 400/\text{Number of hours worked per day}$.
- V. Personal Monitoring: Sampling of the lead dust concentrations within the breathing zone of an employee.



- W. Personal Samples (for sampling lead dust): Air samples collected from within the breathing zone of a worker, but outside the respirator. The samples are collected with a personal sampling pump, pulling 1 to 4 liters/minute of air.
- X. Solid Waste: As defined in RCRA the term "solid waste" means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under the Clean Water Act, or special nuclear or byproduct material as defined by the Atomic Energy Act of 1954.
- Y. TCLP (Toxicity Characteristic Leaching Procedure): A test, called the extraction procedure, that is designed to identify wastes likely to leach hazardous concentrations of particular toxic constituents into the ground water as a result of improper management. It is a characteristic of hazardous waste.

1.07 WORKER PROTECTION

All workers are to be notified of the presence of components painted with lead-based and lead-containing paint.

1.08 SUBMITTALS

- A. Before the start of work, submit the following to the Owner's Representative for review. Do not begin work until these submittals are returned with the Owner's Representative's action stamp indicating that the submittals are returned for unrestricted use.
 - 1. Certifications:
 - a. Submit the Contractor supervisor and workers District of Columbia lead certifications.
 - b. Submit the Contractor supervisor and workers certifications under the US EPA Renovation, Repair and Painting (RRP) Program.
 - 2. Testing Laboratory Qualifications:
 - a. Submit the name, address, and telephone number of the testing laboratory selected to perform the Toxicity Characteristic Leaching Procedure (TCLP) testing. The laboratory shall be accredited by the American Industrial Hygiene Association (AIHA). Provide AIHA documentation along with date of accreditation/reaccreditation.
 - 3. Hazardous Waste Management:
 - a. Submit a Hazardous Waste Management Plan within 14 days after award of contract to the IHC for approval. The Hazardous Waste Management plan shall comply with applicable requirements of Federal, State, and local hazardous waste regulations and address:
 - i. Procedures to segregate wastes into separate waste streams to minimize the quantity of hazardous waste generated.
 - ii. Testing to identify hazardous wastes associated with the work.
 - iii. Estimated quantities of wastes to be generated and disposed of.
 - iv. Transporter / disposal facility documentation including, name, location, EPA identification number, hazardous waste permits and a 24 hour point of contact.



- v. Names and qualifications (experience and training) of personnel who will be working on-site with hazardous wastes.
 - vi. List of waste handling equipment to be used in performing the work, to include cleaning, volume reduction, and transport equipment.
 - vii. Spill prevention, containment, and cleanup contingency measures to be implemented.
 - viii. Procedures and schedule for waste containment, control and disposal wastes shall be cleaned up and containerized daily.
4. Manufacturer's Catalog Data:
- a. HEPA Vacuums.
 - b. Respirators.
 - c. HEPA filtered negative air machines.
 - d. LBP Control Chemicals.
 - e. All other tools or equipment that the contractor plans on using to remove Lead - Containing materials.
 - f. Instructions: Paint control materials. Include applicable material safety data sheets.
5. Lead-Containing Material Control Plan: Ten (10) days before work starts, submit to the Owner's Representative for approval a detailed job-specific plan of work procedures to be used in the control of lead-containing paint or materials. The plan shall include the name of the Competent Person assigned to supervise the operation, a sketch showing the location, size, and details of lead control areas, type of containment materials used, location and details of decontamination rooms, change rooms, shower facilities, and HEPA filtered mechanical ventilation system.
- a. Include in the plan, eating, drinking, smoking and restroom procedures, interface of trades, sequencing of lead related work, collected wastewater and lead paint and/or lead containing material debris disposal plan, air sampling plan, respirators, protective equipment, and a detailed description of the method of containment of the operation to ensure that airborne lead concentrations of 30 micrograms per cubic meter of air are not exceeded outside of the lead control area.
 - b. Include air and floor wipe sampling, strategy, sampling methodology, frequency, duration of sampling, and qualifications and training of air monitoring personnel in the sampling portion on the plan.
- B. During Work: TCLP test results, as required to characterize waste for segregation and packaging purposes.
1. Records:
- a. Submit completed and signed hazardous waste manifest from treatment or disposal facility.

PART 2 PRODUCTS

2.01 PAINT CONTROL PRODUCTS

Submit for approval, applicable Material Safety Data Sheets for paint control products used in paint control work. Use the least toxic product, suitable for the job and acceptable to the Owner's Representative.



PART 3 EXECUTION

3.01 PROTECTION

- A. Notification:
1. Prior to the restoration and renovations of the structures, all workers are to be notified that components in the subject areas of the building being demolished contain lead.
 2. Notify the District Department of Environment (DDOE) ten(10) days prior to the start of any lead control work.
- B. Lead Control Area Requirements: Establish a lead control area by demarcating with a minimum of 4" barrier tape and placing 6-mil plastic drop sheet, where lead-containing paint and/or material removal will be performed.
- C. Protection of Existing Work to Remain: Perform lead-containing paint and materials control work without damage or contamination of adjacent areas. Where existing work is damaged or contaminated, the Contractor will restore it to its original condition.
- D. Boundary Requirements: Provide physical boundaries around the lead control area by sealing off the area, if determined necessary, and as designated on the approved work plan to ensure that airborne concentrations of lead will not reach thirty micrograms per cubic meter (30 $\mu\text{g}/\text{m}^3$) of air outside of the lead control area.
- E. Heating, Ventilating and Air Conditioning (HVAC) Systems: Shut down, lock out, and isolate HVAC systems that supply, exhaust, or pass through the lead control areas. Seal intake and exhaust vents in the lead control area with 6-mil plastic sheet and tape. Seal seams in HVAC components that pass through the lead control area.
- F. Change Room and Shower Facilities: Provide clean change rooms and shower facilities in accordance with requirements of 29 CFR 1926.62.
- G. Mechanical Ventilation System (if deemed necessary through the lead control work plan):
1. Use adequate ventilation to control personnel exposure to lead in accordance with 29 CFR 1926.62.
 2. Contain removal operations by the use of a negative pressure full containment system with at least one change room and with HEPA filtered exhaust, exhausted to the outside of the building. The negative pressure containment shall have a minimum of 6 air changes per hour. The Contractor shall maintain a -0.020 column inches of water pressure differential, relative to outside pressure. This measurement shall be recorded and maintained within the enclosure as evidenced by manometric measurements and maintained around the clock, or until authorization for containment control is obtained from the Owner's Representative. Hourly readings shall be recorded while lead removal work is being performed. Anytime the negative pressure is less than -0.020 column inches of water pressure differential, relative to outside pressure, all lead control work inside the containment will stop. The work may be restarted only after the negative pressure is restored to a level of -0.020 column inches of water pressure differential or greater, relative to outside pressure.
- H. Personnel Protection: Personnel shall wear and use protective clothing and equipment as specified herein. Eating, smoking, or drinking is not permitted in the lead control area. The



Contractor shall provide the appropriate type of respirator to be used by the employees as required by 29 CFR 1926.62.

- I. Warning Signs: Provide warning signs at approaches to lead control areas. Locate signs at such a distance that personnel may read the sign and take the necessary precautions before entering the area. Signs shall comply with the requirements of 29 CFR 1926.62.

3.02 WORK PROCEDURES

- A. Perform control operation of any identified lead-based and lead-containing material in accordance with approved Lead-Containing Material Control Plan. The assigned Competent Person shall supervise the work and will be on site anytime work in the lead control area is on-going. This person shall use procedures and equipment required to limit occupational and environmental exposure to lead when lead-containing material is been removed in accordance with 29 CFR 1926.62, except as specified herein. Dispose of lead-containing material, any paint chips and associated waste in compliance with applicable Federal, State, and local requirements.
- B. Personnel Exiting Procedures: Whenever personnel exist the lead control area, they shall perform the following procedures and shall not leave the work until they:
 1. HEPA vacuum themselves off;
 2. Remove protective clothing, and place them in an approved impermeable disposal bag;
 3. Change to clean clothes prior to leaving the physical boundary designated around the lead control area.
- C. Monitoring: Monitoring of airborne concentrations of lead shall be in accordance with 29 CFR 1926.62 and as specified herein.
- D. Monitoring during Lead-Containing Material Control Work: The Contractor shall control the lead level outside of the work boundary to less than thirty micrograms per cubic meter ($30 \mu\text{g}/\text{m}^3$) of air at all times. As a minimum, conduct area monitoring daily on each shift in which Lead - Containing Material control operations are performed in areas immediately adjacent to the lead control area. If any outside the work boundary lead levels are at or exceed $30 \mu\text{g}/\text{m}^3$ of air, work shall be stopped and the IHC shall immediately correct the condition(s) causing the increased levels and notify the Owner immediately. Work shall resume when approval is given by the Owner.

3.03 CLEANUP

- A. Cleanup:
 1. Maintain surfaces of the lead control area free of accumulations of lead-contaminated chips, dust and debris;
 2. Restrict the spread of dust and debris;
 3. Keep waste from being distributed over the lead control area;
 4. Do not dry sweep or use compressed air to clean up the lead control area;
 5. At the end of each shift and when the lead-containing material control operation has been completed, clean the area of all visible lead-contaminated dust and debris by vacuuming with a HEPA filtered vacuum cleaner and wet wipe and or mopping the area.



3.04 DETERMINATION OF HAZARDOUS WASTE MATERIALS

- A. Testing of waste by Toxicity Characteristic Leaching Procedure (TCLP) will be performed by the Contractor and overseen by the Owner's Representative. Sampling of waste products shall be conducted in a representative manner in accordance with EPA Document SW 846 and analyzed performed in accordance with EPA Method 1311. Samples will be collected from each waste category. Results will be supplied to the Contractor and the Owner's Representative.
- B. Waste tested which results in a lead content in the leachate of greater than or equal to five parts per million (5 ppm) is to be considered hazardous, handled and disposed of according to local, city, state, and federal regulations. Waste tested which results in a lead content in the leachate of less than 5 ppm can be disposed of as regular construction waste. In no manner may the components that contain lead-based paint (LBP) shall be recycled and re-deposited on site.

3.05 DISPOSAL

- A. Collect all potential lead-contaminated waste, including but not limited to, removed paint chips, abrasive blast medium, architectural components, scrap, debris, bags, containers, equipment, and lead-contaminated clothing.
- B. For drummed waste, store in U.S. Department of Transportation (49 CFR 178) approved 55 gallon drums to identify the type of waste (49 CFR 172) and the date lead contaminated wastes were first put into the drum. For architectural components, e.g., doors, windows, and molding, store so as to prevent environmental contamination. 6-mil plastic sheeting should be placed underneath and on top of the material; plywood or other durable material should be placed on top of the plastic to prevent it from being punctured. Transport waste in covered vehicle only.
- C. Periodically remove hazardous wastes, so that 90 calendar day storage limitation is not exceeded.
- D. Handle, store, transport, and dispose lead or lead-contaminated waste in accordance with 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, and 40 CFR 265. Comply with land disposal restriction notification requirements as required by 40 CFR 268.
- E. Disposal Documentation: Submit written evidence that the hazardous waste transporter and the treatment, storage, or disposal facility (TSDF) is approved for lead disposal by the EPA and state or local regulatory agencies. Submit one copy of the completed manifest, signed and dated by the initial transporter in accordance with 40 CFR 262. Submit Certification of disposal from TSDF.

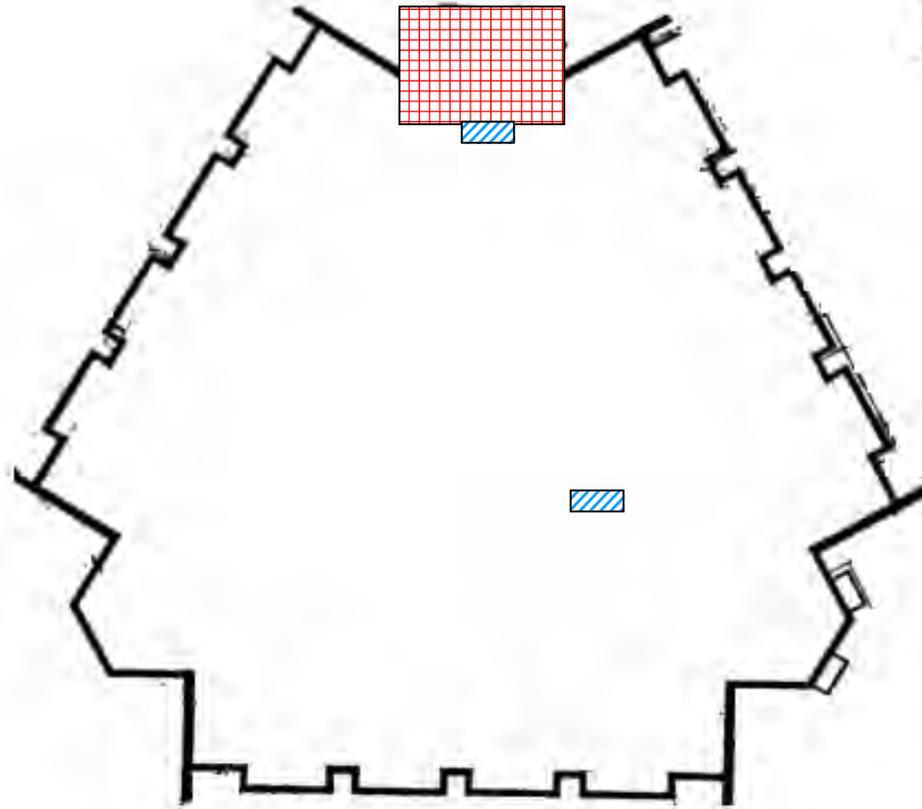


END OF SECTION



 ~2 SF of Exterior Door Caulk

 ~450 SF of 12"x12" Beige Flecked Floor
Tile and Associated Black Mastic



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

Source: Provided by Mr. Graham Davidson of Hartman-Cox

Roof

Scale: Locations are estimated

Brookland School
1150 Michigan Avenue, NE
Washington, DC



**Identified Asbestos-Containing
Materials Location Plat**
ECS Project No. 01:20705-C
March 2013

-  ~600 SF of 12"x12" Greenish Gray Floor Tile and Associated Black Mastic
-  ~1,800 SF of 12"x12" Beige Flecked Floor Tile and Associated Black Mastic
-  ~10,500 SF of 2'x4' White Fissured Ceiling Tile
-  4 Sinks with Black Undercoat
-  ~1,600 SF of Black Mastic Associated with 12"x12" Reddish Brown Flecked Floor Tile
-  ~40 SF of Beige Interior Window Caulk (12'x4' windows)
-  ~10 SF of Gray Interior Window Caulk (6'x6' windows)
-  ~6 SF of Black Mastic on Metal Duct

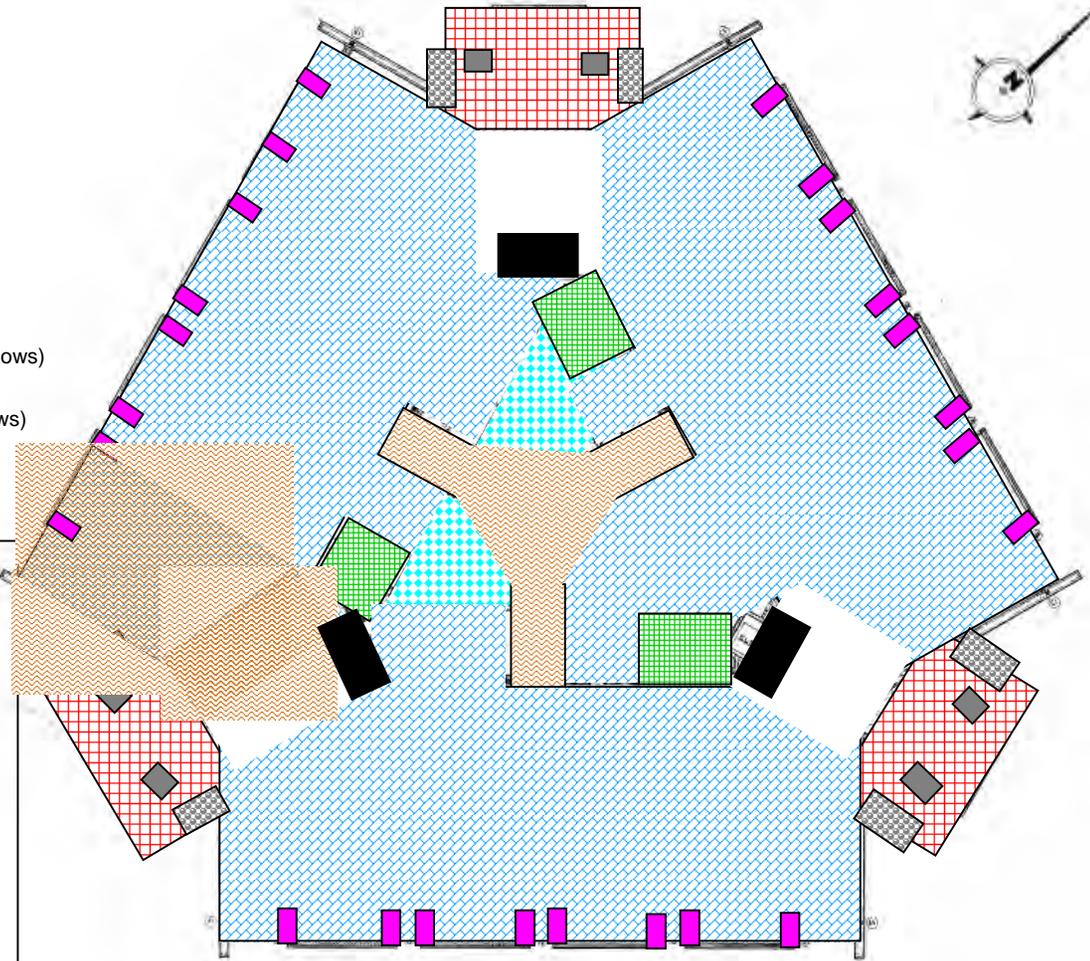
The following asbestos-containing materials may be hidden above ceilings and walls and reported quantified are assumed:

 ~500 LF of Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation, assumed to be present in bathrooms;

 ~500 LF of Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline, assumed to be present in bathrooms;

- ~6,000 SF of Duct Work Associated with Brown Mastic on Metal Duct Pin;

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



Source: Provided by Mr. Graham Davidson of Hartman-Cox

3rd Floor

Scale: Locations are estimated

Brookland School
1150 Michigan Avenue, NE
Washington, DC



**Identified Asbestos-Containing
Materials Location Plat**
ECS Project No. 01:20705-C
March 2013

-  ~600 SF of 12"x12" Greenish Gray Floor Tile and Associated Black Mastic
-  ~1,800 SF of 12"x12" Beige Flecked Floor Tile and Associated Black Mastic
-  ~10,500 SF of 2'x4' White Fissured Ceiling Tile
-  3 Sinks with Black Undercoat
-  ~300 SF of 12"x12" Tan Flecked Floor Tile and Associated Black Mastic
-  ~1,500 SF of Black Mastic Associated with 12"x12" Reddish Brown Flecked Floor Tile
-  ~40 SF of Beige Interior Window Caulk (12'x4' windows)
-  ~10 SF of Gray Interior Window Caulk (6'x6' windows)
-  ~6 SF of Black Mastic on Metal Duct

The following asbestos-containing materials were found throughout floor:

~5,000 SF of Drywall Associated with Joint Compound

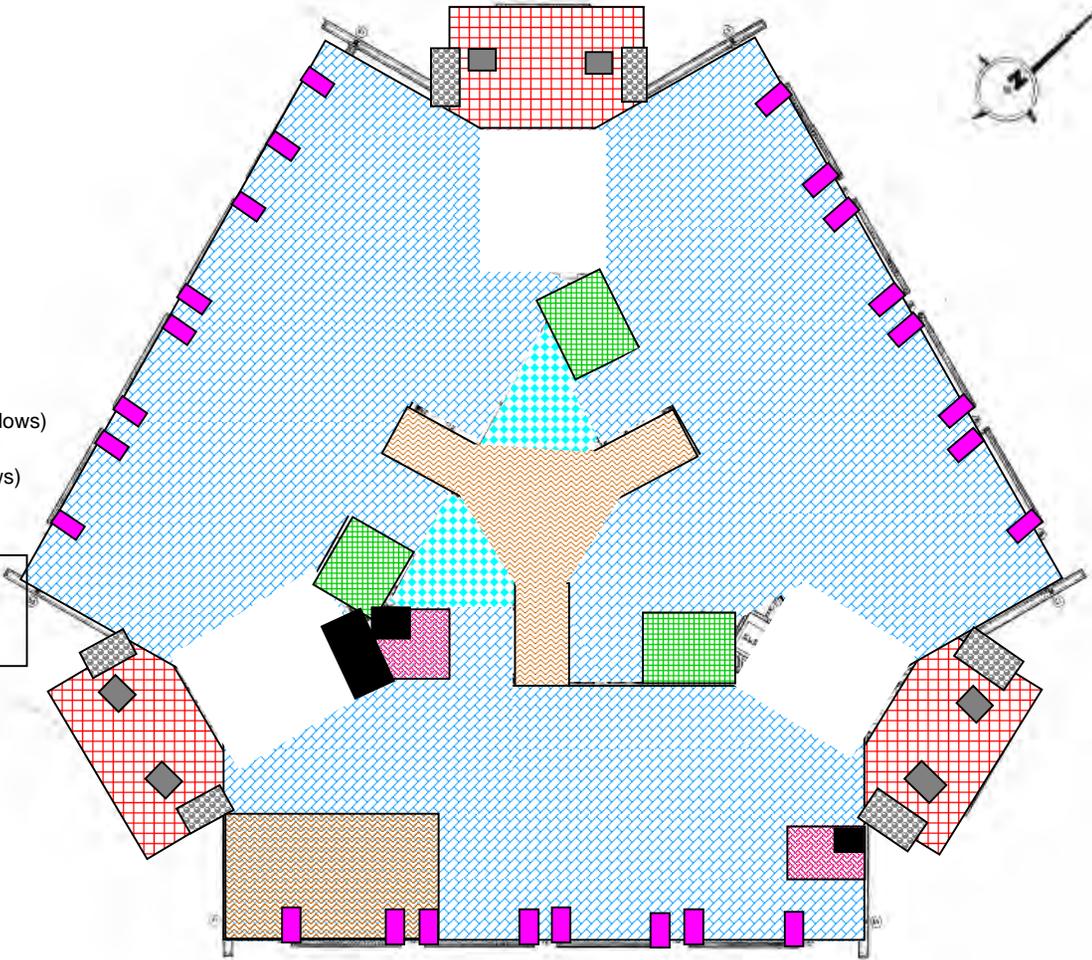
The following asbestos-containing materials may be hidden above ceilings and walls and reported quantified are assumed:

 ~500 LF of Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation, assumed to be present in bathrooms;

 ~500 LF of Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline, assumed to be present in bathrooms;

• ~6,000 SF of Duct Work Associated with Brown Mastic on Metal Duct Pin;

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



Source: Provided by Mr. Graham Davidson of Hartman-Cox

2nd Floor

Scale: Locations are estimated

Brookland School
1150 Michigan Avenue, NE
Washington, DC



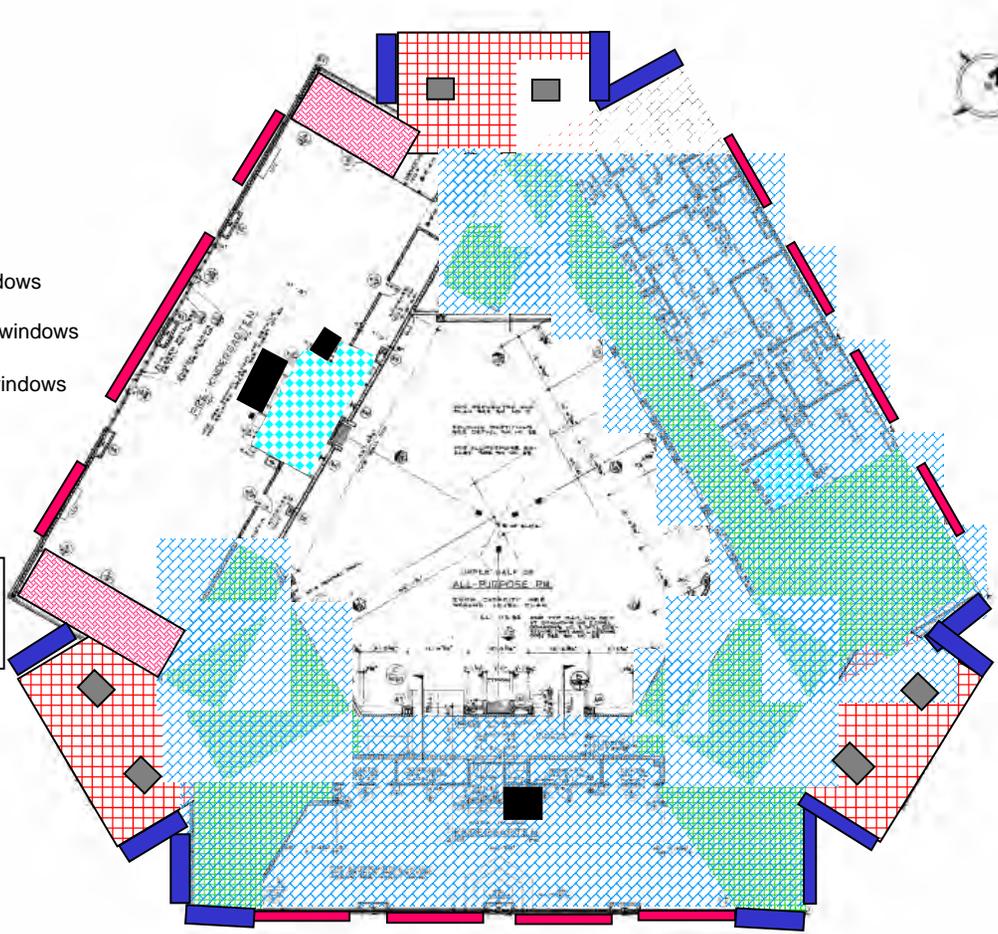
**Identified Asbestos-Containing
Materials Location Plat**
ECS Project No. 01:20705-C
March 2013

-  ~600 SF of 12"x12" Greenish Gray Floor Tile and Associated Black Mastic
-  ~1,800 SF of 12"x12" Beige Flecked Floor Tile and Associated Black Mastic
-  ~4,400 SF of 2'x4' White Fissured Ceiling Tile
-  5 Sinks with Black Undercoat
-  ~1,000 SF of 12"x12" Tan Flecked Floor Tile and Associated Black Mastic
-  ~22 SF of Tan Interior Window Caulk (10x5 2'x4' windows and 2 8'x20' windows/doors)
-  ~22 SF of Brown Interior Window Glazing (10x5 2'x4' windows and 2 8'x20' windows/doors)
-  ~22 SF of Gray Exterior Window Glazing (10x5 2'x4' windows and 2 8'x20' windows/doors)
-  ~6 SF of Black Mastic on Metal Duct
-  ~10 SF of White Interior Door Caulk (15 emergency exit doors)

The following asbestos-containing materials were found throughout floor:
 ~4,000 SF of Drywall Associated with Joint Compound

The following asbestos-containing materials may be hidden above ceilings and walls and reported quantified are assumed:

-  ~500 LF of Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation, assumed to be present in bathrooms;
 -  ~500 LF of Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline, assumed to be present in bathrooms;
 - ~6,000 SF of Duct Work Associated with Brown Mastic on Metal Duct Pin;
- SF = Square Feet; LF = Linear Feet; EA = Each



Source: Provided by Mr. Graham Davidson of Hartman-Cox

Mezzanine

Scale: Locations are estimated

Brookland School
 1150 Michigan Avenue, NE
 Washington, DC



**Identified Asbestos-Containing
 Materials Location Plat**
 ECS Project No. 01:20705-C
 March 2013

-  ~ 4,000 SF of 12"x12" Greenish Gray Floor Tile and Associated Black Mastic
-  ~750 SF of Yellow/Black Mastic Associated with Tan with Brown Flecks Floor Tile
-  ~3,500 SF of 12"x12" Beige Flecked Floor Tile and Associated Black Mastic
-  ~7,500 SF of 2'x4' White Fissured Ceiling Tile
-  1 Sink with Black Undercoat
-  ~2 SF of Black Mastic on Metal Duct
-  ~6 SF of White Interior Door Caulk (10 emergency exit doors)

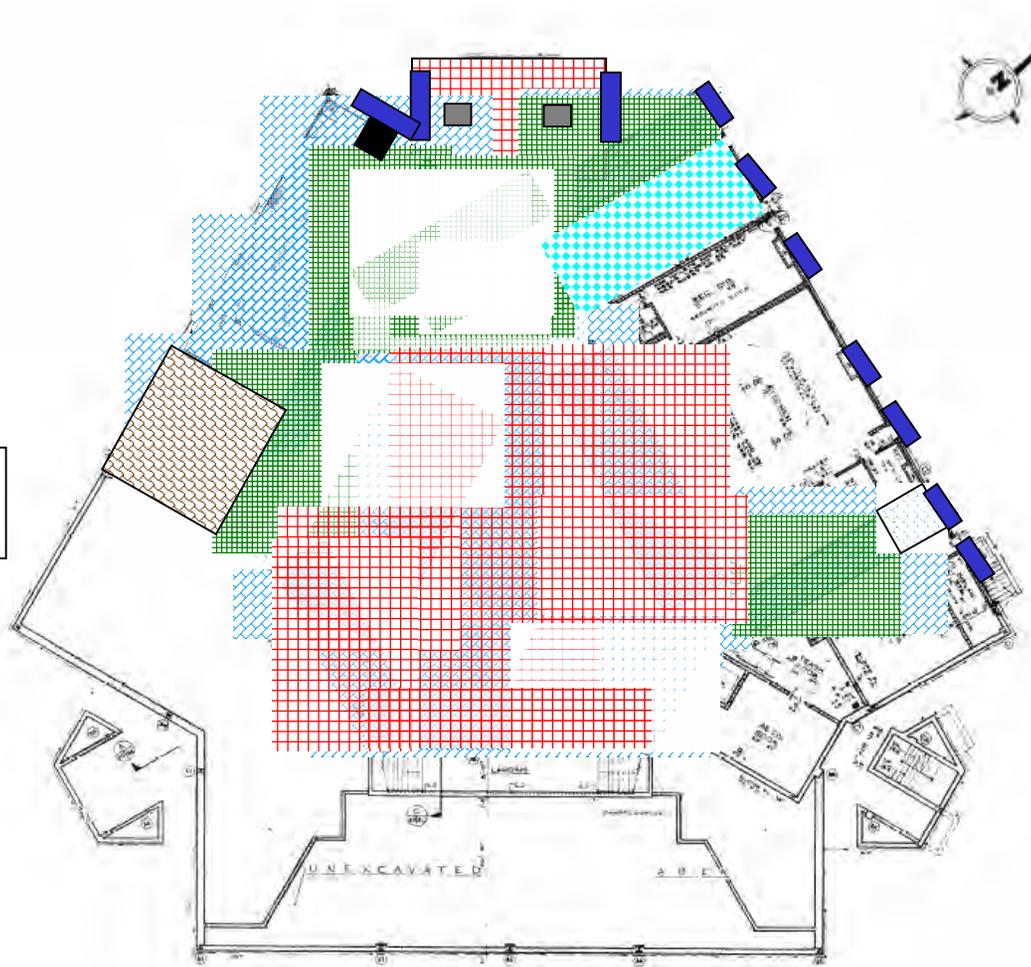
The following asbestos-containing materials were found throughout floor:

~4,000 SF of Drywall Associated with Joint Compound

The following asbestos-containing materials may be hidden above ceilings and walls and reported quantified are assumed:

-  ~500 LF of Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation, assumed to be present in bathrooms;
-  ~500 LF of Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline, assumed to be present in bathrooms;
- ~6,000 SF of Duct Work Associated with Brown Mastic on Metal Duct Pin;

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



Source: Provided by Mr. Graham Davidson of Hartman-Cox

1st Floor

Scale: Locations are estimated

Brookland School
1150 Michigan Avenue, NE
Washington, DC



**Identified Asbestos-Containing
Materials Location Plat**
ECS Project No. 01:20705-C
March 2013



~1,000 SF of 12"x12" Beige Flecked Floor Tile and Associated Black Mastic



~ 1,000 LF of Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation



~ 14 EA of Beige Mastic on Fiberglass Pipe Bridging Insulation from COND & WP Pipeline



~ 1 SF of White Interior Door Caulk (1 emergency exit doors)



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

Source: Provided by Mr. Graham Davidson of Hartman-Cox

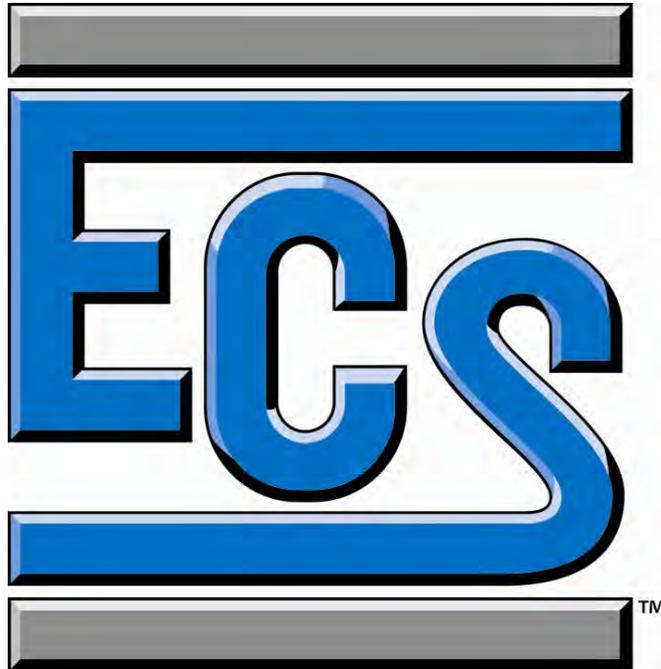
Basement Level

Scale: Locations are estimated

Brookland School
1150 Michigan Avenue, NE
Washington, DC



**Identified Asbestos-Containing
Materials Location Plat**
ECS Project No. 01:20705-C
March 2013



HAZARDOUS MATERIALS SURVEY

**BROOKLAND SCHOOL
1150 MICHIGAN AVENUE, NORTHEAST
WASHINGTON, DC**

ECS PROJECT NO. 01:20705-A

FOR

HARTMAN-COX

FEBRUARY 18, 2013



February 18, 2013

Mr. Graham Davidson
Hartman-Cox
1074 Thomas Jefferson Street, NW
Washington, DC 20007

ECS Project No. 01:20705-A

Reference: Hazardous Materials Survey, Brookland School, 1150 Michigan Avenue, NE,
Washington, DC 20017.

Dear Mr. Davidson:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Hartman-Cox with the results of the above referenced non-invasive survey for the subject building. This work was performed in general conformance with ECS Proposal No. 01:42826-EP, dated January 3, 2013. The following is a summary of results of the above referenced work. The on-site survey work was performed in January 29 and February 1, 2013. Our services are intended to address the following materials only: asbestos-containing materials (ACMs), lead-based paint (LBP), polychlorinated biphenyls (PCB) in electrical equipment, and mercury in fluorescent light fixtures and thermostats, as well as other readily apparent/selected hazardous materials. It is important to note only materials that were readily accessible were accessed and others materials may be present that were not accessible.

SITE DESCRIPTION

The referenced property, located at 1150 Michigan Avenue, NE, Washington, DC, consists of a three-story building with mezzanine and basement levels currently vacant and formerly used as a school. The basement consists of a boiler room and mechanical rooms; the 1st floor consists of a kitchen and cafeteria; and classrooms are located in the mezzanine and upper floors. It is ECS' understanding that the subject building is scheduled to be demolished in the future.

An underground storage tank (UST) has been reported by you to be present within the above referenced property. During our site visits, evidence of the reported UST is located at the rear side of the building, currently used as a parking lot.

RESULTS

Asbestos

The asbestos survey was performed by an inspector who is certified and has received training under the Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) regulations. Samples of suspect asbestos-containing materials (ACMs) were collected utilizing hand tools and placed into individual, labeled plastic bags. A total of 193 unique suspect ACM samples were sent to Scientific Analytical Institute, Inc (SAI) for analysis via Polarized Light Microscopy (PLM) in accordance with current EPA-600 methodology. Materials consisting of additional layers were analyzed separately.

SAI is listed as an accredited laboratory by the National Voluntary Laboratory Accreditation Plan (NVLAP) managed by the National Institute of Standards and Technology (NIST) for bulk sample analysis. Multiple samples of each unique material were submitted. Samples were analyzed using "Positive Stop" methodology. If one sample of a homogeneous material is found to contain asbestos, the remaining samples of that material are not analyzed. EPA regulations stipulate that if one sample contains asbestos the entire quantity of that material contains asbestos, regardless of additional analysis. In total, 212 layers were analyzed.

A summary of materials found to contain asbestos or assumed to contain asbestos can be found in Table 1 below. A list of materials sampled and tested for asbestos content is located in Table 2 which can be found in the appendix.

TABLE 1 Asbestos-Containing Materials Summary		
<u>Location</u>	<u>Material</u>	<u>Friability</u>
Brick structure on roof	Exterior Door Caulk	Category II Non-Friable
Hallway between kitchen and trash Room in 1st floor; foyer to stairwell to roof access in 1st floor; foyer to East stairwell to basement access in 2nd floor	12"x12" Greenish Gray Floor Tile and Associated Black Mastic	Category I Non-Friable

TABLE 1 Asbestos-Containing Materials Summary		
<u>Location</u>	<u>Material</u>	<u>Friability</u>
Hallway between kitchen and trash room in 1st floor; open space and bottom layer in PE kindergarten classroom in mezzanine level	Yellow/Black Mastic Associated with Tan with Brown Flecks Floor Tile and	Category I Non-Friable
Cafeteria in 1st floor; stairwells, stair landing and stairs in every floor	12"x12" Beige Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable
2" pipeline in boiler room in basement	Beige Mastic and Jacket on Fiberglass 2" Pipe Bridging Insulation	Category II Non-Friable
COND & WP pipeline in custodial supply room in basement	Beige Mastic on Fiberglass Pipe Bridging Insulation	Category II Non-Friable
Emergency exit door in boiler room in basement	White Interior Door Caulk	Category II Non-Friable
Throughout building	2'x4' White Fissured Ceiling Tile	Friable
Above ceiling tile throughout building	Brown Mastic on Metal Duct Pin	Category II Non-Friable
Classrooms in mezzanine level	Tan Interior Window Caulk	Category II Non-Friable
Classrooms in mezzanine level	Brown Interior Window Glazing	Category II Non-Friable
Throughout building	Joint Compound Associated with Drywall	Category II Non-Friable
Kitchenettes in every floor	Black Sink Undercoat	Category II Non-Friable

TABLE 1 Asbestos-Containing Materials Summary		
<u>Location</u>	<u>Material</u>	<u>Friability</u>
Classrooms inside PE kindergarten room and file room in mezzanine level	12"x12" Tan Flecked Floor Tile and Associated Black Mastic	Category I Non-Friable
Classrooms in mezzanine level	Gray Exterior Window Glazing	Category II Non-Friable
Open space in 2nd floor	Mastic Associated with 12"x12" Reddish Brown Flecked Floor Tile	Category I Non-Friable
Open spaces in 2nd and 3rd floor	Beige Interior Window Caulk	Category II Non-Friable
Stairwells	Gray Interior Window Caulk	Category II Non-Friable
Above in plaster ceiling in stairwells	Black Mastic on Metal Duct	Category II Non-Friable

***Materials Assumed to Contain Asbestos**

<u>Location</u>	<u>Material</u>	<u>Friability</u>
At stairwells and any location requiring a fire rated door	Fire Door Insulation	Friable
Boiler room in basement	Gaskets	Unknown
Boiler room in basement	Interior Boiler Material	Unknown
Inaccessible windows at stairwells in 2 nd and 3 rd floors	Exterior Window Caulk and Glazing	Category II Non-Friable

TABLE 1 Asbestos-Containing Materials Summary		
Location	Material	Friability
Behind blackboards throughout building	Mastic	Category II Non-Friable
Elevator	Elevator's switch deflector plate, brakes, cab and doors.	Unknown
Hidden behind walls and hard ceilings	Thermal System Insulation (TSI)**	Friable

Note: *These materials could not be sampled due to the destructive means that sampling requires.

**Due to existing condition of the building, pipe chases behind drywall wallboards in some areas were accessible and no TSI was observed.

ECS recommends where a material type has been identified as asbestos containing that similar type materials throughout the building be assumed to contain asbestos.

Identified asbestos-containing ceiling tile and joint compound associated with drywall wallboards were observed to be damaged throughout the building. Debris generated from this condition was also observed on floors, fixtures, and furniture.

ECS attempted to access suspect asbestos-containing building materials in accessible areas. However, due to the destructive means required to access all materials, certain areas (i.e., sub-grade sealants, flooring located below underlayments, areas behind walls, pipe chases, vapor barriers, etc.) were deemed inaccessible and were not assessed; therefore, additional suspect ACMs may be present. Suspect asbestos-containing materials not accessible during this survey may be encountered during demolition activities. If encountered, these materials should be sampled immediately upon discovery for asbestos content by a certified asbestos inspector in accordance with 29 CFR 1926.1101.

Lead-Based Paint

The Lead-Based Paint (LBP) survey was performed by a District of Columbia certified Lead Risk Assessor. Painted and/or glazed surfaces were assessed for lead content using a Direct-Read X-Ray Fluorescence (XRF) Spectrometer manufactured by Innov-X Systems.

The survey was conducted utilizing the U.S. EPA definition of lead-based paint. Under the EPA definition, painted surfaces which contain lead in concentrations equal to or greater than 1.0 milligrams per square centimeter ($\geq 1.0 \text{ mg/cm}^2$) are classified as coated with LBP. Paints with concentrations of lead detectable by the XRF are considered lead-containing paints.

The representative survey included taking readings from walls, stairwell, window, door, and miscellaneous components. Walls are listed by letter with wall "A" being the entrance of the unit, proceeding clockwise to "B, C, D", etc. Each painted surface is classified based on paint condition and given an Intact, Fair, or Poor condition. A total of 191 readings were collected during the survey, including calibration readings. A list of XRF readings collected from within and on the exterior of the buildings is included in the appendix of this report.

The following is a summary of painted surfaces which contain lead in concentrations equal to or greater than 1.0 milligrams per square centimeter ($\geq 1.0 \text{ mg/cm}^2$) for each testing combinations analyzed:

- Orange metal elevator doors and door jamb in 3rd floor.

A list of paint readings collected from within and on the exterior of the buildings is included in the appendix of this report.

Miscellaneous Materials

In addition to survey for asbestos-containing materials and lead-based paints, ECS surveyed the building and made an inventory of selected accessible materials which may require special handling or disposal if removed from the building.

No sampling or characterization of these materials was included within our scope of services. Materials which may require sampling or characterization prior to disposal are summarized below.

Polychlorinated Biphenyl (PCB) Containing Lamp Ballasts

Polychlorinated biphenyls (PCBs) are toxic coolants or lubricating oils used in some electrical transformers and capacitors, hydraulically-operated equipment, light ballasts, and other similar equipment.

ECS surveyed the structures for potential liquid PCB containing materials and equipment. At the time of the Hazardous Material Survey, ECS visually observed several of the fluorescent light ballasts throughout the structures in an attempt to identify labeling indicating the presence/absence of PCB containing fluids. It should be noted that light ballasts manufactured prior to 1979 could contain small quantities of PCBs. However, regardless of "PCB labeling," ballasts produced between 1980 and 1991 may contain diethyl hexyl phthalate (DEHP) which is classified as a potential carcinogen by the EPA. Prior to demolishing the building, ECS recommends ballasts be recycled regardless of "PCB" labeling.

Approximately 1,530 ballasts were observed in the building.

Mercury Containing Components

The EPA classifies mercury as both hazardous and toxic. The survey included observations for building components, equipment or other apparatus, which could contain mercury, such as thermostats, fluorescent lamps, and switch-containing devices.

As previously discussed, fluorescent lamps were observed throughout the building. Approximately 11,568 linear feet of lamps were observed (including spare bulbs) in the building. In addition, approximately ten (10) high-intensive discharge (HID) lamps were observed on roof, along perimeter walls. The fluorescent and HID lamps may contain small quantities of mercury. Several broken fluorescent lamps were observed on the floors throughout the building.

Refrigerants and Extinguishers

ECS attempted to identify extinguishers and equipment which may contain Freon. During the survey, ECS observed air handlers, fire extinguishers and a walk-in refrigerator in the kitchen in 1st floor. These units may contain Freon or other refrigerants.

Other Potential Hazardous/Regulated Substances and Building Condition Concerns

The following materials were observed which may require special handling and disposal prior to demolition of the building:

- Emergency exit/alarm lead-acid batteries;
- Fire extinguishers;
- One walk-in refrigerator in the kitchen in 1st floor;
- Underground storage tank (UST) at rear parking lot.

RECOMMENDATIONS

Asbestos

The materials listed in Table 1 consist of both friable (i.e., able to be crumbled, pulverized, and/or reduced to powder by hand pressure when dry) and non-friable materials which contain greater than one percent (>1%) asbestos. By definition, these materials are

considered ACMs. Friable materials will easily produce airborne asbestos fibers if disturbed. Non-Friable materials may also produce airborne asbestos fibers if disturbed.

ECS recommends the identified asbestos-containing materials (ACMs) and any assumed ACMs found to be present within the building be removed by a District of Columbia certified asbestos abatement contractor prior to disturbance.

As noted, in areas where ACMs are damaged, ECS recommends impacted surfaces and mobile item be cleaned by a District of Columbia certified asbestos abatement contractor as soon as reasonably possible. Access to these areas should be restricted until this material has been abated.

Prior to asbestos removal, notification of an asbestos project must be made to the District of Columbia and the EPA. This notification must be filed 10 business days before starting asbestos abatement activities. This notification is typically filed by the abatement contractor.

Federal and local regulations require asbestos-containing materials be removed prior to disturbance by demolition activities. If asbestos-containing materials are to be removed, it is recommended that a Project Monitor be retained to monitor the abatement project.

At the time of the survey, destructive means were not used to locate or sample suspect ACMs; therefore, additional suspect ACMs may remain within the building hidden behind inaccessible areas that include, but are not limited to, sub-grade walls, structural members, topping slabs, exterior areas, sub-grade sealants, flooring located below underlayments, areas behind walls, pipe chases, vapor barriers, etc. were deemed inaccessible and were not assessed. If additional suspect asbestos-containing materials are uncovered during demolition activities which were not accessible during this survey, it is recommended that these materials be sampled immediately upon discovery for asbestos content by a certified Asbestos Inspector in accordance with 29 CFR 1926.1101.

Lead-Based Paint

Under the EPA definition, painted surfaces which contain lead in concentrations equal to or greater than 1.0 milligrams per square centimeter ($\geq 1.0 \text{ mg/cm}^2$) are classified as coated with LBP. However, it is important to note that even if a painted surface contains lead in concentration less than 1.0 milligrams per square centimeter ($< 1.0 \text{ mg/cm}^2$), it may still contain concentration of lead in the paint, which when disturbed, may generate lead dust greater than the Permissible Exposure Limit (PEL) of 50 micrograms per cubic millimeter ($\mu\text{g/m}^3$) as an 8-hour Time Weighted Average (TWA) established by U.S. Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1926.62 – Lead in Construction.

Based on the findings of this survey, it is recommended that all surfaces be assumed to contain lead-containing paint.

Lead-based paint and lead-containing paint is an environmental concern primarily when it becomes airborne or is ingested. Contractors performing work that could impact paint films or glazing (i.e. scrapped or flaked off, or made airborne in a dust media) that have detectable concentrations of lead should be informed of the testing results and should take appropriate actions to comply with OSHA Standard 29 CFR 1926.62. – Lead in Construction.

The OSHA standard gives no guidance on acceptable levels of lead in paint at which no exposure to airborne lead (above the action level) would be expected. Rather, OSHA defines airborne concentrations, and references specific types of work practices and operations from which a lead hazard may be generated (reference 29 CFR 1926.62, section d). Environmental and personnel monitoring should be conducted during any removal/demolition process (as appropriate) to verify that actual personal exposures are below the Permissible Exposure Limit (PEL). Under OSHA requirements, the contractor performing removal/demolition work will be required to conduct this monitoring and follow applicable requirements under 29 CFR 1926.62.

The District of Columbia Department of the Environment (DDOE) is applying the Lead-Hazard Prevention and Elimination Act of 2008 to all properties (residential, commercial, public, and industrial) in the District. As of the date of this report, the DDOE will require contractors to obtain a lead abatement permit for any work which will disturb lead-based paint. Contractors are required to notify DDOE seven days prior to performing work which will disturb lead-based paint. A copy of the lead-based paint activity notification form and permit application are located in the appendix of the report.

A list of paint readings collected from within and on the exterior of the buildings is included in the appendix of this report.

Other Hazardous/Regulated Materials

Fluorescent and HID lamps and lamp ballasts should be recycled or disposed of in accordance with EPA and District of Columbia regulations. Recycling is the most environmental friendly means of disposal for these materials. Fluorescent lamps may be disposed at universal waste, if they remain unbroken during removal. If bulbs are crushed or broken prior to disposal, they are classified as hazardous waste by the EPA.

As noted, due to the presence of mercury within fluorescent lamps found to be broken throughout the building, impacted areas should be assumed to contain mercury product on the floors and other surfaces; therefore, mercury remediation is recommended prior to demolition.

Lamp ballasts, mercury containing switches, lead-acid batteries and other regulated waste materials must be segregated and disposed of as universal waste as required by the EPA and District of Columbia. If any of these materials are observed to be leaking or otherwise damaged prior to disposal they must be disposed of as hazardous waste in accordance with EPA and District of Columbia regulations. Handling, packaging, labeling, and disposal of hazardous materials should be performed in accordance with EPA and District of Columbia regulations. The District of Columbia will require the building owner (referred to as the "generator") to obtain an EPA Generator ID number in order to dispose of hazardous waste materials. A copy of the EPA Generator ID number application has been enclosed with this report. It should be completed and submitted to DDOE to obtain a number prior to the removal of any hazardous or universal waste materials from the site.

Refrigerants in chillers, refrigerators, and other equipment should be reclaimed and disposed of properly. The EPA requires that any equipment dismantled on-site prior to disposal must have its refrigerant recovered in accordance with EPA's Refrigerant Recycling Rules (Section 608). However, equipment that typically enters the waste stream during demolition with the charge intact (e.g. air conditioners, refrigerators, and water fountains) is subject to special safe disposal requirements. Under the EPA requirements, the final party in the disposal chain (e.g. scrap metal recycler or landfill owner) is responsible for ensuring that refrigerants are recovered from equipment prior to final disposition. However, refrigerants can also be evacuated prior to disposal provided proper documentation of the evacuation is provided to the disposal facility.

Since an existing underground storage tank (UST) has been reported to be present within the property, and removal of the UST has been scheduled, ECS recommended performing an environmental screening of the geotechnical borings also scheduled to be conducted for the site in order to characterize soils which will be encountered during the excavation.

General:

Prior to demolition of the building, ECS recommends that a project specification be developed to delineate and quantify known and suspect asbestos-containing materials in the building and to outline proper procedures for the abatement and disposal of other hazardous materials. This will help protect the owner's liability in better defining the scope of work and contractors' roles and responsibilities in the abatement process and holding the contractor accountable for the performance of the project. The specification typically defines the Contractor's scope of work and outline requirements and procedures that must be followed for this project. The intent of the specification is to give performance requirements for the contractor so that the project can be completed safely and in compliance with applicable federal and state regulations. Typically, the specification document serves as part of the site owner's contract with the contractor.

If we can be of further assistance to you, please do not hesitate to contact us at (703) 471-8400.

Sincerely,

ECS MID-ATLANTIC, LLC



Joanna Vivanco
Staff Project Manager



Stephen R. Geraci
Senior Project Manager

Enclosures: Limitations
 Table 2 – Bulk Sampling of Suspect ACMs
 Table 3 - Lead Based Paint Results
 DDOE Lead-Based Paint Activity Notification Form and Permit Application
 EPA Generator ID Number Application
 Laboratory Analytical Results
 Photographs

LIMITATIONS

This report summarizes our evaluation of the conditions observed at the site. The findings prepared by ECS are based upon our observations in the building and analysis of the samples collected at the time of this survey. As with any similar survey of this nature, actual conditions exist only at the precise locations from which suspect samples were collected. Certain inferences are based on the results of this sampling and related testing to form a professional opinion of conditions in areas beyond those from which the samples were collected. No other warranty, expressed or implied, is made. Additional hazardous materials may exist in other portions of the building that were not accessible such as behind walls and permanent ceilings and in other areas not included in the survey.

Our recommendations are in part based on federal and state regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies any conditions at the site that may present a potential danger to public health, safety, or the environment. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

The client agrees to notify the appropriate local, state, or federal public agencies as required by law, or otherwise to disclose, in a timely manner, information that may be necessary to prevent any danger to public health, safety, or the environment.

The conclusions and recommendations presented within this report are based upon a reasonable level of investigation within normal bounds and standards of professional practice for a site. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries. Any conditions discovered which deviate from the data or findings contained in this report should be presented to us for our evaluation.

Observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and or materials reviewed at the time this study was undertaken. No other warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client and its designated agents. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of the client. The use of this report by any undesignated third party or parties will be at such party's sole risk and ECS disclaims liability for any such third party use or reliance.

TABLE 2
BULK SAMPLING OF SUSPECT ASBESTOS-CONTAINING MATERIALS

Sample #	Sample Location	Material/Description	Analytical Results
R1	Roof	Roof Tar	NAD
R2	Roof	Roof Tar	NAD
R3	Roof	Roof Tar	NAD
R4	Roof	Roof Patch	NAD
R5	Roof	Roof Patch	NAD
R6	Roof	Roof Patch	NAD
R7	Roof	Roof Exterior Door Caulk	4% Chrysotile
R8	Roof	Roof Exterior Door Caulk	N/A
R9	Roof	Roof Exterior Door Caulk	N/A
R10	Roof	Brown Roof Flashing Sealant	NAD
R11	Roof	Brown Roof Flashing Sealant	NAD
R12	Roof	Brown Roof Flashing Sealant	NAD
R13	Roof	Black w/Small Gravel Roof Membrane (Top Layer)	NAD
R14	Roof	Black w/Small Gravel Roof Membrane (Top Layer)	NAD
R15	Roof	Black w/Small Gravel Roof Membrane (Top Layer)	NAD
R16	Roof	Roof Felt w/Tar (2nd Layer)	NAD
R17	Roof	Roof Felt w/Tar (2nd Layer)	NAD
R18	Roof	Roof Felt w/Tar (2nd Layer)	NAD
R19	Roof	Roof Brown Insulation (Bottom Layer)	NAD
R20	Roof	Roof Brown Insulation (Bottom Layer)	NAD
R21	Roof	Roof Brown Insulation (Bottom Layer)	NAD
R22	Roof	Roof Flashing (Top Layer)	NAD
R23	Roof	Roof Flashing (Top Layer)	NAD
R24	Roof	Roof Flashing (Top Layer)	NAD
R25	Roof	Roof Flashing (Underlayer)	NAD
R26	Roof	Roof Flashing (Underlayer)	NAD
R27	Roof	Roof Flashing (Underlayer)	NAD
R28	Roof	Pitch Pocket	NAD
R29	Roof	Pitch Pocket	NAD
R30	Roof	Pitch Pocket	NAD
31 - A	Hallway between Kitchen and Trash Room in 1st Floor	12"x12" Greenish Gray Floor Tile & Black Mastic	3% Chrysotile
31 - B	Hallway between Kitchen and Trash Room in 1st Floor	12"x12" Greenish Gray Floor Tile & Black Mastic	5% Chrysotile
32 - A	Foyer in 1st Floor at Stairwell to Roof Access	12"x12" Greenish Gray Floor Tile & Black Mastic	N/A
32 - B	Foyer in 1st Floor at Stairwell to Roof Access	12"x12" Greenish Gray Floor Tile & Black Mastic	N/A
33 - A	Foyer in 2nd Floor at E Stairwell to Basement Access	12"x12" Greenish Gray Floor Tile & Black Mastic	N/A
33 - B	Foyer in 2nd Floor at E Stairwell to Basement Access	12"x12" Greenish Gray Floor Tile & Black Mastic	N/A
34 - A	Hallway between Kitchen and Trash Room in 1st Floor	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	NAD
34 - B	Hallway between Kitchen and Trash Room in 1st Floor	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	5% Chrysotile
35 - A	Open Space (Front) in 2nd Floor	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	NAD
35 - B	Open Space (Front) in 2nd Floor	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	N/A
36 - A	PE Kindergarten Classroom in Mezzanine Level	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	NAD
36 - B	PE Kindergarten Classroom in Mezzanine Level	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	N/A
37 - A	Cafeteria in 1st Floor	12"x12" Beige Flecked Floor Tile & Black Mastic	4% Chrysotile
37 - B	Cafeteria in 1st Floor	12"x12" Beige Flecked Floor Tile & Black Mastic	5% Chrysotile
38 - A	East Stair Landing between 1st Floor and Basement	12"x12" Beige Flecked Floor Tile & Black Mastic	N/A
38 - B	East Stair Landing between 1st Floor and Basement	12"x12" Beige Flecked Floor Tile & Black Mastic	N/A
39 - A	Stairs to Roof Access	12"x12" Beige Flecked Floor Tile & Black Mastic	N/A
39 - B	Stairs to Roof Access	12"x12" Beige Flecked Floor Tile & Black Mastic	N/A
40 - A	East Stair Landing between 1st Floor and Basement	4" Brown Cove Base & Brown Mastic	NAD
40 - B	East Stair Landing between 1st Floor and Basement	4" Brown Cove Base & Brown Mastic	NAD
41 - A	East Stair Landing between 1st Floor and Basement	4" Brown Cove Base & Brown Mastic	NAD
41 - B	East Stair Landing between 1st Floor and Basement	4" Brown Cove Base & Brown Mastic	NAD
42 - A	East Stair Landing between 1st Floor and Basement	4" Brown Cove Base & Brown Mastic	NAD
42 - B	East Stair Landing between 1st Floor and Basement	4" Brown Cove Base & Brown Mastic	NAD
43 - A	Boiler Room in Basement	Mudded Tank Insulation & Jacket	NAD
43 - B	Boiler Room in Basement	Mudded Tank Insulation & Jacket	NAD
44 - A	Boiler Room in Basement	Mudded Tank Insulation & Jacket	NAD
44 - B	Boiler Room in Basement	Mudded Tank Insulation & Jacket	NAD
45 - A	Boiler Room in Basement	Mudded Tank Insulation & Jacket	NAD
45 - B	Boiler Room in Basement	Mudded Tank Insulation & Jacket	NAD
46 - A	Boiler Room in Basement	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	NAD
46 - B	Boiler Room in Basement	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	NAD
47 - A	Boiler Room in Basement	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	NAD
47 - B	Boiler Room in Basement	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	NAD
48 - A	Boiler Room in Basement	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	NAD
48 - B	Boiler Room in Basement	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	NAD
49	Boiler Room in Basement	Beige Mastic & Jacket on Fiberglass 2" Pipe Bridging Insulation	5% Chrysotile
50	Boiler Room in Basement	Beige Mastic & Jacket on Fiberglass 2" Pipe Bridging Insulation	N/A
51	Boiler Room in Basement	Beige Mastic & Jacket on Fiberglass 2" Pipe Bridging Insulation	N/A
52	Boiler Room in Basement	White Mastic & Jacket on Fiberglass 12" Pipe Bridging Insulation	NAD
53	Boiler Room in Basement	White Mastic & Jacket on Fiberglass 12" Pipe Bridging Insulation	NAD
54	Boiler Room in Basement	White Mastic & Jacket on Fiberglass 12" Pipe Bridging Insulation	NAD
55	Boiler Room in Basement	White Jacket on Fiberglass Duct Insulation	NAD
56	Boiler Room in Basement	White Jacket on Fiberglass Duct Insulation	NAD
57	Boiler Room in Basement	White Jacket on Fiberglass Duct Insulation	NAD
58 - A	Boiler Room in Basement	White Mastic Jacket & Black Insulation on 1' Vertical Tank #3611	NAD
58 - B	Boiler Room in Basement	White Mastic Jacket & Black Insulation on 1' Vertical Tank #3611	NAD
59 - A	Boiler Room in Basement	White Mastic Jacket & Black Insulation on 1' Vertical Tank #3611	NAD
59 - B	Boiler Room in Basement	White Mastic Jacket & Black Insulation on 1' Vertical Tank #3611	NAD

NAD = No Asbestos Detected
 N/A = Sample Not Analyzed; Stop Positive

60	Boiler Room in Basement	White Mastic Jacket & Black Insulation on 1' Vertical Tank #3611	NAD
61 - A	Boiler Room in Basement	White Mastic Jacket & Black Insulation on 2' Vertical Tank #3610	NAD
61 - B	Boiler Room in Basement	White Mastic Jacket & Black Insulation on 2' Vertical Tank #3610	NAD
62 - A	Boiler Room in Basement	Mudded Insulation on Side of 2' Vertical Tank #3610	NAD
62 - B	Boiler Room in Basement	Mudded Insulation on Side of 2' Vertical Tank #3610	NAD
63 - A	Boiler Room in Basement	Mudded Insulation on Side of 2' Vertical Tank #3610	NAD
63 - B	Boiler Room in Basement	Mudded Insulation on Side of 2' Vertical Tank #3610	NAD
63 - C	Boiler Room in Basement	Mudded Insulation on Side of 2' Vertical Tank #3610	NAD
64 - A	Boiler Room in Basement	White Mastic Jacket & Black Insulation on 4' Horizontal Tank #3609	NAD
64 - B	Boiler Room in Basement	White Mastic Jacket & Black Insulation on 4' Horizontal Tank #3609	NAD
65 - A	Boiler Room in Basement	Mudded Insulation on Side of 4' Horizontal Tank #3609	NAD
65 - B	Boiler Room in Basement	Mudded Insulation on Side of 4' Horizontal Tank #3609	NAD
65 - C	Boiler Room in Basement	Mudded Insulation on Side of 4' Horizontal Tank #3609	NAD
66 - A	Boiler Room in Basement	Mudded Insulation on Side of 4' Horizontal Tank #3609	NAD
66 - B	Boiler Room in Basement	Mudded Insulation on Side of 4' Horizontal Tank #3609	NAD
67	Steel I-beam Riser in 3rd Floor	Fireproofing	NAD
68	Steel I-beam Riser in 3rd Floor	Fireproofing	NAD
69	Custodial Supply Room in Basement	Fireproofing	NAD
70	Custodial Supply Room in Basement	Fireproofing	NAD
71	E Stairwell in Basement	Fireproofing	NAD
72	General Storage in Basement	Fireproofing	NAD
73	General Storage in Basement	Fireproofing	NAD
74	Custodial Supply Room in Basement	Beige Mastic on Fiberglass Pipe Bridging Insulation (COND/WP Pipelines)	NAD
75	Custodial Supply Room in Basement	Beige Mastic on Fiberglass Pipe Bridging Insulation (COND/WP Pipelines)	4% Chrysotile
76	Custodial Supply Room in Basement	Beige Mastic on Fiberglass Pipe Bridging Insulation (COND/WP Pipelines)	N/A
77	Custodial Supply Room in Basement	Brown Cloth Duct Vibration Damper	NAD
78	General Storage in Basement	Brown Cloth Duct Vibration Damper	NAD
79	Mechanical Room in Mezzanine Level	Brown Cloth Duct Vibration Damper	NAD
80	Emergency Exit Door in Boiler Room in Basement	White Interior Door Caulk	4% Chrysotile
81	Emergency Exit Door in Boiler Room in Basement	White Interior Door Caulk	N/A
82	Emergency Exit Door in Boiler Room in Basement	White Interior Door Caulk	N/A
83 - A	Fire Control Room in Basement	Mudded Insulation (Fire Control Room)	NAD
83 - B	Fire Control Room in Basement	Mudded Insulation (Fire Control Room)	NAD
84 - A	Fire Control Room in Basement	Mudded Insulation (Fire Control Room)	NAD
84 - B	Fire Control Room in Basement	Mudded Insulation (Fire Control Room)	NAD
85 - A	Fire Control Room in Basement	Mudded Insulation (Fire Control Room)	NAD
85 - B	Fire Control Room in Basement	Mudded Insulation (Fire Control Room)	NAD
86 - A	Foyer East Stairwell in 2nd Floor	4" Black Cove base & Cream/Black/Brown Mastic	NAD
86 - B	Elevator Lobby at E Stairwell in Mezzanine Level	4" Black Cove base & Cream/Black/Brown Mastic	NAD
87 - A	Elevator Lobby at E Stairwell in Mezzanine Level	4" Black Cove base & Cream/Black/Brown Mastic	NAD
87 - B	Elevator Lobby at E Stairwell in Mezzanine Level	4" Black Cove base & Cream/Black/Brown Mastic	NAD
88 - A	Elevator Lobby at E Stairwell in Mezzanine Level	4" Black Cove base & Cream/Black/Brown Mastic	NAD
88 - B	Elevator Lobby at E Stairwell in Mezzanine Level	4" Black Cove base & Cream/Black/Brown Mastic	NAD
89 - A	Elevator Lobby at E Stairwell in Mezzanine Level	6" Green Cove Base & Brown Mastic	NAD
89 - B	Elevator Lobby at E Stairwell in Mezzanine Level	6" Green Cove Base & Brown Mastic	NAD
90 - A	Elevator Lobby at E Stairwell in Mezzanine Level	6" Green Cove Base & Brown Mastic	NAD
90 - B	Elevator Lobby at E Stairwell in Mezzanine Level	6" Green Cove Base & Brown Mastic	NAD
91 - A	Elevator Lobby at E Stairwell in Mezzanine Level	6" Green Cove Base & Brown Mastic	NAD
91 - B	Elevator Lobby at E Stairwell in Mezzanine Level	6" Green Cove Base & Brown Mastic	NAD
92	Elevator Lobby at E Stairwell in Mezzanine Level	2'x4' White Fissured Ceiling Tile	NAD
93	Cafeteria in 1st Floor	2'x4' White Fissured Ceiling Tile	NAD
94	Open Space (West Side) in 3rd Floor	2'x4' White Fissured Ceiling Tile	5% Amosite
95	Elevator Lobby at E Stairwell in Mezzanine Level	Beige Mastic on Fiberglass Duct Insulation	NAD
96	Open Space (Front) in 2nd Floor	Beige Mastic on Fiberglass Duct Insulation	NAD
97	Hallway between Kitchen and Trash Room in 1st Floor	Beige Mastic on Fiberglass Duct Insulation	NAD
98	Elevator Lobby at E Stairwell in Mezzanine Level	Dark Brown Mastic on Metal Duct Pin	10% Chrysotile
99	Open Space at W Stairwell in Mezzanine Level	Light Brown Mastic on Metal Duct Pin	10% Chrysotile
100	Open Space (Front) in 2nd Floor	Beige Mastic on Metal Duct Pin	8% Chrysotile
101	Elevator Lobby at E Stairwell in Mezzanine Level	Beige Mastic on Fiberglass Pipe Insulation	NAD
102	Elevator Lobby at E Stairwell in Mezzanine Level	Beige Mastic on Fiberglass Pipe Insulation	NAD
103	Elevator Lobby at E Stairwell in Mezzanine Level	Beige Mastic on Fiberglass Pipe Insulation	NAD
104	Elevator Lobby at E Stairwell in Mezzanine Level	1'x1' White Fissured Ceiling Tile	NAD
105	Classroom (Front) in Mezzanine Level	1'x1' White Fissured Ceiling Tile	NAD
106	Open Space (East Side) in 2nd Floor	1'x1' White Fissured Ceiling Tile	NAD
107	Classroom (Front) in Mezzanine Level	Tan Interior Window Caulk	4% Chrysotile
108	PE Kindergarten Classroom in Mezzanine Level	Tan Interior Window Caulk	N/A
109	PE Kindergarten Classroom in Mezzanine Level	Tan Interior Window Caulk	N/A
110	Classroom (Front) in Mezzanine Level	Brown Interior Window Glazing	NAD
111	PE Kindergarten Classroom in Mezzanine Level	Brown Interior Window Glazing	4% Chrysotile
112	PE Kindergarten Classroom in Mezzanine Level	Brown Interior Window Glazing	N/A
113	Men Bathroom (Front Side) in Mezzanine Level	Drywall	NAD
114	PE Kindergarten Classroom in Mezzanine Level	Drywall	NAD
115	Open Space at W Stairwell (Kitchennette) in 2nd Floor	Drywall	NAD
116	Open Space (West Side) in 3rd Floor	Drywall	NAD
117	Men Bathroom (Front Side) in Mezzanine Level	Joint Compound	3% Chrysotile
118	PE Kindergarten Classroom in Mezzanine Level	Joint Compound	3% Chrysotile
119	Open Space at W Stairwell (Kitchennette) in 2nd Floor	Joint Compound	3% Chrysotile
120	Open Space (West Side) in 3rd Floor	Joint Compound	3% Chrysotile
121	Above Ceiling Tile Hallway (Front) on Mezzanine Level	Plaster	NAD
122	W Stairwell Ceiling in 2nd Floor	Plaster	NAD
123	E Stairwell Ceiling in 3rd Floor	Plaster	NAD
124	E Stairwell Ceiling in 3rd Floor	Plaster	NAD
125 - A	Ceiling in Electrical Room in 3rd Floor	Plaster	NAD

125 - B	Ceiling in Electrical Room in 3rd Floor	Plaster	NAD
126 - A	Ceiling in Kitchen in 1st floor	Plaster	NAD
126 - B	Ceiling in Kitchen in 1st floor	Plaster	NAD
127 - A	Ceiling in Kitchen in 1st floor	Plaster	NAD
127 - B	Ceiling in Kitchen in 1st floor	Plaster	NAD
128	Mechanical Room at W Stairwell in Mezzanine Level	White Jacket on Fiberglass Duct Insulation	NAD
129	Mechanical Room at W Stairwell in Mezzanine Level	White Jacket on Fiberglass Duct Insulation	NAD
130	Mechanical Room at W Stairwell in Mezzanine Level	White Jacket on Fiberglass Duct Insulation	NAD
131	Mechanical Room at W Stairwell in Mezzanine Level	White Mastic & Jacket inside Vent Unit	NAD
132	Mechanical Room at W Stairwell in Mezzanine Level	White Mastic & Jacket inside Vent Unit	NAD
133	Mechanical Room at W Stairwell in Mezzanine Level	White Mastic & Jacket inside Vent Unit	NAD
134	PE Kindergarten Classroom in Mezzanine Level	Black Sink Undercoat	3% Chrysotile
135	PE Kindergarten Classroom in Mezzanine Level	Black Sink Undercoat	N/A
136	PE Kindergarten Classroom in Mezzanine Level	Black Sink Undercoat	N/A
137	PE Kindergarten Classroom in Mezzanine Level	2'x4' White Pinhole Ceiling Tile	NAD
138	PE Kindergarten Classroom in Mezzanine Level	2'x4' White Pinhole Ceiling Tile	NAD
139	PE Kindergarten Classroom in Mezzanine Level	2'x4' White Pinhole Ceiling Tile	NAD
140 - A	PE Kindergarten Classroom in Mezzanine Level	12"x12" Beige Mottled Floor Tile & Yellow Mastic	NAD
140 - B	PE Kindergarten Classroom in Mezzanine Level	12"x12" Beige Mottled Floor Tile & Yellow Mastic	NAD
141 - A	Open Space (Front) in 2nd Floor	12"x12" Beige Mottled Floor Tile & Yellow Mastic	NAD
141 - B	Open Space (Front) in 2nd Floor	12"x12" Beige Mottled Floor Tile & Yellow Mastic	NAD
142 - A	Open Space (Front) in 3rd Floor	12"x12" Beige Mottled Floor Tile & Yellow Mastic	NAD
142 - B	Open Space (Front) in 3rd Floor	12"x12" Beige Mottled Floor Tile & Yellow Mastic	NAD
143 - A	Classroom inside PE Kindergarten Classroom in Mezzanine Level	12"x12" Tan Flecked Floor Tile & Black Mastic	4% Chrysotile
143 - B	Classroom inside PE Kindergarten Classroom in Mezzanine Level	12"x12" Tan Flecked Floor Tile & Black Mastic	8% Chrysotile
144 - A	Classroom inside PE Kindergarten Classroom in Mezzanine Level	12"x12" Tan Flecked Floor Tile & Black Mastic	N/A
144 - B	Classroom inside PE Kindergarten Classroom in Mezzanine Level	12"x12" Tan Flecked Floor Tile & Black Mastic	N/A
145 - A	Classroom inside PE Kindergarten Classroom in Mezzanine Level	12"x12" Tan Flecked Floor Tile & Black Mastic	N/A
145 - B	Classroom inside PE Kindergarten Classroom in Mezzanine Level	12"x12" Tan Flecked Floor Tile & Black Mastic	N/A
146	Rear Exterior Area	Brown Exterior Door Caulk	NAD
147	Rear Exterior Area	Brown Exterior Door Caulk	NAD
148	Rear Exterior Area	Brown Exterior Door Caulk	NAD
149	Front Exterior Area	Brown Exterior Window Caulk	NAD
150	Front Exterior Area	Brown Exterior Window Caulk	NAD
151	Front Exterior Area	Brown Exterior Window Caulk	NAD
152	Front Exterior Area	Gray Exterior Window Glazing	NAD
153	Front Exterior Area	Gray Exterior Window Glazing	5% Chrysotile
154	Front Exterior Area	Gray Exterior Window Glazing	N/A
155	Classroom at S Stairwell in Mezzanine Level	Yellow Carpet Mastic	NAD
156	Classroom in Open Space (Rear) in 2nd Floor	Yellow Carpet Mastic	NAD
157	Classroom in Open Space (Rear) in 3rd Floor	Yellow Carpet Mastic	NAD
158 - A	Bathroom Foyer in 2nd Floor	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	NAD
158 - B	Bathroom Foyer in 2nd Floor	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	NAD
159 - A	Hallway behind Elevator in 2nd Floor	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	NAD
159 - B	Hallway behind Elevator in 2nd Floor	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	NAD
160 - A	Open Space (Front) in 2nd Floor	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	NAD
160 - B	Open Space (Front) in 2nd Floor	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	8% Chrysotile
161	Open Space (Front) in 2nd Floor	Beige Interior Window Caulk	4% Chrysotile
162	Open Space (Front) in 2nd Floor	Beige Interior Window Caulk	N/A
163	Open Space (Front) in 2nd Floor	Beige Interior Window Caulk	N/A
164	Open Space (Front) in 2nd Floor	Brown Interior Window Glazing	NAD
165	Open Space (Front) in 2nd Floor	Brown Interior Window Glazing	NAD
166	Open Space (Front) in 2nd Floor	Brown Interior Window Glazing	NAD
167	File Room (Front) in 2nd Floor	White Mastic on Fiberglass Riser 1' Pipe	NAD
168	File Room (Front) in 2nd Floor	White Mastic on Fiberglass Riser 1' Pipe	NAD
169	File Room (Front) in 2nd Floor	White Mastic on Fiberglass Riser 1' Pipe	NAD
170	File Room (Front) in 2nd Floor	Beige Join Mastic on Riser 1' Pipe	NAD
171	File Room (Front) in 2nd Floor	Beige Join Mastic on Riser 1' Pipe	NAD
172	File Room (Front) in 2nd Floor	Beige Join Mastic on Riser 1' Pipe	NAD
173	West Stairwell in 2nd Floor	Gray Interior Window Caulk	4% Chrysotile
174	West Stairwell in 2nd Floor	Gray Interior Window Caulk	N/A
175	West Stairwell in 2nd Floor	Gray Interior Window Caulk	N/A
176	West Stairwell in 2nd Floor	Black Mastic on Metal Duct	10% Chrysotile
177	West Stairwell in 2nd Floor	Black Mastic on Metal Duct	N/A
178	West Stairwell in 2nd Floor	Black Mastic on Metal Duct	N/A
179	Open Space (Front) in 2nd Floor	Yellow Mastic under 2'x2' Carpet Tile	NAD
180	Open Space (Front) in 2nd Floor	Yellow Mastic under 2'x2' Carpet Tile	NAD
181	Open Space (Front) in 2nd Floor	Yellow Mastic under 2'x2' Carpet Tile	NAD
182	Open Space (Front) in 2nd Floor	2'x4' White Solid Ceiling Tile	NAD
183	Open Space (Front) in 2nd Floor	2'x4' White Solid Ceiling Tile	NAD
184	Open Space (Front) in 2nd Floor	2'x4' White Solid Ceiling Tile	NAD
185 - A	Kitchennette Area at W Stairwell in 3rd Floor	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	NAD
185 - B	Kitchennette Area at W Stairwell in 3rd Floor	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	NAD
186 - A	Kitchennette Area at W Stairwell in 3rd Floor	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	NAD
186 - B	Kitchennette Area at W Stairwell in 3rd Floor	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	NAD
187 - A	Kitchennette Area at W Stairwell in 3rd Floor	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	NAD
187 - B	Kitchennette Area at W Stairwell in 3rd Floor	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	NAD
188	Open Space at W Stairwell in 3rd Floor	Beige Mastic on 2" & 4" Fiberglass Bridging Pipe Insulation	NAD
189	Open Space at W Stairwell in 3rd Floor	Beige Mastic on 2" & 4" Fiberglass Bridging Pipe Insulation	NAD
190	Open Space at W Stairwell in 3rd Floor	Beige Mastic on 2" & 4" Fiberglass Bridging Pipe Insulation	NAD
191	Stairs to Access Mezzanine Level from Cafeteria in 2st Floor	Black Terrazzo Stair	NAD
192	Stairs to Access Mezzanine Level from Cafeteria in 2st Floor	Black Terrazzo Stair	NAD
193	Stairs to Access Mezzanine Level from Cafeteria in 2st Floor	Black Terrazzo Stair	NAD



Date	Reading	Location	Room	Side	Substrate	Color	Condition	Component	Pb	Pb +/-
29-Jan-13	1	Standardization							N/A	N/A
29-Jan-13	2	Calibration							1.11	0.05
29-Jan-13	3	Calibration							1.09	0.04
29-Jan-13	4	Calibration							1.07	0.06
29-Jan-13	5	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door</i>	0.14	0.18
29-Jan-13	6	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Casing</i>	0.01	0.00
29-Jan-13	7	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Lental</i>	0.21	0.06
29-Jan-13	8	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Lental</i>	0.24	0.06
29-Jan-13	9	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Lental</i>	0.29	0.08
29-Jan-13	10	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Casing</i>	0.09	0.06
29-Jan-13	11	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door</i>	0.02	0.02
29-Jan-13	12	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door</i>	0.00	0.00
29-Jan-13	13	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Casing</i>	0.00	0.00
29-Jan-13	14	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Casing</i>	0.01	0.01
29-Jan-13	15	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door</i>	0.01	0.00
29-Jan-13	16	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Lental</i>	0.21	0.06
29-Jan-13	17	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Gray</i>	<i>Poor</i>	<i>Pipe</i>	0.20	0.08
29-Jan-13	18	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Yellow</i>	<i>Poor</i>	<i>Pipe</i>	0.00	0.00
29-Jan-13	19	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Gray</i>	<i>Poor</i>	<i>Fence Post</i>	0.21	0.07
29-Jan-13	20	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Green</i>	<i>Poor</i>	<i>Fence Post</i>	0.15	0.04
29-Jan-13	21	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Yellow</i>	<i>Poor</i>	<i>Fence Post</i>	0.76	0.07
29-Jan-13	22	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Concrete</i>	<i>White</i>	<i>Fair</i>	<i>Trim</i>	0.00	0.00
29-Jan-13	23	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Brown</i>	<i>Fair</i>	<i>Railing</i>	0.03	0.02
29-Jan-13	24	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Black</i>	<i>Fair</i>	<i>Fence</i>	0.00	0.00
29-Jan-13	25	<i>Exterior</i>	<i>Rear</i>	<i>C</i>	<i>Metal</i>	<i>Green</i>	<i>Fair</i>	<i>Pipe</i>	0.16	0.04
29-Jan-13	26	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door</i>	0.00	0.00
29-Jan-13	27	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Casing</i>	0.04	0.03
29-Jan-13	28	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Casing</i>	0.04	0.05
29-Jan-13	29	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door</i>	0.01	0.01
29-Jan-13	30	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door</i>	0.01	0.02
29-Jan-13	31	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Casing</i>	0.02	0.02
29-Jan-13	32	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Black</i>	<i>Fair</i>	<i>Fence</i>	0.00	0.00
29-Jan-13	33	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Black</i>	<i>Fair</i>	<i>Fence</i>	0.00	0.00
29-Jan-13	34	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door</i>	0.00	0.01
29-Jan-13	35	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Casing</i>	0.03	0.02
29-Jan-13	36	<i>Exterior</i>	<i>Front</i>	<i>A</i>	<i>Metal</i>	<i>Black</i>	<i>Fair</i>	<i>Fence</i>	0.00	0.00



29-Jan-13	37	Exterior	Front	A	Metal	Green	Fair	Fence Post	0.10	0.03
29-Jan-13	38	Exterior	Side	B	Metal	Black	Fair	Fence	0.00	0.00
29-Jan-13	39	Exterior	Side	B	Metal	Brown	Fair	Window Casing	0.02	0.03
29-Jan-13	40	Exterior	Side	B	Metal	Brown	Fair	Window Sash	0.00	0.01
29-Jan-13	41	Exterior	Side	B	Metal	Brown	Fair	Window Casing	0.04	0.02
29-Jan-13	42	Exterior	Side	B	Metal	Blue	Fair	Door	0.00	0.01
29-Jan-13	43	Exterior	Side	B	Metal	Blue	Fair	Door	0.02	0.04
29-Jan-13	44	Exterior	Side	B	Metal	Green	Fair	Fence Post	0.22	0.05
29-Jan-13	45	1st Floor	Cafeteria	D	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	46	1st Floor	Cafeteria	C	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	47	1st Floor	Cafeteria	B	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	48	1st Floor	Cafeteria	A	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	49	1st Floor	Cafeteria	A	Concrete Block	Green	Intact	Wall	0.00	0.00
29-Jan-13	50	1st Floor	Cafeteria	B	Concrete Block	Green	Intact	Wall	0.00	0.00
29-Jan-13	51	1st Floor	Cafeteria	D	Concrete Block	Green	Intact	Wall	0.00	0.00
29-Jan-13	52	1st Floor	Cafeteria	C	Concrete Block	Green	Intact	Wall	0.00	0.00
29-Jan-13	53	1st Floor	Cafeteria	D	Metal	Green	Intact	Door	0.00	0.00
29-Jan-13	54	1st Floor	Cafeteria	D	Metal	Green	Intact	Door Casing	0.02	0.02
29-Jan-13	55	1st Floor	Cafeteria	D	Metal	Blue	Intact	Door	0.00	0.00
29-Jan-13	56	1st Floor	Cafeteria	D	Metal	Blue	Intact	Door Casing	0.03	0.02
29-Jan-13	57	1st Floor	Kitchen	D	Metal	White	Intact	Door Casing	0.05	0.02
29-Jan-13	58	1st Floor	Kitchen	D	Metal	White	Intact	Column	0.01	0.01
29-Jan-13	59	1st Floor	Kitchen	A	Concrete Block	White	Intact	Wall	0.02	0.01
29-Jan-13	60	1st Floor	Kitchen	B	Concrete Block	White	Intact	Wall	0.07	0.04
29-Jan-13	61	1st Floor	Kitchen	C	Concrete Block	White	Intact	Wall	0.02	0.02
29-Jan-13	62	1st Floor	Kitchen	D	Concrete Block	White	Intact	Wall	0.03	0.02
29-Jan-13	63	1st Floor	Kitchen	D	Drywall	White	Intact	Ceiling	0.00	0.00
29-Jan-13	64	1st Floor	Gym	D	Metal	Blue	Intact	Door	0.00	0.00
29-Jan-13	65	1st Floor	Gym	D	Metal	Blue	Intact	Door Casing	0.01	0.02
29-Jan-13	66	1st Floor	Gym	D	Metal	Orange	Intact	Door Casing	0.06	0.06
29-Jan-13	67	1st Floor	Gym	D	Metal	Orange	Intact	Door	0.05	0.02
29-Jan-13	68	1st Floor	Boys Bathroom	D	Concrete Block	Yellow	Intact	Wall	0.03	0.07
29-Jan-13	69	1st Floor	Boys Bathroom	B	Concrete Block	Yellow	Intact	Wall	0.01	0.03
29-Jan-13	70	1st Floor	Boys Bathroom	A	Concrete Block	Yellow	Intact	Wall	0.01	0.02
29-Jan-13	71	1st Floor	Boys Bathroom	C	Concrete Block	Yellow	Intact	Wall	0.02	0.05
29-Jan-13	72	1st Floor	Boys Bathroom	C	Concrete Block	White	Intact	Toilet	0.02	0.01
29-Jan-13	73	1st Floor	Boys Bathroom	C	Ceramic	White	Intact	Floor	0.00	0.00



29-Jan-13	74	1st Floor	Classroom	C	Concrete Block	Blue	Intact	Wall	0.00	0.00
29-Jan-13	75	1st Floor	Classroom	A	Concrete Block	Yellow	Intact	Wall	0.00	0.00
29-Jan-13	76	1st Floor	Classroom	B	Concrete Block	Yellow	Intact	Wall	0.00	0.00
29-Jan-13	77	1st Floor	Classroom	D	Concrete Block	Yellow	Intact	Wall	0.00	0.00
29-Jan-13	78	1st Floor	Classroom	A	<i>Metal</i>	<i>Yellow</i>	<i>Intact</i>	<i>Door Casing</i>	<i>0.03</i>	<i>0.02</i>
29-Jan-13	79	1st Floor	Classroom	A	<i>Metal</i>	<i>Yellow</i>	<i>Intact</i>	<i>Door</i>	<i>0.04</i>	<i>0.01</i>
29-Jan-13	80	1st Floor	Gym	A	Metal	Blue	Intact	Railing	0.00	0.00
29-Jan-13	81	1st Floor	Classroom	A	Concrete Block	Blue	Intact	Wall	0.00	0.00
29-Jan-13	82	1st Floor	Classroom	C	Concrete Block	Blue	Intact	Wall	0.00	0.00
29-Jan-13	83	1st Floor	Classroom	B	Concrete Block	Blue	Intact	Wall	0.00	0.00
29-Jan-13	84	1st Floor	Classroom	D	Concrete Block	Blue	Intact	Wall	0.00	0.00
29-Jan-13	85	1st Floor	Stairwell	A	Metal	Blue	Intact	Stair Riser	0.00	0.00
29-Jan-13	86	1st Floor	Stairwell	A	Metal	Blue	Intact	Stair Stringer	0.00	0.00
29-Jan-13	87	1st Floor	Stairwell	A	<i>Metal</i>	<i>Blue</i>	<i>Intact</i>	<i>Stair Newel Post</i>	<i>0.01</i>	<i>0.02</i>
29-Jan-13	88	2nd Floor	2nd Floor	A	Concrete Block	Blue	Intact	Wall	0.03	0.01
29-Jan-13	89	2nd Floor	2nd Floor	C	Concrete Block	Blue	Intact	Wall	0.06	0.05
29-Jan-13	90	2nd Floor	2nd Floor	B	Concrete Block	Blue	Intact	Wall	0.04	0.03
29-Jan-13	91	2nd Floor	2nd Floor	D	Concrete Block	Blue	Intact	Wall	0.03	0.05
29-Jan-13	92	2nd Floor	2nd Floor	D	Concrete Block	Yellow	Intact	Wall	0.00	0.00
29-Jan-13	93	2nd Floor	2nd Floor	C	Concrete Block	Yellow	Intact	Wall	0.02	0.03
29-Jan-13	94	2nd Floor	2nd Floor	B	Concrete Block	Yellow	Intact	Wall	0.01	0.05
29-Jan-13	95	2nd Floor	2nd Floor	A	Concrete Block	Yellow	Intact	Wall	0.00	0.00
29-Jan-13	96	2nd Floor	2nd Floor	A	Metal	Yellow	Intact	Door	0.00	0.00
29-Jan-13	97	2nd Floor	2nd Floor	A	<i>Metal</i>	<i>Yellow</i>	<i>Intact</i>	<i>Door Casing</i>	<i>0.30</i>	<i>0.04</i>
29-Jan-13	98	2nd Floor	2nd Floor	D	<i>Metal</i>	<i>Orange</i>	<i>Intact</i>	<i>Door Casing</i>	<i>0.05</i>	<i>0.03</i>
29-Jan-13	99	2nd Floor	2nd Floor	D	<i>Metal</i>	<i>Orange</i>	<i>Intact</i>	<i>Door</i>	<i>0.04</i>	<i>0.01</i>
29-Jan-13	100	2nd Floor	2nd Floor	B	Concrete Block	Pink	Intact	Wall	0.00	0.00
29-Jan-13	101	2nd Floor	2nd Floor	C	Concrete Block	Pink	Intact	Wall	0.00	0.00
29-Jan-13	102	2nd Floor	2nd Floor	A	Concrete Block	Pink	Intact	Wall	0.00	0.00
29-Jan-13	103	2nd Floor	2nd Floor	D	Concrete Block	Pink	Intact	Wall	0.00	0.00
29-Jan-13	104	2nd Floor	2nd Floor	D	Metal	Pink	Intact	Door	0.00	0.00
29-Jan-13	105	2nd Floor	2nd Floor	D	<i>Metal</i>	<i>Pink</i>	<i>Intact</i>	<i>Door Casing</i>	<i>0.03</i>	<i>0.01</i>
29-Jan-13	106	2nd Floor	Stairwell	B	Metal	Blue	Intact	Stair Riser	0.00	0.00
29-Jan-13	107	2nd Floor	Stairwell	B	Metal	Blue	Intact	Stair Stringer	0.00	0.00
29-Jan-13	108	2nd Floor	Stairwell	B	<i>Metal</i>	<i>Blue</i>	<i>Intact</i>	<i>Stair Newel Post</i>	<i>0.04</i>	<i>0.03</i>
29-Jan-13	109	3rd Floor	3rd Floor	D	Metal	Blue	Intact	Door	0.00	0.00
29-Jan-13	110	3rd Floor	3rd Floor	D	<i>Metal</i>	<i>Blue</i>	<i>Intact</i>	<i>Door Casing</i>	<i>0.04</i>	<i>0.01</i>



29-Jan-13	111	3rd Floor	3rd Floor	D	Concrete Block	Yellow	Intact	Wall	0.02	0.01
29-Jan-13	112	3rd Floor	3rd Floor	C	Concrete Block	Yellow	Intact	Wall	0.04	0.02
29-Jan-13	113	3rd Floor	3rd Floor	B	Concrete Block	Yellow	Intact	Wall	0.03	0.01
29-Jan-13	114	3rd Floor	3rd Floor	A	Concrete Block	Yellow	Intact	Wall	0.05	0.03
29-Jan-13	115	3rd Floor	3rd Floor	A	Concrete Block	Green	Intact	Wall	0.03	0.01
29-Jan-13	116	3rd Floor	3rd Floor	B	Concrete Block	Green	Intact	Wall	0.00	0.06
29-Jan-13	117	3rd Floor	3rd Floor	D	Concrete Block	Green	Intact	Wall	0.02	0.04
29-Jan-13	118	3rd Floor	3rd Floor	C	Concrete Block	Green	Intact	Wall	0.05	0.03
29-Jan-13	119	3rd Floor	3rd Floor	D	Metal	Green	Intact	Door	0.00	0.00
29-Jan-13	120	3rd Floor	3rd Floor	D	Metal	Green	Intact	Door Casing	0.00	0.00
29-Jan-13	121	3rd Floor	3rd Floor	A	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	122	3rd Floor	3rd Floor	B	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	123	3rd Floor	3rd Floor	D	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	124	3rd Floor	3rd Floor	C	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	125	3rd Floor	3rd Floor	D	Metal	White	Intact	Door	0.02	0.01
29-Jan-13	126	3rd Floor	3rd Floor	D	Metal	White	Intact	Door Casing	0.03	0.03
29-Jan-13	127	3rd Floor	3rd Floor	D	Metal	Blue	Intact	Door	0.02	0.02
29-Jan-13	128	3rd Floor	3rd Floor	D	Metal	Blue	Intact	Door Casing	0.02	0.00
29-Jan-13	129	3rd Floor	3rd Floor	D	Metal	White	Intact	Door Casing	0.00	0.00
29-Jan-13	130	3rd Floor	3rd Floor	D	Metal	White	Intact	Column	0.00	0.00
29-Jan-13	131	3rd Floor	3rd Floor	D	Metal	Orange	Intact	Door Casing	0.06	0.02
29-Jan-13	132	3rd Floor	3rd Floor	D	Metal	Orange	Intact	Door	0.01	0.03
29-Jan-13	133	Basement	Basement	A	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	134	Basement	Basement	C	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	135	Basement	Basement	B	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	136	Basement	Basement	D	Concrete Block	White	Intact	Wall	0.00	0.00
29-Jan-13	137	Basement	Basement	A	Concrete Block	Yellow	Intact	Door	0.00	0.00
29-Jan-13	138	Basement	Basement	A	Concrete Block	Yellow	Intact	Door Casing	0.05	0.02
29-Jan-13	139	Basement	Basement	A	Concrete Block	White	Intact	Duct	0.00	0.00
29-Jan-13	140	Basement	Basement	D	Concrete Block	Yellow	Intact	Wall	0.00	0.00
29-Jan-13	141	Basement	Basement	C	Concrete Block	Yellow	Intact	Wall	0.00	0.00
29-Jan-13	142	Basement	Basement	A	Concrete Block	Yellow	Intact	Wall	0.00	0.00
29-Jan-13	143	Basement	Basement	B	Concrete Block	Yellow	Intact	Wall	0.00	0.00
29-Jan-13	144	Basement	Basement	B	Concrete Block	Yellow	Intact	Door	0.00	0.00
29-Jan-13	145	Basement	Basement	B	Concrete Block	Yellow	Intact	Door Casing	0.05	0.02
29-Jan-13	146	Basement	Basement	D	Metal	White	Intact	Column	0.02	0.01
29-Jan-13	147	Basement	Basement	D	Metal	Yellow	Poor	Door Casing	0.04	0.02



29-Jan-13	148	Basement	Basement	D	Metal	Yellow	Fair	Door	0.00	0.00	
29-Jan-13	149	Basement	Basement	D	Concrete	Gray	Fair	Floor	0.00	0.00	
29-Jan-13	150	Basement	Basement	D	Concrete	Gray	Fair	Column	0.00	0.00	
29-Jan-13	151	<i>Basement</i>	<i>Basement</i>	<i>B</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Duct</i>	<i>0.09</i>	<i>0.01</i>	
29-Jan-13	152	<i>Basement</i>	<i>Basement</i>	<i>B</i>	<i>Metal</i>	<i>Blue</i>	<i>Fair</i>	<i>Door Casing</i>	<i>0.04</i>	<i>0.01</i>	
29-Jan-13	153	Basement	Basement	B	Brick	White	Fair	Wall	0.00	0.00	
29-Jan-13	154	Basement	Basement	A	Concrete	White	Fair	Wall	0.00	0.00	
29-Jan-13	155	Basement	Basement	C	Concrete	White	Fair	Wall	0.00	0.00	
29-Jan-13	156	Basement	Basement	D	Concrete	White	Fair	Wall	0.00	0.00	
29-Jan-13	157	Calibration								1.08	0.03
29-Jan-13	158	Calibration								1.11	0.04
29-Jan-13	159	Calibration								1.12	0.06
01-Feb-13	160	Standardization								N/A	N/A
01-Feb-13	161	Calibration								1.09	0.05
01-Feb-13	162	Calibration								1.20	0.09
01-Feb-13	163	Calibration								1.18	0.08
01-Feb-13	164	<i>3rd Floor</i>	<i>Open Area</i>	<i>A</i>	<i>Metal</i>	<i>Yellow</i>	<i>Intact</i>	<i>Beam</i>	<i>0.03</i>	<i>0.02</i>	
01-Feb-13	165	3rd Floor	Open Area	A	Drywall	Yellow	Intact	Wall	0.00	0.00	
01-Feb-13	166	3rd Floor	Open Area	A	Drywall	Black	Intact	Wall	0.00	0.00	
01-Feb-13	167	3rd Floor	Room 300d	B	Wood	White	Intact	Cabinet	0.00	0.00	
01-Feb-13	168	3rd Floor	Room 300d	B	Wood	White	Intact	Shelf	0.00	0.00	
01-Feb-13	169	3rd Floor	Open Area	A	Drywall	White	Intact	Wall	0.00	0.00	
01-Feb-13	170	3rd Floor	Center of Open Area	B	Concrete Block	Green	Intact	Wall	0.00	0.00	
01-Feb-13	171	3rd Floor	Janitor Closet	B	Ceramic	Brown	Intact	Floor	0.00	0.00	
01-Feb-13	172	3rd Floor	Janitor Closet	B	Ceramic	Gray	Intact	Floor	0.00	0.00	
01-Feb-13	173	3rd Floor	Janitor Closet	B	Ceramic	Beige	Intact	Floor	0.00	0.00	
01-Feb-13	174	3rd Floor	Janitor Closet	B	Wood	Brown	Intact	Door	0.00	0.00	
01-Feb-13	175	<i>3rd Floor</i>	<i>Open Area</i>	<i>B</i>	<i>Metal</i>	<i>White</i>	<i>Intact</i>	<i>Door</i>	<i>0.02</i>	<i>0.03</i>	
01-Feb-13	176	3rd Floor	Elevator	C	Metal	Orange	Intact	Door	1.99	0.18	
01-Feb-13	177	3rd Floor	Elevator	C	Metal	Orange	Intact	Door Casing	0.83	0.08	
01-Feb-13	178	3rd Floor	Elevator	C	Metal	Orange	Intact	Door Jamb	1.13	0.07	
01-Feb-13	179	3rd Floor	Fire Extinguisher Box	C	Metal	Red	Intact	Door Casing	0.04	0.03	
01-Feb-13	180	3rd Floor	Fire Extinguisher Box	C	Metal	Red	Intact	Door	0.05	0.03	
01-Feb-13	181	1st Floor	Kitchen	A	Ceramic	Brown	Intact	Floor	0.00	0.00	
01-Feb-13	182	1st Floor	Kitchen-Locker Room	A	Ceramic	Yellow	Intact	Floor	0.00	0.00	
01-Feb-13	183	1st Floor	Kitchen-Locker Room	A	Ceramic	White	Intact	Floor	0.00	0.00	
01-Feb-13	184	1st Floor	Kitchen	A	Concrete Block	Off-White	Intact	Wall	0.00	0.01	



<i>01-Feb-13</i>	<i>185</i>	<i>1st Floor</i>	<i>Kitchen</i>	<i>A</i>	<i>Metal</i>	<i>Off-White</i>	<i>Intact</i>	<i>Door Casing</i>	<i>0.02</i>	<i>0.01</i>
<i>01-Feb-13</i>	<i>186</i>	<i>1st Floor</i>	<i>Kitchen</i>	<i>B</i>	<i>Metal</i>	<i>Blue</i>	<i>Intact</i>	<i>Door</i>	<i>0.02</i>	<i>0.02</i>
<i>01-Feb-13</i>	<i>187</i>	<i>1st Floor</i>	<i>Kitchen</i>	<i>B</i>	<i>Metal</i>	<i>Blue</i>	<i>Intact</i>	<i>Door</i>	<i>0.01</i>	<i>0.02</i>
<i>01-Feb-13</i>	<i>188</i>	<i>1st Floor</i>	<i>Kitchen</i>	<i>A</i>	<i>Plaster</i>	<i>White</i>	<i>Intact</i>	<i>Ceiling</i>	<i>0.00</i>	<i>0.00</i>
01-Feb-13	189	Calibration							1.09	0.05
01-Feb-13	190	Calibration							1.13	0.06
01-Feb-13	191	Calibration							1.07	0.04

DISTRICT OF COLUMBIA

LEAD AND HEALTHY HOUSING DIVISION

COMPLIANCE AND ENFORCEMENT BRANCH

APPLICATION INSTRUCTIONS & FORMS

FOR

NOTIFICATION OF LEAD-BASED PAINT ACTIVITIES

AND

ABATEMENT PERMITS

June 2011

Government of the District of Columbia
District Department of the Environment

Lead and Healthy Housing Division
Compliance & Enforcement Branch



June 2011

Dear Contractor:

Please be advised that as of April 12, 2005, unless exempt or excluded by law, all business entities and individuals, including government agencies, performing abatement of lead-based paint or lead-based paint hazards, or performing projects that permanently eliminate lead-based paint hazards in the District of Columbia, must provide the District Department of the Environment with at least seven (7) business days advance notice of the abatement or project. This requirement applies regardless of what type of property or structure (residential, public, commercial, and industrial) the abatement is taking place on or in.

These lead-based paint activities, whether they abate known lead-based paint or eliminate lead-based paint hazards, require business entities and individuals to obtain an abatement permit and pay the required permit fee before beginning work. If you have already obtained a permit but wish to change the scope of work under which the permit was obtained, you must notify the District Department of the Environment of the proposed change and pay any related fees before beginning work on the modified project. All fees must be paid by check or by money order, made payable to the D.C. Treasurer. Abatement fees are non-refundable.

All business entities and individuals to which this applies must complete both the Lead-Based Paint Activity Notification Form and the Lead Abatement Permit Application Form. Once completed, the Forms must be submitted to:

**DISTRICT DEPARTMENT OF THE ENVIRONMENT
LEAD AND HEALTHY HOUSING DIVISION
COMPLIANCE & ENFORCEMENT BRANCH
1200 FIRST STREET, N.E., 5th Floor
WASHINGTON, D.C. 20002
Attn: Permitting**

Or fax to: 202-481-3770

**Or email to: amber.sturdivant@dc.gov AND to williemae.miller@dc.gov
(All checks must be mailed or submitted in person to this office)**

Copies of the District's Lead-Based Paint Activity Notification and Permit Application Forms are enclosed for your use.

Enforcement action will be taken to the fullest extent of the law against contractors who fail to comply with the certification, notification, and permitting requirements of the District of Columbia's Lead-Hazard Prevention and Elimination Act of 2008, effective March 31, 2009, as amended by the Lead-Hazard Prevention and Elimination Amendment Act of 2010, D.C. Law 18-348, effective March 31, 2011 ("Act") D.C. Official Code § 8-231.01 *et seq.* Should you have any questions, please do not hesitate to contact the Compliance and Enforcement Branch at (202) 535-1934 between the hours of 8:30 AM and 4:30 PM, Monday through Friday (except holidays).

We look forward to working with you.

LEAD-BASED PAINT ACTIVITY NOTIFICATION FORM

This Notification Form must be completed and filed with the District Department of the Environment, at least seven (7) business days before the start of work, in accordance with The Lead-Hazard Prevention and Elimination Act of 2008, DC Law 17-381, effective March 31, 2009, as amended by the Lead-Hazard Prevention and Elimination Amendment Act of 2010, D.C. Law 18-348, effective March 31, 2011 ("Act") D.C. Official Code § 8-231.01 *et seq.*

Please note: this Notification Form is not a substitute for an abatement permit. DDOE will review this Form to determine whether an abatement permit is necessary for the proposed project.

Location of Project:

Address: _____ Lot _____
_____ Square _____
_____ Ward _____

Approximate Year of Construction of Project Property or Structure: _____

Starting Date of Lead-Based Paint Activity: _____

Projected Completion Date of Lead-Based Paint Activity: _____

Property Owner Information:

Name: _____

Address: _____

Daytime telephone: _____
Fax: _____
E-mail: _____

General Contractor Information:

Name: _____

Address: _____

Daytime telephone: _____
Fax: _____
E-mail: _____

Certified Lead Abatement Contractor Information:

Name: _____

D.C. Lead-Based Paint Business Entity Certification Number: _____

Daytime telephone: _____
Fax: _____
E-mail: _____

Certified Abatement Supervisor Information:

Name: _____

D.C. Lead-Based Paint Supervisor Certification Number: _____

Daytime telephone: _____
Fax: _____
E-mail: _____

SIGNATURE PAGE

for

LEAD-BASED PAINT ACTIVITY NOTIFICATION FORM

I declare that the information provided on the Lead-Based Paint Activity Notification Form is true, correct and complete to the best of my knowledge, and certify that I have the authority to represent the owner of the property that is the subject of this notification and/or application and to sign on behalf of the person(s) listed as the owner. I understand that if the information provided in this Form is false, I may be subject to the penalties of perjury.

Print Name

Signature

Date

Contact the Compliance and Enforcement Branch at (202) 535-1934 for more information on lead hazard abatement measures. Information on lead hazard abatement may also be found on the following websites:

<http://www.ddoe.dc.gov/ddoe/cwp/view,a,1209,q,499488.asp>

<http://www.cdc.gov/lead/>

<http://www.epa.gov/opptintr/lead/>

<http://www.hud.gov/offices/lead/>

Please Note: This Notification Form is not a substitute for an abatement permit application.

Please submit ALL PERMIT APPLICATION MATERIALS to:

**DISTRICT DEPARTMENT OF THE ENVIRONMENT
LEAD AND HEALTHY HOUSING DIVISION
COMPLIANCE & ENFORCEMENT BRANCH
1200 FIRST STREET, N.E., 5th Floor
WASHINGTON, D.C. 20002
Attn: Permitting**

Or fax to: 202-481-3770

**Or email to: amber.sturdivant@dc.gov AND to williamae.miller@dc.gov
(All checks must be mailed or submitted in person to this office)**

INSTRUCTIONS FOR COMPLETING THE LEAD ABATEMENT PERMIT APPLICATION FORM

- **Permits are required for all lead abatement projects.**
- **Please read and follow these instructions when completing the application.**
- **TYPE OR PRINT all answers in ink.**

1. Check the type of application.
2. Provide the full address, including the street address, ward number, square and lot number, for property where the work will be performed.
3. Provide the name, address, and contact information for the property owner.
4. Describe the present use of the project property or structure -- for example, occupied residential housing, elementary school, childcare facility, vacant commercial building, or industrial structure.
5. Provide the approximate year the building or structure was built.
6. Provide the name, address and contact information for the project's general contractor.
7. Provide the name, address and contact information for the project's certified abatement contractor, as well as the contractor's D.C. business entity certification number and the expiration date. **ATTACH A COPY OF THE BUSINESS ENTITY'S CERTIFICATION CARD.**
8. Provide the name of the certified supervisor assigned to the project, the supervisor's D.C. lead certification number and expiration date, and the supervisor's contact information. **ATTACH A COPY OF THE SUPERVISOR'S CERTIFICATION CARD.**
9. Provide the project anticipated start, clearance and completion dates.
10. Provide the work schedule, including the days and times that work will be taking place at the project site.
11. Indicate the approximate square or linear footage of lead-based paint to be abated.
12. Describe the provisions for medical surveillance and worker protection.
13. Describe what is adjacent to the abatement project -- for example: single family residential housing, apartment building, commercial office space, playground, school; and describe the methods that will be used to prevent any dispersal of paint chips, dust, debris or residue onto these areas.
14. State the intended disposal site of the waste that will be generated. If hazardous waste will be generated, describe how you intend to comply with the D.C. Hazardous Waste Regulations. Call the Hazardous Materials Branch at (202) 535-2290 for information on D.C. hazardous waste management requirements.
15. State the amount of the contract to conduct the abatement. If the project involves work that is not considered an abatement activity, do not include that as part of the contract amount.
16. State the amount of abatement permit fee submitted. The permit fee equals \$40 plus three percent (3%) of the lead abatement project cost. If the contract is for \$5,000, of which \$2,000 is for lead abatement; then the total fee is $\$40.00 + \60.00 ($\$60.00 = 3\%$ of lead abatement project cost) = \$100.00.

NOTES: Provide a full description of the work to be performed, including the specific location of any known or presumed lead-based paint, and its condition (intact or non-intact). District of Columbia law defines “presumed lead-based paint” to include any “paint or other surface coating affixed to a component in or on a dwelling unit or child-occupied facility” built prior to 1978. The presumption that such paint is lead-based paint can only be rebutted by production of appropriate documentation from a certified lead inspector or risk assessor. **ATTACH A COPY OF DOCUMENTATION YOU WANT TO PRODUCE TO CONFIRM THAT PAINT INVOLVED IN THIS PROJECT IS NOT LEAD-BASED PAINT.**

Don't forget to indicate the type of lead abatement method(s) to be used in this project: paint, dust, and/or soil removal, encapsulation or enclosure of paint, and/or the replacement of painted surfaces or fixtures.

Please be sure to sign and date the application, and include the required attachments. Upon review and approval of the application, a permit will be issued. The permit will be valid only for the duration of the project or for one year, whichever is less. Any change in start or completion dates, or scope of work, will require the submission of an amended Lead-Based Paint Activity Notification Form (see below: Lead-Based Paint Activity Notification Revision Form). The permit must be maintained at the project site at all times and available upon request from District Department of the Environment inspectors. **This application must be submitted at least seven (7) business days before the start of the abatement project.**

THE FOLLOWING ITEMS MUST BE ATTACHED WITH THE PERMIT APPLICATION

- _____ **COPY OF CURRENT DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS (DCRA) BUSINESS LICENSE**
- _____ **COPY OF ABATEMENT CONTRACTOR'S DISTRICT OF COLUMBIA LEAD-BASED PAINT BUSINESS ENTITY CERTIFICATION**
- _____ **COPY OF SUPERVISOR'S DISTRICT OF COLUMBIA LEAD-BASED PAINT SUPERVISOR CERTIFICATION**
- _____ **COPY OF CONTRACTOR'S CURRENT LIABILITY INSURANCE, INCLUDING PROOF OF PROFESSIONAL, ENVIRONMENTAL AND GENERAL LIABILITY COVERAGE**
- _____ **COPY OF SIGNED CONTRACT FOR THE LEAD-BASED PAINT ACTIVITY, INCLUDING THE SCOPE OF WORK**
- _____ **APPROPRIATE PERMIT FEE (make check or money order payable to the D.C. Treasurer; application fees are non-refundable)**
- _____ **COPY OF ANY PERTINENT LEAD INSPECTION OR RISK ASSESSMENT REPORT**
- _____ **COPY OF ANY PERTINENT NOTICE OF VIOLATION (if applicable)**
- _____ **COMPLETED CLEAN HANDS SELF-CERTIFICATION FORM**

Please submit ALL PERMIT APPLICATION MATERIALS to:

**DISTRICT DEPARTMENT OF THE ENVIRONMENT
LEAD AND HEALTHY HOUSING DIVISION
COMPLIANCE & ENFORCEMENT BRANCH
1200 FIRST STREET, N.E., 5th Floor
WASHINGTON, D.C. 20002
Attn: Permitting**

Or fax to: 202-481-3770

**Or email to: amber.sturdivant@dc.gov AND to williemaemiller@dc.gov
(All checks must be mailed or submitted in person to this office)**



GOVERNMENT OF THE DISTRICT OF COLUMBIA
DISTRICT DEPARTMENT OF THE ENVIRONMENT
LEAD AND HEALTHY HOUSING DIVISION
COMPLIANCE & ENFORCEMENT BRANCH
1200 FIRST STREET, N.E., 5th Floor
WASHINGTON, D.C. 20002
(202) 535-1934

LEAD ABATEMENT PERMIT APPLICATION FORM

NOTE: Submit this form at least seven (7) business days before starting work.

-OFFICE USE ONLY-

DATE RECEIVED: _____

PERMIT NUMBER: _____

1. TYPE OF APPLICATION

INITIAL PERMIT

RENEWAL

2. PROPERTY LOCATION/ADDRESS: _____

SQUARE # _____ LOT # _____ WARD # _____

3. PROPERTY OWNER: _____

OWNER MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

TELEPHONE NUMBER: _____ FAX: _____ E-MAIL: _____

4. PRESENT USE OF PROPERTY/STRUCTURE: _____

5. APPROXIMATE DATE THE FACILITY/BUILDING/STRUCTURE WAS BUILT: _____

6. GENERAL CONTRACTOR: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

CONTACT NAME: _____ TELEPHONE NUMBER: _____

FAX: _____ E-MAIL: _____

Abatement Permit Application Form -- PAGE 2

7. ABATEMENT CONTRACTOR: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

CONTACT NAME: _____ TELEPHONE NUMBER: _____

FAX: _____ E-MAIL: _____

D.C. LEAD (BUSINESS ENTITY) CERTIFICATION NUMBER: _____ EXPIRATION DATE: _____

REMINDER: ATTACH A COPY OF THE BUSINESS ENTITY'S CERTIFICATION CARD

8. NAME OF SUPERVISOR ASSIGNED TO THE PROJECT: _____

SUPERVISOR'S D.C. LEAD CERTIFICATION NUMBER: _____ EXPIRATION DATE: _____

TELEPHONE NUMBER: _____ FAX: _____ E-MAIL: _____

REMINDER: ATTACH A COPY OF THE SUPERVISOR'S CERTIFICATION CARD

9. START/COMPLETION DATE(S) OF PROJECT (Reminder: You must provide this application to DDOE no less than seven (7) business days before the project starts.)

PROJECT START DATE: _____

PROJECTED PROJECT COMPLETION DATE: _____

PROJECTED CLEARANCE DATE: _____

REMINDER: ATTACH A COPY OF THE SCOPE OF WORK, AND ANY PERTINENT LEAD INSPECTION OR RISK ASSESSMENT REPORT, AND ANY PERTINENT NOTICE OF VIOLATION

10. DAYS (SPECIFY WHICH ONES) THAT WORK AT THE PROJECT SITE WILL OCCUR: _____

DURING THE FOLLOWING HOURS: FROM _____ A.M./P.M. TO _____ A.M./P.M.

11. APPROXIMATE AMOUNT OF LEAD-BASED PAINT OR LEAD-BASED PAINT HAZARDS (INCLUDING PRESUMED LEAD-BASED PAINT) TO BE ABATED (in square or linear feet):

Square Feet: _____

Linear Feet: _____

12. PROVISIONS FOR MEDICAL SURVEILLANCE AND WORKER PROTECTION:

13. A DESCRIPTION OF AREAS IMMEDIATELY ADJACENT TO THE PROJECT SITE, INCLUDING NEIGHBORING PROPERTIES AND/OR PUBLIC SPACE, AND THE MEASURES THAT WILL BE TAKEN TO PREVENT ANY DISPERSAL OF PAINT CHIPS, DUST, DEBRIS, AND RESIDUE ONTO THESE AREAS:

14. MANNER IN WHICH THE WASTE CONTAINING LEAD WILL BE HANDLED AND DISPOSED OF, AND LOCATION OF THE DISPOSAL SITE (FOR INFO, CONTACT DDOE'S HAZARDOUS MATERIALS BRANCH, AT 202-535-2290):

15. ESTIMATED OR ACTUAL COST OF ABATEMENT CONTRACT (COSTS OF ABATEMENT MEASURES ONLY):

\$ _____

16. FEE SUBMITTED FOR LEAD ABATEMENT PERMIT (\$40 + 3% of costs of abatement measures):

\$ _____

AFFIDAVIT

I certify that the above information is accurate, true, and correct to the best of my knowledge, and that all lead-based paint abatement will be conducted in accordance with all applicable work practice standards of Federal and District of Columbia laws, including the Occupational Safety and Health Administration ("OSHA") standards for lead in construction work found in 29 CFR § 1926.62, the United States Department of Housing and Urban Development Standards for Lead-Based Paint Evaluation and Hazard Activities found in 24 CFR Part 35, Subpart R; and the United States Environmental Protection Agency certification and training and work practice standards found in 40 CFR §§ 745.226 and 745.227. I also certify that all municipal solid and hazardous waste will be handled and disposed of in accordance with all applicable local, state, and federal laws. Finally, I attest that only appropriately D.C. certified individuals will be used for all abatement work; and that all employees performing non-abatement work involving lead-based paint or lead-based paint hazards have completed a U.S. HUD-approved course on lead-safe work practices; and that no outstanding debts are owed to the District of Columbia Government.

Signature of Contractor/Title

Date



GOVERNMENT OF THE DISTRICT OF COLUMBIA
DISTRICT DEPARTMENT OF THE ENVIRONMENT
LEAD AND HEALTHY HOUSING
COMPLIANCE & ENFORCEMENT BRANCH
1200 FIRST STREET, N.E., 5th Floor
WASHINGTON, D.C. 20002
(202) 535-1934

LEAD-BASED PAINT ACTIVITY NOTIFICATION REVISION FORM

-OFFICE USE ONLY-

DATE RECEIVED: _____ PERMIT NUMBER (IF APPLICABLE): _____
REVIEWED BY: _____ SIGNATURE: _____ DATE: _____

TYPE OR PRINT YOUR ANSWERS IN DARK INK

PERMIT OR NOTIFICATION NUMBER: _____

1. TYPE OF NOTIFICATION: Amendment/Project Change Cancellation

2. PROPERTY ADDRESS: _____

3. PROJECT START/COMPLETION DATES: **Reminder: You must notify this office no less than seven (7) business days before project starts.**

START DATE: _____ END/COMPLETION DATE: _____

4. WORK HOURS: FROM _____ A.M./P.M. TO _____ A.M./P.M.

5. GENERAL CONTRACTOR: _____

ADDRESS: _____

TELEPHONE: _____

ABATEMENT CONTRACTOR: _____

ADDRESS: _____

TELEPHONE: _____

D.C. LEAD-BASED PAINT BUSINESS ENTITY CERTIFICATION NUMBER: _____

6. ABATEMENT SUPERVISOR: _____

D.C. LEAD-BASED PAINT SUPERVISOR CERTIFICATION NUMBER: _____

CONTACT NUMBERS: _____
TELEPHONE CELL

7. CHANGES/EXPANSION TO THE SCOPE OF WORK, ASSOCIATED COST INCREASES AND EXPLAIN WHY THE EXTENSION IS REQUESTED:

ADDITIONAL PERMIT FEE (IF APPLICABLE): _____



**Government of the District of Columbia
 District Department of the Environment
 Lead and Healthy Housing
 Compliance & Enforcement Branch**

CLEAN HANDS SELF-CERTIFICATION FORM

TO THE APPLICANT: Please read this form carefully and completely before signing. The District Government shall not issue or reissue any license or permit if the applicant owes it more than \$100 in outstanding debt. A false statement on this certification requires that the District Department of the Environment (DDOE), proceed immediately to revoke the certification, accreditation and/or permit or renewal for which you are now applying and fine you \$1,000. This certification form is required to be completed and submitted with any application for a certification, accreditation and/or permit or renewal by the Clean Hands Before Receiving a License or Permit Act of 1996, effective May 11, 1996 (DC Law 11-118, DC Official Code Sec. 47-2861 et seq.) as amended, effective October 21, 2000 (DC Law 13-183, sec. 2(b), DC Code sec. 47-2861 et. seq.).

I, _____, as _____ certify that _____
 (Name) (Owner/Partner/Corporate Office) (Business Name)

trading as _____ at _____ using business tax number _____,
 (Trade Name) (Business Address) (FEIN/SSN)

As of the date, does not owe more than more than one hundred dollars (\$100) in outstanding debt to the District of Columbia government as a result of:

1. Fines, penalties, or interest assessed pursuant to the Lead-Hazard Prevention and Elimination Act of 2008, DC Law 17-381, effective March 31, 2009, as amended by the Lead-Hazard Prevention and Elimination Amendment Act of 2010, D.C. Law 18-348, effective March 31, 2011 (“Act”) D.C. Official Code § 8-231.01 *et seq.* (2011); or
2. Fines, penalties, or interest assessed pursuant to the Litter Control Administration Action of 1985, effective March 25, 1986, (DC Law 6-100; DC Code Sec. 8-801 (et seq.) (2001 ed.); or
3. Fines, penalties, or interest assessed pursuant to the Illegal Dumping Enforcement Act of 1994, effective May 20, 1994 (DC Law 10-117; DC Code Sec. 8-901 (et seq.) (2001 ed.); or
4. Fines, penalties, or interest assessed pursuant to the Department of Consumer and Regulatory Affairs (DCRA) Civil Infraction Act of 1985, effective October 5, 1985 (DC Law 6-42; DC Code Sec. 2-1801.01 (et. seq.) (2001 ed.); or
5. Past Due Taxes owed to the Office of Tax and Revenue pursuant to Title 47 of the DC Code; or
6. Past due District of Columbia Water and Sewer Authority service fees pursuant to Title 34 Chapter 22 and 24 of the DC Code (2001 ed.); or
7. Fines, penalties or interest assessed pursuant to Traffic Adjudication Act, Title 50, Chapter 23, of the DC Code (2001 ed.)

I understand that a signed and dated *Clean Hands Self-Certification Form* is required as documentation to accompany my application for a certification, accreditation and/or permit or renewal. I understand that by completing and submitting this form, I am not guaranteed that my certification, accreditation and/or permit or renewal will be approved.

I understand that the District Department of the Environment (DDOE) and/or the Department of Consumer and Regulatory Affairs (DCRA) may conduct an investigation to ascertain the veracity of the information contained in this *Clean Hands Self-Certification Form*.

I understand that if I knowingly provide false information on this Clean Hands Self-Certification Form, DDOE, will proceed immediately to revoke each certification, accreditation and/or permit or renewal for which I am applying, and to fine me one thousand dollars (\$1,000).

 SIGNATURE OF APPLICANT and TITLE FEN/SSN DATE

<p>SEND COMPLETED FORM TO: The Appropriate State or Regional Office.</p>	<p>United States Environmental Protection Agency RCRA SUBTITLE C SITE IDENTIFICATION FORM</p>				
<p>1. Reason for Submittal</p> <p>MARK ALL BOX(ES) THAT APPLY</p>	<p>Reason for Submittal:</p> <p>To provide an Initial Notification (first time submitting site identification information / to obtain an EPA ID number for this location)</p> <p>To provide a Subsequent Notification (to update site identification information for this location)</p> <p>As a component of a First RCRA Hazardous Waste Part A Permit Application</p> <p>As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment # _____)</p> <p>As a component of the Hazardous Waste Report (If marked, see sub-bullet below)</p> <p>Site was a TSD facility and/or generator of $\geq 1,000$ kg of hazardous waste, >1 kg of acute hazardous waste, or >100 kg of acute hazardous waste spill cleanup <u>in one or more months</u> of the report year (or State equivalent LQG regulations)</p>				
<p>2. Site EPA ID Number</p>	<p>EPA ID Number <input type="text"/> <input type="text"/></p>				
<p>3. Site Name</p>	<p>Name: <input type="text"/></p>				
<p>4. Site Location Information</p>	<p>Street Address: <input type="text"/></p>				
	<p>City, Town, or Village: <input type="text"/></p>	<p>County: <input type="text"/></p>			
	<p>State: <input type="text"/></p>	<p>Country: <input type="text"/></p>	<p>Zip Code: <input type="text"/></p>		
<p>5. Site Land Type</p>	<p>Private County District Federal Tribal Municipal State Other</p>				
<p>6. NAICS Code(s) for the Site (at least 5-digit codes)</p>	<p>A. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>	<p>C. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>			
	<p>B. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>	<p>D. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p>			
<p>7. Site Mailing Address</p>	<p>Street or P.O. Box: <input type="text"/></p>				
	<p>City, Town, or Village: <input type="text"/></p>				
	<p>State: <input type="text"/></p>	<p>Country: <input type="text"/></p>	<p>Zip Code: <input type="text"/></p>		
<p>8. Site Contact Person</p>	<p>First Name: <input type="text"/></p>		<p>MI: <input type="text"/></p>	<p>Last: <input type="text"/></p>	
	<p>Title: <input type="text"/></p>				
	<p>Street or P.O. Box: <input type="text"/></p>				
	<p>City, Town or Village: <input type="text"/></p>				
	<p>State: <input type="text"/></p>	<p>Country: <input type="text"/></p>	<p>Zip Code: <input type="text"/></p>		
	<p>Email: <input type="text"/></p>				
	<p>Phone: <input type="text"/></p>	<p>Ext.: <input type="text"/></p>	<p>Fax: <input type="text"/></p>		
<p>9. Legal Owner and Operator of the Site</p>	<p>A. Name of Site's Legal Owner: <input type="text"/></p>		<p>Date Became Owner: <input type="text"/></p>		
	<p>Owner Type: Private County District Federal Tribal Municipal State Other</p>				
	<p>Street or P.O. Box: <input type="text"/></p>				
	<p>City, Town, or Village: <input type="text"/></p>			<p>Phone: <input type="text"/></p>	
	<p>State: <input type="text"/></p>	<p>Country: <input type="text"/></p>	<p>Zip Code: <input type="text"/></p>		
	<p>B. Name of Site's Operator: <input type="text"/></p>		<p>Date Became Operator: <input type="text"/></p>		
	<p>Operator Type: Private County District Federal Tribal Municipal State Other</p>				

10. Type of Regulated Waste Activity (at your site)
 Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities; Complete all parts 1-7.

- | | |
|--|---|
| <p>Y N 1. Generator of Hazardous Waste
 If "Yes", mark only one of the following – a, b, or c.</p> <p>a. LQG: Generates, in any calendar month, 1,000 kg/mo (2,200 lbs./mo.) or more of hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lbs./mo) of acute hazardous waste; or Generates, in any calendar month, or accumulates at any time, more than 100 kg/mo (220 lbs./mo) of acute hazardous spill cleanup material.</p> <p>b. SQG: 100 to 1,000 kg/mo (220 – 2,200 lbs./mo) of non-acute hazardous waste.</p> <p>c. CESQG: Less than 100 kg/mo (220 lbs./mo) of non-acute hazardous waste.</p> <p>If "Yes" above, indicate other generator activities.</p> <p>d. Short-Term Generator (generate from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section.</p> <p>e. United States Importer of Hazardous Waste</p> <p>f. Mixed Waste (hazardous and radioactive) Generator</p> | <p>Y N 2. Transporter of Hazardous Waste
 If "Yes", mark all that apply.</p> <p>a. Transporter</p> <p>b. Transfer Facility (at your site)</p> <p>Y N 3. Treater, Storer, or Disposer of Hazardous Waste Note: A hazardous waste permit is required for these activities.</p> <p>Y N 4. Recycler of Hazardous Waste</p> <p>Y N 5. Exempt Boiler and/or Industrial Furnace
 If "Yes", mark all that apply.</p> <p>a. Small Quantity On-site Burner Exemption</p> <p>b. Smelting, Melting, and Refining Furnace Exemption</p> <p>Y N 6. Underground Injection Control</p> <p>Y N 7. Receives Hazardous Waste from Off-site</p> |
|--|---|

B. Universal Waste Activities; Complete all parts 1-2.

- Y N **1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste managed at your site. If "Yes", mark all that apply.**
- a. Batteries
- b. Pesticides
- c. Mercury containing equipment
- d. Lamps
- e. Other (specify) _____
- f. Other (specify) _____
- g. Other (specify) _____
- Y N **2. Destination Facility for Universal Waste**
 Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities; Complete all parts 1-4.

- Y N **1. Used Oil Transporter**
 If "Yes", mark all that apply.
- a. Transporter
- b. Transfer Facility (at your site)
- Y N **2. Used Oil Processor and/or Re-refiner**
 If "Yes", mark all that apply.
- a. Processor
- b. Re-refiner
- Y N **3. Off-Specification Used Oil Burner**
- Y N **4. Used Oil Fuel Marketer**
 If "Yes", mark all that apply.
- a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262 Subpart K

❖ You must check with your State to determine if you are eligible to manage laboratory hazardous wastes pursuant to 40 CFR Part 262 Subpart K

1. Opting into or currently operating under 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories
See the item-by-item instructions for definitions of types of eligible academic entities. Mark all that apply:
 - a. College or University
 - b. Teaching Hospital that is owned by or has a formal written affiliation agreement with a college or university
 - c. Non-profit Institute that is owned by or has a formal written affiliation agreement with a college or university
2. Withdrawing from 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

11. Description of Hazardous Waste

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-Regulated hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

ADDENDUM TO THE SITE IDENTIFICATION FORM: NOTIFICATION OF HAZARDOUS SECONDARY MATERIAL ACTIVITY



Before filling out this section:

- ❖ You must check with your State to determine if you are eligible to manage hazardous secondary material under 40 CFR 261.2(a)(2)(ii), 261.4(a)(23), (24), or (25). (See also <http://www.epa.gov/epawaste/hazard/dsw/statespf.htm>.)
- ❖ You must be managing hazardous secondary material, which is secondary material (e.g., spent material, by-product, or sludge) that when discarded, would be identified as hazardous waste under 40 CFR Part 261. Do not include any information regarding your hazardous wastes in this section.
- ❖ You must submit a completed Site Identification Form, including this Addendum, prior to operating under the exclusion(s) and by March 1 of each even-numbered year thereafter to your regulatory authority using the Site Identification Form as pursuant to 40 CFR 260.42. Persons who must satisfy this notification requirement can submit information at the same time as their Biennial Report (which is also due by March 1 of each even-numbered year).
- ❖ If you stop managing hazardous secondary material in accordance with the exclusions(s) and do not expect to manage any amount of hazardous secondary material under the exclusions(s) for at least one year, you must also submit a completed Site Identification Form, including this Addendum, within thirty (30) days pursuant to 40 CFR 260.42.

1. Indicate reason for notification. Include dates where requested.

Notifying that the facility will begin managing hazardous secondary material as of _____ (mm/dd/yyyy).

Re-notifying that the facility is still managing hazardous secondary material.

Notifying that the facility has stopped managing hazardous secondary material as of _____ (mm/dd/yyyy).

2. Description of hazardous secondary material (HSM) activity. Please list the appropriate codes and quantities in **short tons** to describe your hazardous secondary material activity ONLY (do not include any information regarding your hazardous wastes in this section). Use additional pages if more space is needed.

a. Facility code (answer using codes listed in the Code List section of the instructions)	b. Waste code(s) for hazardous secondary material (HSM)	c. Estimated short tons of HSM to be managed annually	d. Actual short tons of HSM that was managed during the most recent odd-numbered year	e. Land-based unit code (answer using codes listed in the Code List section of the instructions)

3. Facility has financial assurance pursuant to 40 CFR 261 Subpart H. (Financial assurance is required for reclaimers and intermediate facilities managing hazardous secondary material under 40 CFR 261.4(a)(24) and (25))

Y N Does this facility have financial assurance pursuant to 40 CFR 261 Subpart H?



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
R1	Roof Tar	None Detected		100% Other	Black Non Fibrous Homogeneous
1301727PLM_1					Dissolved
R2	Roof Tar	None Detected		100% Other	Black Non Fibrous Homogeneous
1301727PLM_2					Dissolved
R3	Roof Tar	None Detected		100% Other	Black Non Fibrous Homogeneous
1301727PLM_3					Dissolved
R4	Roof Patch	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1301727PLM_4			Dissolved		
R5	Roof Patch	None Detected	4% Cellulose	96% Other	Black Non Fibrous Heterogeneous
1301727PLM_5			Dissolved		
R6	Roof Patch	None Detected	3% Cellulose	97% Other	Black Non Fibrous Heterogeneous
1301727PLM_6			Dissolved		
R7	Roof Exterior Door Caulk	4% Chrysotile		96% Other	Gray, Tan Non Fibrous Heterogeneous
1301727PLM_7					Crushed
R8	Roof Exterior Door Caulk	Not Analyzed			
1301727PLM_8					

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 0.1%.

Dorlos Ammerman (245)

Analyst

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
R9	Roof Exterior Door Caulk	Not Analyzed			
1301727PLM_9					
R10	Brown Roof Flashing Sealant	None Detected	5% Cellulose	95% Other	Black, Brown Non Fibrous Heterogeneous
1301727PLM_10					Ashed
R11	Brown Roof Flashing Sealant	None Detected	5% Cellulose	95% Other	Black, Brown Non Fibrous Heterogeneous
1301727PLM_11					Ashed
R12	Brown Roof Flashing Sealant	None Detected	5% Cellulose	95% Other	Black, Brown Non Fibrous Heterogeneous
1301727PLM_12					Ashed
R13	Black w/Small Gravel Roof Membrane (Top Layer)	None Detected	15% Fiber Glass	85% Other	Gray, Black Fibrous Heterogeneous
1301727PLM_13					Dissolved
R14	Black w/Small Gravel Roof Membrane (Top Layer)	None Detected	15% Fiber Glass	85% Other	Gray, Black Fibrous Heterogeneous
1301727PLM_14					Dissolved
R15	Black w/Small Gravel Roof Membrane (Top Layer)	None Detected	15% Fiber Glass	85% Other	Gray, Black Fibrous Heterogeneous
1301727PLM_15					Dissolved
R16	Roof Felt w/Tar (2nd Layer)	None Detected	20% Fiber Glass	80% Other	Black Fibrous Heterogeneous
1301727PLM_16					Dissolved

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Estimated MDL is 0.1%.

Dorlos Ammerman (245)

Analyst

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
R17	Roof Felt w/Tar (2nd Layer)	None Detected	20% Fiber Glass	80% Other	Black Fibrous Heterogeneous
1301727PLM_17					Dissolved
R18	Roof Felt w/Tar (2nd Layer)	None Detected	20% Fiber Glass	80% Other	Black Fibrous Heterogeneous
1301727PLM_18					Dissolved
R19	Roof Brown Insulation (Bottom Layer)	None Detected	60% Cellulose	40% Other	Brown Fibrous Heterogeneous
1301727PLM_19					Crushed
R20	Roof Brown Insulation (Bottom Layer)	None Detected	60% Cellulose	40% Other	Brown Fibrous Heterogeneous
1301727PLM_20					Crushed
R21	Roof Brown Insulation (Bottom Layer)	None Detected	60% Cellulose	40% Other	Brown Fibrous Heterogeneous
1301727PLM_21					Crushed
R22	Roof Flashing (Top Layer)	None Detected	5% Fiber Glass	95% Other	Black Non Fibrous Heterogeneous
1301727PLM_22					Dissolved
R23	Roof Flashing (Top Layer)	None Detected	5% Fiber Glass	95% Other	Black Non Fibrous Heterogeneous
1301727PLM_23					Dissolved
R24	Roof Flashing (Top Layer)	None Detected	5% Fiber Glass	95% Other	Black Non Fibrous Heterogeneous
1301727PLM_24					Dissolved

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Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
R25	Roof Flashing (Underlayer)	None Detected	10% Fiber Glass	90% Other	Black Fibrous Heterogeneous
1301727PLM_25					Dissolved
R26	Roof Flashing (Underlayer)	None Detected	10% Fiber Glass	90% Other	Black Fibrous Heterogeneous
1301727PLM_26					Dissolved
R27	Roof Flashing (Underlayer)	None Detected	10% Cellulose 10% Fiber Glass	80% Other	Black Fibrous Heterogeneous
1301727PLM_27					Dissolved
R28	Pitch Pocket	None Detected	25% Cellulose 5% Fiber Glass	70% Other	Black Fibrous Heterogeneous
1301727PLM_28					Dissolved
R29	Pitch Pocket	None Detected	25% Cellulose 5% Fiber Glass	70% Other	Black Fibrous Heterogeneous
1301727PLM_29					Dissolved
R30	Pitch Pocket	None Detected	25% Cellulose 5% Fiber Glass	70% Other	Black Fibrous Heterogeneous
1301727PLM_30					Dissolved
31 - A	12"x12" Greenish Gray Floor Tile & Black Mastic	3% Chrysotile		97% Other	Green Non Fibrous Heterogeneous
1301727PLM_31	tile				Dissolved
31 - B	12"x12" Greenish Gray Floor Tile & Black Mastic	5% Chrysotile		95% Other	Black Non Fibrous Heterogeneous
1301727PLM_194	mastic				Dissolved

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Bulk Asbestos Analysis

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
32 - A	12"x12" Greenish Gray Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_32	tile				
32 - B	12"x12" Greenish Gray Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_195	mastic				
33 - A	12"x12" Greenish Gray Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_33	tile				
33 - B	12"x12" Greenish Gray Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_196	mastic				
34 - A	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_34	tile				Dissolved
34 - B	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	5% Chrysotile		95% Other	Yellow, Black Non Fibrous Heterogeneous
1301727PLM_197	mixed mastics				Dissolved
35 - A	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_35	tile				Dissolved
35 - B	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	Not Analyzed			
1301727PLM_198	mixed mastics				

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Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

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Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
36 - A	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_36	tile				
36 - B	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic	Not Analyzed			
1301727PLM_199	mixed mastics				
37 - A	12"x12" Beige Flecked Floor Tile & Black Mastic	4% Chrysotile		96% Other	Beige Non Fibrous Heterogeneous
1301727PLM_37	tile				
37 - B	12"x12" Beige Flecked Floor Tile & Black Mastic	5% Chrysotile		95% Other	Black Non Fibrous Heterogeneous
1301727PLM_200	mastic				
38 - A	12"x12" Beige Flecked Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_38	tile				
38 - B	12"x12" Beige Flecked Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_201	mastic				
39 - A	12"x12" Beige Flecked Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_39	tile				
39 - B	12"x12" Beige Flecked Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_202	mastic				

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Analysis ID: 1301727PLM

Date Received: 2/4/2013

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Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
40 - A	4" Brown Cove Base & Brown Mastic	None Detected		100% Other	Brown Non Fibrous Homogeneous
1301727PLM_40	covebase				Ashed
40 - B	4" Brown Cove Base & Brown Mastic	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_203	mastic				Dissolved
41 - A	4" Brown Cove Base & Brown Mastic	None Detected		100% Other	Brown Non Fibrous Homogeneous
1301727PLM_41	covebase				Ashed
41 - B	4" Brown Cove Base & Brown Mastic	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_204	mastic				Dissolved
42 - A	4" Brown Cove Base & Brown Mastic	None Detected		100% Other	Brown Non Fibrous Homogeneous
1301727PLM_42	covebase				Ashed
42 - B	4" Brown Cove Base & Brown Mastic	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_205	mastic				Dissolved
43 - A	Mudded Tank Insulation & Jacket	None Detected	80% Cellulose	20% Other	Gray Fibrous Heterogeneous
1301727PLM_43	wrap		Dissolved		
43 - B	Mudded Tank Insulation & Jacket	None Detected	35% Mineral Wool	65% Other	Gray Fibrous Heterogeneous
1301727PLM_206	insulation		Crushed		

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
44 - A	Mudded Tank Insulation & Jacket	None Detected		100% Other	Black, Gray Non Fibrous Heterogeneous
1301727PLM_44	wrap				Dissolved
44 - B	Mudded Tank Insulation & Jacket	None Detected	35% Mineral Wool	65% Other	Tan, Gray Fibrous Heterogeneous
1301727PLM_207	insulation				Crushed
45 - A	Mudded Tank Insulation & Jacket	None Detected	70% Cellulose	30% Other	Gray Fibrous Heterogeneous
1301727PLM_45	wrap				Dissolved
45 - B	Mudded Tank Insulation & Jacket	None Detected	35% Mineral Wool	65% Other	Gray Fibrous Heterogeneous
1301727PLM_208	insulation				Crushed
46 - A	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	None Detected		100% Other	Beige Non Fibrous Homogeneous
1301727PLM_46	mastic				Dissolved
46 - B	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	None Detected	80% Fiber Glass	20% Other	Tan Fibrous Heterogeneous
1301727PLM_209	wrap				Teased
47 - A	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	None Detected		100% Other	Beige Non Fibrous Homogeneous
1301727PLM_47	mastic				Dissolved
47 - B	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	None Detected	80% Fiber Glass	20% Other	Tan Fibrous Heterogeneous
1301727PLM_210	wrap				Teased

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
48 - A	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	None Detected		100% Other	Beige Non Fibrous Homogeneous
1301727PLM_48	mastic				
48 - B	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)	None Detected	80% Fiber Glass	20% Other	Tan Fibrous Heterogeneous
1301727PLM_211	wrap				
49	Beige Mastic & Jacket on Fiberglass 2" Pipe Bridging Insulation	5% Chrysotile	50% Fiber Glass	45% Other	Tan Fibrous Heterogeneous
1301727PLM_49	mastic/wrap-unable to separate				
50	Beige Mastic & Jacket on Fiberglass 2" Pipe Bridging Insulation	Not Analyzed			
1301727PLM_50					
51	Beige Mastic & Jacket on Fiberglass 2" Pipe Bridging Insulation	Not Analyzed			
1301727PLM_51					
52	White Mastic & Jacket on Fiberglass 12" Pipe Bridging Insulation	None Detected	5% Wollastonite	95% Other	White Non Fibrous Heterogeneous
1301727PLM_52	mastic on fiberglass				
53	White Mastic & Jacket on Fiberglass 12" Pipe Bridging Insulation	None Detected	5% Wollastonite	95% Other	White Non Fibrous Heterogeneous
1301727PLM_53	mastic on fiberglass				
54	White Mastic & Jacket on Fiberglass 12" Pipe Bridging Insulation	None Detected	5% Wollastonite	95% Other	White Non Fibrous Heterogeneous
1301727PLM_54	mastic on fiberglass				

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Analysis ID: 1301727PLM

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Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
55	White Jacket on Fiberglass Duct Insulation	None Detected	70% Cellulose	30% Other	Tan, White Fibrous Heterogeneous
1301727PLM_55	mastic/wrap				Dissolved
56	White Jacket on Fiberglass Duct Insulation	None Detected	70% Cellulose	30% Other	Tan, White Fibrous Heterogeneous
1301727PLM_56	mastic/wrap				Dissolved
57	White Jacket on Fiberglass Duct Insulation	None Detected	70% Cellulose	30% Other	Tan, White Fibrous Heterogeneous
1301727PLM_57	mastic/wrap				Dissolved
58 - A	White Mastic, Jacket & Black Insulation on 1' Vertical Tank	None Detected	70% Cellulose	30% Other	White Fibrous Heterogeneous
1301727PLM_58	mastic/wrap				Dissolved
58 - B	White Mastic, Jacket & Black Insulation on 1' Vertical Tank	None Detected	60% Cellulose	40% Other	Black Fibrous Heterogeneous
1301727PLM_212	insulation				Dissolved
59 - A	White Mastic, Jacket & Black Insulation on 1' Vertical Tank	None Detected	70% Cellulose	30% Other	White Fibrous Heterogeneous
1301727PLM_59	mastic/wrap				Dissolved
59 - B	White Mastic, Jacket & Black Insulation on 1' Vertical Tank	None Detected	60% Cellulose	40% Other	Black Fibrous Heterogeneous
1301727PLM_213	insulation				Dissolved
60	White Mastic, Jacket & Black Insulation on 1' Vertical Tank	None Detected	70% Cellulose	30% Other	White Fibrous Heterogeneous
1301727PLM_60	mastic/wrap only				Dissolved

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
61 - A	White Mastic, Jacket & Black Insulation on 2' Vertical Tank	None Detected	70% Cellulose	30% Other	White Fibrous Heterogeneous
1301727PLM_61	mastic/wrap				Dissolved
61 - B	White Mastic, Jacket & Black Insulation on 2' Vertical Tank	None Detected	60% Cellulose	40% Other	Black Fibrous Heterogeneous
1301727PLM_214	insulation				Dissolved
62 - A	Mudded Insulation on Side of 2' Vertical Tank	None Detected	70% Cellulose	30% Other	Tan, White Fibrous Heterogeneous
1301727PLM_62	mastic/wrap				Dissolved
62 - B	Mudded Insulation on Side of 2' Vertical Tank	None Detected	40% Mineral Wool	60% Other	Tan Fibrous Heterogeneous
1301727PLM_215	insulation				Crushed
63 - A	Mudded Insulation on Side of 2' Vertical Tank	None Detected	70% Cellulose	30% Other	White Fibrous Heterogeneous
1301727PLM_63	mastic/wrap				Dissolved
63 - B	Mudded Insulation on Side of 2' Vertical Tank	None Detected	35% Mineral Wool	65% Other	Tan Fibrous Heterogeneous
1301727PLM_216	tan insulation				Crushed
63 - C	Mudded Insulation on Side of 2' Vertical Tank	None Detected	60% Cellulose	40% Other	Black Fibrous Heterogeneous
1301727PLM_217	black insulation				Dissolved
64 - A	White Mastic, Jacket & Black Insulation on 4' Horizontal Tank	None Detected	70% Cellulose	30% Other	White Fibrous Heterogeneous
1301727PLM_64	mastic/wrap				Dissolved

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
64 - B	White Mastic, Jacket & Black Insulation on 4' Horizontal Tank	None Detected	60% Cellulose	40% Other	Black Fibrous Heterogeneous
1301727PLM_218	insulation				Dissolved
65 - A	Mudded Insulation on Side of 4' Horizontal Tank	None Detected	70% Cellulose	30% Other	White Fibrous Heterogeneous
1301727PLM_65	wrap/mastic				Dissolved
65 - B	Mudded Insulation on Side of 4' Horizontal Tank	None Detected	35% Mineral Wool	65% Other	Tan Fibrous Heterogeneous
1301727PLM_219	tan insulation				Crushed
65 - C	Mudded Insulation on Side of 4' Horizontal Tank	None Detected	60% Cellulose	40% Other	Black Fibrous Heterogeneous
1301727PLM_220	black insulation				Dissolved
66 - A	Mudded Insulation on Side of 4' Horizontal Tank	None Detected	70% Cellulose	30% Other	White Fibrous Heterogeneous
1301727PLM_66	mastic/wrap				Dissolved
66 - B	Mudded Insulation on Side of 4' Horizontal Tank	None Detected	35% Mineral Wool	65% Other	Tan Fibrous Heterogeneous
1301727PLM_221	tan insulation				Crushed
67	Fireproofing	None Detected	50% Fiber Glass	50% Other	Gray Fibrous Heterogeneous
1301727PLM_67					Crushed
68	Fireproofing	None Detected	50% Fiber Glass	50% Other	Gray Fibrous Heterogeneous
1301727PLM_68					Crushed

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
69	Fireproofing	None Detected	50% Fiber Glass	50% Other	Gray Fibrous Heterogeneous
1301727PLM_69					Crushed
70	Fireproofing	None Detected	50% Fiber Glass	50% Other	Gray Fibrous Heterogeneous
1301727PLM_70					Crushed
71	Fireproofing	None Detected	50% Fiber Glass	50% Other	Gray Fibrous Heterogeneous
1301727PLM_71					Crushed
72	Fireproofing	None Detected	50% Fiber Glass	50% Other	Gray Fibrous Heterogeneous
1301727PLM_72					Crushed
73	Fireproofing	None Detected	50% Fiber Glass	50% Other	Gray Fibrous Heterogeneous
1301727PLM_73					Crushed
74	Beige Mastic on Fiberglass Pipe Bridging Insulation (COND/WP Pipelines)	None Detected		100% Other	Beige Non Fibrous Heterogeneous
1301727PLM_74					Dissolved
75	Beige Mastic on Fiberglass Pipe Bridging Insulation (COND/WP Pipelines)	4% Chrysotile		96% Other	Beige Non Fibrous Heterogeneous
1301727PLM_75					Dissolved
76	Beige Mastic on Fiberglass Pipe Bridging Insulation (COND/WP Pipelines)	Not Analyzed			
1301727PLM_76					

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
77	Brown Cloth Duct Vibration Damper	None Detected	90% Cellulose	10% Other	Brown Fibrous Heterogeneous
1301727PLM_77					Teased
78	Brown Cloth Duct Vibration Damper	None Detected	90% Cellulose	10% Other	Brown Fibrous Heterogeneous
1301727PLM_78					Teased
79	Brown Cloth Duct Vibration Damper	None Detected	90% Cellulose	10% Other	Brown Fibrous Heterogeneous
1301727PLM_79					Teased
80	White Interior Door Caulk	4% Chrysotile		96% Other	Tan Non Fibrous Heterogeneous
1301727PLM_80					Crushed
81	White Interior Door Caulk	Not Analyzed			
1301727PLM_81					
82	White Interior Door Caulk	Not Analyzed			
1301727PLM_82					
83 - A	Mudded Insulation (Fire Control Room)	None Detected	70% Cellulose	30% Other	Tan Fibrous Heterogeneous
1301727PLM_83	mastic/wrap				Dissolved
83 - B	Mudded Insulation (Fire Control Room)	None Detected	25% Cellulose	75% Other	Tan Fibrous Heterogeneous
1301727PLM_222	insulation				Crushed

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Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
84 - A	Mudded Insulation (Fire Control Room)	None Detected	80% Cellulose	20% Other	Tan Fibrous Heterogeneous
1301727PLM_84	mastic/wrap				Dissolved
84 - B	Mudded Insulation (Fire Control Room)	None Detected	30% Mineral Wool 10% Cellulose	60% Other	Tan Fibrous Heterogeneous
1301727PLM_223	insulation				Crushed
85 - A	Mudded Insulation (Fire Control Room)	None Detected	80% Cellulose	20% Other	Tan Fibrous Heterogeneous
1301727PLM_85	mastic/wrap				Dissolved
85 - B	Mudded Insulation (Fire Control Room)	None Detected	30% Mineral Wool 10% Cellulose	60% Other	Tan Fibrous Heterogeneous
1301727PLM_224	insulation				Crushed
86 - A	4" Black Cove base & Cream/Black/Brown Mastic	None Detected		100% Other	Black Non Fibrous Homogeneous
1301727PLM_86	covebase				Ashed
86 - B	4" Black Cove base & Cream/Black/Brown Mastic	None Detected		100% Other	Brown, Black, Cream Non Fibrous Heterogeneous
1301727PLM_225	mixed mastics				Dissolved
87 - A	4" Black Cove base & Cream/Black/Brown Mastic	None Detected		100% Other	Black Non Fibrous Homogeneous
1301727PLM_87	covebase				Ashed
87 - B	4" Black Cove base & Cream/Black/Brown Mastic	None Detected		100% Other	Brown, Black, Cream Non Fibrous Heterogeneous
1301727PLM_226	mixed mastics				Dissolved

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
88 - A	4" Black Cove base & Cream/Black/Brown Mastic	None Detected		100% Other	Black Non Fibrous Homogeneous
1301727PLM_88	covebase				Ashed
88 - B	4" Black Cove base & Cream/Black/Brown Mastic	None Detected		100% Other	Brown, Black, Cream Non Fibrous Heterogeneous
1301727PLM_227	mixed mastics				Dissolved
89 - A	6" Green Cove Base & Brown Mastic	None Detected		100% Other	Green Non Fibrous Homogeneous
1301727PLM_89	covebase				Ashed
89 - B	6" Green Cove Base & Brown Mastic	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_228	mixed mastics				Dissolved
90 - A	6" Green Cove Base & Brown Mastic	None Detected		100% Other	Green Non Fibrous Homogeneous
1301727PLM_90	covebase				Ashed
90 - B	6" Green Cove Base & Brown Mastic	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_229	mixed mastics				Dissolved
91 - A	6" Green Cove Base & Brown Mastic	None Detected		100% Other	Green Non Fibrous Homogeneous
1301727PLM_91	covebase				Ashed
91 - B	6" Green Cove Base & Brown Mastic	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_230	mastics				Dissolved

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Sample ID	Description	Asbestos	Fibrous Components		Non-Fibrous Components		Attributes
Lab Sample ID	Lab Notes						Treatment
92	2'x4' White Fissured Ceiling Tile	None Detected	60% 20%	Cellulose Fiber Glass	10% 10%	Perlite Other	Gray, White Fibrous Heterogeneous
1301727PLM_92							Crushed
93	2'x4' White Fissured Ceiling Tile	None Detected	60% 20%	Cellulose Fiber Glass	10% 10%	Perlite Other	Gray, White Fibrous Heterogeneous
1301727PLM_93							Crushed
94	2'x4' White Fissured Ceiling Tile	5% Amosite	75%	Mineral Wool	20%	Other	White Fibrous Heterogeneous
1301727PLM_94							Crushed
95	Beige mastic on Fiberglass Duct Insulation	None Detected			100%	Other	Beige Non Fibrous Heterogeneous
1301727PLM_95							Dissolved
96	Beige mastic on Fiberglass Duct Insulation	None Detected	30% 10%	Cellulose Fiber Glass	60%	Other	Beige Non Fibrous Heterogeneous
1301727PLM_96	mastic/wrap						Dissolved
97	Beige mastic on Fiberglass Duct Insulation	None Detected			100%	Other	Beige Non Fibrous Heterogeneous
1301727PLM_97							Dissolved
98	Dark Brown Mastic on Metal Duct Pin	10% Chrysotile			90%	Other	Brown Non Fibrous Heterogeneous
1301727PLM_98							Dissolved
99	Light Brown Mastic on Metal Duct Pin	10% Chrysotile			90%	Other	Brown Non Fibrous Heterogeneous
1301727PLM_99							Dissolved

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
100	Beige Mastic on Metal Duct Pin	8% Chrysotile		92% Other	Beige Non Fibrous Heterogeneous
1301727PLM_100					Dissolved
101	Beige Mastic on Fiberglass Pipe Insulation	None Detected	30% Cellulose 10% Fiber Glass	60% Other	Beige Fibrous Heterogeneous
1301727PLM_101	mastic/wrap				Dissolved
102	Beige Mastic on Fiberglass Pipe Insulation	None Detected	30% Cellulose 10% Fiber Glass	60% Other	Beige Fibrous Heterogeneous
1301727PLM_102	mastic/wrap				Dissolved
103	Beige Mastic on Fiberglass Pipe Insulation	None Detected	30% Cellulose 10% Fiber Glass	60% Other	Beige Fibrous Heterogeneous
1301727PLM_103	mastic/wrap				Dissolved
104	1'x1' White Fissured Ceiling Tile	None Detected	80% Mineral Wool	20% Other	White Fibrous Heterogeneous
1301727PLM_104					Crushed
105	1'x1' White Fissured Ceiling Tile	None Detected	80% Mineral Wool	20% Other	White Fibrous Heterogeneous
1301727PLM_105					Crushed
106	1'x1' White Fissured Ceiling Tile	None Detected	80% Mineral Wool	20% Other	White Fibrous Heterogeneous
1301727PLM_106					Crushed
107	Tan Interior Window Caulk	4% Chrysotile		96% Other	Tan Non Fibrous Heterogeneous
1301727PLM_107					Crushed

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
108	Tan Interior Window Caulk	Not Analyzed			
1301727PLM_108					
109	Tan Interior Window Caulk	Not Analyzed			
1301727PLM_109					
110	Brown Interior Window Glazing	None Detected		100% Other	Gray, Brown Non Fibrous Heterogeneous
1301727PLM_110					Ashed, Dissolved
111	Brown Interior Window Glazing	4% Chrysotile		96% Other	Brown Non Fibrous Heterogeneous
1301727PLM_111					Crushed
112	Brown Interior Window Glazing	Not Analyzed			
1301727PLM_112					
113	Drywall	None Detected	15% Cellulose	85% Other	Tan, White Fibrous Heterogeneous
1301727PLM_113					Crushed
114	Drywall	None Detected	12% Cellulose 3% Fiber Glass	85% Other	Tan, White Fibrous Heterogeneous
1301727PLM_114					Crushed
115	Drywall	None Detected	15% Cellulose	85% Other	Tan, White Fibrous Heterogeneous
1301727PLM_115					Crushed

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Lab Sample ID	Lab Notes				Treatment
116	Drywall	None Detected	15% Cellulose	85% Other	Tan, White Fibrous Heterogeneous
1301727PLM_116					Crushed
117	Joint Compound	3% Chrysotile		97% Other	White Non Fibrous Homogeneous
1301727PLM_117					Crushed
118	Joint Compound	3% Chrysotile		97% Other	White Non Fibrous Homogeneous
1301727PLM_118					Crushed
119	Joint Compound	3% Chrysotile		97% Other	White Non Fibrous Homogeneous
1301727PLM_119					Crushed
120	Joint Compound	3% Chrysotile		97% Other	White Non Fibrous Homogeneous
1301727PLM_120					Crushed
121	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1301727PLM_121	single layer plaster				Crushed
122	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1301727PLM_122	paint on single layer plaster				Crushed
123	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1301727PLM_123	paint on single layer plaster				Crushed

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Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
124	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1301727PLM_124	paint on single layer plaster				Crushed
125 - A	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1301727PLM_125	light gray plaster				Crushed
125 - B	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1301727PLM_231	dark gray plaster				Crushed
126 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1301727PLM_126	finish				Crushed
126 - B	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1301727PLM_232	base				Crushed
127 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1301727PLM_127	finish				Crushed
127 - B	Plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1301727PLM_233	base				Crushed
128	White Jacket on Fiberglass Duct Insulation	None Detected	40% Cellulose 10% Fiber Glass	50% Other	White Fibrous Heterogeneous
1301727PLM_128			Dissolved		

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Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
129	White Jacket on Fiberglass Duct Insulation	None Detected	40% Cellulose 10% Fiber Glass	50% Other	White Fibrous Heterogeneous
1301727PLM_129					Dissolved
130	White Jacket on Fiberglass Duct Insulation	None Detected	40% Cellulose 10% Fiber Glass	50% Other	White Fibrous Heterogeneous
1301727PLM_130					Dissolved
131	White Mastic & Jacket inside Vent Unit	None Detected	20% Fiber Glass	80% Other	Black, White Fibrous Heterogeneous
1301727PLM_131	mastic on fiberglass				Dissolved
132	White Mastic & Jacket inside Vent Unit	None Detected	20% Fiber Glass	80% Other	Black, White Fibrous Heterogeneous
1301727PLM_132	mastic on fiberglass				Dissolved
133	White Mastic & Jacket inside Vent Unit	None Detected	20% Fiber Glass	80% Other	Black, White Fibrous Heterogeneous
1301727PLM_133	mastic on fiberglass				Dissolved
134	Black Sink Undercoat	3% Chrysotile		97% Other	Black Non Fibrous Heterogeneous
1301727PLM_134					Dissolved
135	Black Sink Undercoat	Not Analyzed			
1301727PLM_135					
136	Black Sink Undercoat	Not Analyzed			
1301727PLM_136					

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Sample ID	Description	Asbestos	Fibrous Components		Non-Fibrous Components		Attributes	
Lab Sample ID	Lab Notes						Treatment	
137	2'x4' White Pinhole Ceiling Tile	None Detected	60% 20%	Cellulose Fiber Glass	10% 10%	Perlite Other	Tan, White Fibrous Heterogeneous	
1301727PLM_137							Crushed	
138	2'x4' White Pinhole Ceiling Tile	None Detected	60% 20%	Cellulose Fiber Glass	10% 10%	Perlite Other	Tan, White Fibrous Heterogeneous	
1301727PLM_138							Crushed	
139	2'x4' White Pinhole Ceiling Tile	None Detected	60% 20%	Cellulose Fiber Glass	10% 10%	Perlite Other	Tan, White Fibrous Heterogeneous	
1301727PLM_139							Crushed	
140 - A	12"x12" Beige Mottled Floor Tile & Yellow Mastic	None Detected				100%	Other	Beige Non Fibrous Heterogeneous
1301727PLM_140	tile							Dissolved
140 - B	12"x12" Beige Mottled Floor Tile & Yellow Mastic	None Detected	3%	Cellulose		97%	Other	Yellow Non Fibrous Heterogeneous
1301727PLM_234	mastic							Dissolved
141 - A	12"x12" Beige Mottled Floor Tile & Yellow Mastic	None Detected				100%	Other	Beige Non Fibrous Heterogeneous
1301727PLM_141	tile							Dissolved
141 - B	12"x12" Beige Mottled Floor Tile & Yellow Mastic	None Detected	3%	Cellulose		97%	Other	Yellow Non Fibrous Heterogeneous
1301727PLM_235	mastic							Dissolved
142 - A	12"x12" Beige Mottled Floor Tile & Yellow Mastic	None Detected				100%	Other	Beige Non Fibrous Heterogeneous
1301727PLM_142	tile							Dissolved

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Lab Sample ID	Lab Notes				Treatment
142 - B	12"x12" Beige Mottled Floor Tile & Yellow Mastic	None Detected	3% Cellulose	97% Other	Yellow Non Fibrous Heterogeneous
1301727PLM_236	mastic				Dissolved
143 - A	12"x12" Tan Flecked Floor Tile & Black Mastic	4% Chrysotile		96% Other	Tan Non Fibrous Heterogeneous
1301727PLM_143	tile				Dissolved
143 - B	12"x12" Tan Flecked Floor Tile & Black Mastic	8% Chrysotile		92% Other	Black Non Fibrous Heterogeneous
1301727PLM_237	mastic				Dissolved
144 - A	12"x12" Tan Flecked Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_144	tile				
144 - B	12"x12" Tan Flecked Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_238	mastic				
145 - A	12"x12" Tan Flecked Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_145	tile				
145 - B	12"x12" Tan Flecked Floor Tile & Black Mastic	Not Analyzed			
1301727PLM_239	mastic				
146	Brown Exterior Door Caulk	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_146					Dissolved

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Lab Sample ID	Lab Notes				Treatment
147	Brown Exterior Door Caulk	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_147					Dissolved
148	Brown Exterior Door Caulk	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_148					Dissolved
149	Brown Exterior Window Caulk	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_149					Dissolved
150	Brown Exterior Window Caulk	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_150					Dissolved
151	Brown Exterior Window Caulk	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_151					Dissolved
152	Gray Exterior Window Glazing	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1301727PLM_152					Ashed, Dissolved
153	Gray Exterior Window Glazing	5% Chrysotile		95% Other	Gray Non Fibrous Heterogeneous
1301727PLM_153					Dissolved
154	Gray Exterior Window Glazing	Not Analyzed			
1301727PLM_154					

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Dorlos Ammerman (245)

Analyst

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
155	Yellow Carpet Mastic	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1301727PLM_155					Dissolved
156	Yellow Carpet Mastic	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1301727PLM_156					Dissolved
157	Yellow Carpet Mastic	None Detected		100% Other	Yellow Non Fibrous Heterogeneous
1301727PLM_157					Dissolved
158 - A	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	None Detected		100% Other	Orange Non Fibrous Heterogeneous
1301727PLM_158	tile				Dissolved
158 - B	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	None Detected		100% Other	Black Non Fibrous Heterogeneous
1301727PLM_240	mastic				Dissolved
159 - A	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	None Detected		100% Other	Orange Non Fibrous Heterogeneous
1301727PLM_159	tile				Dissolved
159 - B	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	None Detected		100% Other	Black Non Fibrous Heterogeneous
1301727PLM_241	mastic				Dissolved
160 - A	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	None Detected		100% Other	Orange Non Fibrous Heterogeneous
1301727PLM_160	tile				Dissolved

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Page 26 of 31



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
160 - B	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic	8% Chrysotile		92% Other	Black Non Fibrous Heterogeneous
1301727PLM_242	mastic				Dissolved
161	Beige Interior Window Caulk	4% Chrysotile		96% Other	Beige Non Fibrous Heterogeneous
1301727PLM_161					Crushed
162	Beige Interior Window Caulk	Not Analyzed			
1301727PLM_162					
163	Beige Interior Window Caulk	Not Analyzed			
1301727PLM_163					
164	Brown Interior Window Glazing	None Detected		100% Other	Brown Non Fibrous Homogeneous
1301727PLM_164					Dissolved
165	Brown Interior Window Glazing	None Detected		100% Other	Brown Non Fibrous Homogeneous
1301727PLM_165					Dissolved
166	Brown Interior Window Glazing	None Detected		100% Other	Brown Non Fibrous Homogeneous
1301727PLM_166					Dissolved
167	White Mastic on Fiberglass Riser 1' Pipe	None Detected	5% Wollastonite	95% Other	White Non Fibrous Heterogeneous
1301727PLM_167					Dissolved

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Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
168	White Mastic on Fiberglass Riser 1' Pipe	None Detected	5% Wollastonite	95% Other	White Non Fibrous Heterogeneous
1301727PLM_168					Dissolved
169	White Mastic on Fiberglass Riser 1' Pipe	None Detected	5% Wollastonite	95% Other	White Non Fibrous Heterogeneous
1301727PLM_169					Dissolved
170	Beige Join Mastic on Riser 1' Pipe	None Detected	5% Wollastonite	95% Other	Beige Non Fibrous Heterogeneous
1301727PLM_170					Dissolved
171	Beige Join Mastic on Riser 1' Pipe	None Detected	5% Wollastonite	95% Other	Beige Non Fibrous Heterogeneous
1301727PLM_171					Dissolved
172	Beige Join Mastic on Riser 1' Pipe	None Detected	5% Wollastonite	95% Other	Beige Non Fibrous Heterogeneous
1301727PLM_172					Dissolved
173	Gray Interior Window Caulk	4% Chrysotile		96% Other	Brown Non Fibrous Heterogeneous
1301727PLM_173					Dissolved
174	Gray Interior Window Caulk	Not Analyzed			
1301727PLM_174					
175	Gray Interior Window Caulk	Not Analyzed			
1301727PLM_175					

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Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
176	Black Mastic on Metal Duct	10% Chrysotile		90% Other	Black Non Fibrous Heterogeneous
1301727PLM_176					Dissolved
177	Black Mastic on Metal Duct	Not Analyzed			
1301727PLM_177					
178	Black Mastic on Metal Duct	Not Analyzed			
1301727PLM_178					
179	Yellow Mastic under 2' Carpet Tile	None Detected	5% Cellulose	95% Other	Yellow Non Fibrous Heterogeneous
1301727PLM_179					Dissolved
180	Yellow Mastic under 2' Carpet Tile	None Detected	3% Cellulose	97% Other	Yellow Non Fibrous Heterogeneous
1301727PLM_180					Dissolved
181	Yellow Mastic under 2' Carpet Tile	None Detected	5% Cellulose	95% Other	Yellow Non Fibrous Heterogeneous
1301727PLM_181					Dissolved
182	2'x4' White Solid Ceiling Tile	None Detected	40% Cellulose 40% Fiber Glass	20% Other	Tan, White Fibrous Heterogeneous
1301727PLM_182					Crushed
183	2'x4' White Solid Ceiling Tile	None Detected	40% Cellulose 40% Fiber Glass	20% Other	Tan, White Fibrous Heterogeneous
1301727PLM_183					Crushed

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Dorlos Ammerman (245)

Analyst

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Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
184	2'x4' White Solid Ceiling Tile	None Detected	40% Cellulose 40% Fiber Glass	20% Other	Tan, White Fibrous Heterogeneous
1301727PLM_184					Crushed
185 - A	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	None Detected	40% Cellulose 40% Fiber Glass	20% Other	Gray, White Fibrous Heterogeneous
1301727PLM_185	ceiling tile				Crushed
185 - B	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	None Detected		100% Other	Yellow, White, Black Non Fibrous Heterogeneous
1301727PLM_243	mixed mastics				Dissolved
186 - A	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	None Detected	40% Cellulose 40% Fiber Glass	20% Other	Gray, White Fibrous Heterogeneous
1301727PLM_186	ceiling tile				Crushed
186 - B	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	None Detected		100% Other	Yellow, White, Black Non Fibrous Heterogeneous
1301727PLM_244	mixed mastics				Dissolved
187 - A	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	None Detected	80% Mineral Wool	20% Other	White Fibrous Heterogeneous
1301727PLM_187	ceiling tile				Crushed
187 - B	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic	None Detected		100% Other	Brown Non Fibrous Heterogeneous
1301727PLM_245	mastic				Dissolved
188	Beige Mastic on 2" & 4" Fiberglass Bridging Pipe Insulation	None Detected		100% Other	Beige Non Fibrous Heterogeneous
1301727PLM_188					Dissolved

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Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 600/M4-82-020



Customer: ECS Chantilly
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Joanna Vivance

Lab Order ID: 1301727

Analysis ID: 1301727PLM

Date Received: 2/4/2013

Date Reported: 2/8/2013

Project: #20705-A

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
189	Beige Mastic on 2"&4" Fiberglass Bridging Pipe Insulation	None Detected	30% Cellulose 10% Fiber Glass	60% Other	Beige Fibrous Heterogeneous
1301727PLM_189					Dissolved
190	Beige Mastic on 2"&4" Fiberglass Bridging Pipe Insulation	None Detected	30% Cellulose 10% Fiber Glass	60% Other	Beige Fibrous Heterogeneous
1301727PLM_190					Dissolved
191	Black Terrazzo Stair	None Detected		100% Other	Black Non Fibrous Homogeneous
1301727PLM_191					Crushed
192	Black Terrazzo Stair	None Detected		100% Other	Black Non Fibrous Homogeneous
1301727PLM_192					Crushed
193	Black Terrazzo Stair	None Detected		100% Other	Black Non Fibrous Homogeneous
1301727PLM_193					Crushed

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Dorlos Ammerman (245)

Analyst

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory

1301727

Client: ECS Mid-Atlantic, LLC
Contact: Joanna Vivanco
Address: 14026 Thunderbolt Place, Chantilly, VA 20151
Phone: 703-471-8400
Fax: 703-834-5527
Email: jvivanco@ecslimited.com
Project: #20705-A
Client Notes:
P.O. #:
Date Submitted: FEDEX
Analysis: PLM EPA 600/R-93/116 (Positive Stop)
TurnAroundTime: 5 Days

***Instructions:**
 Use Column "B" for your contact info
 To See an Example Click the bottom Example Tab.
 Enter samples between "<<" and ">>"
 Begin Samples with a "<<" above the first sample and end with a ">>" below the last sample.
 Only Enter your data on the first sheet "Sheet1"
 Note: Data 1 and Data 2 are optional fields that do not show up on the official report, however they will be included in the electronic data returned to you to facilitate your reintegration of the report data.

Sample Number	HA # (Bulk Sample)	Sample Description
R1	HA #1	Roof Tar
R2	HA #1	Roof Tar
R3	HA #1	Roof Tar
R4	HA #2	Roof Patch
R5	HA #2	Roof Patch
R6	HA #2	Roof Patch
R7	HA #3	Roof Exterior Door Caulk
R8	HA #3	Roof Exterior Door Caulk
R9	HA #3	Roof Exterior Door Caulk
R10	HA #4	Brown Roof Flashing Sealant
R11	HA #4	Brown Roof Flashing Sealant
R12	HA #4	Brown Roof Flashing Sealant
R13	HA #5	Black w/Small Gravel Roof Membrane (Top Layer)
R14	HA #5	Black w/Small Gravel Roof Membrane (Top Layer)
R15	HA #5	Black w/Small Gravel Roof Membrane (Top Layer)
R16	HA #6	Roof Felt w/Tar (2nd Layer)
R17	HA #6	Roof Felt w/Tar (2nd Layer)
R18	HA #6	Roof Felt w/Tar (2nd Layer)
R19	HA #7	Roof Brown Insulation (Bottom Layer)

Accepted
 Rejected
 Abans
 2-4
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R20	HA #7	Roof Brown Insulation (Bottom Layer)
R21	HA #7	Roof Brown Insulation (Bottom Layer)
R22	HA #8	Roof Flashing (Top Layer)
R23	HA #8	Roof Flashing (Top Layer)
R24	HA #8	Roof Flashing (Top Layer)
R25	HA #9	Roof Flashing (Underlayer)
R26	HA #9	Roof Flashing (Underlayer)
R27	HA #9	Roof Flashing (Underlayer)
R28	HA #10	Pitch Pocket
R29	HA #10	Pitch Pocket
R30	HA #10	Pitch Pocket
31	HA #11	12"x12" Greenish Gray Floor Tile & Black Mastic
32	HA #11	12"x12" Greenish Gray Floor Tile & Black Mastic
33	HA #11	12"x12" Greenish Gray Floor Tile & Black Mastic
34	HA #12	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic
35	HA #12	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic
36	HA #12	12"x12" Tan w/Brown Flecks Floor Tile & Yellow/Black Mastic
37	HA #13	12"x12" Beige Flecked Floor Tile & Black Mastic
38	HA #13	12"x12" Beige Flecked Floor Tile & Black Mastic
39	HA #13	12"x12" Beige Flecked Floor Tile & Black Mastic
40	HA #14	4" Brown Cove Base & Brown Mastic
41	HA #14	4" Brown Cove Base & Brown Mastic
42	HA #14	4" Brown Cove Base & Brown Mastic
43	HA #15	Mudded Tank Insulation & Jacket
44	HA #15	Mudded Tank Insulation & Jacket
45	HA #15	Mudded Tank Insulation & Jacket
46	HA #16	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)
47	HA #16	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)
48	HA #16	Beige Mastic & Jacket on Fiberglass Pipe Bridging Insulation (Tank Valve)
49	HA #17	Beige Mastic & Jacket on Fiberglass 2" Pipe Bridging Insulation
50	HA #17	Beige Mastic & Jacket on Fiberglass 2" Pipe Bridging Insulation
51	HA #17	Beige Mastic & Jacket on Fiberglass 2" Pipe Bridging Insulation
52	HA #18	White Mastic & Jacket on Fiberglass 12" Pipe Bridging Insulation
53	HA #18	White Mastic & Jacket on Fiberglass 12" Pipe Bridging Insulation
54	HA #18	White Mastic & Jacket on Fiberglass 12" Pipe Bridging Insulation
55	HA #19	White Jacket on Fiberglass Duct Insulation
56	HA #19	White Jacket on Fiberglass Duct Insulation

1301727

57	HA #19	White Jacket on Fiberglass Duct Insulation
58	HA #20	White Mastic, Jacket & Black Insulation on 1' Vertical Tank
59	HA #20	White Mastic, Jacket & Black Insulation on 1' Vertical Tank
60	HA #20	White Mastic, Jacket & Black Insulation on 1' Vertical Tank
61	HA #21	White Mastic, Jacket & Black Insulation on 2' Vertical Tank
62	HA #22	Mudded Insulation on Side of 2' Vertical Tank
63	HA #22	Mudded Insulation on Side of 2' Vertical Tank
64	HA #23	White Mastic, Jacket & Black Insulation on 4' Horizontal Tank
65	HA #24	Mudded Insulation on Side of 4' Horizontal Tank
66	HA #24	Mudded Insulation on Side of 4' Horizontal Tank
67	HA #25	Fireproofing
68	HA #25	Fireproofing
69	HA #26	Fireproofing
70	HA #26	Fireproofing
71	HA #27	Fireproofing
72	HA #28	Fireproofing
73	HA #28	Fireproofing
74	HA #29	Beige Mastic on Fiberglass Pipe Bridging Insulation (COND/WP Pipelines)
75	HA #29	Beige Mastic on Fiberglass Pipe Bridging Insulation (COND/WP Pipelines)
76	HA #29	Beige Mastic on Fiberglass Pipe Bridging Insulation (COND/WP Pipelines)
77	HA #30	Brown Cloth Duct Vibration Damper
78	HA #30	Brown Cloth Duct Vibration Damper
79	HA #30	Brown Cloth Duct Vibration Damper
80	HA #31	White Interior Door Caulk
81	HA #31	White Interior Door Caulk
82	HA #31	White Interior Door Caulk
83	HA #32	Mudded Insulation (Fire Control Room)
84	HA #32	Mudded Insulation (Fire Control Room)
85	HA #32	Mudded Insulation (Fire Control Room)
86	HA #33	4" Black Cove base & Cream/Black/Brown Mastic
87	HA #33	4" Black Cove base & Cream/Black/Brown Mastic
88	HA #33	4" Black Cove base & Cream/Black/Brown Mastic
89	HA #34	6" Green Cove Base & Brown Mastic
90	HA #34	6" Green Cove Base & Brown Mastic
91	HA #34	6" Green Cove Base & Brown Mastic
92	HA #35	2'x4' White Fissured Ceiling Tile
93	HA #35	2'x4' White Fissured Ceiling Tile

1301727

94	HA #35
95	HA #36
96	HA #36
97	HA #36
98	HA #37
99	HA #38
100	HA #39
101	HA #40
102	HA #40
103	HA #40
104	HA #41
105	HA #41
106	HA #41
107	HA #42
108	HA #42
109	HA #42
110	HA #43
111	HA #43
112	HA #43
113	HA #44
114	HA #45
115	HA #46
116	HA #47
117	HA #48
118	HA #49
119	HA #50
120	HA #51
121	HA #52
122	HA #53
123	HA #54
124	HA #54
125	HA #55
126	HA #56
127	HA #56
128	HA #57
129	HA #57
130	HA #57

2'x4' White Fissured Ceiling Tile
Beige mastic on Fiberglass Duct Insulation
Beige mastic on Fiberglass Duct Insulation
Beige mastic on Fiberglass Duct Insulation
Dark Brown Mastic on Metal Duct Pin
Light Brown Mastic on Metal Duct Pin
Beige Mastic on Metal Duct Pin
Beige Mastic on Fiberglass Pipe Insulation
Beige Mastic on Fiberglass Pipe Insulation
Beige Mastic on Fiberglass Pipe Insulation
1'x1' White Fissured Ceiling Tile
1'x1' White Fissured Ceiling Tile
1'x1' White Fissured Ceiling Tile
Tan Interior Window Caulk
Tan Interior Window Caulk
Tan Interior Window Caulk
Brown Interior Window Glazing
Brown Interior Window Glazing
Brown Interior Window Glazing
Drywall
Drywall
Drywall
Drywall
Joint Compound
Joint Compound
Joint Compound
Joint Compound
Plaster
White Jacket on Fiberglass Duct Insulation
White Jacket on Fiberglass Duct Insulation
White Jacket on Fiberglass Duct Insulation

1301727

131	HA #58	White Mastic & Jacket inside Vent Unit
132	HA #58	White Mastic & Jacket inside Vent Unit
133	HA #58	White Mastic & Jacket inside Vent Unit
134	HA #59	Black Sink Undercoat
135	HA #59	Black Sink Undercoat
136	HA #59	Black Sink Undercoat
137	HA #60	2'x4' White Pinhole Ceiling Tile
138	HA #60	2'x4' White Pinhole Ceiling Tile
139	HA #60	2'x4' White Pinhole Ceiling Tile
140	HA #61	12"x12" Beige Mottled Floor Tile & Yellow Mastic
141	HA #61	12"x12" Beige Mottled Floor Tile & Yellow Mastic
142	HA #61	12"x12" Beige Mottled Floor Tile & Yellow Mastic
143	HA #62	12"x12" Tan Flecked Floor Tile & Black Mastic
144	HA #62	12"x12" Tan Flecked Floor Tile & Black Mastic
145	HA #62	12"x12" Tan Flecked Floor Tile & Black Mastic
146	HA #63	Brown Exterior Door Caulk
147	HA #63	Brown Exterior Door Caulk
148	HA #63	Brown Exterior Door Caulk
149	HA #64	Brown Exterior Window Caulk
150	HA #64	Brown Exterior Window Caulk
151	HA #64	Brown Exterior Window Caulk
152	HA #65	Gray Exterior Window Glazing
153	HA #65	Gray Exterior Window Glazing
154	HA #65	Gray Exterior Window Glazing
155	HA #66	Yellow Carpet Mastic
156	HA #66	Yellow Carpet Mastic
157	HA #66	Yellow Carpet Mastic
158	HA #67	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic
159	HA #67	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic
160	HA #67	12"x12" Reddish Brown Flecked Floor Tile & Black Mastic
161	HA #68	Beige Interior Window Caulk
162	HA #68	Beige Interior Window Caulk
163	HA #68	Beige Interior Window Caulk
164	HA #69	Brown Interior Window Glazing
165	HA #69	Brown Interior Window Glazing
166	HA #69	Brown Interior Window Glazing
167	HA #70	White Mastic on Fiberglass Riser 1' Pipe

1301727

168	HA #70	White Mastic on Fiberglass Riser 1' Pipe
169	HA #70	White Mastic on Fiberglass Riser 1' Pipe
170	HA #71	Beige Join Mastic on Riser 1' Pipe
171	HA #71	Beige Join Mastic on Riser 1' Pipe
172	HA #71	Beige Join Mastic on Riser 1' Pipe
173	HA #72	Gray Interior Window Caulk
174	HA #72	Gray Interior Window Caulk
175	HA #72	Gray Interior Window Caulk
176	HA #73	Black Mastic on Metal Duct
177	HA #73	Black Mastic on Metal Duct
178	HA #73	Black Mastic on Metal Duct
179	HA #74	Yellow Mastic under 2' Carpet Tile
180	HA #74	Yellow Mastic under 2' Carpet Tile
181	HA #74	Yellow Mastic under 2' Carpet Tile
182	HA #75	2'x4' White Solid Ceiling Tile
183	HA #75	2'x4' White Solid Ceiling Tile
184	HA #75	2'x4' White Solid Ceiling Tile
185	HA #76	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic
186	HA #76	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic
187	HA #76	1'x1' White Fissured Ceiling Tile & Cream/Black Dot Mastic
188	HA #77	Beige Mastic on 2"&4" Fiberglass Bridging Pipe Insulation
189	HA #77	Beige Mastic on 2"&4" Fiberglass Bridging Pipe Insulation
190	HA #77	Beige Mastic on 2"&4" Fiberglass Bridging Pipe Insulation
191	HA #78	Black Terrazzo Stair
192	HA #78	Black Terrazzo Stair
193	HA #78	Black Terrazzo Stair

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1. Front view of the building.



2. Asbestos-containing exterior door caulk at brick structure on roof.



3. Asbestos-containing 12"x12" greenish gray floor tile and black mastic in hallway between kitchen and trash room in 1st floor. Sample #31.



4. Asbestos-containing yellow/black mastic associated with 12"x12" tan with brown flecks floor tile in hallway between kitchen and trash room in 1st floor. Sample #34.



5. Asbestos-containing 12"x12" beige flecked floor tile and black mastic in cafeteria in 1st floor. Sample #37.



6. Asbestos-containing 12"x12" beige flecked floor tile and black mastic in east stair landing to basement. Sample #38.

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7. Asbestos-containing beige mastic and jacket on fiberglass 2" pipe bridging insulation in boiler room in basement. Sample #49.



8. Asbestos-containing beige mastic on fiberglass pipe bridging insulation associated with COND/WP pipeline in custodial supply room in basement. Sample #75.



9. Asbestos-containing white interior door in boiler room in basement. Sample #80.



10. Asbestos-containing 2'x4' white fissured ceiling tile in open area in 3rd floor. Sample #94.



11. Damaged 2'x4' white fissured ceiling tile in elevator lobby in 1st floor.



12. Damaged asbestos-containing 2'x4' white fissured ceiling tile in 2nd floor.

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13. Asbestos-containing brown mastic on metal duct pins. Samples #98-100.



14. Asbestos-containing tan interior window caulk in classroom in mezzanine level. Sample #107.



15. Asbestos-containing brown interior window glazing in classroom in mezzanine level. Sample #111.



16. Damaged asbestos-containing joint compound associated with drywall wallboards in mezzanine level.



17. Damaged drywall wallboards with asbestos-containing joint compound.



18. Asbestos-containing black sink undercoat in PE kindergarten classroom in mezzanine level. Sample #134.

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19. Asbestos-containing 12"x12" tan flecked floor tile and black mastic in classroom inside PE kindergarten room in mezzanine level. Sample #143



20. Exterior windows at front of the building.



21. Asbestos-containing gray exterior window glazing. Sample #153.



22. Asbestos-containing mastic associated with 12"x12" reddish brown flecked floor tile in 2nd floor. Sample #160.



23. Vertical window panels in open area in 2nd floor.



24. Asbestos-containing beige interior window caulk in vertical window panels in open area in 2nd floor. Sample #161.



25. Asbestos-containing gray interior window caulk at stairwells. Sample #173.



26. Asbestos-containing black mastic on metal duct above plaster ceiling in stairwells. Sample #176.



27. Assumed asbestos-containing fire door insulation at exits. Not sampled.



28. Assumed asbestos-containing fire door insulation at stairwells. Not sampled.



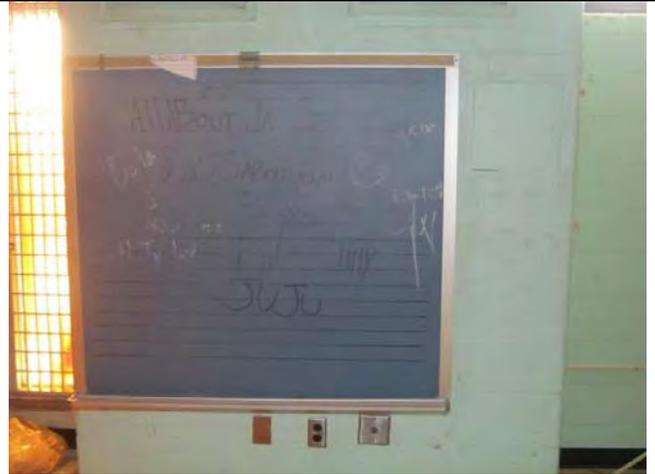
29. Assumed asbestos-containing fire door insulation. Not sampled.



30. Assumed asbestos-containing gaskets in boiler room in basement. Not sampled.



31. Assumed asbestos-containing exterior window caulk and glazing in inaccessible window at stairwells in 2nd and 3rd floor. Not sampled.



32. Assumed asbestos-containing mastic behind boards. Not sampled.



33. Assumed asbestos-containing mastic behind boards. Not sampled.



34. Assumed asbestos-containing mastic behind boards. Not sampled.



35. Assumed asbestos-containing interior boiler materials in boiler room in basement. Not sampled.



36. Assumed asbestos-containing interior boiler materials in boiler room in basement. Not sampled.

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37. Assumed asbestos-containing Elevator's switch deflector plate, brakes, cab and doors. Not sampled.



38. Lead-based orange paint on elevator doors and door jamb.



39. Fluorescent lamps.



40. High-intensity discharge (HID) lamps on roof along perimeter parapet wall.



41. Walk-in refrigerator in kitchen in 1st floor.



42. Emergency exit assumed to contain lead-acid batteries.



43. Broken mercury-containing fluorescent lamps in 3rd floor.



44. Rear view of the building where underground storage tank (UST) is suspect to be located.