AHERA - THREE YEAR REINSPECTION



CORA KELLY SCHOOL FOR MATH, SCIENCE AND TECHNOLOGY

3600 COMMONWEALTH AVENUE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:11652-E4-6

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

AUGUST 21, 2025

August 21, 2025

Mr. Lee Conroy
Alexandria City Public Schools
1706 North Beauregard Street
Alexandria, Virginia 22311

ECS Project No. 47:11652-E4-6

Reference: AHERA - Three Year Reinspection, Cora Kelly School for Math, Science and Technology, 3600 Commonwealth Avenue, Alexandria, Virginia

Dear Mr. Conroy:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the above referenced AHERA - Three Year Reinspection performed at Cora Kelly School for Math, Science and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia.

Previous asbestos surveys of the school identified asbestos-containing materials. ECS performed a walk through of the school to observe present conditions.

This report summarizes our observations, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:39012-EP and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

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Environmental Senior Project Manager
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1.0 SITE DESCRIPTION

The subject property consists of Cora Kelly School for Math, Science and Technology, a two-story brick school building located at 3600 Commonwealth Avenue in Alexandria, Virginia. The school was originally constructed in 1955 and has since been improved with various renovations. Building finishes observed included concrete sub-floors, vinyl floor tiles, carpet, and/or ceramic tiles; the wall systems appeared to generally consist of concrete masonry unit (CMU) block walls, drywall wallboard, and/or ceramic wall tiles; and the ceiling systems appeared to generally consist of suspended drop ceilings with ceiling tiles and some plaster finishes.

Based on a review of historical documentation, the following materials were previously identified as asbestos-containing and have since been abated.

- Asbestos-containing Floor Tile and associated Mastic, and carpet was abated from Classroom 29 in 2019 (ECS PROJECT NO. 47:1519-A2)
- Asbestos-containing Floor Tile and associated Mastic was abated from Office 241, the Second Floor Copy Room, and below the walk-in cooler during kitchen renovations. Additionally, the Plaster Ceiling from the Second Floor Copy Room was abated in 2020. (ECS PROJECT NO. 47:1519-A3)
- Multiple layers of asbestos-containing floor tile and associated black floor mastic were abated from the kitchen work area, which included the kitchen, kitchen office, kitchen mop closet, kitchen dry storage room, and the cafeteria serving area, which extended from the kitchen approximately twelve feet into the cafeteria in 2020. (ECS PROJECT NO. 47:1519-A5)
- Asbestos-containing floor tiles and associated floor mastic were abated from the psychology office and staff room near the main entrance of the school in 2020. (ECS PROJECT NO. 47:1519-A6)
- Asbestos-containing floor tiles and associated floor mastic were abated from Rooms 38, 39, 40, 42, and 43, and the south end of the Second Floor Hallway in 2020. (ECS PROJECT NO. 47:1519-A7)
- Asbestos-containing floor tiles and associated floor mastic were abated from the cafeteria on the first floor of the school in 2020. (ECS PROJECT NO. 47:1519-A8)

Note: Based on the age of the structure, it is likely that asbestos insulation on piping and ductwork is present and concealed behind solid walls/above solid ceilings. Floor tile and mastic is assumed to be present in the school, even in areas where it was reported abated (concealed under fixtures such as cabinets, etc.).

2.0 PURPOSE

The purpose of this Asbestos Hazard Emergency Response Act (AHERA) three-year re-inspection of asbestos-containing materials was to assess previously identified asbestos-containing building materials (ACBMs) present on the subject property. The survey was performed on the interior areas of the subject building. This survey is intended to provide a supporting document for the AHERA management plan.

3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by regulation(s) for the identification of Asbestos-Containing Materials (ACMs).

3.1 Asbestos Re-Inspection

The AHERA re-inspection survey was performed by David Stambaugh, a Virginia licensed asbestos inspector (license number 3303005057) who has received EPA-accredited training.

Before conducting the re-inspection, ECS reviewed existing inspection reports and thenwalked through areas where previously friable or non-friable ACBM were reported to be located, including assumed materials.

The scope of work for the re-inspection included the following items:

- Review the existing management plan to determine the areas requiring re-inspection.
- Visually reinspect and reassess the condition of known or assumed friable ACBM.
- Visually reinspect known or assumed non-friable ACBM and determine if it has become friable.
- Identify homogeneous areas that have changed conditions since previous re-inspections.
- Identify renovations or new materials that have been added to the building since the previous inspection.

At the request of the client, ECS did not sample additional materials during this inspection.

4.0 RESULTS

The following is a summary of findings and observations.

4.1 Asbestos-Containing Materials

An Asbestos-Containing Material (ACM) is defined as any material containing more than one percent (>1%) asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, PLM. Materials are categorized by the U.S. EPA in the following categories:

- Friable ACMs are defined as any ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.
- Non-friable ACMs are defined as any ACM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
    - Category I non-friable ACM are listed as following: packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than one percent (>1%) asbestos.
    - Category II non-friable ACM are listed as any material, excluding Category I non-friable ACM, containing more than one percent (>1%) asbestos.

Regulated Asbestos Containing Materials (RACM) are friable ACM or non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or has crumbled, been pulverized, or reduced to powder in the course of renovation and/or demolition operations.

A table of previously identified ACBM in the building is appended to this report.

5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the AHERA - Three Year Reinspection, and our findings and observations, ECS presents the following recommendations.

5.1 Asbestos-Containing Materials

All known ACM materials identified in the plan that ECS observed during this survey were found to be in good to fair condition. No action is required. Continue management under the school's O&M Plan.

For any future renovation project, a more in-depth survey should be performed for asbestos in the path of construction. Where asbestos is found, an asbestos abatement plan should be prepared by an accredited professional as outlined in AHERA prior to performing any asbestos removal work.

The results of this survey should be added to the school's AHERA management plan.

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

The 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 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. 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 ECS and the client.

Our recommendations are in part based on federal, state, and local 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.

Appendix I: AHERA ACBM Tables

Cora Kelly School for Math, Science, and Technology
Previously Identified Asbestos-Containing Building Materials

Location	Material Description	Analytical Results	EPA Category	AHERA Category	Abatement History
Mechanical Room and Library Break Room*	12" x 12" Beige with Brown Streaks Floor Tile and associated Mastic	Tile: 8% Chrysotile Mastic: 5% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Staff Lounge*	Black Mastic associated with Unknown Sized Brown Floor Tile (Beneath other Flooring Materials)	5% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Clinic*	Unknown Sized Gray Floor Tile (2nd Layer of Floor Tile)	Tile: 5% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Clinic*	Unknown Sized Dark Gray Floor Tile and associated Black Mastic (3rd Layer of Floor Tile)	Tile: 8% Chrysotile Mastic: 2% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Clinic Office*	Light Gray Floor Tile Under Carpet and associated Black Mastic (Beneath Carpet)	Tile: 5% Chrysotile Mastic: 6% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Clinic Office*	Unknown Sized Gray Floor Tile (Layer 2 under Carpet) and associated Black Mastic	Tile: 8% Chrysotile Mastic: 6% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Storage Room near Classroom 2*	Black Mastic associated with Unknown Sized Gray Floor Tile (2nd Layer of Floor Tile)	6% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Classroom 41*	Unknown Size Floor Tile (Under Carpet)	3% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated

Cora Kelly School for Math, Science, and Technology
Previously Identified Asbestos-Containing Building Materials

Classroom 41*	Black Mastic associated with Unknown Size Floor Tile (Under Carpet)	8% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Copy Room	12" x 12" Beige with Brown Streaks Floor Tile	3% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A3)
Copy Room	Black Mastic associated with 12" x 12" Beige with Brown Streaks Floor Tile	5% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A3)
Copy Room	Plaster Ceiling/Bulkhead	No analysis available	RACM	Not applicable	Abated (ECS PROJECT NO. 47:1519-A3)
1st Floor Hall by Clinic*	White Ceramic Chair Rail Caulk	3% Chrysotile	Category II Non-Friable	Not applicable	Observed, Intact
1st Floor Clinic*	Multiple Layered Door Caulk	5% Chrysotile	Category II Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
1st Floor Room 32*	Gray Drywall Joint Compound behind Plaster Wall	3% Chrysotile	RACM	Not applicable	Inaccessible, assumed to still be present
Storage Room, Serving Area, Near Walk-in Freezer	Black Floor Tile (Unknown Size, Second Layer)	3%-5% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A4)
Kitchen	Green Floor Tile and associated Black Mastic (Unknown Size, Second Layer)	Tile: 2% Chrysotile Mastic: 5% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A4)
Serving Area	Red Floor Tile (Unknown Size, Second Layer)	8% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A4)
Kitchen	12"x12" Gray Floor Tile with mixed mastic	3%-5% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A5)

Cora Kelly School for Math, Science, and Technology
Previously Identified Asbestos-Containing Building Materials

Classroom 29, 41, and 45 (under Carpet)*	Beige Floor Tile and associated Black Mastic	Floor Tile - 5% Chrysotile Mastic - 8% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated. Abated in Classroom 29 (ECS PROJECT NO. 47:1519-A2)
Custodial Closet between Restrooms (Assumed behind Walls and above Hard Ceilings in other Areas)*	Air-Cell Pipe Insulation	35% Chrysotile	RACM	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Classroom 33 (under Carpet)*	Maroon Floor Tile and associated Black Mastic	Floor Tile - 8% Chrysotile Mastic - 4% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Classroom 11, 28, and 30 (under Carpet)*	Black Floor Tile and associated Mastic	Floor Tile - 6% Chrysotile Mastic - 5% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Classrooms	Black “Transite” Window Sill	No analysis available	Category II Non-Friable	Not applicable	Observed, Intact
Art Room 36 and Room 32 (Assumed under Existing Flooring Materials in other Areas)*	9” x 9” Green with Black Trim Floor Tile and associated Mastic	No analysis available	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Cafeteria HVAC Room and Janitor’s Closet by Clinic (Assumed in other Areas)	9” x 9” Red and White Floor Tile and associated Mastic	No analysis available	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A8)

Cora Kelly School for Math, Science, and Technology
Previously Identified Asbestos-Containing Building Materials

Cafeteria HVAC Room and Janitor's Closet by Clinic (Assumed in other Areas)	12" x 12" Green Floor Tiles and associated Mastic	No analysis available	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A8)
Hallways (Observed in other Areas)	Fire Door Insulation	No analysis available	RACM	(7) Any remaining friable ACBM or friable suspected ACBM.	Observed, Intact
Media Storage AHU#2 (Mechanical Room inside Tech Room) (Assumed in other Areas)*	Surfacing Trowel on Ceiling	No analysis available	RACM	Not applicable	Observed in Room 29 Closest, Intact

Notes:

1. Asbestos-containing Floor Tile and associated Mastic, and carpet was abated from Classroom 29 in 2019 (ECS PROJECT NO. 47:1519-A2)

2. Floor Tile and associated Mastic was abated from the Second floor, Office 241, the Copy Room, and below the walk-in cooler during kitchen renovations, along with the Plaster Ceiling from the Second Floor Copy Room w abated in 2020. (ECS PROJECT NO. 47:1519-A3)

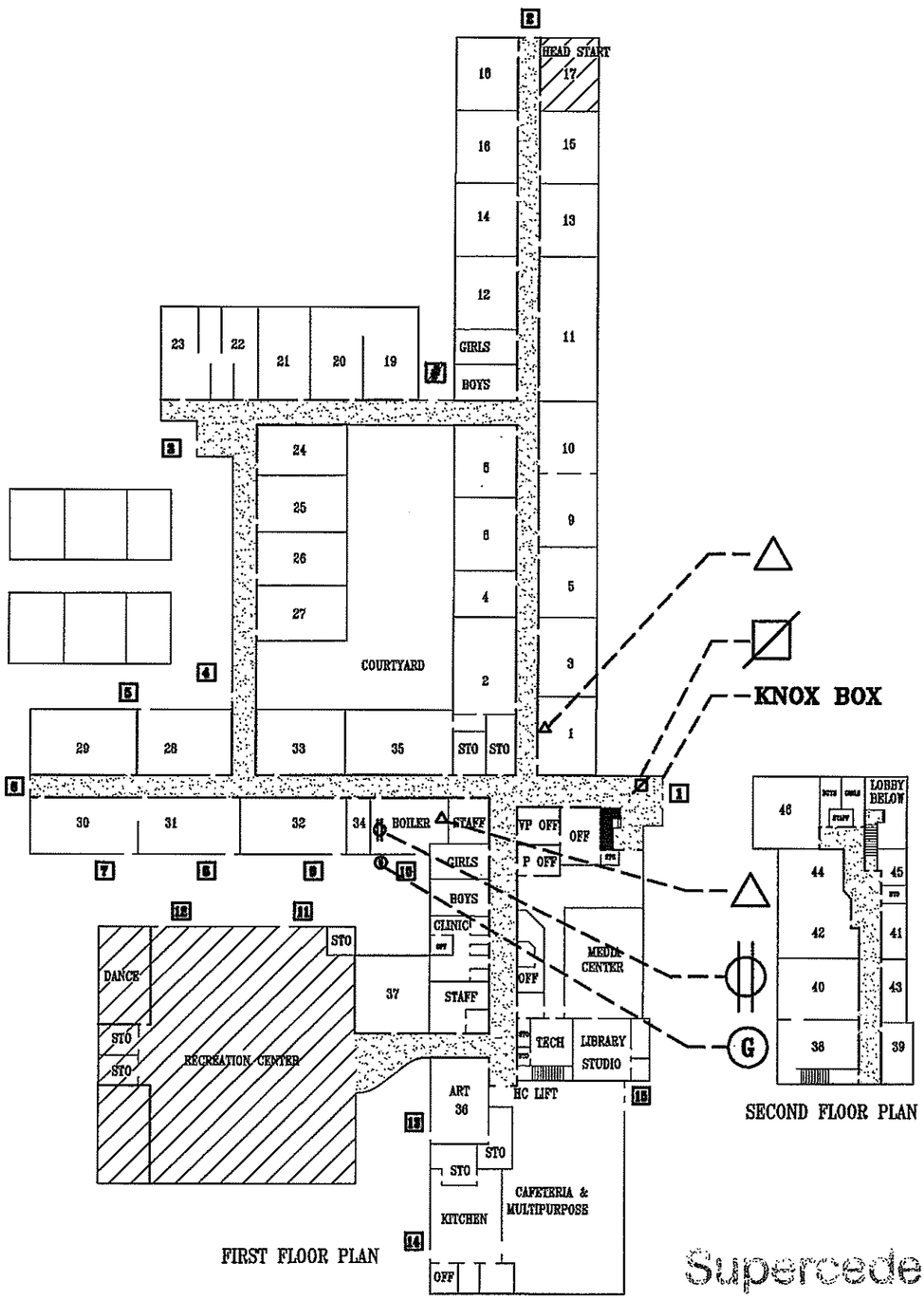
3. Multiple layers of asbestos-containing floor tile and associated black floor mastic was abated from the kitchen work area which included the kitchen, kitchen office, kitchen mop closet, kitchen dry storage room, and the cafeteria serving area which extended from the kitchen approximately twelve feet into the cafeteria in 2020. (ECS PROJECT NO. 47:1519-A5)

4. Asbestos-containing floor tiles and associated floor mastic were abated from the psychology office and staff room near the main entrance of the school in 2020. (ECS PROJECT NO. 47:1519-A6)

5. Asbestos-containing floor tiles and associated floor mastic were abated from Rooms 38, 39, 40, 42, and 43 and the south end of the second floor hallway of the school 2020. (ECS PROJECT NO. 47:1519-A7)

6. Asbestos-containing floor tiles and associated floor mastic were abated from the cafeteria on the first floor of the school in 2020. (ECS PROJECT NO. 47:1519-A8)

Appendix II: Floor Plan



FIRE ANNUNCIATOR PANEL ELECTRIC SHUT OFF WATER SHUT OFF GAS SHUT OFF

CORA KELLY SCHOOL FOR MATH
3600 Commomwealth Avenue
Alexandria, Va 22305

(T) 703-706-4420 (F) 703-706-4425

FLOOR PLAN

Alexandria City Public Schools
2000 North Beauregard Street
Alexandria, Va 22311
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(TDD) 703-824-6666
(EMER.) 703-866-5300

Appendix III: Certifications/ Licenses

DPOR License Lookup License Number 3303005057

License Details

Name	STAMBAUGH, DAVID
License Number	3303005057
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	CLEAR BROOK, VA 22624
Initial Certification Date	2023-12-19
Expiration Date	2025-12-31

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DPOR License Lookup License Number 3304001722

License Details

Name	TRUAX, ADAM MICHAEL
License Number	3304001722
License Description	Asbestos Management Planner License
Rank	Asbestos Management Planner
Address	RANSON, WV 25438
Initial Certification Date	2023-03-30
Expiration Date	2026-03-31

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Appendix IV: Previous Reports

AHERA ASBESTOS-CONTAINING MATERIALS SURVEY



CORA KELLY SCHOOL FOR MATH, SCIENCE AND TECHNOLOGY

3600 COMMONWEALTH AVENUE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:11652-E2

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

APRIL 26, 2022

April 26, 2022

Mr. John Contreras
Alexandria City Public Schools
1340 Braddock Place
Alexandria, Virginia 22314
john.contreras@acps.k12.va.us

ECS Project No. 47:11652-E2

Reference: AHERA Asbestos-Containing Materials Survey, Cora Kelly School for Math, Science and Technology, 3600 Commonwealth Avenue, Alexandria, Virginia

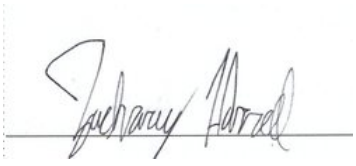
Dear Mr. Contreras:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the above referenced AHERA Asbestos-Containing Materials Survey performed at Cora Kelly School for Math, Science and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:16069-EP and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC



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EXECUTIVE SUMMARY

The subject property is improved with a 69,000 square foot, school building reportedly originally constructed in 1955.

The purpose of the survey was to determine if asbestos-containing building materials (ACBMs) are present in the subject building. The survey was performed within interior areas of the school building excluding the roofs and exterior materials. This survey is intended to provide a supporting document for the Asbestos Hazard Emergency Response Act (AHERA) management plan for the school.

Based on the laboratory analysis of the bulk samples collected during the most recent survey, none of the materials were reported to contain asbestos.

Based on a review of historical documentation the following materials were previously identified as asbestos-containing and ECS does not have records of them being abated:

- Black "Transite" Window Sills present throughout classrooms and building
- Various size and color vinyl floor tiles and their associated mastics of which ECS does not have documentation of abatement,;
- "Air-o-cell" Pipe insulation that was not observed, and assumed to be concealed behind interior walls or above solid ceilings.
- Door caulks that may be concealed by newer applications.
- Gray Drywall Joint Compound behind Plaster Wall in Room 32 of which ECS does not have documentation of its abatement. Assumed to be present in other areas of the building.

Based on a review of historical documentation the following materials were previously identified as asbestos-containing and have since been abated:

- Floor Tile and associated Mastic were abated from the Second floor, Office 241 and the Copy Room; the Plaster Ceiling from the Second Floor Copy Room was abated in 2020. (reference ECS PROJECT NO. 47:1519-A3)

- Multiple layers of asbestos-containing floor tile and associated black floor mastic were abated from the kitchen work area which included the kitchen, kitchen office, kitchen mop closet, kitchen dry storage room, and the cafeteria serving area which extended from the kitchen approximately twelve feet into the cafeteria in 2020. (reference ECS PROJECT NO. 47:1519-A5)
- Asbestos-containing floor tiles and associated floor mastic were abated from the psychology office and staff room near the main entrance of the school in 2020. (reference ECS PROJECT NO. 47:1519-A6)
- Asbestos-containing floor tiles and associated floor mastic were abated from Rooms 38, 39, 40, 42, and 43 and the south end of the second floor hallway of the school in 2020. (reference ECS PROJECT NO. 47:1519-A7)

Recommendations regarding the removal and disposal of the ACMs identified by ECS can be found in Section 5.0 of this report. The executive summary is an integral portion of this report, however, ECS recommends the report be read in its entirety.

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1.0 SITE DESCRIPTION

The subject property consists of Cora Kelly School for Math, Science, and Technology, a one-story brick school building located at 3600 Commonwealth Ave, in Alexandria, Virginia. The school was originally constructed in 1955 and has since been improved with various renovations. Building finishes observed included concrete sub-floors, vinyl floor tiles, carpet, and/or ceramic tiles; the wall systems appeared to generally consist of concrete masonry unit (CMU) block walls, drywall wallboard, and/or ceramic wall tiles; and the ceiling systems appeared to generally consist of suspended drop ceilings with ceiling tiles and some plaster finishes.

2.0 PURPOSE

The purpose of this Asbestos Hazard Emergency Response Act (AHERA) asbestos re-inspection was to determine if asbestos-containing building materials (ACBMs) are present on the subject building that had not been previously identified, to account for the ACMs previously identified with regards to their general location and condition, and finally to generally identify if any of the previously noted ACMs had been abated. The survey was performed within interior areas of the subject building. Exterior and roofing materials were not included in this survey. This survey is intended to provide a supporting document for the AHERA management plan for the school.

US EPA AHERA regulations requires all public and private schools to survey school buildings and associated support school buildings for ACMs, and to prepare management plans for identified ACMs.

3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by regulation(s) for the identification of Asbestos-Containing Materials (ACMs).

3.1 Asbestos-Containing Materials

The non-destructive/non-invasive asbestos survey was performed by asbestos inspectors who have received EPA accredited training and are licensed by the Commonwealth of Virginia. Samples of suspect ACMs were collected utilizing hand tools and placed into individual, labeled plastic bags. Unique bulk suspect ACM samples were submitted to Scientific Analytical Institute, Inc. (SAI) in Greensboro, North Carolina for analysis via Polarized Light Microscopy (PLM) in accordance with current EPA-600 methodology. Materials consisting of additional layers were analyzed separately. Scientific Analytical Institute, Inc. (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 by currently approved EPA methodology by PLM.

During the survey, ECS attempted to identify suspect ACMs in readily accessible areas. However, due to the destructive means required to identify some materials, certain areas were deemed inaccessible (i.e. behind walls or sub grade materials) and were not surveyed for suspect ACMs. Occupied offices, classrooms, select closets, and roofs. It is important to note that due to the COVID-19 pandemic,

extra precautions were taken in order to avoid contact with students and staff, increasing the number of areas deemed inaccessible. Unidentified suspect ACMs may be located in these and/or other inaccessible areas.

Samples were collected in general accordance with EPA Standard 40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA) and OSHA Standard 29 CFR 1926.1101 Inspection Protocol. Multiple samples of each unique material were submitted. Samples were analyzed using "Positive Stop" methodology. If one sample of a homogeneous material is reported 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.

4.0 RESULTS

The following is a summary of laboratory results, findings and observations.

4.1 Asbestos-Containing Materials

An Asbestos-Containing Material (ACM) is defined as any material containing more than one percent (>1%) asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, PLM. Materials are categorized by the U.S. EPA in the following categories:

- Friable ACMs are defined as any ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.
- Non-friable ACMs are defined as any ACM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
    - Category I non-friable ACM are listed as following: packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than one percent (>1%) asbestos.
    - Category II non-friable ACM are listed as any material, excluding Category I non-friable ACM, containing more than one percent (>1%) asbestos.

Regulated Asbestos Containing Materials (RACM) are friable ACM or non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or has crumbled, been pulverized, or reduced to powder in the course of renovation and/or demolition operations.

AHERA requires identified asbestos-containing building materials (ACBMs) to be categorized by a trained AHERA inspector into the following categories:

• (1) Damaged or significantly damaged thermal system insulation ACBM.
• (2) Damaged friable surfacing ACBM.
• (3) Significantly damaged friable surfacing ACBM.
• (4) Damaged or significantly damaged friable miscellaneous ACBM.
• (5) ACBM with potential for damage.
• (6) ACBM with potential for significant damage.

• (7) Any remaining friable ACBM or friable suspected ACBM.

Definitions for the above-referenced categories can be found in the Appendices.

Scientific Analytical Institute, Inc. (SAI) submitted a signed final laboratory report to ECS on November 10, 2021. None of the bulk samples submitted for analysis were reported to contain asbestos in detectable concentrations. A complete list of the sampled materials submitted for analysis and sample locations are located in the Appendix of this report. Additional details regarding the overall locations of the materials identified as asbestos-containing are provided further in the report. Photographs of collected samples reported as asbestos-containing are also located in the Appendix of this report.

In total, 6 bulk samples from homogeneous areas were submitted to the laboratory of which 10 layers were analyzed.

No asbestos was detected in the samples collected for this most recent re-inspection event.

Summary of Previously Identified Asbestos-Containing Materials

Location	Material Description	Analytical Results	EPA Category	AHERA Category	Abatement History
Mechanical Room and Library Break Room*	12" x 12" Beige with Brown Streaks Floor Tile and associated Mastic	Tile: 8% Chrysotile Mastic: 5% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Staff Lounge*	Black Mastic associated with Unknown Sized Brown Floor Tile (Beneath other Flooring Materials)	5% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated

Location	Material Description	Analytical Results	EPA Category	AHERA Category	Abatement History
Clinic*	Unknown Sized Gray Floor Tile (2nd Layer of Floor Tile)	Tile: 5% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Clinic*	Unknown Sized Dark Gray Floor Tile and associated Black Mastic (3rd Layer of Floor Tile)	Tile: 8% Chrysotile Mastic: 2% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Clinic Office*	Light Gray Floor Tile Under Carpet and associated Black Mastic (Beneath Carpet)	Tile: 5% Chrysotile Mastic: 6% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Clinic Office*	Unknown Sized Gray Floor Tile (Layer 2 under Carpet) and associated Black Mastic	Tile: 8% Chrysotile Mastic: 6% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Storage Room near Classroom 2*	Black Mastic associated with Unknown Sized Gray Floor Tile (2nd Layer of Floor Tile)	6% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated

Location	Material Description	Analytical Results	EPA Category	AHERA Category	Abatement History
Classroom 41*	Unknown Size Floor Tile (Under Carpet)	3% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Classroom 41*	Black Mastic associated with Unknown Size Floor Tile (Under Carpet)	8% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Copy Room	12" x 12" Beige with Brown Streaks Floor Tile	3% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A3)
Copy Room	Black Mastic associated with 12" x 12" Beige with Brown Streaks Floor Tile	5% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A3)
Copy Room	Plaster Ceiling/ Bulkhead	No analysis available	RACM	Not applicable	Abated (ECS PROJECT NO. 47:1519-A3)
1st Floor Hall by Clinic*	White Ceramic Chair Rail Caulk	3% Chrysotile	Category II Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications

Location	Material Description	Analytical Results	EPA Category	AHERA Category	Abatement History
1st Floor Clinic*	Multiple Layered Door Caulk	5% Chrysotile	Category II Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
1st Floor Room 32*	Gray Drywall Joint Compound behind Plaster Wall	3% Chrysotile	RACM	Not applicable	Inaccessible, assumed to still be present
Storage Room, Serving Area, Near Walk-in Freezer	Black Floor Tile (Unknown Size, Second Layer)	3%-5% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A4)
Kitchen	Green Floor Tile and associated Black Mastic (Unknown Size, Second Layer)	Tile: 2% Chrysotile Mastic: 5% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A4)
Serving Area	Red Floor Tile (Unknown Size, Second Layer)	8% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A4)
Kitchen	12"x12" Gray Floor Tile with mixed mastic	3%-5% Chrysotile	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A5)

Location	Material Description	Analytical Results	EPA Category	AHERA Category	Abatement History
Classroom 29, 41, and 45 (under Carpet)*	Beige Floor Tile and associated Black Mastic	Floor Tile - 5% Chrysotile Mastic - 8% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Custodial Closet between Restrooms (Assumed behind Walls and above Hard Ceilings in other Areas)*	Air-Cell Pipe Insulation	35% Chrysotile	RACM	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Classroom 33 (under Carpet)*	Maroon Floor Tile and associated Black Mastic	Floor Tile - 8% Chrysotile Mastic - 4% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Classroom 11, 28, and 30 (under Carpet)*	Black Floor Tile and associated Mastic	Floor Tile - 6% Chrysotile Mastic - 5% Chrysotile	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Classrooms	Black “Transite” Window Sill	No analysis available	Category II Non-Friable	Not applicable	Observed

Location	Material Description	Analytical Results	EPA Category	AHERA Category	Abatement History
Art Room 36 and Room 32 (Assumed under Existing Flooring Materials in other Areas)*	9" x 9" Green with Black Trim Floor Tile and associated Mastic	No analysis available	Category I Non-Friable	Not applicable	Not observed, assumed to be concealed by newer applications or abated
Cafeteria HVAC Room and Janitor's Closet by Clinic (Assumed in other Areas)	9" x 9" Red and White Floor Tile and associated Mastic	No analysis available	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A8)
Cafeteria HVAC Room and Janitor's Closet by Clinic (Assumed in other Areas)	12" x 12" Green Floor Tiles and associated Mastic	No analysis available	Category I Non-Friable	Not applicable	Abated (ECS PROJECT NO. 47:1519-A8)
Hallways (Observed in other Areas)	Fire Door Insulation	No analysis available	RACM	(7) Any remaining friable ACBM or friable suspected ACBM.	Observed
Media Storage AHU#2 (Mechanical Room inside Tech Room) (Assumed in other Areas)*	Surfacing Trowel on Ceiling	No analysis available	RACM	Not applicable	Not observed, assumed to be concealed by newer applications or abated

Location	Material Description	Analytical Results	EPA Category	AHERA Category	Abatement History
Notes: **1. Floor Tile and associated Mastic was abated from the Second floor, Office 241 and the Copy Room, along with the Plaster Ceiling from the Second Floor Copy Room abated in 2020. (ECS PROJECT NO. 47:1519-A3)** **2. Multiple layers of asbestos-containing floor tile and associated black floor mastic was abated from the kitchen work area which included the kitchen, kitchen office, kitchen mop closet, kitchen dry storage room, and the cafeteria serving area which extended from the kitchen approximately twelve feet into the cafeteria in 2020. (ECS PROJECT NO. 47:1519-A5)** **3. Asbestos-containing floor tiles and associated floor mastic were abated from the psychology office and staff room near the main entrance of the school in 2020. (ECS PROJECT NO. 47:1519-A6)** **4. Asbestos-containing floor tiles and associated floor mastic were abated from Rooms 38, 39, 40, 42, and 43 and the south end of the second floor hallway of the school 2020. (ECS PROJECT NO. 47:1519-A7)** ***No data available in historical documentation reviewed.**					

Summary of Non Asbestos-Containing Materials Identified

Location	Material Description	Analytical Results
Materials Sampled in 2022 AHERA Survey		
Classroom 18	Gray Sink Undercoating	NAD
Corridor to Gym	Gray with black dot 12"x12" Vinyl Floor Tile and associated Mastic	Both NAD
Corridor to Gym	Beige with Black Dot 12"x12" Vinyl Floor Tile and associated Mastic	Both NAD
Previously Sampled Materials		
Clinic	Residual Brown Cove Base Mastic	NAD
Art Room (Room 36)	12" x 12" White with Gray and Black Streaks Floor Tile	Both NAD
Art Room (Room 36)	Yellow Mastic associated with 12" x 12" White with Gray and Black Streaks Floor Tile	Both NAD

Location	Material Description	Analytical Results
Art Room (Room 36)	6" Black Cove Base with associated Brown Mastic	Both NAD
Library	6" Black Cove Base with associated Brown Mastic	Both NAD
Staff Lounge near Room 37	12" x 12" Tan Floor Tile (Layer 1) and associated Yellow Mastic	Both NAD
Staff Lounge near Room 37	Unknown Sized Blue/Gray Floor Tile (Layer 2) and associated Yellow and Brown Mastic's	All NAD
Staff Lounge near Room 37	Unknown Sized Brown Floor Tile (Layer 3)	NAD
Staff Lounge near Room 37	Unknown Sized Brown Floor Tile (Layer 3) and associated Yellow Mastic	Both NAD
Staff Lounge near Room 37	12" x 12" Beige Floor Tile (Patch) and associated Yellow Mastic	Both NAD
Staff Lounge near Room 37	4" Tan Cove Base with associated White Mastic	Both NAD
Staff Lounge near Room 37	4" White Cove Base with associated Brown Mastic	Both NAD
Clinic	12" x 12" White with Blue Flecks Floor Tile (Layer 1) and associated Yellow Mastic	Both NAD
Clinic	Brown Mastic associated with Unknown Sized Grayish Floor Tile (Layer 2)	NAD
Clinic Office and Storage	Yellow Carpet Mastic	NAD
Clinic Storage Room	6" Black Cove Base and associated Yellow Mastic	Both NAD
Clinic Office	6" Brittle Black Cove Base and associated Black Mastic	Both NAD
Clinic	6" Light Brown Cove Base (Behind Black Cove Base) and associated Yellow Mastic	Both NAD
Library (Both Levels)	Yellow Carpet Mastic and Gray Leveling Compound	Both NAD

Location	Material Description	Analytical Results
Library Book Storage Room	Brown Carpet Mastic and White Floor Tile	Both NAD
Library Office	Black/Mixed Carpet Mastic	NAD
Library IT Room	Black/Mixed Carpet Mastic	NAD
Main Office (Reception Area)	Green Carpet Mastic with Brown Residual Mastic	Both NAD
Main Office (Vice Principal's Office) & Storage Closet	Gray Floor Leveling Compound	NAD
Main Office (Reception Area)	6" Black Cove Base and associated White Mastic	Both NAD
Storage Closet near Classroom 2	12" x 12" Blue/Gray Floor Tile with Black Streaks and associated Yellow Mastic	Both NAD
Storage Closet near Classroom 2	Unknown Sized Gray Floor Tile (Layer 2)	NAD
Storage Closet near Classroom 2	4" Beige Cove Base and associated White Mastic	Both NAD
Classroom 41	6" Black Cove Base with White/ mixed Mastic	Both NAD
Classroom 41	Unknown Size Floor Tile with Black Mastic (Under Carpet) - Mastic 1	Both NAD
Copy Room	CMU Wall Skim Coat	NAD
Copy Room	Wall finish and base compound	Both NAD
1st Floor Boiler Room	Troughed-On Rough Plaster Ceiling	NAD
1st Floor Room 32	Tan Drywall Wall Board above Windows	NAD
1st Floor Room 32	Gray Drywall Wall Board behind Plaster Wall	NAD
Classroom 41 & 45, Mechanical Room, Media Room, Custodial Closet, and Hallway between Classrooms 11-17 & 28-35	Plaster Wall/Ceiling	NAD
Classroom 41 & 45	Black Waterproofing/Tar	NAD

Location	Material Description	Analytical Results
Hallway on the 2nd Floor	White Mastic on Fiberglass Duct Insulation	NAD
Hallway on the 2nd Floor and Classrooms 42 & 46	White Interior Window Caulk	NAD
Hallway on the 2nd Floor, Cafeteria, and Classrooms 33	Black Interior Window Caulk	NAD
Kitchen, Cafeteria, and Classroom 32	Drywall and Joint Compound	Both NAD
Mechanical Room	Brown Mastic associated with 6" Tan Cove Base	NAD
Classrooms 11, 17, & 32	1' x 1' White Pinhole Ceiling Tile	NAD
Hallway between Classrooms 28-35	1' x 1' White Fissured Ceiling Tile	NAD
Hallway between Classrooms 11 & 28-35	Black Glue Dot associated with 1' x 1' White Fissured Ceiling Tile	NAD
1st Floor Boiler Room	Rough Plaster Ceiling	NAD
1st Floor Room 32 (Above Windows)	Tan Drywall Wall Board	NAD
1st Floor Room 32 (Behind Plaster Walls)	Gray Drywall Wall Board	NAD
Hallway near Room 19	12" x 12" Blue/Gray Floor Tile and associated Yellow Mastic	Both NAD
Hallway near Room 21	12" x 12" Tan Floor Tile with associated Yellow Mastic	Both NAD
Hallway near Room 20 & 24	12" x 12" Green Floor Tile and associated Yellow Mastic	Both NAD
Hallway near Room 20	12" x 12" Red Floor Tile and associated Yellow Mastic	Both NAD
Exit door 4, Exit door 6, & Cafeteria	Black Interior Door Caulk	NAD
Notes: **NAD = No Asbestos Detected** **Locations reflect the area in which the material was sampled. These materials may be representative of and located in other homogenous areas throughout the school.**		

Based on a review of historical documentation the following materials were previously identified as asbestos-containing and ECS does not have records of them being abated:

- Black "Transite" Window Sills present throughout classrooms and building

- Various size and color vinyl floor tiles and their associated mastics should be assumed present throughout the school unless specifically noted in this report.
- "Air-o-cell" Pipe insulation that was not observed, and assumed to be concealed behind interior walls.
- Door caulks that may be concealed by newer applications.
- Gray Drywall Joint Compound behind Plaster Wall in Room 32 of which ECS does not have documentation of its abatement. Assumed to be present in other areas in the building where drywall is present.

During the inspection, ECS attempted to access all building materials. However, due to the destructive means required to access all materials, certain areas (i.e., sub-grade sealants, wall cavities, pipe chases, areas above hard ceilings, etc.) were deemed inaccessible and were not inspected. Unidentified suspect asbestos-containing materials may be located in these inaccessible areas of the building.

4.2 Suspect or Assumed Asbestos-Containing Materials

Due to the inaccessibility or the destructive means that asbestos sampling requires, 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, sub-grade sealants, flooring located below underlayments, areas behind exterior walls, pipe trenches, and subsurface utilities, etc. These areas were deemed inaccessible and were not assessed.

If these materials are discovered during construction activities, they should be presumed to contain asbestos and be treated as ACMs or be sampled immediately upon discovery and prior to disturbance for asbestos content by a certified asbestos inspector in accordance with 29 CFR 1926.1101.

Based upon our past experience in the identification of ACMs in similarly constructed buildings, the following additional suspect ACMs may also be located in inaccessible areas of the structure:

- **Mirror Mastics** behind/under mirrors
- **Air Handler Components** in the air handlers (interior components)
- **Roofing and Exterior Materials** (asphalt membranes, sealants, caulks, flashing, etc.)
- **Concrete Masonry Unit (Blocks/Walls)** with Vermiculite filler
- **Asbestos Cement Conduit** within sub-grade banks or as standalone conduit
- **Ceramic Tile Mastic** behind/under ceramic wall and/or floor tiles
- **Locker, Chalk and Bulletin Boards Mastics** behind chalk and bulletin boards, and chalk board
- **Fire Door and Casing Insulation**
- **Pipe Flange Gaskets** in heating and plumbing systems
-
- **Boiler Components**
- **Waterproofing Membrane/Mastics/Vapor Barriers** within exterior wall cavities, behind interior finishes, exterior veneer, and/or sub-grade walls

5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the AHERA Asbestos-Containing Materials Survey, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

5.1 Asbestos-Containing Materials

None of the bulk samples submitted to Scientific Analytical Institute, Inc. (SAI) for this most recent survey were reported to contain detectable concentrations of asbestos. If additional suspect asbestos-containing materials are uncovered which were not accessible during this sampling event, it is recommended that these materials be sampled or tested immediately upon discovery for asbestos content by an asbestos inspector in accordance with 29 CFR 1926.1101.

ECS recommends where a material type has been identified as asbestos-containing that other materials with similar color, texture, age and size throughout the building's interior and exterior be assumed to contain asbestos. Please refer to Section 4.1 for a complete list of building materials that were reported positive for asbestos and to Section 4.2 for materials that were assumed to contain asbestos.

If ACMs are to be removed, it is required that a licensed/accredited asbestos abatement contractor be retained to perform this work. A 20-day notification to Virginia Department of Labor and Industry for disturbance of the asbestos-containing materials identified during this survey maybe required. This should be the responsibility of the asbestos abatement firm selected for the project.

If ACMs are to be removed, it is recommended that an industrial hygienist monitor the project. This involves collecting air samples from within and outside abatement work areas to monitor the asbestos abatement contractor's work practices over the course of the project. The industrial hygienist should evaluate if the asbestos abatement work is in accordance with project specifications, U.S. EPA regulation 40 CFR Part 61-National Emission Standards for Hazardous Air Pollutants Subpart M: National Emission Standard for Asbestos, and U.S. Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926.1101 – Asbestos in Construction. The industrial hygienist should assess each work area to monitor the removal of ACMs. Only after the industrial hygienist has determined the identified ACMs have been removed should final clearance air samples be collected (if necessary).

Suspect ACMs not observed due to inaccessibility or not sampled due to the destructive means that sampling would require may also be encountered during construction activities. At the time of the survey, only limited destructive means were used to locate or sample suspect ACMs; therefore, additional suspect ACMs may remain within 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, vapor barriers, pipe trenches and other subsurface utilities, etc.] If additional suspect ACMs are uncovered which were not accessible during this survey, it is recommended that these materials either be assumed to contain asbestos or be sampled prior to disturbance upon discovery for asbestos content by an asbestos inspector in accordance with 29 CFR 1926.1101.

The results of this survey should be added to the school's management plan.

6.0 LIMITATIONS

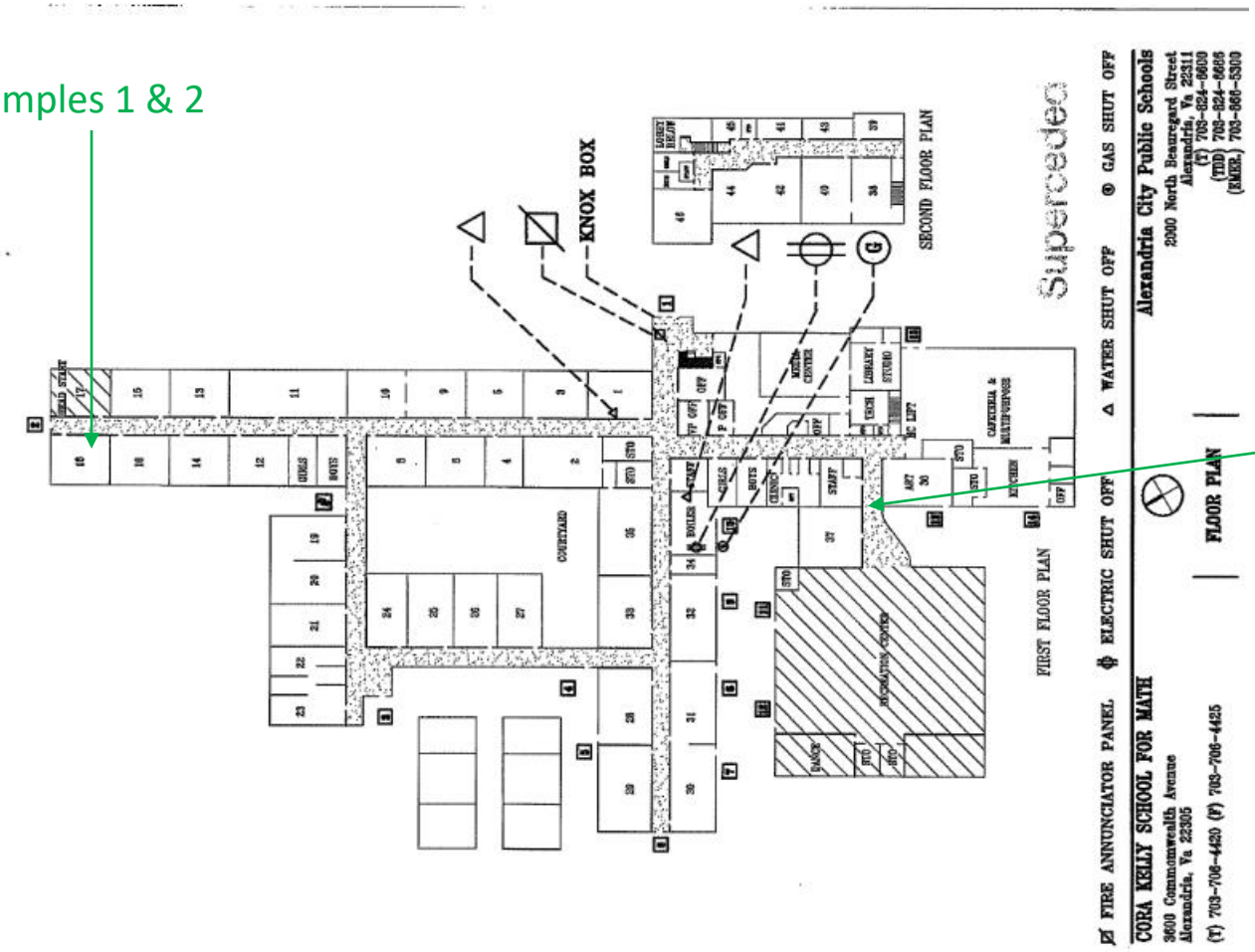
The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which 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 warranty, expressed or implied, is made.

The 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 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. 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 ECS and the client.

Our recommendations are in part based on federal, state, and local 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.

Appendix I: Figures



Note: Inaccessible Area were not recorded on survey

Sample Location

Inaccessible Areas (during survey)

Cora Kelly School for Math, Science and Technology
3600 Commonwealth Ave,
Alexandria, Virginia 22305-2810

BULK ASBESTOS SAMPLING FIRST FLOOR

Scale: NTS

Project No. 47:11652-E2

Site Visit: 10/28/21

Appendix II: Asbestos Bulk Sample Results

SUSPECT ASBESTOS-CONTAINING MATERIALS BULK SAMPLING RESULTS

Sample #	Sampling Location	Material/Description	Analytical Results
1	Room 18	Gray Sink Undercoat	NAD
2	Room 18	Gray Sink Undercoat	NAD
3-A	Cooridor to Gym	Gray with black dot 12"x12" vinyl floor tile- Tile	NAD
3-B	Cooridor to Gym	Gray with black dot 12"x12" vinyl floor tile- Mastic	NAD
4-A	Cooridor to Gym	Gray with black dot 12"x12" vinyl floor tile- Tile	NAD
4-B	Cooridor to Gym	Gray with black dot 12"x12" vinyl floor tile- Mastic	NAD
5-A	Cooridor to Gym	Beige with black dot 12"x12" vinyl floor tile-Tile	NAD
5-B	Cooridor to Gym	Beige with black dot 12"x12" vinyl floor tile-Mastic	NAD
6-A	Cooridor to Gym	Beige with black dot 12"x12" vinyl floor tile-Tile	NAD
6-B	Cooridor to Gym	Beige with black dot 12"x12" vinyl floor tile-Mastic	NAD

Table Notes:
Bold = Asbestos-Containing Materials
N/A = Not Analyzed
None Detected = No Asbestos Detected

Appendix III: Laboratory Report(s)

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP TESTING NVLAP LAB CODE 200664-0

INDUSTRIAL HYGIENE ISO/IEC 17025:2017 Accredited Laboratory AIHA LAP, LLC AIHAACCREDITEDLABS.ORG Lab ID # 173190

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Lauren Kesslak

Project: Cora Kelly School for Math, Science, and Technology/ 47:11652-E2

Lab Order ID: 71978748
Analysis ID: 71978748_PLM
Date Received: 11/5/2021
Date Reported: 11/10/2021

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
1 *71978748PLM_1*	Gray Sink Undercoating	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Crushed, Ashed
2 *71978748PLM_2*	Gray Sink Undercoating	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Crushed, Ashed
3 - A *71978748PLM_3*	Gray with black dot 12"x12" vinyl floor tile *tile*	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Crushed
3 - B *71978748PLM_7*	Gray with black dot 12"x12" vinyl floor tile *mastic (very small smaple)*	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Crushed
4 - A *71978748PLM_4*	Gray with black dot 12"x12" vinyl floor tile *tile*	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Crushed
4 - B *71978748PLM_8*	Gray with black dot 12"x12" vinyl floor tile *mastic (very small smaple)*	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Crushed
5 - A *71978748PLM_5*	Beige with black dot 12"x12" vinyl floor tile *tile*	**None Detected**		**100% Other**	Grayish, Tan Non Fibrous Homogeneous Crushed
5 - B *71978748PLM_9*	Beige with black dot 12"x12" vinyl floor tile *mastic*	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Crushed

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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Lachlan Krenz (10)

Analyst

Approved Signatory

P-F-002 r15 1/16/2021

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP TESTING
NVLAP LAB CODE 200664-0

AIHA ACCREDITED LABS.ORG
Lab ID # 173190

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Lauren Kesslak

Project: Cora Kelly School for Math, Science, and Technology/ 47:11652-E2

Lab Order ID: 71978748
Analysis ID: 71978748_PLM
Date Received: 11/5/2021
Date Reported: 11/10/2021

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
6 - A	Beige with black dot 12"x12" vinyl floor tile	None Detected		100% Other	Grayish, Tan Non Fibrous Homogeneous
71978748PLM_6	*tile*				Crushed
6 - B	Beige with black dot 12"x12" vinyl floor tile	None Detected		100% Other	Beige Non Fibrous Homogeneous
71978748PLM_10	*mastic*				Crushed

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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Lachlan Krenz (10)

Analyst

Approved Signatory

1918748

Client:	ECS Mid-Atlantic, LLC	***Instructions:***
Contact:	Lauren Kesslak	*Use Column "B" for your contact info*
Address:	14026 Thunderbolt Place, Suite	
Phone:	(703)-471-8400	*To See an Example Click the bottom Example Tab.*
Fax:		
Email:	Lkesslak@ecslimited.com	***Enter samples between "<<" and ">>" Begin Samples with a "<< "above the first sample and end with a ">>" below the last sample.***
Project:	Cora Kelly School for Math, Science	
Client Notes:		*Only Enter your data on the first sheet "Sheet1"*
	Positive Stop	
P.O. #.		*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.*
Date Submitted:	10/28/2021 0:00	
Analysis:	PLM EPA 600/R-93/116	
TurnAroundTime:	3 day TAT	

Scientific Analytical Institute

4604 Dundas Drive
Greensboro, NC 27407
Phone: 336.292.3888
Fax: 336.292.3313
Email: lab@sailab.com

Sample Number	Data 1	Sample Description	Data 2
<<			
1		Gray Sink Undercoating	Classroom 18
2		Gray Sink Undercoating	Classroom 18
3		Gray with black dot 12"x12" vinyl floor tile	Cooridor to gym
4		Gray with black dot 12"x12" vinyl floor tile	Cooridor to gym
5		Beige with black dot 12"x12" vinyl floor tile	Cooridor to gym
6		Beige with black dot 12"x12" vinyl floor tile	Cooridor to gym
>>			

Accepted ☒

Rejected ☐

BKelley 14/5 10:30pm

Relinquished By

Received By

Appendix IV: Certifications/ Licenses

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2022

NUMBER
3303004832

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS
ASBESTOS INSPECTOR LICENSE

ZACHARY DAVID HARRELL
1927 N CAMERON ST
ARLINGTON, VA 22207

DPOR

Mary Broz-Vaughan, Director

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DPOR-LIC (02/2017)

(DETACH HERE)

DPOR COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS
ASBESTOS INSPECTOR LICENSE
NUMBER: 3303004832 EXPIRES: 12-31-2022

ZACHARY DAVID HARRELL
1927 N CAMERON ST
ARLINGTON, VA 22207

(FOLD)

Status can be verified at http://www.dpor.virginia.gov

DPOR-PC (02/2017)

Appendix V: AHERA ACBM and Suspect ACBM Categories Document

AHERA ACBM and Suspect ACBM Categories

(1) Damaged or significantly damaged thermal system insulation ACM:

- (1) Means thermal system insulation ACM on pipes, boilers, tanks, ducts, and other thermal system insulation equipment where the insulation has lost its structural integrity, or its covering, in whole or in part, is crushed, water stained, gouged, punctured, missing, or not intact such that it is not able to contain fibers. Damage may be further illustrated by occasional punctures, gouges or other signs of physical injury to ACM; occasional water damage on the protective coverings/jackets; or exposed ACM ends or joints. Asbestos debris originating from the ACBM in question may also indicate damage.

(2) Damaged friable surfacing ACM:

- (2) Means friable surfacing ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or which has delaminated such that its bond to the substrate (adhesion) is inadequate, or which, for any other reason, lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.

(3) Significantly damaged friable surfacing ACM:

- (3) Means damaged friable surfacing ACM in a functional space where the damage is extensive and severe.

(4) Damaged or significantly damaged friable miscellaneous ACM:

- (4) Means friable miscellaneous ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or, if applicable, which has delaminated such that its bond to the substrate (adhesion) is inadequate or which for any other reason lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.

(5) ACBM with potential for damage:

- (5) Means circumstances in which:

    - (1) Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal activities.

- (2) There are indications that there is a reasonable likelihood that the material or its covering will become damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage.

(6) ACBM with potential for significant damage:

- (6) Means circumstances in which:

  - (1) Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal activities.

  - (2) There are indications that there is a reasonable likelihood that the material or its covering will become significantly damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage.

  - (3) The material is subject to major or continuing disturbance, due to factors including, but not limited to, accessibility or, under certain circumstances, vibration or air erosion.

(7) Any remaining friable ACBM or friable suspected ACBM:

- (1) Means any remaining friable ACBM or friable Suspected ACBM in a building.

DPOR License Lookup License Number 3303004273

License Details

Name	KESSLAK, LAUREN ELIZABETH
License Number	3303004273
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	ANNAPOLIS, MD 21401
Initial Certification Date	2017-05-25
Expiration Date	2022-05-31

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DPOR License Lookup build 1,444 (built 2021-08-04 03:00:51).

Appendix VI: Previous Reports

April 11, 2017

Mr. Derrick Fulcher
Alexandria City Public Schools
1340 Braddock Place
Alexandria, Virginia 22314

ECS Project No. 47:1519-D

Reference: AHERA Management Plan, Cora Kelly Elementary School, 3600 Commonwealth Avenue, Alexandria, Virginia

Dear Mr. Fulcher:

ECS Mid-Atlantic, LLC (ECS), is pleased to provide Alexandria City Public Schools (ACPS) with an AHERA Management Plan for the Cora Kelly Elementary School. This work was performed in general conformance with ECS Proposal No. 47:1750-EP2, dated October 19, 2016 and ACPS Purchase Order Number 17003633. This Management Plan contains the asbestos survey results, procedures for managing the asbestos-containing materials in place, procedures for asbestos removal, and other documentation regarding asbestos-containing materials located within the school building. It is our understanding that asbestos removal and replacement procedures will be performed by asbestos abatement contractors rather than training in-house personnel to perform these tasks. The Management Plan has been modified to these conditions.

ECS appreciates this opportunity to provide these services. If we can be of further assistance to you, please do not hesitate to contact us.

Respectfully,

ECS MID-ATLANTIC, LLC

Beverly Sedon
Senior Environmental Project Manager

Diana Krass-Hofmann
Senior Industrial Hygiene Manger

I:_e-projects\1501-1600\1519-D ACPS 3 YR AHERA - O&M Plans\Cora Kelly\MMP\Cora Kelly Management Plan.doc

14026 Thunderbolt Place, Suite 100, Chantilly, VA 20151-3296 • T: 703-471-8400 • F: 703-834-5527 • www.ecslimited.com
ECS Capitol Services, PLLC • ECS Florida, LLC • ECS Mid-Atlantic, LLC • ECS Midwest, LLC • ECS Southeast, LLP • ECS Texas, LLP

APPENDIX A

PREVIOUS REPORTS

CORA KELLY SCHOOL

Asbestos Sampling

A summary of materials found to contain asbestos or assumed to contain asbestos can be found in Table 1. A list of materials sampled and tested for asbestos content can be found in Table 3.

TABLE 1
ASBESTOS-CONTAINING MATERIALS SUMMARY

Location	Material	Friability
REPORTED ON PRIOR SURVEYS		
Copy Room (Assumed above Drop Ceiling Tiles in other Areas)	White Surfacing Trowel Ceiling * (above Drop Ceiling Tiles)	Friable
Art Room 36 and Room 32 (Assumed under Existing Flooring Materials in other Areas)	9” x 9” Green with Black Trim Floor Tile and associated Mastic (Assumed under Existing Flooring Materials)	Category I Non-Friable
Cafeteria HVAC Room and Janitor’s Closet by Clinic (Assumed in other Areas)	9” x 9” Red and White Floor Tile and associated Mastic **	Category I Non-Friable
Cafeteria HVAC Room and Janitor’s Closet by Clinic (Assumed in other Areas)	12” x 12” Green Floor Tiles and associated Mastic **	Category I Non-Friable
Hallways (Observed in other Areas)	Fire Door Insulation	Friable
Media Storage AHU#2 (Mechanical Room inside Tech Room) (Assumed in other Areas)	Surfacing Trowel on Ceiling	Friable
Classrooms	Black “Transite” Window Sill	Category II Non-Friable

Location	Material	Friability
SAMPLED BY ECS IN NOVEMBER 6, 2013		
Classrooms 29, 41 and 45 (Assumed under Carpet in other Areas)	Beige Floor Tile and associated Black Mastic (under Carpet)	Category I Non-Friable
Mechanical Room (Assumed in other Areas)	12" x 12" Beige Flecked Floor Tile and associated Black Mastic **	Category I Non-Friable
Custodial Closet between Restrooms (Assumed behind Walls and above Hard Ceilings in other Areas)	Air-Cell Pipe Insulation *** (behind Degraded Plaster Wall)	Friable
Classroom 33 (Assumed under Carpet in other Areas)	Maroon Floor Tile and associated Black Mastic (under Carpet)	Category I Non-Friable
Classrooms 11, 28 and 30 (Assumed under Carpet in other Areas)	Black Floor Tile and associated Black Mastic (under Carpet)	Category I Non-Friable
MATERIALS ASSUMED TO CONTAIN ASBESTOS ****		
Throughout Building	Interior Pipe Wrap associated with Water Fountains and Radiators	Category II Non-Friable
Throughout Building	12” x 12” Floor Tiles and associated Mastic (Various Colors)	Category I Non-Friable
Classrooms 11-18	“Transite” Boards/Panels (beneath windows)	Category II Non-Friable
Throughout Building	Pin Mastic associated with Fiberglass Duct Insulation	Category II Non-Friable
Classrooms	Chalkboards and associated Mastics	Category II Non-Friable

Location	Material	Friability
Hallways	Boards and associated Mastics	Category II Non-Friable
Pipes within chases behind walls and above ceiling throughout the building	Thermal System Insulation (TSI)	Friable
Throughout Building	Pipe Flange Gaskets	Unknown
Mechanical Rooms	Electric Panels: Transite Components	Category II Non-Friable
Bathrooms	Mirror Mastics	Category II Non-Friable
Behind Interior Finishes, Exterior Veneer and/or Subgrade Walls, and under Ceramic Flooring	Waterproofing Membranes/Mastics	Category II Non-Friable
Throughout Building	Gypsum Roof Boards*****	Category II Non-Friable
Roof	Asphalt-Based Roofing Materials and Caulks/Sealants	Non-Friable

Notes: * This material was observed to be damaged in the above listed location. Debris associated with this material was observed on top of the drop ceiling tiles.
** Missing floor tiles were observed in the above listed locations.
*** Degraded plaster wall was observed at the above listed sampling location.
**** These materials, if present, could not be reached at the time of the survey. These materials should be presumed to be asbestos-containing materials (ACMs).
***** Water staining and damage condition was observed on this material.

Physical Assessment

A summary of the physical assessment category for each identified and presumed friable ACM can be found in Table 2.

TABLE 2
PHYSICAL ASSESSMENT OF FRIABLE
ASBESTOS CONTAINING MATERIALS

Location	Material	Physical Assessment Category
Copy Room	White Surfacing Trowel Ceiling (above Drop Ceiling Tiles)	2 – Damaged Friable Surfacing ACBM
Hallways (Observed in other Areas)	Fire Door Insulation	7 – Any Remaining Friable ACBM
Media Storage AHU#2 (Mechanical Room inside Tech Room)	Surfacing Trowel on Ceiling	5 – ACBM with Potential for Damage
Custodial Closet between Restrooms	Air-Cell Pipe Insulation	6 – ACBM with Potential for Significant Damage

Recommendations

1) The following friable material was observed damaged and should be repaired or removed by a Commonwealth of Virginia licensed asbestos abatement contractor:
   - White surfacing trowel ceiling (above drop ceiling tiles) in the copy room.

2) Debris from the above listed friable asbestos-containing material observed on top of the drop ceiling tiles should be considered asbestos-contaminated and should be removed by a Commonwealth of Virginia licensed asbestos abatement contractor.

3) Cracking and missing identified asbestos-containing floor tiles were observed in the cafeteria HVAC room, janitor's closet by the clinic and mechanical room. Identified asbestos-containing floor mastics were observed to be exposed in those areas. Any damaged or missing floor tile should be replaced as soon as possible to avoid future damage to the asbestos containing floor mastics.

4) Degraded wall plaster was observed in the custodial closet between restrooms, exposing identified asbestos-containing air cell pipe insulation. This material is considered friable and was observed intact; however, it may become damaged due to the degraded condition observed in the sampling location. Degraded plaster wall should be patched as soon as possible to avoid future damage to the asbestos

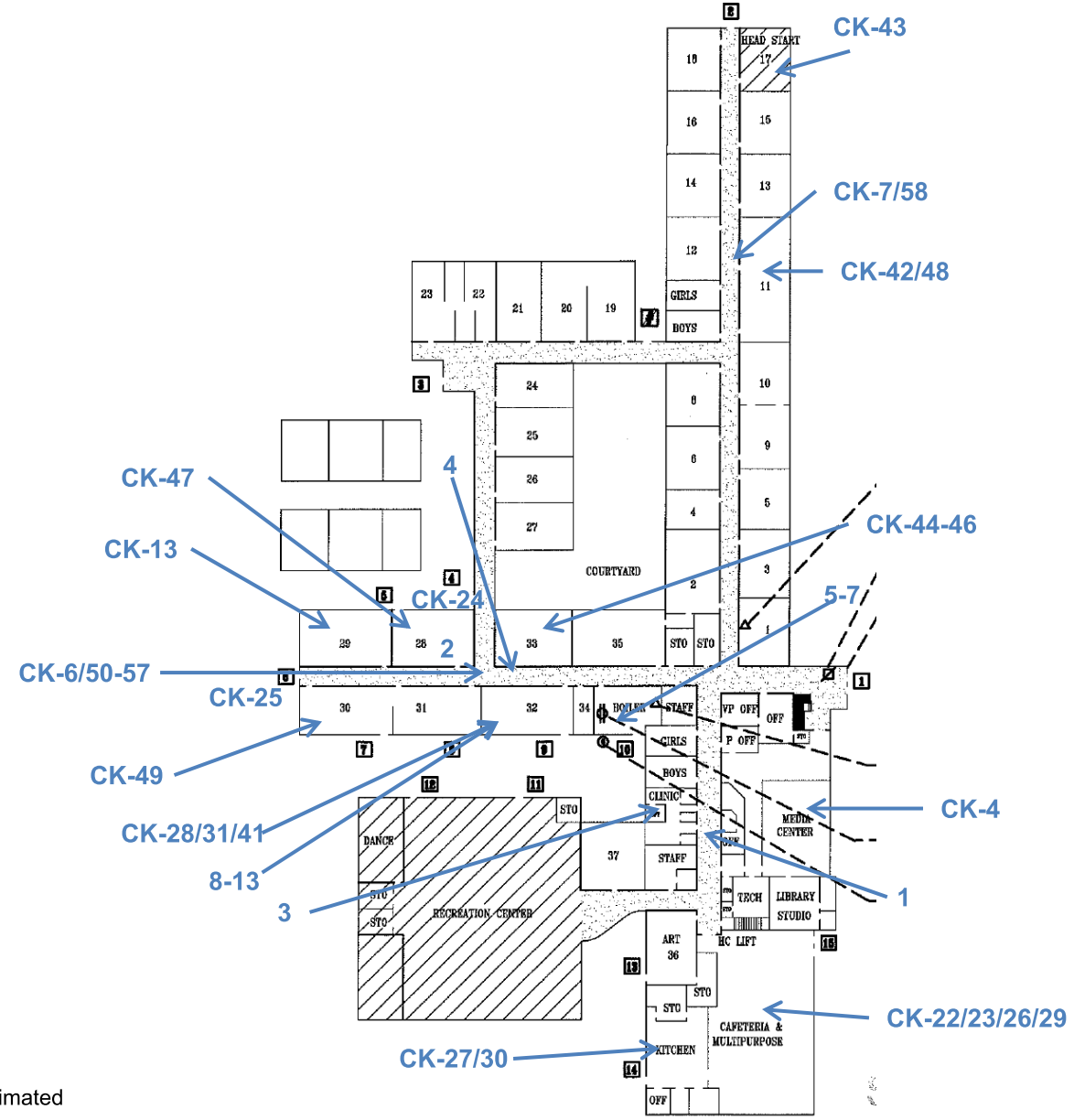
containing air cell pipe insulation. Water intrusion, if any, which may cause the degraded condition, should be repaired.

5) The presumed asbestos-containing gypsum roof boards were observed to be water stained and damaged throughout the building. This material is considered non friable. It is recommended to sample and analyze for asbestos content by a Commonwealth of Virginia licensed asbestos inspector. Until sampling, debris from this material should be considered as asbestos-contaminated and removed or repair by personnel designated by the School and trained in Operations & Maintenance asbestos activities. Sampling of this material requires proper lifting equipment or roofing penetrations.

APPENDIX B

FLOOR PLANS

1st FL



Legend
- Sample Number

Notes
1. Sample Locations are estimated

CORA KELLY
3600 COMMONWEALTH AVE.
ALEXANDRIA, VIRGINIA

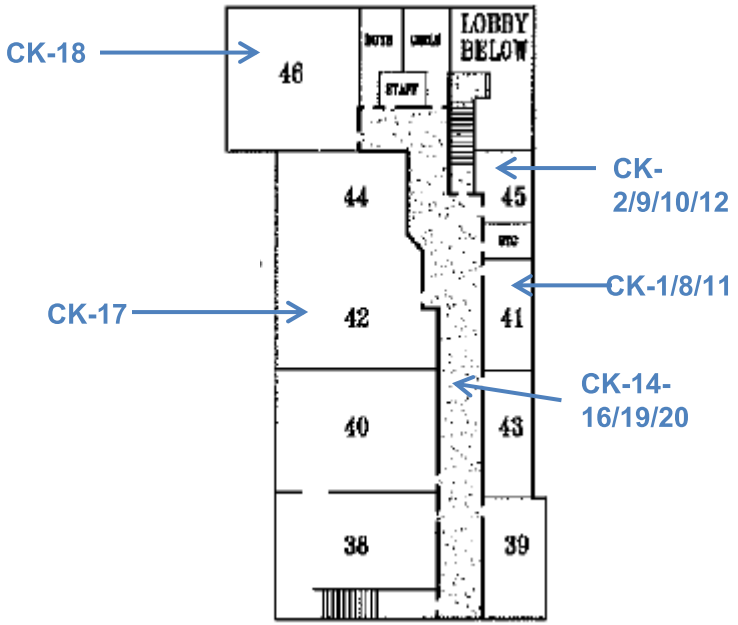
SAMPLING LOCATIONS
ACPS

SCALE NTS

Project No. 47:1519-D

Date 3/31/2017

2nd FL



Legend
- Sample Number

Notes
1. Sample Locations are estimated

CORA KELLY
3600 COMMONWEALTH AVE.
ALEXANDRIA, VIRGINIA

SAMPLING LOCATIONS
ACPS

SCALE NTS

Project No. 47:1519-D

Date 3/31/2017

APPENDIX C

ASBESTOS SUMMARY TABLES

CORA KELLY MAGNET ELEMENTARY SCHOOL
ACPS ASBESTOS CONTAINING MATERIALS SUMMARY

Updated as of December 30, 2016

MATERIAL	LOCATION	FRIABILITY	CONDITION	COMMENTS	LAST INSPECTION DATE	RECOMMENDATION	SEMI-ANNUAL INSPECTION DATE	REMARKS
MATERIALS REPORTED AS ASBESTOS-CONTAINING MATERIALS ON PRIOR SURVEYS								
White Surfacing Trowel Ceiling	Copy Room	F	Damaged	Not Observed	30-Dec-16	Maintain in O & M Plan		Verify Removal
9' x 9" Green With Black Trim Floor Tiles and associated Mastic	Art Room 36, Music Room, and Room 32	NF	Intact	Assumed existing under existing flooring materials	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
9" x 9" Red and White Floor tiles and associated Mastic	Cafeteria HVAC Room and Janitors Closet	NF	Could not Observed	Damaged	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
Fire Doors	Hallways	F	Intact	Observed in other areas	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
12" x 12" Green Floor Tiles and associated Mastic	Janitor's Closet By Clinic	NF	Intact	9" x 9" Floor tile was also observed in this area.	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
Surfacing Trowel on Ceiling	Media Storage AHU#2 (Mechanical Room inside Tech Room)	F	Intact	Assumed to be in other areas	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
Black Transite Window Sill	Classrooms	NF	Intact	This material may be located on other areas of the building	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
MATERIALS REPORTED AS ASBESTOS-CONTAINING MATERIALS ON PRIOR SURVEYS THAT WERE NOT IDENTIFIED/OBSERVED BY ECS IN NOVEMBER 6, 2013 SURVEY								
TSI-Pipe Lagging	Boiler Room Crawl Space 1-7	F	Could not Observed	This material is reported as ACM; it was not observed in this area.	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
9' x 9" Green With Black Trim Floor Tiles and associated Mastic	Boiler Storage	NF	N/A	This material is reported as ACM; it was not observed in this area.	30-Dec-16	Maintain in O & M Plan		Not observed - Verify removal
Cinder Block Expansion Caulk	Throughout Building	NF	N/A	This material was reported as PACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
Surfacing Trowel on Ceiling	Media Storage AHU#2	F	N/A	This material was reported as ACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
1' x 1' Ceiling Tiles and associated Tiles	Above 2' x 4' Ceiling Tiles on the 1st Floor	NF	N/A	This material was reported as PACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed

CORA KELLY MAGNET ELEMENTARY SCHOOL
ACPS ASBESTOS CONTAINING MATERIALS SUMMARY

MATERIAL	LOCATION	FRIABILITY	CONDITION	COMMENTS	LAST INSPECTION DATE	RECOMMENDATION	SEMI-ANNUAL INSPECTION DATE	REMARKS
ASBESTOS CONTAINING MATERIALS SAMPLED BY ECS IN NOVEMBER 6, 2013 SURVEY								
Beige Floor Tile and associated Black Mastic	Classroom 29, 41 , and 45 (under Carpet)	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: Floor Tile - 5% Chrysotile Mastic - 8% Chrysotile
12" x 12" Beige Flecked Floor Tile and associated Black Mastic	Mechanical Room	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: Floor Tile - 5% Chrysotile Mastic - 5% Chrysotile
Air-Cell Pipe Insulation	Custodial Closet between Restrooms (Assumed behind Walls and above Hard Ceilings in other Areas)	F	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: 35% Chrysotile
Maroon Floor Tile and associated Black Mastic	Classroom 33 (under Carpet)	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: Floor Tile - 8% Chrysotile Mastic - 4% Chrysotile
Black Floor Tile and associated Mastic	Classroom 11, 28, and 30 (under Carpet)	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: Floor Tile - 6% Chrysotile Mastic - 5% Chrysotile
ASBESTOS CONTAINING MATERIALS SAMPLED BY ECS IN DECEMBER 30, 2016 SURVEY								
White Ceramic Chair Rail Caulk	1st Floor Hall by Clinic	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: 3% Chrysotile
Multiple Layered Door Caulk	1st Floor Hall by Room 32	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: 5% Chrysotile
Gray Drywall Joint Compound (behind Plaster Wall)	Room 32 (Beneath Several Wall Systems)	F	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: 3% Chrysotile
MATERIALS ASSUMED TO CONTAIN ASBESTOS								
Cinder Block Expansion Caulk	Throughout Building	NF	N/A	This material was reported as PACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
Surfacing Trowel on Ceiling	Media Storage AHU#2	F	N/A	This material was reported as ACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
1' x 1' Ceiling Tiles and associated Tiles	Above 2' x 4' Ceiling Tiles on the 1st Floor	NF	N/A	This material was reported as PACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
Window and Door Caulk	Throughout Building	NF	Intact	Some door and window caulking were sampled as NAD. This material may be present in other areas.	30-Dec-16	Maintain in O & M Plan		None
Plaster Walls	Throughout Building	F	Intact	Sampled as NAD by ECS.	30-Dec-16	Remove from O & M Plan		None

CORA KELLY MAGNET ELEMENTARY SCHOOL
ACPS ASBESTOS CONTAINING MATERIALS SUMMARY

MATERIAL	LOCATION	FRIABILITY	CONDITION	COMMENTS	LAST INSPECTION DATE	RECOMMENDATION	SEMI-ANNUAL INSPECTION DATE	REMARKS
Floor Tiles and associated Mastic	Storage Room	NF	Intact	PACM until tested	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
12" x 12" Floor Tiles and associated Mastic (Various Colors)	Throughout Building	NF	Intact	PACM until tested	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
Transite Boards/Panels under the Windows	Room 11 - 18	NF	Intact	PACM until tested	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
4" Cove Base and associated Mastic	Throughout Building	NF	Intact	Various types of cove base and associated mastic were sampled as NAD by ECS.	30-Dec-16	Removed from O & M Plan		None
6" Black and Grey Cove base	Throughout Building	NF	Intact	Various types of cove base and associated mastic were sampled as NAD by ECS.	30-Dec-16	Removed from O & M Plan		None
Pin Mastic associated with Fiberglass Duct Insulation	Throughout Building	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Pipe Flange Gaskets	Throughout the Building	Unknown	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Electrical Panels: Transite Components	Mechanical Rooms	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Thermal System Insulation	Throughout building behind Solid Walls and Ceiling	F	Not Observed	PACM Until Tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Floor Felt under Wood Flooring	Stage or Throughout the Building	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Mirror Mastic	Bathrooms	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Chalkboards and associated Mastics	Classrooms	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Interior Pipe Wrap associated with Water Fountains and Radiators	Throughout the Building	F	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Waterproofing Membranes/Mastics	Behind Interior Finishes, Exterior Veneer and/or Subgrade Walls, and Under Ceramic Flooring	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Asphalt-Based Roofing Material and Caulks/Sealants	Roof	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed

CORA KELLY MAGNET ELEMENTARY SCHOOL
ACPS ASBESTOS CONTAINING MATERIALS SUMMARY

MATERIAL	LOCATION	FRIABILITY	CONDITION	COMMENTS	LAST INSPECTION DATE	RECOMMENDATION	SEMI-ANNUAL INSPECTION DATE	REMARKS
NON-ASBESTOS CONTAINING MATERIALS SAMPLED BY ECS IN NOVEMBER 6, 2013 SURVEY								
Plaster Wall/Ceiling	Classroom 41 & 45, Mechanical Room, Media Room, Custodial Closet, and Hallway between Classrooms 11-17 & 28-35	N/A	N/A	N/A	N/A	N/A	N/A	Finish - NAD Base - NAD
Black Waterproofing/Tar	Classroom 41 & 45	N/A	N/A	N/A	N/A	N/A	N/A	Floor Tile - NAD
White Mastic on Fiberglass Duct Insulation	Hallway on the 2nd Floor	N/A	N/A	N/A	N/A	N/A	N/A	NAD
White Interior Window Caulk	Hallway on the 2nd Floor and Classrooms 42 & 46	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Black Interior Window Caulk	Hallway on the 2nd Floor, Cafeteria, and Classrooms 33	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Black Interior Door Caulk	Cafeteria and Exit Doors 4 & 6	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Drywall	Kitchen, Cafeteria, and Classroom 32	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Joint Compound	Kitchen, Cafeteria, and Classroom 33	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Brown Mastic associated with 6" Tan Cove Base	Mechanical Room	N/A	N/A	N/A	N/A	N/A	N/A	NAD
1' x 1' White Pinhole Ceiling Tile	Classrooms 11, 17, & 32	N/A	N/A	N/A	N/A	N/A	N/A	NAD
1' x 1' White Fissured Ceiling Tile	Hallway between Classrooms 28-35	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Black Glue Dot associated with 1' x 1' White Fissured Ceiling Tile	Hallway between Classrooms 28-35	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Brown Glue Dot associated with 1' x 1' White Fissured Ceiling Tile	Hallway between Classrooms 11 & 28-35	N/A	N/A	N/A	N/A	N/A	N/A	NAD
NON-ASBESTOS CONTAINING MATERIALS SAMPLED BY ECS IN DECEMBER 30, 2016 SURVEY								
Rough Plaster Ceiling	1st Floor Boiler Room	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Tan Drywall Wall Board	1st Floor Room 32 (Above Windows)	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Gray Drywall Wall Board	1st Floor Room 32 (Behind Plaster Walls)	N/A	N/A	N/A	N/A	N/A	N/A	NAD

Notes: F = Friable; NF = Non-Friable; PACM = Presumed Asbestos Containing Material; O & M Plan = Operations and Maintenance Plan; NAD = No Asbestos Detected and NA = Not Applicable.

TABLE 1

BULK SAMPLING OF SUSPECT ASBESTOS-CONTAINING MATERIALS

Sample #	Sampling Location	Material/Description	Analytical Results
1	**Cora Kelly-1st Floor Hall by Clinic**	**White Ceramic Chair Rail Caulk**	**Asbestos: 3% Chrysotile**
2	Cora Kelly-1st Floor Hall by Room 32	White Ceramic Chair Rail Caulk	N/A
3	**Cora Kelly-1st Floor Clinic**	**Multiple Layered Door Caulk**	**Asbestos: 5% Chrysotile**
4	Cora Kelly-1st Floor Room 32	Multiple Layered Door Caulk	N/A
5	Cora Kelly-1st Floor Boiler Room	Troughed-On Rough Plaster Ceiling	NAD
6	Cora Kelly-1st Floor Boiler Room	Troughed-On Rough Plaster Ceiling	NAD
7	Cora Kelly-1st Floor Boiler Room	Troughed-On Rough Plaster Ceiling	NAD
8	Cora Kelly-1st Floor Room 32	Tan Drywall Wall Board above Windows	NAD
9	Cora Kelly-1st Floor Room 32	Tan Drywall Wall Board above Windows	NAD
10	Cora Kelly-1st Floor Room 32	Gray Drywall Wall Board behind Plaster Wall	NAD
11	Cora Kelly-1st Floor Room 32	Gray Drywall Wall Board behind Plaster Wall	NAD
12	**Cora Kelly-1st Floor Room 32**	**Gray Drywall Joint Compound behind Plaster Wall**	**Asbestos: 3% Chrysotile**
13	**Cora Kelly-1st Floor Room 32**	**Gray Drywall Joint Compound behind Plaster Wall**	**Asbestos: 3% Chrysotile**

Table Notes:
NAD = No Asbestos Detected
N/A = Sample Not Analyzed; Positive Stop
Bold = Asbestos-Containing Materials

APPENDIX D

GLOSSARY

APPENDIX Q

HISTORICAL INFORMATION

COMMONWEALTH of VIRGINIA

DEPARTMENT OF EDUCATION
P.O. BOX 6Q
RICHMOND 23216-2060

April 10, 1990

Mr. William A. Simms
LEA AHERA Designee
3801 W. Braddock Road
Alexandria, VA 22302

Re: **Management Plans Rec'd:** 5/1/88
Division: Alexandria City Public Schools (101)

Dear Mr. Simms:

Enclosed is a listing of schools that you have submitted to the Department of Education for review. We have found the management plans for these schools to be complete and include the items listed on our review checklist.

Please insert a copy of this letter in each management plan to indicate that we find the plan complete. Your management planner should also be informed that our review is complete.

Sincerely,

David L. Boddy
Associate Director
Energy and Facilities Services

DLB:gmh

Enclosure(s)

Virginia Department of Education
AHERA Review Report

StateID	School Name	Address	City	Management Status Complete	Incomplete
** For Divison of: (101) ALEXANDRIA					
1010191	ALEXANDRIA DEV CENTER	5651 RAYBURN AVE.	ALEXANDRIA	6/15/89 FB	
1010120	CHARLES BARRETT ELEM.	1115 MARTHA CUSTIS DR.	ALEXANDRIA	6/15/89 FB	
1010160	CORA KELLY MAGNET ELEM.	3600 COMMONWEALTH AVE.	ALEXANDRIA	6/15/89 ICR	
1010110	DOUGLAS MACARTHUR ELEM.	1101 JANNEY'S LN.	ALEXANDRIA	6/15/89 ICB	
1010170	FRANCIS C HAMMOND JR. HI.	4646 SEMINARY RD.	ALEXANDRIA	6/15/89 FB	
1010100	GEORGE MASON ELEM.	2601 CAMERON MILLS RD.	ALEXANDRIA	6/15/89 FB	
1010010	GEORGE WASHINGTON JR. HI.	1005 MT. VERNON AVE.	ALEXANDRIA	6/15/89 MLG	
1010220	JAMES K. POLK ELEM.	5000 POLK AVE.	ALEXANDRIA	6/12/89 FB	
1010090	JEFFERSON HOUSTON ELEM.	1501 CAMERON ST.	ALEXANDRIA	6/15/89 ICB	
1010230	JOHN ADAMS ELEM.	5651 RAYBURN AVE.	ALEXANDRIA	2-22-90 DB	
1010080	LYLES-CROUCH ELEM.	530 S. ST. ASAPH ST.	ALEXANDRIA	6/12/89 FB	
1010060	MAURY ELEM.	600 RUSSELL RD.	ALEXANDRIA	6/15/89 ICR	
1010030	MOUNT VERNON ELEM.	2601 COMMONWEALTH AVE.	ALEXANDRIA	12/20/89 CLS	
1010050	PATRICK HENRY ELEM.	4643 TANEY AVE.	ALEXANDRIA	6/15/89 MLG	
1010000	ROWING FACILITY	1 MADISON STREET	ALEXANDRIA	6/15/89 MLG	
1010150	SEC. MINNIE HOWARD ADMIN.	3801 BRADDOCK RD.	ALEXANDRIA	6/15/89 MLG	
1010210	T. C. WILLIAMS HIGH	3330 KING ST.	ALEXANDRIA	6/15/89 MLG	
1010190	WILLIAM RAMSAY ELEM.	5700 SANGER AVE.	ALEXANDRIA	6/15/89 MLG	
1010001	WORK SHOPS	3540 WHEELER AVE.	ALEXANDRIA	6/12/89 FB	



A.F. Meyer and Associates, Inc.

Cora Kelly Magnet School
Alexandria, Virginia

Management Plan
for
Asbestos Containing
Building Materials

Environmental, System Safety, and Occupational Health Consultants

Virginia Department of Education
Energy and Facilities Services

AHERA MANAGEMENT PLAN COVER SHEET

LEA: Alexandria City Public Schools
Address: 3801 W. Braddock Road
Alexandria, VA 22302
County: City of Alexandria
Phone: 1-703-998-2102

Management Plan Submission: [X] Original [ ] Resubmittal [ ] Building Occupied After Oct. 12, 1988

List of Documents Attached:

- [X] A School Buildings
- [ ] B Previous Inspections
- [X] C Determination of Sampling Locations
- [X] D Description of Each Sample Area
- [X] E Bulk Sample Analysis
- [X] F Assessment of Materials
- [X] G Response Actions Recommended
- [X] H Preventive Measures and Response Actions Scheduled
- [X] I Operations and Maintenance Plan
- [X] J Resources Needed
- [X] K Steps to Inform Others
- [X] L Periodic Surveillance Plan
- [X] M Reinspection Plan

LEA AHERA DESIGNEE

Typed Name: William A. Simms
Mailing Address: 3801 W. Braddock Road
Alexandria, VA 22302
Phone: Office 823-9666 Home 836-7565

Name of Training Course: Inspection (3 Days) Supervision (1 Day)
Year 88 Month 10 Day 3-6 Total Hours of Course 48
Name of Training Agency: Biospherics Inc.

MANAGEMENT PLANNER - I certify as a management planner that I have prepared or assisted in the preparation of such plan or have reviewed such plan, and that such plan is in compliance with 40 CFR Part 763 subpart E

Typed Name: Michael B. Wigenton Signature: Michael B Wigenton

Accreditation Number: 8802-02-127 Agency: Tufts University

For persons who performed inspections, and recommend(ed) design, or carry out response actions (except for operations and maintenance) the local education agency used or will use persons who have been accredited by a state which has adopted a contractor accreditation plan under section 206(b) of Title II of the Act or is accredited by an EPA-approved course under section 206(c) of the Title II of the Act. In addition, the LEA has considered whether any conflict of interest may arise from the interrelationship among accredited personnel, such as abatement activities being performed by an inspector or management planner, and whether that should influence the selection of accredited personnel to perform activities under this AHERA program.

The signatories below certify that the general local education agency responsibilities, as stipulated by Part 763.84 have been met or will be met.

Signature: William A. Simms
LEA AHERA Designee
Date: 4-28-89

Signature: Paul W. Mason
LEA Superintendent
P.W. Mason
Typed Name of Superintendent
Date: 4-28-89

FOR REVIEWING AGENCY USE ONLY

[ ] Reviewed
[ ] Returned for Reasons Stated Below

State I.D.#

Reviewer's Signature

Date:

PHOTOCOPYING PERMITTED

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E T E R M I N A T I O N O F
S A M P L I N G L O C A T I O N S

DISCUSSION ON SELECTION OF HOMOGENEOUS AREAS:

Homogeneous areas identified in this report are those areas that a US EPA AHERA trained and accredited, Virginia licensed, inspector has established as an association of common features or elements among surfacing materials, thermal system materials, or miscellaneous material that is uniform in color and texture, was likely installed during the same timeframe, and is unlikely to consist of more than one type or formulation of material. In addition, functional space was considered in assigning the boundaries of the homogeneous area by virtue of the similarities or dissimilarities of material assessment factors as described in DOCUMENT F.

The Following Homogeneous Areas were Identified:

Homogeneous Area Name: Acoustical ceiling tile, 2' x 4', serpentine
Homogeneous Area ID Number: M01
Field Documents:
Estimated Amount of Material: 0
Sample Area : ACCKSA03
Homogeneous Area:
Photograph :

Homogeneous Area Name: Floor tile, 12" x 12", gray, surrounds gym floor
Homogeneous Area ID Number: M02
Field Documents:
Estimated Amount of Material: 0
Sample Area : ACCKSA03
Homogeneous Area:
Photograph :

Homogeneous Area Name: Transite board ceiling in gym and outdoor play area
Homogeneous Area ID Number: M03
Field Documents:
Estimated Amount of Material: 8,000 SF
Sample Area : ACCKSA01
Homogeneous Area: ACCKHA01 ACCKHA03
Photograph :

REMOVED

Inspector: Mike Wigenton
Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E T E R M I N A T I O N O F
S A M P L I N G L O C A T I O N S

The Following Homogeneous Areas were Identified:

Homogeneous Area Name: Homogeneous Area ID Number: M04
Acoustical ceiling tile 12"x12" evenly spaced holes, throughout building
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01 ACCKSA03
Homogeneous Area:
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: M05
Wall, plaster material
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01 ACCKSA03
Homogeneous Area:
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: M06
Floor tile, 12" x 12", beige
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: M07
Acoustical ceiling tile, 12" x 12", serpentine
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: [signature] Date: 11/01/88
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E T E R M I N A T I O N O F
S A M P L I N G L O C A T I O N S

The Following Homogeneous Areas were Identified:

Homogeneous Area Name: Homogeneous Area ID Number: M08
Floor tile, 9" x 9", green
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: M09
Crawl space debris, entrance through teachers lounge
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: M10
Acoustical ceiling tile, 12" x 12", holes in a random pattern
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA03
Homogeneous Area:
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: M11
Acoustical ceiling tile, 12" x 12", plastic coating, library
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E T E R M I N A T I O N O F
S A M P L I N G L O C A T I O N S

The Following Homogeneous Areas were Identified:

Homogeneous Area Name: Homogeneous Area ID Number: M12
Acoustical ceiling tile, 12" x 12", serpentine, second floor
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: M99
Fire doors
Field Documents: Estimated Amount of Material: ALL
Sample Area :
Homogeneous Area: ACCKHA01 ACCKHA03 ACCKHA04 ACCKHA05
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: T01
Boiler room, 9" pipe elbow, from boiler #1
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA02
Homogeneous Area:
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: T02
Boiler room, 14" straight pipe, horizontal above boiler #1
Field Documents: Estimated Amount of Material: 12 LF
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E T E R M I N A T I O N O F
S A M P L I N G L O C A T I O N S

The Following Homogeneous Areas were Identified:

Homogeneous Area Name: Homogeneous Area ID Number: T03
Boiler room, boiler gasket, at base of all boilers
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA02
Homogeneous Area:
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: T04
Boiler room, 18 square inch duct to boiler #1
Field Documents: Estimated Amount of Material: 30 LF
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: T05
Boiler room, 18" straight pipe to boiler #1
Field Documents: Estimated Amount of Material: 33 LF
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Homogeneous Area Name: Homogeneous Area ID Number: T06
Boiler room, 6" vertical pipe, near boiler #3
Field Documents: Estimated Amount of Material: 3 EA
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Inspector: Mike Wigenton Signature: [signature] Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E T E R M I N A T I O N O F
S A M P L I N G L O C A T I O N S

The Following Homogeneous Areas were Identified:

Homogeneous Area Name:
Boiler room, 6" straight pipe, vertical, near boiler #3
Homogeneous Area ID Number: T07
Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :
Estimated Amount of Material: 36 LF

Homogeneous Area Name:
Gym, 6" pipe elbow, from vertical pipe next to wall
Homogeneous Area ID Number: T08
Field Documents:
Sample Area : ACCKSA03
Homogeneous Area:
Photograph :
Estimated Amount of Material: 0

Homogeneous Area Name:
Crawl space, 6" pipe elbow
Homogeneous Area ID Number: T09
Field Documents:
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :
Estimated Amount of Material: 0

Homogeneous Area Name:
Crawl space, debris, pipe lagging
Homogeneous Area ID Number: T30
Field Documents:
Sample Area : ACCKSA01
Homogeneous Area: ACCKHA04
Photograph :
Estimated Amount of Material: 5 SF

REMOVED

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: [signature] Date: 11/01/88
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Trailer #1 and #2

D E T E R M I N A T I O N O F
S A M P L I N G L O C A T I O N S

The Following Homogeneous Areas were Identified:

Homogeneous Area Name:
Wall, gyp board
Homogeneous Area ID Number: M13
Field Documents:
Estimated Amount of Material: 0
Sample Area : ACCKSA05
Homogeneous Area:
Photograph :

Homogeneous Area Name:
Ceiling plaster
Homogeneous Area ID Number: M14
Field Documents:
Estimated Amount of Material: 0
Sample Area : ACCKSA05
Homogeneous Area:
Photograph :

Homogeneous Area Name:
Floor tile, 12" x 12", beige
Homogeneous Area ID Number: M15
Field Documents:
Estimated Amount of Material: 0
Sample Area : ACCKSA05
Homogeneous Area:
Photograph :

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: Mike Wigenton Date: 11/01/88
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E S C R I P T I O N O F
E A C H S A M P L E A R E A

DISCUSSION ON SELECTION OF SAMPLING LOCATIONS:

After applying standard sampling protocols for miscellaneous, thermal system, and surfacing materials as discussed below, specific sampling locations were chosen by the inspector, considering the following factors: ease in sampling; minimization of excessive or unnecessary damage; homogeneity with the suspect material; low visibility of the location. In certain cases the samples were taken from already damaged areas to document asbestos content of a specific friable and damaged material or for assessment of debris associated with such damage.

The following sections and pages of this DOCUMENT D will discuss the standard sampling protocols followed for each type (miscellaneous, thermal system, surfacing) of material within its designated homogeneous area and list sample locations, and related data corresponding to each homogeneous area. All sampling location diagrams follow this DOCUMENT D.

DISCUSSION ON SELECTION OF MISCELLANEOUS MATERIAL SAMPLES:

Miscellaneous materials include interior building material finishes on structural components, structural members or fixtures. Examples include, floor and ceiling tiles. Friable and non-friable miscellaneous materials are collected from each homogeneous area by an accredited and licensed inspector in a manner sufficient to determine the presence of ACM.

The following miscellaneous materials were sampled:

Homogeneous Area Name: Acoustical ceiling tile, 2' x 4', serpentine
Homogeneous Area ID Number: M01
Field Documents:
Estimated Amount of Material: 0
Sample Area : ACCKSA03
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM01009	04/22/88	ACCKM01021

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E S C R I P T I O N O F
E A C H S A M P L E A R E A

The following miscellaneous materials were sampled:

Homogeneous Area Name: Homogeneous Area ID Number: M02
Floor tile, 12" x 12", gray, surrounds gym floor
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA03
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM02010		

Homogeneous Area Name: Homogeneous Area ID Number: M03
Transite board ceiling in gym and outdoor play area
Field Documents: Estimated Amount of Material: 8,000 SF
Sample Area : ACCKSA01
Homogeneous Area: ACCKHA01 ACCKHA03
Photograph :

REMOVED

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM03011	08/12/88	ACCKM03027

Homogeneous Area Name: Homogeneous Area ID Number: M04
Acoustical ceiling tile 12"x12" evenly spaced holes, throughout building
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01 ACCKSA03
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM04012		

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E S C R I P T I O N O F
E A C H S A M P L E A R E A

The following miscellaneous materials were sampled:

Homogeneous Area Name: Homogeneous Area ID Number: M05
Wall, plaster material
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01 ACCKSA03
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM05013		

Homogeneous Area Name: Homogeneous Area ID Number: M06
Floor tile, 12" x 12", beige
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM06014		

Homogeneous Area Name: Homogeneous Area ID Number: M07
Acoustical ceiling tile, 12" x 12", serpentine
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM07015		

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E S C R I P T I O N O F
E A C H S A M P L E A R E A

The following miscellaneous materials were sampled:

Homogeneous Area Name:
Floor tile, 9" x 9", green

Homogeneous Area ID Number: M08

Field Documents:
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Estimated Amount of Material: 0

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM08016	04/22/88	ACCKM08Q016

Homogeneous Area Name:
Crawl space debris, entrance through teachers lounge

Homogeneous Area ID Number: M09

Field Documents:
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Estimated Amount of Material: 0

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM09017		

Homogeneous Area Name:
Acoustical ceiling tile, 12" x 12", holes in a random pattern

Homogeneous Area ID Number: M10

Field Documents:
Sample Area : ACCKSA03
Homogeneous Area:
Photograph :

Estimated Amount of Material: 0

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM10018		

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E S C R I P T I O N O F
E A C H S A M P L E A R E A

The following miscellaneous materials were sampled:

Homogeneous Area Name: Homogeneous Area ID Number: M11
Acoustical ceiling tile, 12" x 12", plastic coating, library
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM11019		

Homogeneous Area Name: Homogeneous Area ID Number: M12
Acoustical ceiling tile, 12" x 12", serpentine, second floor
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM12020	04/22/88	ACCKM12Q020

Homogeneous Area Name: Homogeneous Area ID Number: M99
Fire doors
Field Documents: Estimated Amount of Material: ALL
Sample Area :
Homogeneous Area: ACCKHA01 ACCKHA03 ACCKHA04 ACCKHA05
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID

*** ASSUMED POSITIVE - NO SAMPLES COLLECTED ***

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E S C R I P T I O N O F
E A C H S A M P L E A R E A

DISCUSSION ON SELECTION OF THERMAL SYSTEM SAMPLES:

AFMA's accredited inspector's collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that are not assumed to be ACM. At least one bulk sample for patched thermal system insulation is also collected (areas less than 6 linear or square feet). Inspectors also sample cemented or plaster type fittings such as tees, elbows, and valves. The number of these such samples depends on the inspectors needs to assess system ACM content.

The following thermal system materials were sampled:

Homogeneous Area Name: Homogeneous Area ID Number: T01
Boiler room, 9" pipe elbow, from boiler #1
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA02
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKT01001		

Homogeneous Area Name: Homogeneous Area ID Number: T02
Boiler room, 14" straight pipe, horizontal above boiler #1
Field Documents: Estimated Amount of Material: 12 LF
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKT02002		

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E S C R I P T I O N O F
E A C H S A M P L E A R E A

The following thermal system materials were sampled:

Homogeneous Area Name: Homogeneous Area ID Number: T03
Boiler room, boiler gasket, at base of all boilers
Field Documents: Estimated Amount of Material: 0
Sample Area : ACCKSA02
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKT03003		

Homogeneous Area Name: Homogeneous Area ID Number: T04
Boiler room, 18 square inch duct to boiler #1
Field Documents: Estimated Amount of Material: 30 LF
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKT04004		

Homogeneous Area Name: Homogeneous Area ID Number: T05
Boiler room, 18" straight pipe to boiler #1
Field Documents: Estimated Amount of Material: 33 LF
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKT05005		

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E S C R I P T I O N O F
E A C H S A M P L E A R E A

The following thermal system materials were sampled:

Homogeneous Area Name: Boiler room, 6" vertical pipe, near boiler #3
Homogeneous Area ID Number: T06
Field Documents:
Estimated Amount of Material: 3 EA
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKT06006		

Homogeneous Area Name: Boiler room, 6" straight pipe, vertical, near boiler #3
Homogeneous Area ID Number: T07
Field Documents:
Estimated Amount of Material: 36 LF
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKT07007		

Homogeneous Area Name: Gym, 6" pipe elbow, from vertical pipe next to wall
Homogeneous Area ID Number: T08
Field Documents:
Estimated Amount of Material: 0
Sample Area : ACCKSA03
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKT08008		

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

D E S C R I P T I O N O F
E A C H S A M P L E A R E A

The following thermal system materials were sampled:

Homogeneous Area Name:
Crawl space, 6" pipe elbow

Homogeneous Area ID Number: T09

Field Documents:

Estimated Amount of Material: 0

Sample Area : ACCKSA01
Homogeneous Area:
Photograph :

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKT09022		

Homogeneous Area Name:
Crawl space, debris, pipe lagging

Homogeneous Area ID Number: T30

Field Documents:

Estimated Amount of Material: 5 SF

Sample Area : ACCKSA01
Homogeneous Area: ACCKHA04
Photograph :

REMOVED

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKT30023		

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Trailer #1 and #2

D E S C R I P T I O N O F
E A C H S A M P L E A R E A

The following miscellaneous materials were sampled:

Homogeneous Area Name:
Wall, gyp board

Homogeneous Area ID Number: M13

Field Documents:
Sample Area : ACCKSA05
Homogeneous Area:
Photograph :

Estimated Amount of Material: 0

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM13025		

Homogeneous Area Name:
Ceiling plaster

Homogeneous Area ID Number: M14

Field Documents:
Sample Area : ACCKSA05
Homogeneous Area:
Photograph :

Estimated Amount of Material: 0

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM14026		

Homogeneous Area Name:
Floor tile, 12" x 12", beige

Homogeneous Area ID Number: M15

Field Documents:
Sample Area : ACCKSA05
Homogeneous Area:
Photograph :

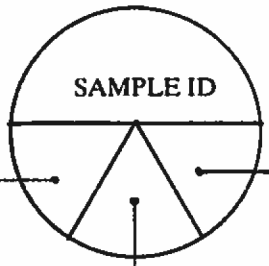
Estimated Amount of Material: 0

Samples Collected:

Sample Date	Sample ID	Sample Date	Sample ID
04/22/88	ACCKM15024		

Inspector: Mike Wigenton Signature: _____ Date: 11/01/88
Accreditation Number: 8802-02-063 Agency: Tufts University

SYMBOLS KEY



MATERIAL TYPES

S	SURFACE
T	THERMAL
M	MISCELLANEOUS

LOCATION CODES

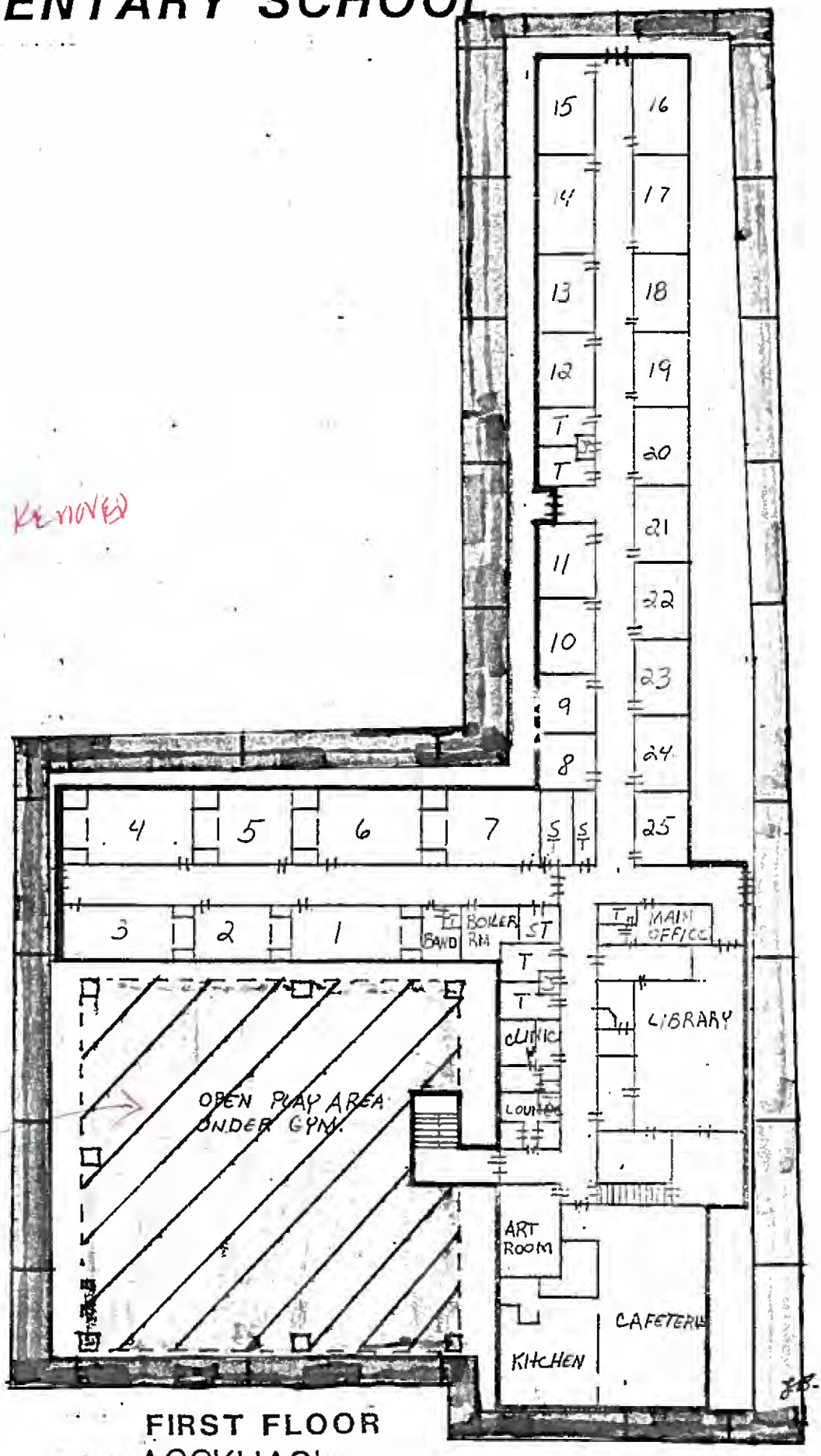
C	CEILING
W	WALL
F	FLOOR
B	BASE
I	INSULATION
CP	CRAWL SPACE
SC	SUSPENDED CEILING
CF	CAFETERIA

FD	FIRE DOOR
R	ROPE
RD	ROOF DRAIN
EA	EARTH
DE	DEBRIS
SO	SPRAY ON PLASTER
T	TROWELED ON PLASTER
TX	TEXTURED PLASTER
PL	PLASTER WALL/CEILING
PB	PLASTER BOARD
PG	PEG BOARD
GB	GYPSUM BOARD/SHEET ROCK
VW	VINYL COVERING
PM	PATCHING MATERIAL
TW	TAR WRAP
CD	CLASSROOM DIVIDER
CN	FIRE CURTAIN
AC	ACOUSTICAL TILE
SI	SPRAY INSULATION ON STRUCTURAL MEMBERS
TK	TANK INSULATION
D	DUCT INSULATION
IR	INCINERATOR INSULATION
BI	BLOWN-IN INSULATION
GI	GENERAL INSULATION
FC	FLEX CONNECTORS
GK	GASKET
BJ	BOILER JACKET
HS	HANGING STRAP CRADLE
SK	STACK BREECHING/EXHAUST STACK
TB	TRANSITE BOARD
TP	TRANSITE PIPE
TD	TRANSITE DUCT
VT	VINYL TILE/COMPOSITION TILE
RS	RESILIENT SHEET
VB	VINYL BASE
CM	CONCRETE/MASONRY
SD	STAIR TREAD
GM	GLUE/MASTIC
SP	STRAIGHT PIPE
PE	PIPE ELBOW
PJ	PIPE JOINT
PV	PIPE VALVE
PH	PIPE HANGER
PW	PIPE WRAPPING

CORA KELLY ELEMENTARY SCHOOL

-M99

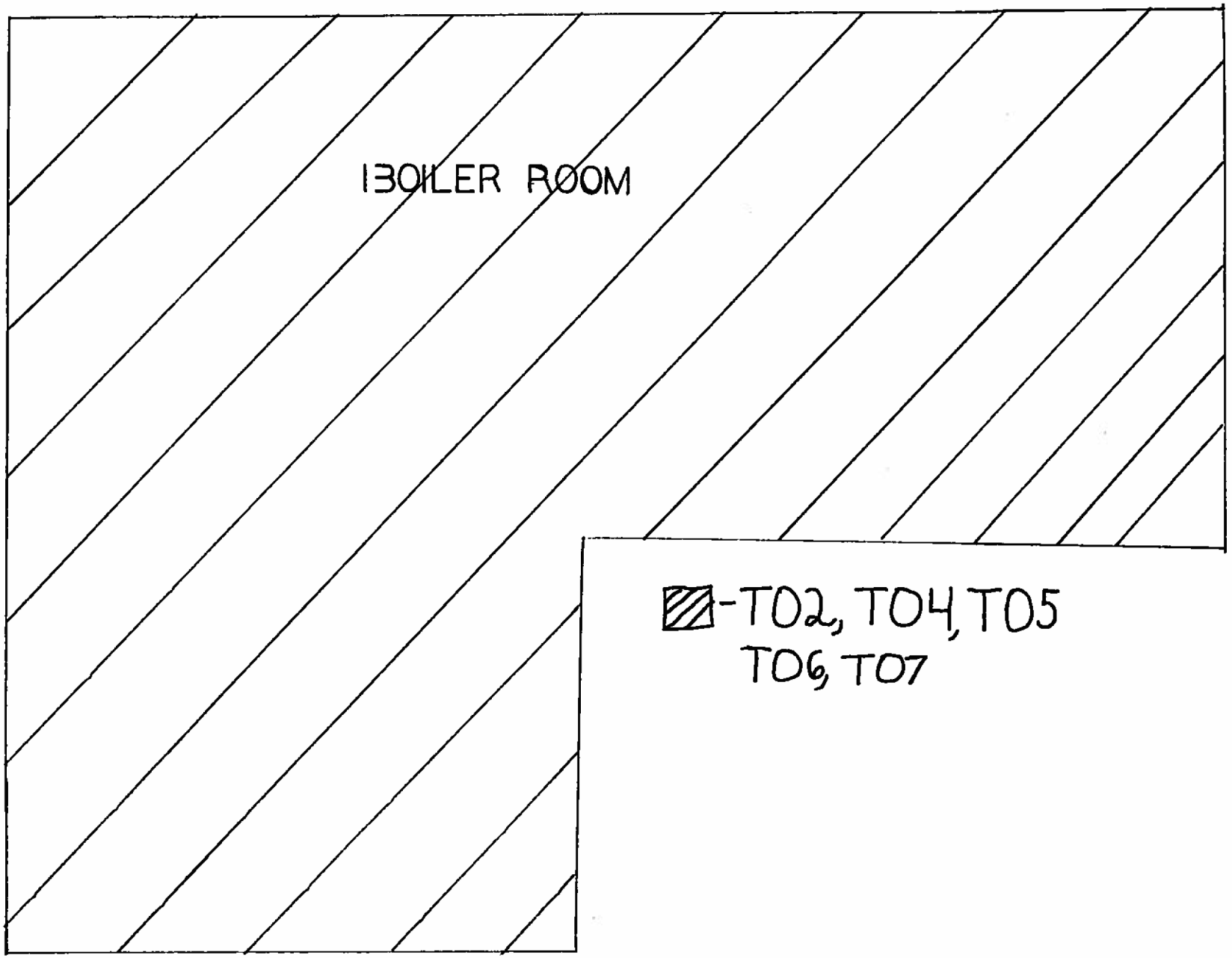
-M03 REMOVED



T REMOVED

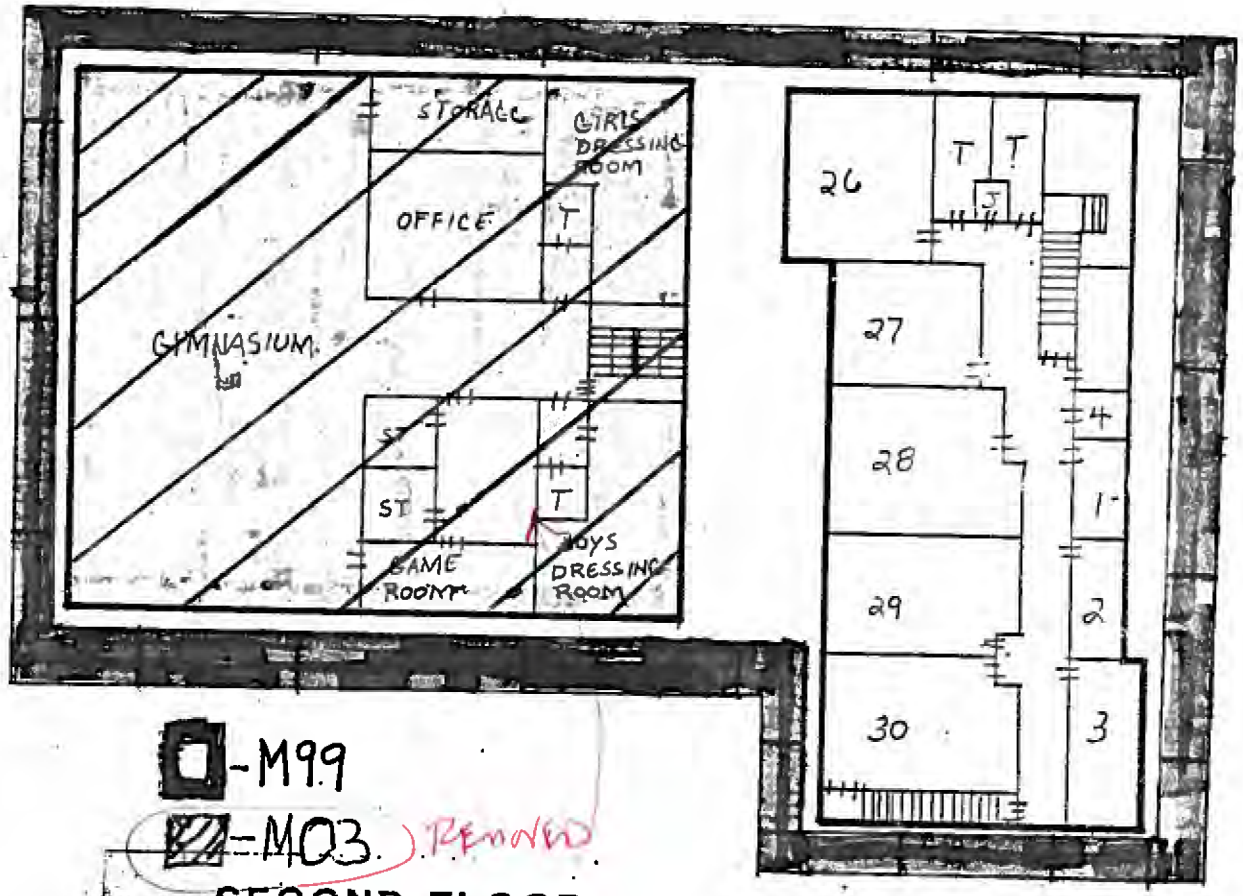
FIRST FLOOR

ACCKHA01



ACCKHA02

CORA KELLY ELEMENTARY SCHOOL



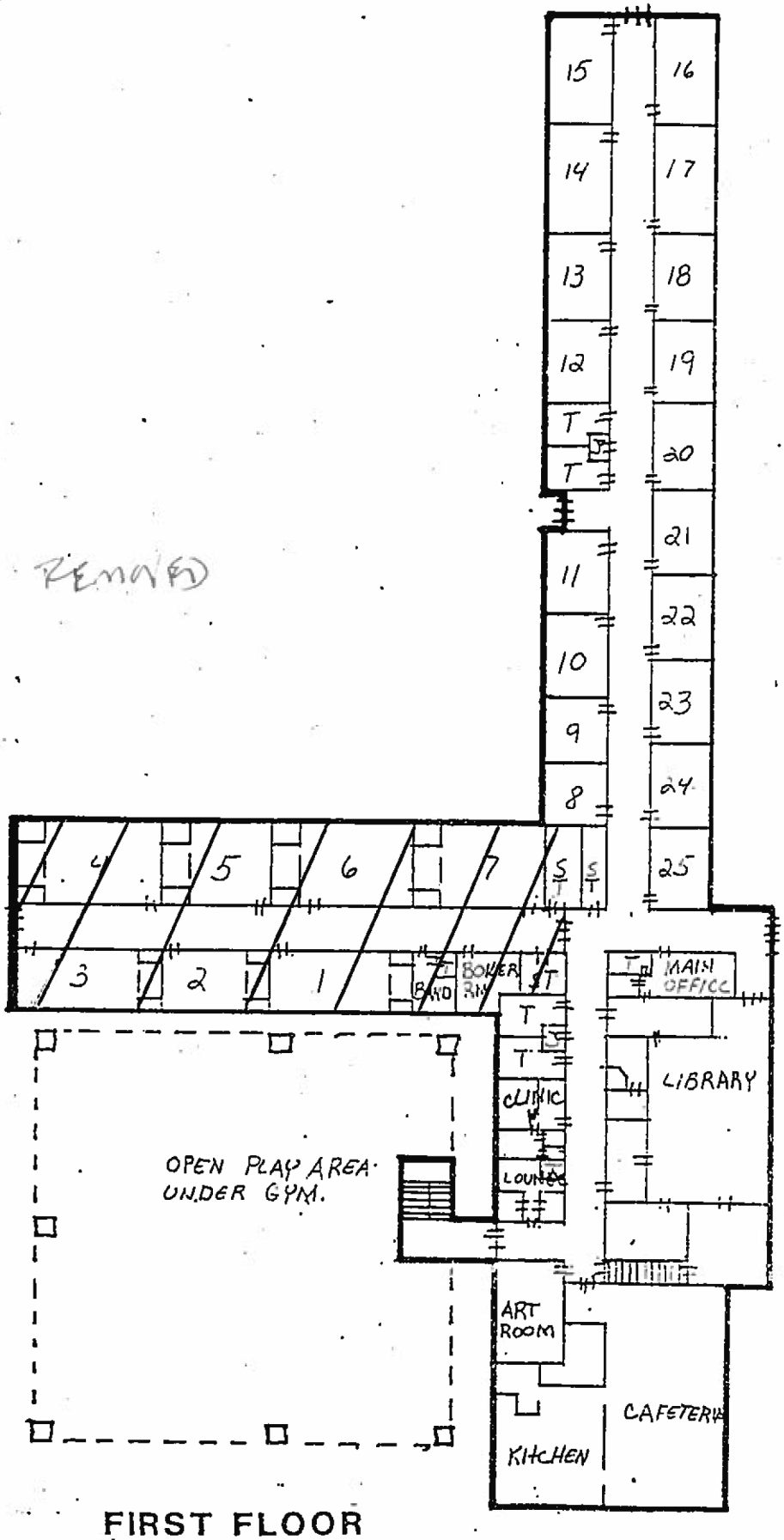
-M99

-M03. REMOVED

SECOND FLOOR

ACCKHA03

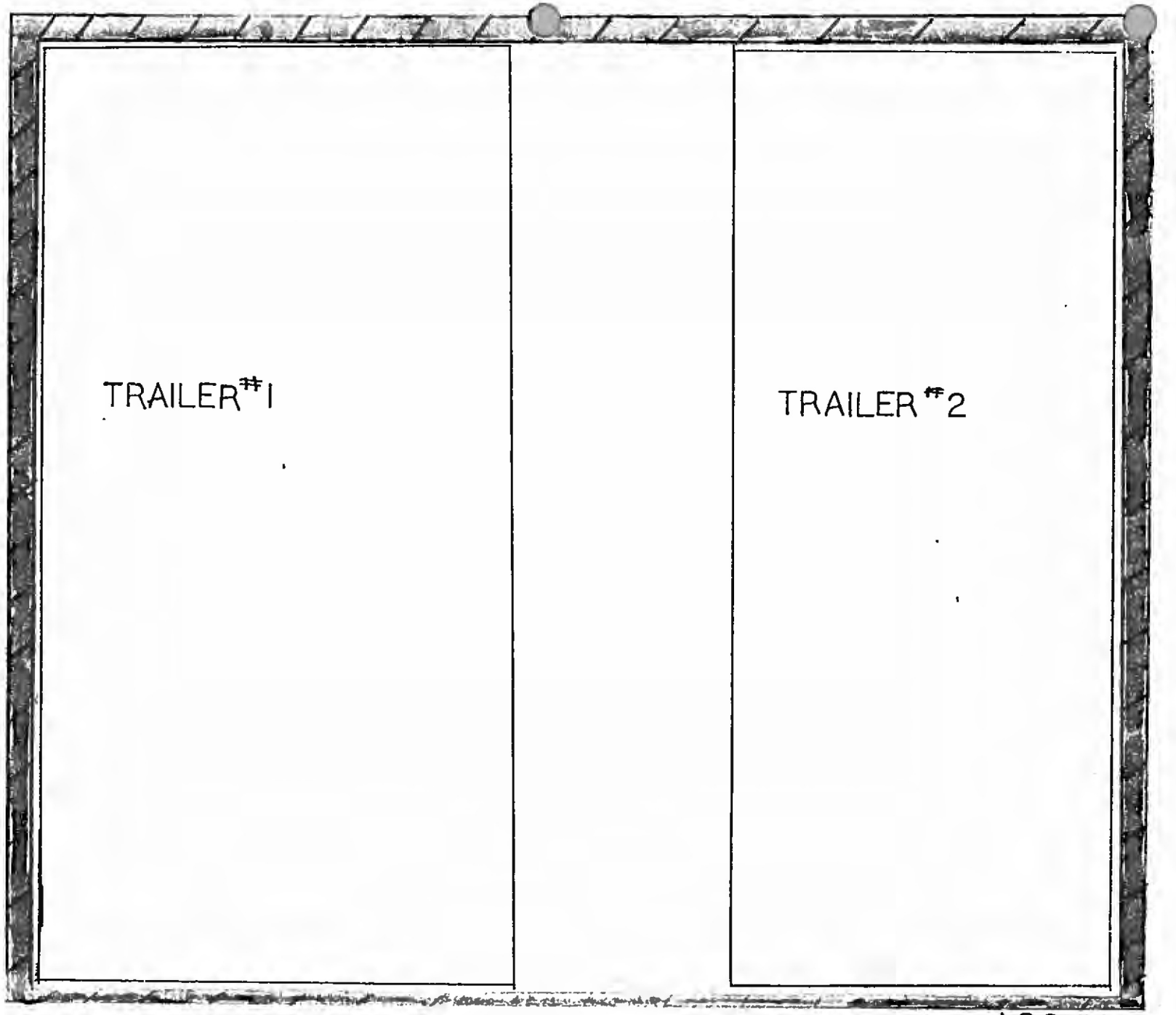
CORA KELLY ELEMENTARY SCHOOL



A-T30 RENAMED

FIRST FLOOR

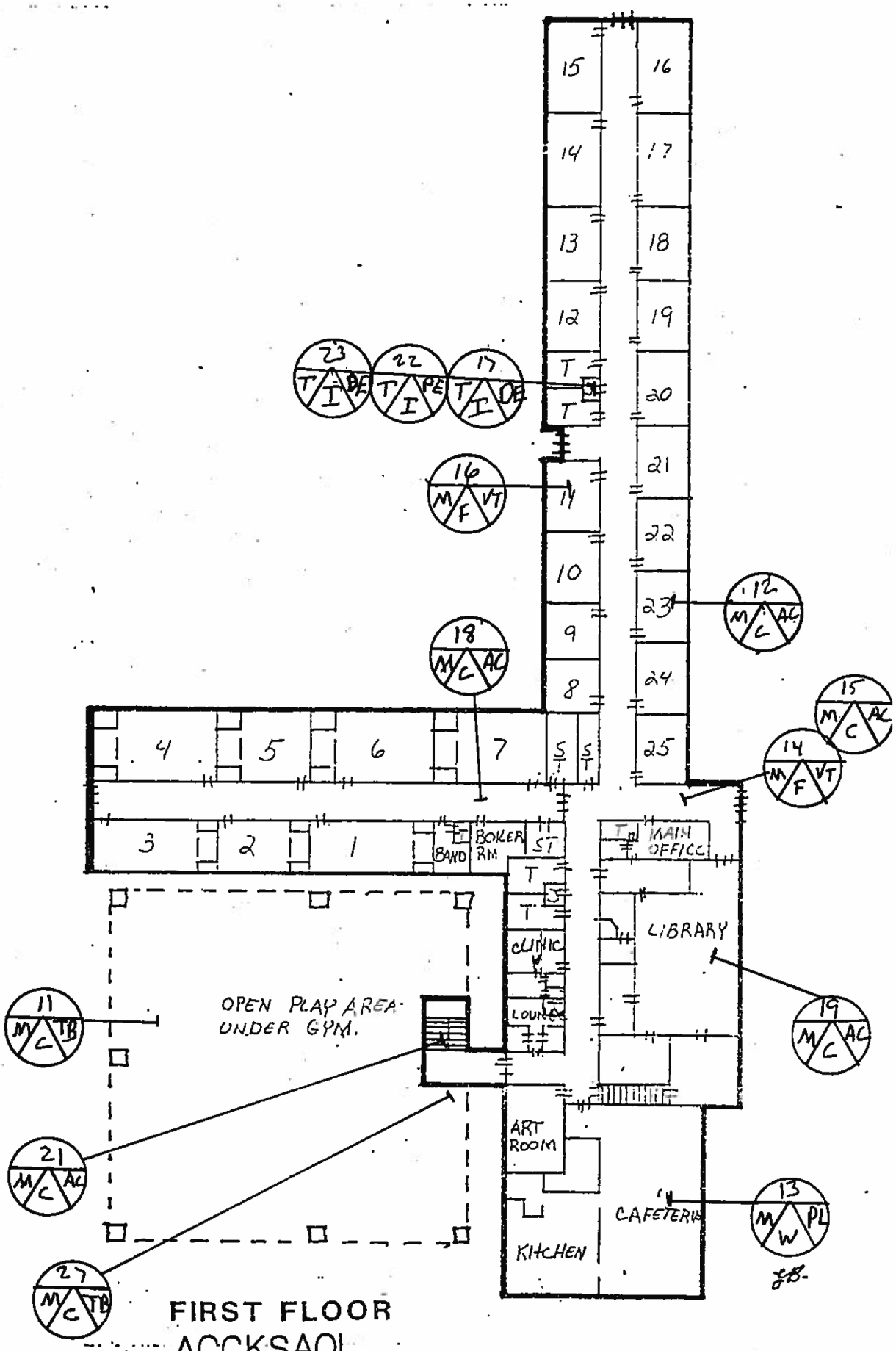
ACCKHA04



ACCKHA05

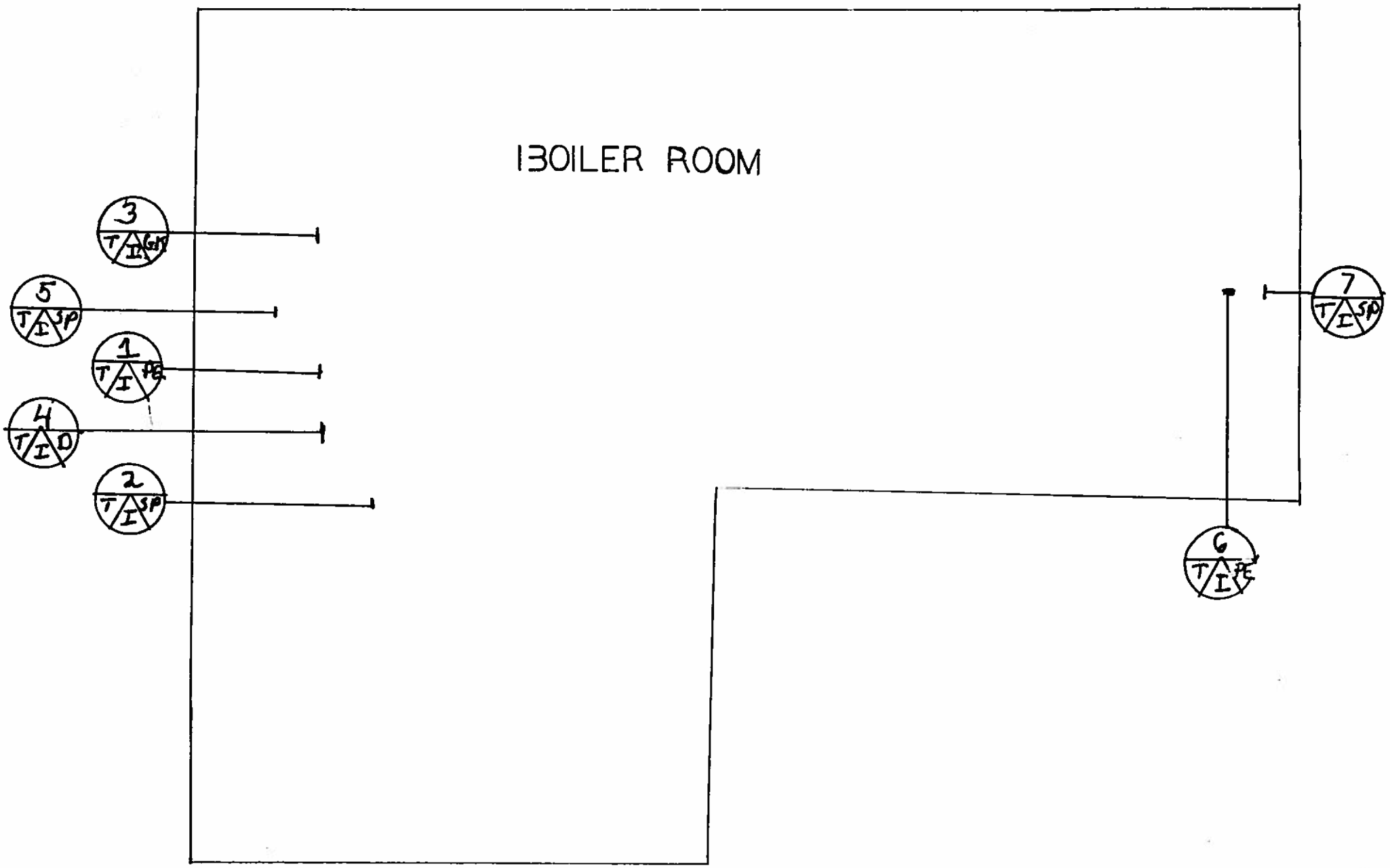
M99

CORA KELLY ELEMENTARY SCHOOL



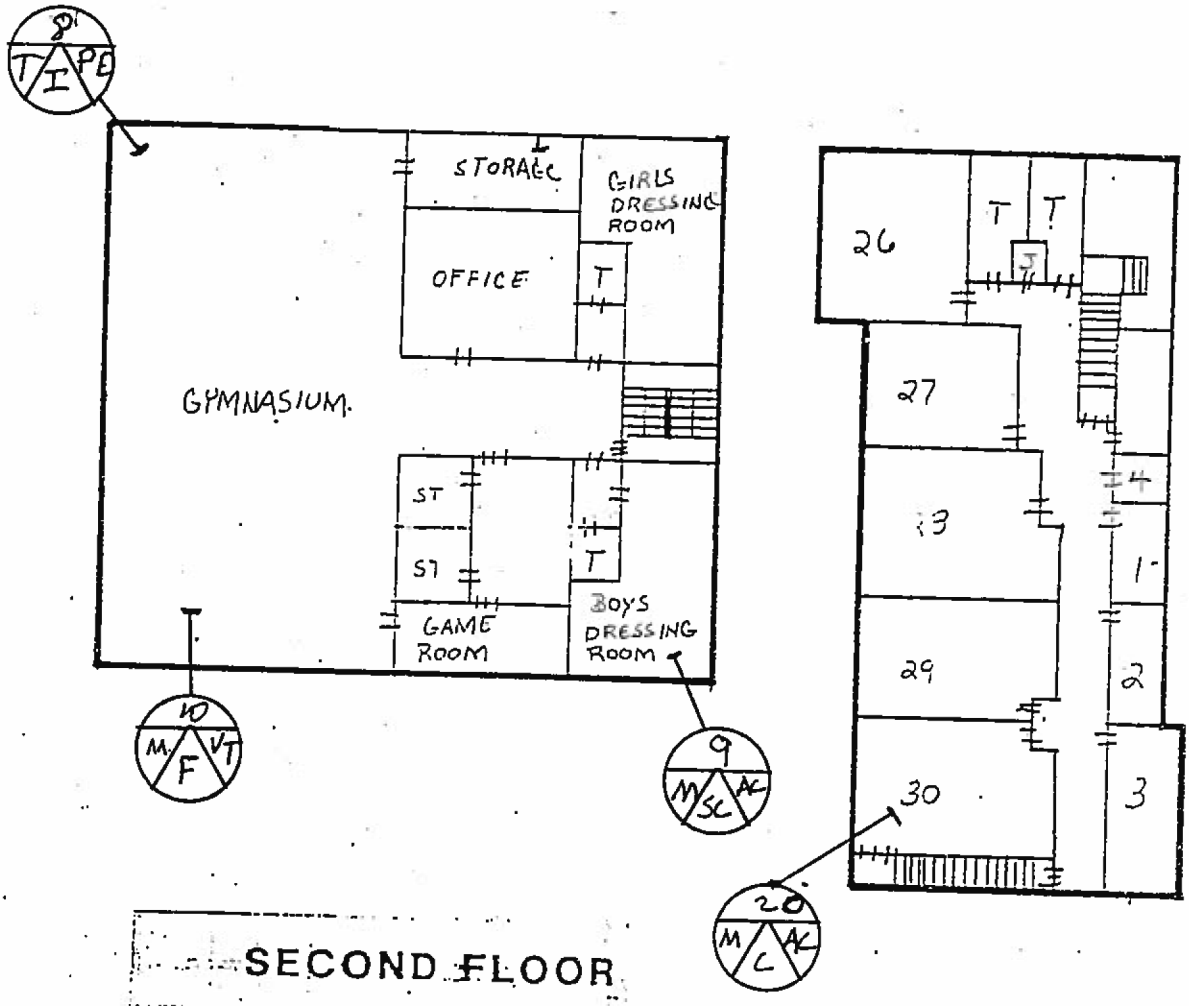
FIRST FLOOR

ACCKSA01



ACCKSA02

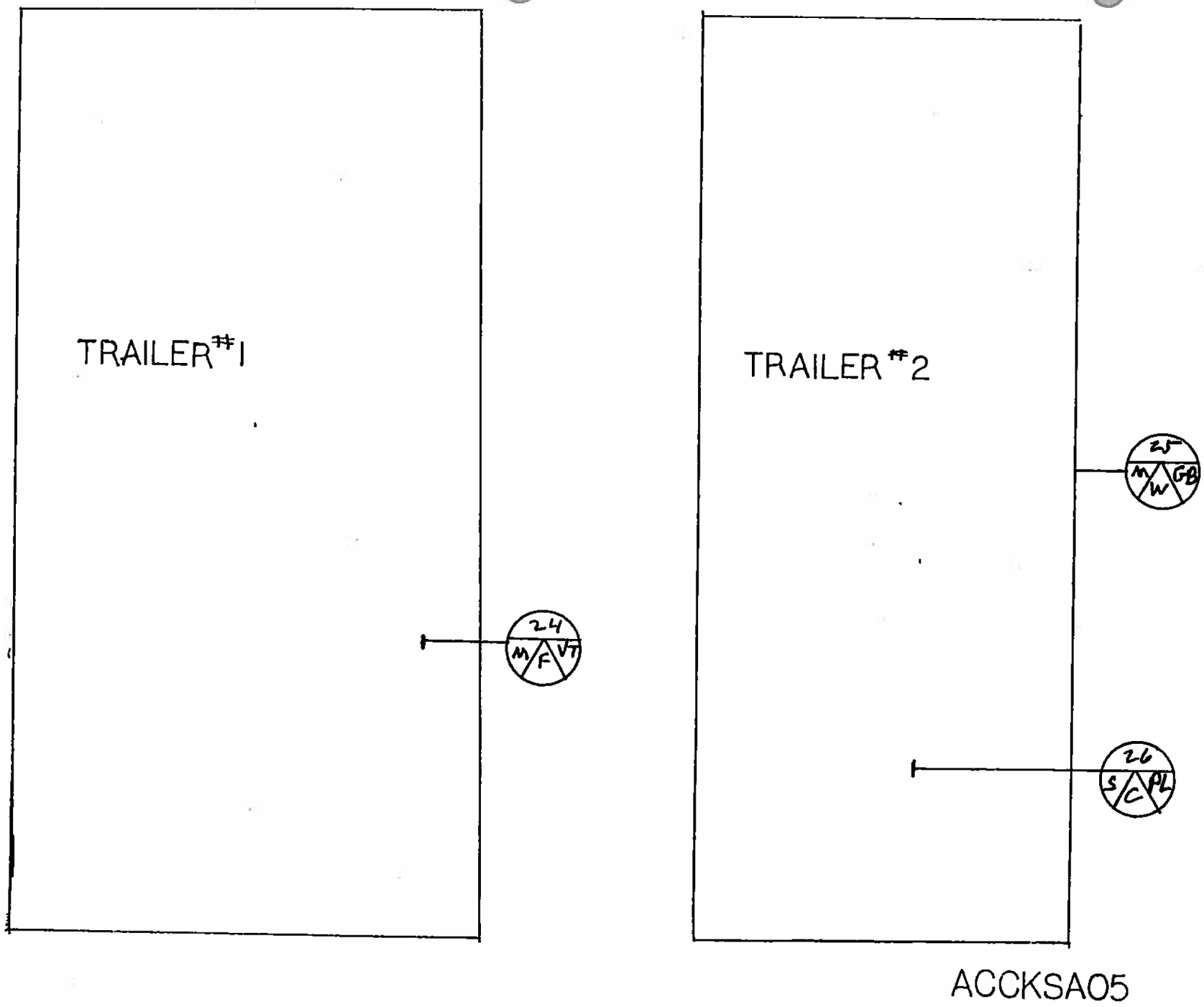
CORA KELLY ELEMENTARY SCHOOL



SECOND FLOOR

16

ACCKSA03



ACCKSA05

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name: Homogeneous Area ID Number: M01
Acoustical ceiling tile, 2' x 4', serpentine
Field Documents:
Sample Area : ACCKSA03
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM01009	8078858-1530			AML	Beige, layered, fibrous material
			TOTAL:	<1		
04/22/88	ACCKM01021	8078872-1530			AML	Tan, layered, fibrous material
			TOTAL:	<1		

Homogeneous Area Name: Homogeneous Area ID Number: M02
Floor tile, 12" x 12", gray, surrounds gym floor
Field Documents:
Sample Area : ACCKSA03
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM02010	8078859-1530			AML	Brown, solid, fibrous material
			TOTAL:	<1		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name: Homogeneous Area ID Number: M03
Transite board ceiling in gym and outdoor play area
Field Documents:
Sample Area : ACCKSA01
Homogeneous Area: ACCKHA01 ACCKHA03

Summary of Bulk Sample Analysis:

REMOVED

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM03011	8078862-1530	Chrysotile	15	AML	Brown, flat, fibrous material
			TOTAL:	15		

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
08/12/88	ACCKM03027	01A	Chrysotile	05-10	BIO	
			TOTAL:	05-10		

Homogeneous Area Name: Homogeneous Area ID Number: M04
Acoustical ceiling tile 12"x12" evenly spaced holes, throughout building
Field Documents:
Sample Area : ACCKSA01 ACCKSA03
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM04012	8078863-1530			AML	Rust, layered, fibrous material
			TOTAL:	<1		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name:
Wall, plaster material

Homogeneous Area ID Number: M05

Field Documents:
Sample Area : ACCKSA01 ACCKSA03
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM05013	8078864-1530			AML	Tan, easily separated, fibrous
			TOTAL:	<1		material

Homogeneous Area Name:
Floor tile, 12" x 12", beige

Homogeneous Area ID Number: M06

Field Documents:
Sample Area : ACCKSA01
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM06014	8078865-1530	Chrysotile	Tr. <1	AML	Tan, solid, fibrous material
			TOTAL:	Tr. <1		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name: Homogeneous Area ID Number: M07
Acoustical ceiling tile, 12" x 12", serpentine
Field Documents:
Sample Area : ACCKSA01
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM07015	8078866-1530			AML	Off-white, layered, fibrous material
			TOTAL:	<1		

Homogeneous Area Name: Homogeneous Area ID Number: M08
Floor tile, 9" x 9", green
Field Documents:
Sample Area : ACCKSA01
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM08016	8078867-1530			AML	Green, solid, fibrous material
			TOTAL:	<1		

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM08Q016	01A			BIO	
			TOTAL:	NAFD		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name: Homogeneous Area ID Number: M09
Crawl space debris, entrance through teachers lounge
Field Documents:
Sample Area : ACCKSA01
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM09017	8078868-1530			AML	White, semi-solid, fibrous material
			TOTAL:	<1		

Homogeneous Area Name: Homogeneous Area ID Number: M10
Acoustical ceiling tile, 12" x 12", holes in a random pattern
Field Documents:
Sample Area : ACCKSA03
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM10018	8078869-1530			AML	Tan, layered, fibrous material
			TOTAL:	<1		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name: Homogeneous Area ID Number: M11
Acoustical ceiling tile, 12" x 12", plastic coating, library
Field Documents:
Sample Area : ACCKSA01
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM11019	8078870-1530			AML	Tan, layered, fibrous material
			TOTAL:	<1		

Homogeneous Area Name: Homogeneous Area ID Number: M12
Acoustical ceiling tile, 12" x 12", serpentine, second floor
Field Documents:
Sample Area : ACCKSA01
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM12020	8078871-1530			AML	Tan, layered, fibrous material
			TOTAL:	<1		

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM12Q020	02A			BIO	
			TOTAL:	NAFD		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name: Homogeneous Area ID Number: T01
Boiler room, 9" pipe elbow, from boiler #1
Field Documents:
Sample Area : ACCKSA02
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT01001	8078850-1530			AML	Brown, soft, fibrous material
			TOTAL:	<1		

Homogeneous Area Name: Homogeneous Area ID Number: T02
Boiler room, 14" straight pipe, horizontal above boiler #1
Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT02002	8078851-1530	Chrysotile	35	AML	Brown, layered, fibrous material
			TOTAL:	35		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name: Homogeneous Area ID Number: T03
Boiler room, boiler gasket, at base of all boilers
Field Documents:
Sample Area : ACCKSA02
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT03003	8078852-1530			AML	White, fluffy, fibrous material
			TOTAL:	<1		

Homogeneous Area Name: Homogeneous Area ID Number: T04
Boiler room, 18 square inch duct to boiler #1
Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT04004	8078853-1530	Chrysotile	15	AML	Tan, easily separated, fibrous material
			TOTAL:	15		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name: Homogeneous Area ID Number: T05
Boiler room, 18" straight pipe to boiler #1
Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT05005	8078854-1530	Chrysotile	20	AML	White, fluffy, fibrous material
			Amosite	20	AML	
			TOTAL:	40		

Homogeneous Area Name: Homogeneous Area ID Number: T06
Boiler room, 6" vertical pipe, near boiler #3
Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT06006	8078855-1530	Chrysotile	20	AML	Brown, soft, fibrous material
			TOTAL:	20		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name: Homogeneous Area ID Number: T07
Boiler room, 6" straight pipe, vertical, near boiler #3
Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT07007	8078856-1530	Chrysotile	20	AML	Tan, layered, fibrous material
			TOTAL:	20		

Homogeneous Area Name: Homogeneous Area ID Number: T08
Gym, 6" pipe elbow, from vertical pipe next to wall
Field Documents:
Sample Area : ACCKSA03
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT08008	8078857-1530			AML	Tan, soft, fibrous material
			TOTAL:	<1		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Analysis Method: PLM

Homogeneous Area Name:
Crawl space, 6" pipe elbow

Homogeneous Area ID Number: T09

Field Documents:
Sample Area : ACCKSA01
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT09022	8078873-1530			AML	Orange, soft, fibrous material
			TOTAL:	<1		

Homogeneous Area Name:
Crawl space, debris, pipe lagging

Homogeneous Area ID Number: T30

Field Documents:
Sample Area : ACCKSA01
Homogeneous Area: ACCKHA04

Summary of Bulk Sample Analysis:

REMOVED

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT30023	8078874-1530	Chrysotile	15	AML	Tan, tightly layered, fibrous material
			TOTAL:	15		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Trailer #1 and #2
Analysis Method: PLM

Homogeneous Area Name:
Wall, gyp board

Homogeneous Area ID Number: M13

Field Documents:
Sample Area : ACCKSA05
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM13025	8078876-1530			AML	Tan, soft, fibrous material
			TOTAL:	<1		

Homogeneous Area Name:
Ceiling plaster

Homogeneous Area ID Number: M14

Field Documents:
Sample Area : ACCKSA05
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM14026	8078877-1530			AML	White, difficult to crush, fibrous material
			TOTAL:	<1		

See Appendix 1 for Laboratory Information and Certification Statements.

Virginia Department of Education
Energy and Facilities Services

B U L K S A M P L E
A N A L Y S I S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Trailer #1 and #2
Analysis Method: PLM

Homogeneous Area Name:
Floor tile, 12" x 12", beige

Homogeneous Area ID Number: M15

Field Documents:
Sample Area : ACCKSA05
Homogeneous Area:

Summary of Bulk Sample Analysis:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM15024	8078875-1530			AML	Off-white, flat, solid, fibrous material
			TOTAL:	<1		

See Appendix 1 for Laboratory Information and Certification Statements.

AMERICAN MEDICAL LABORATORIES, INC.®
P.O. Box 188 • 11091 Main Street
Fairfax, Virginia 22030-0188
Telephone: (703) 691-9120
Toll free number: (800) 336-3718 / In Virginia call (800) 572-2068
Age and sex dependent normal values are printed when available
if age and sex are designated. Otherwise, adult values are given.

INDUSTRIAL HYGIENE DEPARTMENT

RECEIVED : 04/27/88
RELEASED : 05/05/88
REPORTED : 05/06/88
WORK ORDER: 69

7346 A. F. MOYER, VIRGINIA
ATTN: JORGE RANGEL
#700, 8845 ELY STREET
MCLEAN, VA
22101

PROJECT NAME/JOB ID: ALCK #6

AML NUMBER	VALUE	UNITS
8078850	~~ALCK-01~~ ACCKT01001	BULK SAMPLE
1530	ASBESTOS BULK ANALYSIS	
	SAMPLE DESCRIPTION:	
	SITE OR LOCATION:	
	770 ~~ALCK~~ 01	
	GROSS DESCRIPTION:	
	BROWN, SOFT, FIBROUS MATERIAL	
	TOTAL % ASBESTOS:	<1 %
	FIBROUS NON-ASBEST:	30 %
	CELLULOSE:	10 %
	FIBROUS GLASS:	20 %
	NON-FIBROUS:	70 %
	UNSPECIFIED:	30 %
	QUARTZ:	10 %
	GYPSUM:	30 %
	NOTES:	No asbestiform minerals observed.
	ANALYST: MEW	DANIELLE DELGUIDICE
8078851	~~ALCK-02~~ ACCKT03002	BULK SAMPLE Danielle Delguidice
1530	ASBESTOS BULK ANALYSIS	
	SAMPLE DESCRIPTION	
	SITE OR LOCATION:	
	771 ~~ALCK~~ 02	
	GROSS DESCRIPTION:	
	BROWN, LAYERED, FIBROUS MATERIAL	
	TOTAL % ASBESTOS:	35 %
	CHRYSOTILE:	35 %
	FIBROUS NON-ASBEST:	25 %
	CELLULOSE:	25 %
	NON-FIBROUS:	40 %
	UNSPECIFIED:	30 %
	CALCITE:	10 %
	ANALYST: MEW	DANIELLE DELGUIDICE Danielle Delguidice
8078852	~~ALCK-03~~ ACCKT03003	BULK SAMPLE Danielle Delguidice
1530	ASBESTOS BULK ANALYSIS	
	SAMPLE DESCRIPTION	
	SITE OR LOCATION:	
	772 ~~ALCK~~ 03	
	GROSS DESCRIPTION:	
	WHITE, FLUFFY, FIBROUS MATERIAL	
	TOTAL % ASBESTOS:	<1 %

CONTINUED ON NEXT PAGE

IRA D. GODWIN, M.D.
DIRECTOR OF LABORATORIES

AMERICAN MEDICAL LABORATORIES, INC.®
P.O. Box 188 • 11091 Main Street
Fairfax, Virginia 22030-0188
Telephone: (703) 691-9120
Toll free number: (800) 336-3718 / In Virginia call (800) 572-2068
Age and sex dependent normal values are printed when available
if age and sex are designated. Otherwise, adult values are given.

INDUSTRIAL HYGIENE DEPARTMENT

RECEIVED : 04/27/86
RELEASED : 05/05/86
REPORTED : 05/06/86
WORK ORDER: 69

7346 A. F. MEYER, VIRGINIA
ATT: JORGE RANGEL
#700, 6845 ELM STREET
MCLEAN , VA
22101

PROJECT NAME/JOB ID: ALCK #6

AML NUMBER		VALUE	UNITS
	CONTINUED FROM PRIOR PAGE		
	FIBROUS NON-ASBEST:	95	%
	OTHER:	95	%
	NON-FIBROUS:	5	%
	UNSPECIFIED:	5	%
	NOTES:	No asbestiform minerals observed.	
	ANALYST: MBW	DANIELLE DELGUIDICE	
8078853	~~ALCK #4~~ ACCKT04004	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	773 ~~ALCK 04~~		
	GROSS DESCRIPTION:		
	TAN, EASILY SEPARATED, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	15	%
	CHRYSOTILE:	15	%
	FIBROUS NON-ASBEST:	15	%
	FIBROUS GLASS:	15	%
	NON-FIBROUS:	70	%
	UNSPECIFIED:	40	%
	QUARTZ:	10	%
	GYPSUM:	20	%
	ANALYST:	DANIELLE DELGUIDICE	
8078851	~~ALCK 05~~	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION MBW		
	SITE OR LOCATION:		
	~~771 ALCK~~ 05 ACCKT05005		
	GROSS DESCRIPTION:		
	TAN, FLUFFY, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	40	%
	CHRYSOTILE:	20	%
	ANOSITE:	20	%
	FIBROUS NON-ASBEST:	10	%
	CELLULOSE:	10	%
	NON-FIBROUS:	50	%
	UNSPECIFIED:	40	%
	GYPSUM: MBW	10	%
	ANALYST:	DANIELLE DELGUIDICE	
8078855	~~ALCK 06~~ ACCKT06006	BULK SAMPLE	

CONTINUED ON NEXT PAGE

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INDUSTRIAL HYGIENE DEPARTMENT

RECEIVED : 04/27/88
RELEASED : 05/05/88
REPORTED : 05/05/88
WORK ORDER: 69

7346 A. F. MEYER, VIRGINIA
ATTN: JORGE RANGEL
#700, 8645 LEE STREET
MCLEAN, VA
22101

PROJECT NAME/JOB ID: ALCK #6

AML NUMBER		VALUE	UNITS
	CONTINUED FROM PRIOR PAGE		
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	775 ~~ALCK 06~~		
	GROSS DESCRIPTION:		
	BROWN, SOFT, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	20	%
	CHRYSOTILE:	20	%
	FIBROUS NON-ASBEST:	80	%
	UNSPECIFIED:	60	%
	QUARTZ:	10	%
	GYPSUM:	10	%
	ANALYST: MBW	DANIELLE DELGUIDICE	
8078856	~~ALCK 07~~ ACCKT07007	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	775 ~~ALCK 07~~		
	GROSS DESCRIPTION:		
	TAN, LAYERED, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	20	%
	CHRYSOTILE:	20	%
	FIBROUS NON-ASBEST:	25	%
	CELLULOSE:	25	%
	NON-FIBROUS:	55	%
	UNSPECIFIED:	35	%
	QUARTZ:	10	%
	CALCITE:	10	%
	ANALYST: MBW	DANIELLE DELGUIDICE	
8078857	~~ALCK 10~~ ACCKT08008	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	777 ~~ALCK 04~~		
	GROSS DESCRIPTION:		
	TAN, SOFT, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	35	%
	CELLULOSE:	15	%
	FIBROUS GLASS:	20	%

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RECEIVED : 04/27/88
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REPORTED : 05/06/88
WORK ORDER: 69

7346 A. F. MEYER, VIRGINIA
ATTN: JORGE RANGEL
4700, 6845 ELM STREET
MCLEAN, VA
22101

PROJECT NAME/JOB ID: ALCK #6

AML NUMBER	VALUE	UNITS
	CONTINUED FROM PRIOR PAGE	
	NON-FIBROUS:	65 %
	UNSPECIFIED:	30 %
	QUARTZ:	10 %
	GYPSUM:	25 %
	NOTES:	No asbestiform minerals observed.
	ANALYST: MBW	DANIELLE DELGUIDICE
8078858	~~ALCK 11~~ ACCKM01009	BULK SAMPLE Danielle Delguidice
1530	ASBESTOS BULK ANALYSIS	
	SAMPLE DESCRIPTION	
	SIZE OR LOCATION:	
	778 ~~ALCK 09~~	
	GROSS DESCRIPTION:	
	BEIGE, LAYERED, FIBROUS MATERIAL	
	TOTAL % ASBESTOS:	<1 %
	FIBROUS NON-ASBEST:	85 %
	CELLULOSE:	5 %
	FIBROUS GLASS:	80 %
	NON-FIBROUS:	15 %
	UNSPECIFIED:	10 %
	QUARTZ:	5 %
	NOTES:	No asbestiform minerals observed.
	ANALYST: MBW	DANIELLE DELGUIDICE
8078859	~~ALCK 12~~ ACCKM02010	BULK SAMPLE Danielle Delguidice
1530	ASBESTOS BULK ANALYSIS	
	SAMPLE DESCRIPTION	
	SIZE OR LOCATION:	
	779 ~~ALCK 10~~	
	GROSS DESCRIPTION:	
	BEIGE, SOLID, FIBROUS MATERIAL	
	TOTAL % ASBESTOS:	<1 %
	FIBROUS NON-ASBEST:	15 %
	CELLULOSE:	15 %
	NON-FIBROUS:	85
	UNSPECIFIED:	50 %
	QUARTZ:	15 %
	CALCITE:	20 %
	NOTES:	No asbestiform minerals observed.

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PAGE 5

RECEIVED : 04/27/88
RELEASED : 05/05/88
REPORTED : 05/06/88
WORK ORDER: 59

7346 A. F. MEYER, VIRGINIA
ATTN: JORGE RANGEL
#700, 6845 RD STREET
ALCOA , VA
22101

PROJECT NAME/JOB ID: ALCK #6

AML NUMBER----------VALUE-----UNITS----------

CONTINUED FROM PRIOR PAGE

ANALYST: DANIELLE DELGUIDICE

Analysis performed by trained asbestos analyst using polarized light microscopy with dispersion staining.

*** FINAL REPORT ***

FRED I. GHADIAN
TECHNICAL DIRECTOR, IND. HYGIENE

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RECEIVED : 04/27/88
RELEASED : 05/06/88
REPORTED : 05/07/88
WORK ORDER: 70

7346 A. F. MEYER, VIRGINIA
ATTN: JUDGE RANGEL
#700, 6845 ELM STREET
MCLEAN, VA
22101

PROJECT NAME/JOB ID: ALCK 6

AML NUMBER		VALUE	UNITS
8078662	~~ALCK6 11~~ ACCKM0311	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	780 ~~ALCK 6 11~~		
	GROSS DESCRIPTION:		
	BROWN, FLAT, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	15	%
	CHRYSOTILE:	15	%
	FIBROUS NON-ASBEST:	5	%
	CELLULOSE:	5	%
	NON-FIBROUS:	80	%
	UNSPECIFIED:	70	%
	CALCITE:	10	%
	ANALYST: MBW	DANIELLE DELGUIDICE	
8078663	~~ALCK6 12~~ ACCKM0412	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	781 ~~ALCK 6 12~~		
	GROSS DESCRIPTION:		
	RUST, LAYERED, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	75	%
	CELLULOSE:	75	%
	NON-FIBROUS:	25	%
	UNSPECIFIED:	25	%
	NOTES:	No asbestiform minerals observed.	
	ANALYST: MBW	DANIELLE DELGUIDICE,	
8078664	~~ALCK6 13~~ ACCKM0513	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	782 ~~ALCK 6 13~~		
	GROSS DESCRIPTION:		
	TAN, EASILY SEPARATED, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	5	%
	CELLULOSE:	5	%
	NON-FIBROUS:	95	%

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REPORTED : 05/07/88
WORK ORDER: 70

7346 A. F. MEYER, VIRGINIA
ATTN: JORGE RANGEL
#700, 6845 ELM STREET
MCLEAN, VA
22101

PROJECT NAME/JOB ID: ALCK 6

AML NUMBER		VALUE	UNITS
	CONTINUED FROM PRIOR PAGE		
	UNSPECIFIED:	45	%
	MICA/VERMICULITE:	20	%
	QUARTZ:	30	%
	NOTES:	no asbestiform minerals observed.	
	ANALYST: MBW	DANIELLE DELGUIDICE	
80788665	~~ALCK6 14~~ ACCKM06014	BULK SAMPLE Danielle DeLaudice	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	703 ~~ALCK 6 14~~		
	GROSS DESCRIPTION:		
	TAN, SOLID, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	CHRYSOTILE:	TRACE	%
	FIBROUS NON-ASBEST:	10	%
	CELLULOSE:	5	%
	FIBROUS GLASS:	5	%
	NON-FIBROUS:	90	%
	UNSPECIFIED:	40	%
	QUARTZ:	25	%
	CALCITE:	25	%
	ANALYST: MBW	DANIELLE DELGUIDICE	
80788666	~~ALCK6 15~~ ACCKM07015	BULK SAMPLE Danielle DeLaudice	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	714 ~~ALCK 6 15~~		
	GROSS DESCRIPTION:		
	OFF-WHITE, LAYERED, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	70	%
	CELLULOSE:	30	%
	FIBROUS GLASS:	40	%
	NON-FIBROUS:	30	%
	UNSPECIFIED:	30	%
	NOTES:	no asbestiform minerals observed.	
	ANALYST: MBW	DANIELLE DELGUIDICE	
80788667	~~ALCK6 16~~ ACCKM08016	BULK SAMPLE Danielle DeLaudice	

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RECEIVED : 04/27/88
RELEASED : 05/06/88
REPORTED : 05/07/88
WORK ORDER : 70

7346 A. F. MEYER, VIRGINIA
ATTN: JORGE RANGEL
4700, 6845 OLD STREET
ALEXA , VA
22101

PROJECT NAME/JOB ID: ALCK 6

ANL NUMBER----------VALUE-----UNITS----------

CONTINUED FROM PRIOR PAGE
1530 ASBESTOS BULK ANALYSIS
SAMPLE DESCRIPTION
SITE OR LOCATION:
785 ~~ALCK 6 16~~
GROSS DESCRIPTION:
GREEN, SOLID, FIBROUS MATERIAL

TOTAL % ASBESTOS:	<1	%
FIBROUS NON-ASBEST:	25	%
CELLULOSE:	20	%
FIBROUS GLASS:	5	%
NON-FIBROUS:	75	%
UNSPECIFIED:	20	%
QUARTZ:	30	%
CALCITE:	25	%
NOTES:	No asbestiform minerals observed.	
ANALYST: MBW	DANIELLE DELGUIDICE	

807P868 ~~ALCK6 17~~ ACCKM0017 BULK SAMPLE Danielle Delguidice
1530 ASBESTOS BULK ANALYSIS
SAMPLE DESCRIPTION
SITE OR LOCATION:
786 ~~ALCK 6 17~~
GROSS DESCRIPTION:
WHITE, SEMI-SOLID, FIBROUS MATERIAL

TOTAL % ASBESTOS:	<1	%
FIBROUS NON-ASBEST:	5	%
CELLULOSE:	5	%
NON-FIBROUS:	75	%
UNSPECIFIED:	15	%
CALCITE:	60	%
NOTES:	No asbestiform minerals observed.	
ANALYST: MBW	DANIELLE DELGUIDICE	

807P869 ~~ALCK6 18~~ BULK SAMPLE Danielle Delguidice
1530 ASBESTOS BULK ANALYSIS
SAMPLE DESCRIPTION
SITE OR LOCATION:
787 ~~ALCK 6 18~~ ACCKM10018
GROSS DESCRIPTION:
TAN, LAYERED, FIBROUS MATERIAL
CONTINUED ON NEXT PAGE

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RELEASED : 05/06/88
REPORTED : 05/07/88
WORK ORDER: 70

7346 A. F. MEYER, VIRGINIA
ATTN: JORGE RANGEL
#700, 6845 ELM STREET
MCLEAN , VA
22101

PROJECT NAME/JOB ID: ALCK 6

ANL NUMBER		VALUE	UNITS
	CONTINUED FROM PRIOR PAGE		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	80	%
	CELLULOSE:	80	%
	NON-FIBROUS:	20	%
	UNSPECIFIED:	20	%
	NOTES:	No asbestiform minerals observed.	
	ANALYST: MBW	DANIELLE DELGUIDICE	
8078870	~~ALCK6 12~~ ACCKM11019	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	788 ~~ALCK 19~~		
	GROSS DESCRIPTION:		
	TAN, LAYERED, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	85	%
	CELLULOSE:	5	%
	FIBROUS GLASS:	80	%
	NON-FIBROUS:	15	%
	UNSPECIFIED:	15	%
	NOTES: MBW	No asbestiform minerals observed.	
	ANALYST:	DANIELLE DELGUIDICE	
8078871	~~ALCK6 19~~ ACCKM12020	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	789 ~~ALCK 6 20~~		
	GROSS DESCRIPTION:		
	TAN, LAYERED, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	80	%
	CELLULOSE:	75	%
	FIBROUS GLASS:	5	%
	NON-FIBROUS:	20	%
	UNSPECIFIED:	20	%
	NOTES:	No asbestiform minerals observed.	
	ANALYST:	DANIELLE DELGUIDICE	

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RECEIVED : 04/26/88
RELEASED : 05/10/88
REPORTED : 05/11/88
WORK ORDER: 71

7346 A. F. MEYER, VIRGINIA
ATTN: JORGE RANGEL
#700, 6845 ELM STREET
MCLEAN , VA
22101

PROJECT NAME/JOB ID: ALCK#6

AML NUMBER		VALUE	UNITS
8078472	~~ALCK 21~~ MBW ACCKMD1021	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	790 ~~ALCK 21~~		
	GROSS DESCRIPTION:		
	TAN, LAYERED, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	60	%
	CELLULOSE:	40	%
	FIBROUS GLASS:	40	%
	NON-FIBROUS:	20	%
	UNSPECIFIED:	20	%
	NOTES:	No asbestiform minerals observed.	
	ANALYST: MBW	DANIELLE DELGUIDICE	
8078473	~~ALCK 22~~ ACCKT09022	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	791 ~~ALCK 22~~		
	GROSS DESCRIPTION:		
	ORANGE, SOFT, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	80	%
	CELLULOSE:	10	%
	FIBROUS GLASS:	70	%
	NON-FIBROUS:	20	%
	UNSPECIFIED:	20	%
	NOTES:	No asbestiform minerals observed.	
	ANALYST: MBW	DANIELLE DELGUIDICE	
8078474	~~ALCK 23~~ MBW T30 ACCKMH1023	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	792 ~~ALCK 23~~		
	GROSS DESCRIPTION:		

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INDUSTRIAL HYGIENE DEPARTMENT

RECEIVED : 04/28/88
RELEASED : 05/10/88
REPORTED : 05/11/88
WORK ORDER: 71

7346 A. F. MEYER, VIRGINIA
ATTN: JORGE RANGEL
#700, 6845 ELM STREET
MCLEAN , VA
22101

PROJECT NAME/JOB ID: ALCK#6

AML NUMBER		VALUE	UNITS
	CONTINUED FROM PRIOR PAGE		
	TAN, TIGHTLY LAYERED, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	15	%
	CHRYSOTILE:	15	%
	FIBROUS NON-ASBEST:	35	%
	CELLULOSE:	35	%
	NON-FIBROUS:	50	%
	UNSPECIFIED:	40	%
	GYPSUM:	10	%
	ANALYST:	DANIELLE DELGUIDICE	
8078675	~~ALCK 24~~ ACCKM13024	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	796 ~~ALCK 24~~		
	GROSS DESCRIPTION:		
	OFF-WHITE, FLAT, SOLID, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	15	%
	CELLULOSE:	10	%
	FIBROUS GLASS:	5	%
	NON-FIBROUS:	85	%
	UNSPECIFIED:	20	%
	QUARTZ:	35	%
	CALCITE:	30	%
	NOTES:	No asbestiform minerals observed.	
	ANALYST:	DANIELLE DELGUIDICE	
8078876	~~ALCK 25~~ ACCKM13025	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	794 ~~ALCK 25~~		
	GROSS DESCRIPTION:		
	TAN, SOFT, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	25	%
	CELLULOSE:	25	%
	NON-FIBROUS:	75	%

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REPORTED : 05/11/88
WORK ORDER: 71

7346 A. F. MEYER, VIRGINIA
ATTN: JORGE RANGEL
#700, 6845 ELM STREET
MCLEAN , VA
22101

PROJECT NAME/JOB ID: ALCK#6

AML NUMBER		VALUE	UNITS
	CONTINUED FROM PRIOR PAGE		
	UNSPECIFIED:	35	%
	QUARTZ:	25	%
	GYPSUM:	15	%
	NOTES:	No asbestiform minerals observed.	
	ANALYST:	DANIELLE DELGUIDICE	
	MRW		
8078677	~~ALCK 26~~ ACCKM14026	BULK SAMPLE	
1530	ASBESTOS BULK ANALYSIS		
	SAMPLE DESCRIPTION		
	SITE OR LOCATION:		
	735 ~~ALCK 26~~		
	GROSS DESCRIPTION:		
	WHITE, DIFFICULT TO CRUSH, FIBROUS MATERIAL		
	TOTAL % ASBESTOS:	<1	%
	FIBROUS NON-ASBEST:	20	%
	CELLULOSE:	20	%
	NON-FIBROUS:	80	%
	UNSPECIFIED:	50	%
	QUARTZ:	30	%
	NOTES:	No asbestiform minerals observed.	
	ANALYST:	DANIELLE DELGUIDICE	

Analysis performed by trained asbestos analyst using polarized light microscopy with dispersion staining.

*** FINAL REPORT ***

FRED I. GRUNDER
TECHNICAL DIRECTOR, IND. HYGIENE

IRA D. GODWIN, M.D.
DIRECTOR OF LABORATORIES

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INDUSTRIAL HYGIENE DEPARTMENT

RECEIVED : 04/27/88
RELEASED : 05/06/88
REPORTED : 05/07/88
WORK ORDER: 70

7346 A. F. MEYER, VIRGINIA
ATTN: JORGE ROGEL
#700, 6845 ELM STREET
MCLEAN , VA
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PROJECT NAME/JOB ID: ALCK 6

AML NUMBER	VALUE	UNITS

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Analysis performed by trained asbestos analyst using polarized light microscopy with dispersion staining.

*** FINAL REPORT ***

FRED I. GRUNDER
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DIRECTOR OF LABORATORIES

BIOSPHERICS INC REPORT
Results by Sample

Work Order # 88-04-458

Received: 04/26/88 mel5

ACCKMD3Q016

SAMPLE ID ALCK6-27

FRACTION Q1A TEST CODE ASBULK NAME BULK ASBESTOS ANALYSIS
Date & Time Collected not specified Category BULK

DATE ANALYZED 05/04/88 ANALYST SANDER VERIFIED BY KMD

ASBESTOS	RESULT
% Chrysotile	NAD
% Amosite	
% Crocidolite	
% Tremolite	

NON-ASBESTOS	RESULT
CELLULOSE FIBER	TRACE
SYNTHETIC FIBER	TRACE
NANF	99+%

Definitions of Reporting Terms.
NAD = No Asbestos Detected. * = Presence Noted.
NANF = Non-asbestos Non-fibrous.
Trace = Trace Amounts Noted: less than 1%
Sample Information:
SAMPLE COLLECTED BY R. EDELSTEIN

mel5

ACCKMD3Q020

SAMPLE ID ALCK6-28

FRACTION Q2A TEST CODE ASBULK NAME BULK ASBESTOS ANALYSIS
Date & Time Collected not specified Category BULK

DATE ANALYZED 05/04/88 ANALYST SANDER VERIFIED BY KMD

ASBESTOS	RESULT
% Chrysotile	NAD
% Amosite	
% Crocidolite	
% Tremolite	

NON-ASBESTOS	RESULT
CELLULOSE FIBER	85-90%
FIBROUS GLASS	2-5%
NON-ASBESTOS FIBER	1-2%
NANF	2-5%

Definitions of Reporting Terms.
NAD = No Asbestos Detected. * = Presence Noted.
NANF = Non-asbestos Non-fibrous.
Trace = Trace Amounts Noted: less than 1%
Sample Information:
SAMPLE COLLECTED BY R. EDELSTEIN

Received: 08/17/88

BIOSPHERICS INC REPORT
Results by Sample

Work Order # 88-08-360

SAMPLE ID ACCKM03027

FRACTION 01A TEST CODE ASBULK NAME BULK ASBESTOS ANALYSIS
Date & Time Collected not specified Category BULK

DATE ANALYZED 08/18/88

ANALYST WATSON MB Watson VERIFIED BY KMD

ASBESTOS	RESULT
% Chrysotile	5-10%
% Amosite	
% Crocidolite	
% Tremolite	

NON-ASBESTOS	RESULT
CELLULOSE FIBER	TRACE
NANF	85-90%

Definitions of Reporting Terms.
NAD = No Asbestos Detected. * = Presence Noted.
NANF = Non-asbestos Non-fibrous.
Trace = Trace Amounts Noted; less than 1%
Sample Information:
SAMPLE COLLECTED BY A. BAYLOR

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

A S S E S S M E N T O F M A T E R I A L S

Homogeneous Area Name: Transite board ceiling in gym and outdoor play area

Homogeneous Area ID Number : M03

Field Documents:
Sample Area : ACCKSA01
Homogeneous Area: ACCKHA01 ACCKHA03
Photograph :

Estimated Amount of Material: 8,000 SF

ASSESSMENT CATEGORY #: 5
SPECIFIC DESCRIPTION : Non-Damaged, Non-Friable Miscellaneous Material

INSPECTOR COMMENTS:

REMOVED

DESCRIPTION OF DAMAGE - None Observed.

POTENTIAL FOR CONTACT/ACCESS DISTURBANCE - Low.
The asbestos fibers are intact within the structure of the boards. There is no potential of contacting or accessing the fibers unless the boards are damaged.

POTENTIAL FOR VIBRATION DISTURBANCE - Medium.
There is a significant amount of vibrations generated in these asbestos containing boards due to location, directly below and above the gym. However, this should not damage the boards or cause fiber release.

POTENTIAL FOR AIR EROSION/DISTURBANCE - None.
The air movement across these asbestos containing boards is not sufficient to cause the release of asbestos fibers.

Positive Sample Results:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKM03011	8078862-1530	Chrysotile	15	AML	Brown, flat, fibrous material
			TOTAL:	15		

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
08/12/88	ACCKM03027	01A	Chrysotile	05-10	BIO	
			TOTAL:	05-10		

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: M Wigenton Date: 11/01/88
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

A S S E S S M E N T O F M A T E R I A L S

Homogeneous Area Name:
Fire doors

Homogeneous Area ID Number : M99

Field Documents:
Sample Area :
Homogeneous Area: ACCKHA01 ACCKHA03 ACCKHA04 ACCKHA05
Photograph :

Estimated Amount of Material: ALL

ASSESSMENT CATEGORY #: 5
SPECIFIC DESCRIPTION : Non-Damaged, Non-Friable Miscellaneous Material

INSPECTOR COMMENTS:

DESCRIPTION OF DAMAGE - None Observed.

POTENTIAL FOR CONTACT/ACCESS DISTURBANCE - Low.
The doors integrity is sound enough to prevent access to the asbestos fibers.

POTENTIAL FOR VIBRATION DISTURBANCE - Low.
The vibration generated within the fire doors is not sufficient to cause damage.

POTENTIAL FOR AIR EROSION/DISTURBANCE - None.
The air movement across the fire doors is not sufficient to cause the release of asbestos fibers.

Positive Sample Results:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory Comments

*** ASSUMED POSITIVE - NO ADDITIONAL SAMPLES COLLECTED ***

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: [signature] Date: 11/01/88
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

A S S E S S M E N T O F M A T E R I A L S

Homogeneous Area Name: Boiler room, 14" straight pipe, horizontal above boiler #1

Homogeneous Area ID Number : T02

Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Estimated Amount of Material: 12 LF

ASSESSMENT CATEGORY #: 5
SPECIFIC DESCRIPTION : Non-Damaged, Non-Friable Thermal System Insulation

INSPECTOR COMMENTS:

DESCRIPTION OF DAMAGE - None Observed.

POTENTIAL FOR CONTACT/ACCESS DISTURBANCE - Low.
As long as the insulation is not damaged, there is no potential of the asbestos fibers becoming released.

POTENTIAL FOR VIBRATION DISTURBANCE - Low.
The vibrations generated within this room is not sufficient to damage the insulation which contains the asbestos fibers.

POTENTIAL FOR AIR EROSION/DISTURBANCE - None.
The natural and/or mechanical ventilation in this room is not sufficient to cause the asbestos fibers to become released.

Positive Sample Results:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT02002	8078851-1530	Chrysotile	35	AML	Brown, layered, fibrous material
			TOTAL:	35		

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: [signature] Date: 11/01/88
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

A S S E S S M E N T O F M A T E R I A L S

Homogeneous Area Name: Boiler room, 18 square inch duct to boiler #1

Homogeneous Area ID Number : T04

Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Estimated Amount of Material: 30 LF

ASSESSMENT CATEGORY #: 5
SPECIFIC DESCRIPTION : Non-Damaged, Non-Friable Thermal System Insulation

INSPECTOR COMMENTS:

DESCRIPTION OF DAMAGE - None Observed.

POTENTIAL FOR CONTACT/ACCESS DISTURBANCE - Low.
As long as the insulation is not damaged, there is no potential of the asbestos fibers becoming released.

POTENTIAL FOR VIBRATION DISTURBANCE - Low.
The vibration generated within this room is not sufficient to damage the insulation which contains the asbestos fibers.

POTENTIAL FOR AIR EROSION/DISTURBANCE - None.
The natural and/or mechanical ventilation in this room is not sufficient to cause the asbestos fibers to become released.

Positive Sample Results:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT04004	8078853-1530	Chrysotile	15	AML	Tan, easily separated, fibrous material
			TOTAL:	15		

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: [signature] Date: 11/01/88
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

A S S E S S M E N T O F M A T E R I A L S

Homogeneous Area Name:
Boiler room, 18" straight pipe to boiler #1

Homogeneous Area ID Number : T05

Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Estimated Amount of Material: 33 LF

ASSESSMENT CATEGORY #: 5
SPECIFIC DESCRIPTION : Non-Damaged, Non-Friable Thermal System Insulation

INSPECTOR COMMENTS:

DESCRIPTION OF DAMAGE - None Observed.

POTENTIAL FOR CONTACT/ACCESS DISTURBANCE - Low.
As long as the insulation is not damaged, there is no potential of the asbestos fibers becoming released.

POTENTIAL FOR VIBRATION DISTURBANCE - Low.
The vibration generated within this room is not sufficient to damage the insulation which contains the asbestos fibers.

POTENTIAL FOR AIR EROSION/DISTURBANCE - None.
The natural and/or mechanical ventilation in this room is not sufficient to cause the asbestos fibers to become released.

Positive Sample Results:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT05005	8078854-1530	Chrysotile	20	AML	White, fluffy, fibrous material
			Amosite	20	AML	
			TOTAL:	40		

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: _____ Date: 11/01/88
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

A S S E S S M E N T O F M A T E R I A L S

Homogeneous Area Name: Boiler room, 6" vertical pipe, near boiler #3

Homogeneous Area ID Number : T06

Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Estimated Amount of Material: 3 EA

ASSESSMENT CATEGORY #: 5
SPECIFIC DESCRIPTION : Non-Damaged, Non-Friable Thermal System Insulation

INSPECTOR COMMENTS:

DESCRIPTION OF DAMAGE - None Observed.

POTENTIAL FOR CONTACT/ACCESS DISTURBANCE - Low.
As long as the insulation is not damaged, there is not potential of the asbestos fibers becoming released.

POTENTIAL FOR VIBRATION DISTURBANCE - Low.
The vibration generated within this room is not sufficient to damage the insulation which contains the asbestos fibers.

POTENTIAL FOR AIR EROSION/DISTURBANCE - None.
The natural and/or mechanical ventilation in this room is not sufficient to cause the asbestos fibers to become released.

Positive Sample Results:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT06006	8078855-1530	Chrysotile	20	AML	Brown, soft, fibrous material
			TOTAL:	20		

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: _____ Date: 11/01/88
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

A S S E S S M E N T O F M A T E R I A L S

Homogeneous Area Name: Boiler room, 6" straight pipe, vertical, near boiler #3

Homogeneous Area ID Number : T07

Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

Estimated Amount of Material: 36 LF

ASSESSMENT CATEGORY #: 5
SPECIFIC DESCRIPTION : Non-Damaged, Non-Friable Thermal System Insulation

INSPECTOR COMMENTS:

DESCRIPTION OF DAMAGE - None Observed.

POTENTIAL FOR CONTACT/ACCESS DISTURBANCE - Low.
As long as the insulation is not damaged, there is no potential of the asbestos fibers becoming released.

POTENTIAL FOR VIBRATION DISTURBANCE - Low.
The vibration generated within this room is not sufficient to damage the insulation which contains the asbestos fibers.

POTENTIAL FOR AIR EROSION/DISTURBANCE - None.
The natural and/or mechanical ventilation in this room is not sufficient to cause the asbestos fibers to become released.

Positive Sample Results:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT07007	8078856-1530	Chrysotile	20	AML	Tan, layered, fibrous material
			TOTAL:	20		

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: [signature] Date: 11/01/88
Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

A S S E S S M E N T O F
M A T E R I A L S

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School

Homogeneous Area Name:
Crawl space, debris, pipe lagging

Homogeneous Area ID Number : T30

Field Documents:
Sample Area : ACCKSA01
Homogeneous Area: ACCKHA04
Photograph :

Estimated Amount of Material: 5 SF

ASSESSMENT CATEGORY #: 1
SPECIFIC DESCRIPTION : Damaged, Friable Thermal System Insulation

INSPECTOR COMMENTS:

REMNED

DESCRIPTION OF DAMAGE
Several pieces of pipe lagging on the soil in the crawl space.

POTENTIAL FOR CONTACT/ACCESS DISTURBANCE - Medium.
This asbestos containing material is accessible to building engineers and contractors who perform maintenance in this crawl space.

POTENTIAL FOR VIBRATION DISTURBANCE - Low.
There is very little vibration generated in the crawl space.

POTENTIAL FOR AIR EROSION/DISTURBANCE - Yes.
The air movement within the crawl space is sufficient to cause the asbestos fibers to become airborne.

Positive Sample Results:

Sample Date	AFMA Sample ID	Laboratory ID	Asbestos	Percent	Laboratory	Comments
04/22/88	ACCKT30023	8078874-1530	Chrysotile	15	AML	Tan, tightly layered, fibrous material
			TOTAL:	15		

Inspector: Mike Wigenton
Accreditation Number: 8802-02-063

Signature: _____ Date: 11/01/88
Agency: Tufts University

AHERA MANAGEMENT PLAN
BUILDING CORA KELLY

ALEXANDRIA CITY PUBLIC SCHOOLS
POSITIVE SAMPLING SUMMARY

MATERIAL DESCRIPTION	TOTAL AMOUNT	MATERIAL LOCATION	HAZARD POTENTIAL	CONDITION	% ASBESTOS	ESTIMATED COST		STATUS
						REMOVE	REPLACE	
TRANSITE BOARD CEILING M03	8,000 SF	GYM BLDG & OUTDOOR PLAY AREA	MEDIUM	NON-FRIABLE	15	$97,400	$40,400	REMOVED 7
14" STRAIGHT PIPE BOILER #1 T02	12 LF	BOILER RM	LOW	NON-FRI	35	$8,400	$100	8 MONITOR
18" SQ. DUCT BOILER #1 T04	30 LF	BOILER RM	LOW	NON-FRI	15	$10,400	$800	8
18" PIPE BOILER #1 T05	33LF	BOILER RM	LOW	NON-FRI	40	$10,000	$200	8
6" PIPING BOILER #3 T06	3 EA	BOILER RM	LOW	NON-FRI	20	$7,600	$100	8
6" VERT. PIPE BOILER #3 T07	36LF	BOILER RM	LOW	NON-FRI	20	$10,600	$200	8
PIPE LAGGING DEBRIS T30	5SF	RMS 1-7, BOILER RM CRAWL SPACE	MEDIUM	FRIABLE	15	$7500	$0	REMOVED 4
FIRE DOORS M99	ALL	HALLWAYS	LOW	NON-FRIABLE	?			5 MONITOR

193.7AC

Virginia Department of Education
Energy and Facilities Services

R E S P O N S E A C T I O N S
R E C O M M E N D E D

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Total Removal Cost: See Document G.S

Homogeneous Area Name:
Transite board ceiling in gym and outdoor play area

Homogeneous Area ID Number : M03
Estimated Amount of Material: 8,000 SF
LEA Response Action Priority: 8

Field Documents:
Sample Area : ACCKSA01
Homogeneous Area: ACCKHA01 ACCKHA03
Photograph :

REMOVED

RECOMMENDED RESPONSE ACTION: Accept X Reject ~~X~~
1) Remove the material.
2) Refer to DOCUMENT J. RESOURCES NEEDED

OPTIONAL RESPONSE ACTION: Accept X Reject_____
1) Include this area in all O&M activities.
2) Refer to DOCUMENT L.1 Perodic Surveillance Plan.
3) Reinspect and reassess this area within three years.

RESPONSE ACTION SCHEDULE: Begin: July 9, 1989 End: October, 1992

REMOVAL COST ESTIMATE:
Abatement and Disposal: $97,399.00
Replacement Cost : $40,320.00

PREVENTIVE MEASURES:
See DOCUMENT I. 2 for O&M recommendations.

Management Planner: Mike Wigenton Signature: _____ Date:11/01/88
Accreditation Number: 8802-02-127 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

R E S P O N S E A C T I O N S
R E C O M M E N D E D

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Total Removal Cost: See Document G.S

Homogeneous Area Name:
Fire doors

Homogeneous Area ID Number : M99

Estimated Amount of Material: ALL
LEA Response Action Priority: 8

Field Documents:
Sample Area :
Homogeneous Area: ACCKHA01 ACCKHA03 ACCKHA04 ACCKHA05
Photograph :

RECOMMENDED RESPONSE ACTION:
1) Include this material in all O&M activities.
2) Reinspect and reassess within three years.

RESPONSE ACTION SCHEDULE: Begin: July 9, 1989 End: Upon Removal

PREVENTIVE MEASURES:
See DOCUMENT I. 3 for O&M recommendations.

Management Planner: Mike Wigenton Signature: _____ Date:11/01/88
Accreditation Number: 8802-02-127 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

R E S P O N S E A C T I O N S
R E C O M M E N D E D

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Total Removal Cost: See Document G.S

Homogeneous Area Name:
Boiler room, 14" straight pipe, horizontal above boiler #1

Homogeneous Area ID Number : T02
Estimated Amount of Material: 12 LF
LEA Response Action Priority: 8

Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

RECOMMENDED RESPONSE ACTION: Accept_____ Reject_X_____
1) Remove the material.
2) Refer to DOCUMENT J. RESOURCES NEEDED

OPTIONAL RESPONSE ACTION: Accept_X_____ Reject_____
1) Include this area in all O&M activities.
2) Refer to DOCUMENT L.1 Perodic Surveillance Plan.
3) Reinspect and reassess this area within three years.

RESPONSE ACTION SCHEDULE: Begin: July 9, 1989 End: October, 1992

REMOVAL COST ESTIMATE:
Abatement and Disposal: $8,338.08
Replacement Cost : $63.00

PREVENTIVE MEASURES:
See DOCUMENT I. 4 for O&M recommendations.

Management Planner: Mike Wigenton Signature:_____ Date:11/01/88
Accreditation Number: 8802-02-127 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

R E S P O N S E A C T I O N S
R E C O M M E N D E D

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Total Removal Cost: See Document G.S

Homogeneous Area Name:
Boiler room, 18 square inch duct to boiler #1

Homogeneous Area ID Number : T04
Estimated Amount of Material: 30 LF
LEA Response Action Priority: 8

Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

RECOMMENDED RESPONSE ACTION: Accept_____ Reject_X_
1) Remove the material.
2) Refer to DOCUMENT J. RESOURCES NEEDED

OPTIONAL RESPONSE ACTION: Accept_X_ Reject_____
1) Include this area in all O&M activities.
2) Refer to DOCUMENT L.1 Perodic Surveillance Plan.
3) Reinspect and reassess this area within three years.

RESPONSE ACTION SCHEDULE: Begin: July 9, 1989 End: October, 1992

REMOVAL COST ESTIMATE:
Abatement and Disposal: $10,328.25
Replacement Cost : $752.40

PREVENTIVE MEASURES:
See DOCUMENT I. 5 for O&M recommendations.

Management Planner: Mike Wigenton Signature: [signature] Date:11/01/88
Accreditation Number: 8802-02-127 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

R E S P O N S E A C T I O N S
R E C O M M E N D E D

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Total Removal Cost: See Document G.S

Homogeneous Area Name:
Boiler room, 18" straight pipe to boiler #1

Homogeneous Area ID Number : T05
Estimated Amount of Material: 33 LF
LEA Response Action Priority: 8

Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

RECOMMENDED RESPONSE ACTION: Accept_____ Reject_X_

1) Remove the material.
2) Refer to DOCUMENT J. RESOURCES NEEDED

OPTIONAL RESPONSE ACTION: Accept_X_ Reject_____

1) Include this area in all O&M activities.
2) Refer to DOCUMENT L.1 Perodic Surveillance Plan.
3) Reinspect and reassess this area within three years.

RESPONSE ACTION SCHEDULE: Begin: July 9, 1989 End: October, 1992

REMOVAL COST ESTIMATE:

Abatement and Disposal:	$9,946.47
Replacement Cost :	$173.25

PREVENTIVE MEASURES:
See DOCUMENT I. 6 for O&M recommendations.

Management Planner: Mike Wigenton Signature:_____ Date:11/01/88
Accreditation Number: 8802-02-127 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

R E S P O N S E A C T I O N S
R E C O M M E N D E D

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Total Removal Cost: See Document G.S

Homogeneous Area Name:
Boiler room, 6" vertical pipe, near boiler #3

Homogeneous Area ID Number : T06
Estimated Amount of Material: 3 EA
LEA Response Action Priority: 8

Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

RECOMMENDED RESPONSE ACTION: Accept_____ Reject_X_

1) Remove the material.
2) Refer to DOCUMENT J. RESOURCES NEEDED

OPTIONAL RESPONSE ACTION: Accept_X_ Reject_____

1) Include this area in all O&M activities.
2) Refer to DOCUMENT L.1 Perodic Surveillance Plan.
3) Reinspect and reassess this area within three years.

RESPONSE ACTION SCHEDULE: Begin: July 9, 1989 End: October, 1992

REMOVAL COST ESTIMATE:

Abatement and Disposal:	$7,591.77
Replacement Cost :	$15.75

PREVENTIVE MEASURES:
See DOCUMENT I. 7 for O&M recommendations.

Management Planner: Mike Wigenton Signature: [signature] Date:11/01/88
Accreditation Number: 8802-02-127 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

R E S P O N S E A C T I O N S
R E C O M M E N D E D

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Total Removal Cost: See Document G.S

Homogeneous Area Name:
Boiler room, 6" straight pipe, vertical, near boiler #3

Homogeneous Area ID Number : T07
Estimated Amount of Material: 36 LF
LEA Response Action Priority: 8

Field Documents:
Sample Area : ACCKSA02
Homogeneous Area: ACCKHA02
Photograph :

RECOMMENDED RESPONSE ACTION: Accept_____ Reject X
1) Remove the material.
2) Refer to DOCUMENT J. RESOURCES NEEDED

OPTIONAL RESPONSE ACTION: Accept X Reject_____
1) Include this area in all O&M activities.
2) Refer to DOCUMENT L.1 Perodic Surveillance Plan.
3) Reinspect and reassess this area within three years.

RESPONSE ACTION SCHEDULE: Begin: July 9, 1989 End: October, 1992

REMOVAL COST ESTIMATE:
Abatement and Disposal: $10,518.24
Replacement Cost : $189.00

PREVENTIVE MEASURES:
See DOCUMENT I. 8 for O&M recommendations.

Management Planner: Mike Wigenton Signature: _____ Date:11/01/88
Accreditation Number: 8802-02-127 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

R E S P O N S E A C T I O N S
R E C O M M E N D E D

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: Cora Kelly Elementary School
Total Removal Cost: See Document G.S

Homogeneous Area Name:
Crawl space, debris, pipe lagging

Homogeneous Area ID Number : T30

Estimated Amount of Material: 5 SF

Field Documents:
Sample Area : ACCKSA01
Homogeneous Area: ACCKHA04
Photograph :

LEA Response Action Priority: 2

REMOVED

PIH NOTICE: This area has been identified as containing a potential immediate hazard to human health. Please refer to the PIH notice received by the LEA AHERA designee for details.

RECOMMENDED RESPONSE ACTION:
1) Remove the material.
2) Refer to DOCUMENT J. RESOURCES NEEDED

RESPONSE ACTION SCHEDULE: Begin: July 9, 1989 End: October, 1992

REMOVAL COST ESTIMATE:
Abatement and Disposal: $7,430.30
Replacement Cost : $0.00

PREVENTIVE MEASURES:
See DOCUMENT I. 9 for O&M recommendations.

Management Planner: Mike Wigenton Signature: _____ Date:11/01/88
Accreditation Number: 8802-02-127 Agency: Tufts University

Virginia Department of Education
Energy and Facilities Services

LEA: Alexandria City Public Schools
School: Cora Kelly Magnet School
Building: See Below

R E M O V A L C O S T
S U M M A R Y

BUILDING NAME: Cora Kelly Elementary School

HOMOGENEOUS AREA ID	REMOVAL	REPLACEMENT
M03	$97,399.00	$40,320.00
T02	$8,338.08	$63.00
T04	$10,328.25	$752.40
T05	$9,946.47	$173.25
T06	$7,591.77	$15.75
T07	$10,518.24	$189.00
T30	$7,430.30	$0.00
TOTAL FOR Cora Kelly Elementary School	$151,552.11	$41,513.40

BUILDING NAME: Trailer #1 and #2

HOMOGENEOUS AREA ID	REMOVAL	REPLACEMENT
TOTAL FOR Trailer #1 and #2	$0.00	$0.00

Note:

Cost estimates are for LEA planning purposes only. The estimates are calculated for each homogeneous area, except floor tiles, flex connectors, boiler gaskets, and fire doors. All cost estimates are based on a three man crew performing the abatement actions. Included in the cost estimates are the following: contractor general mobilization costs, contractor daily project costs, and contractor costs for air testing per 40 CFR 763 Appendix A Unit II requirements. Material replacement costs are also provided assuming any materials removed will be replaced by the contractor. Refined or actual abatement costs can only be determined upon definition of project scope and project design, based on the actual response, as selected by the LEA.

Virginia Department of Education
Energy and Facilities Services

LEA: City of Alexandria Public Schools
School: Cora Kelly Magnet School
Building: See Below

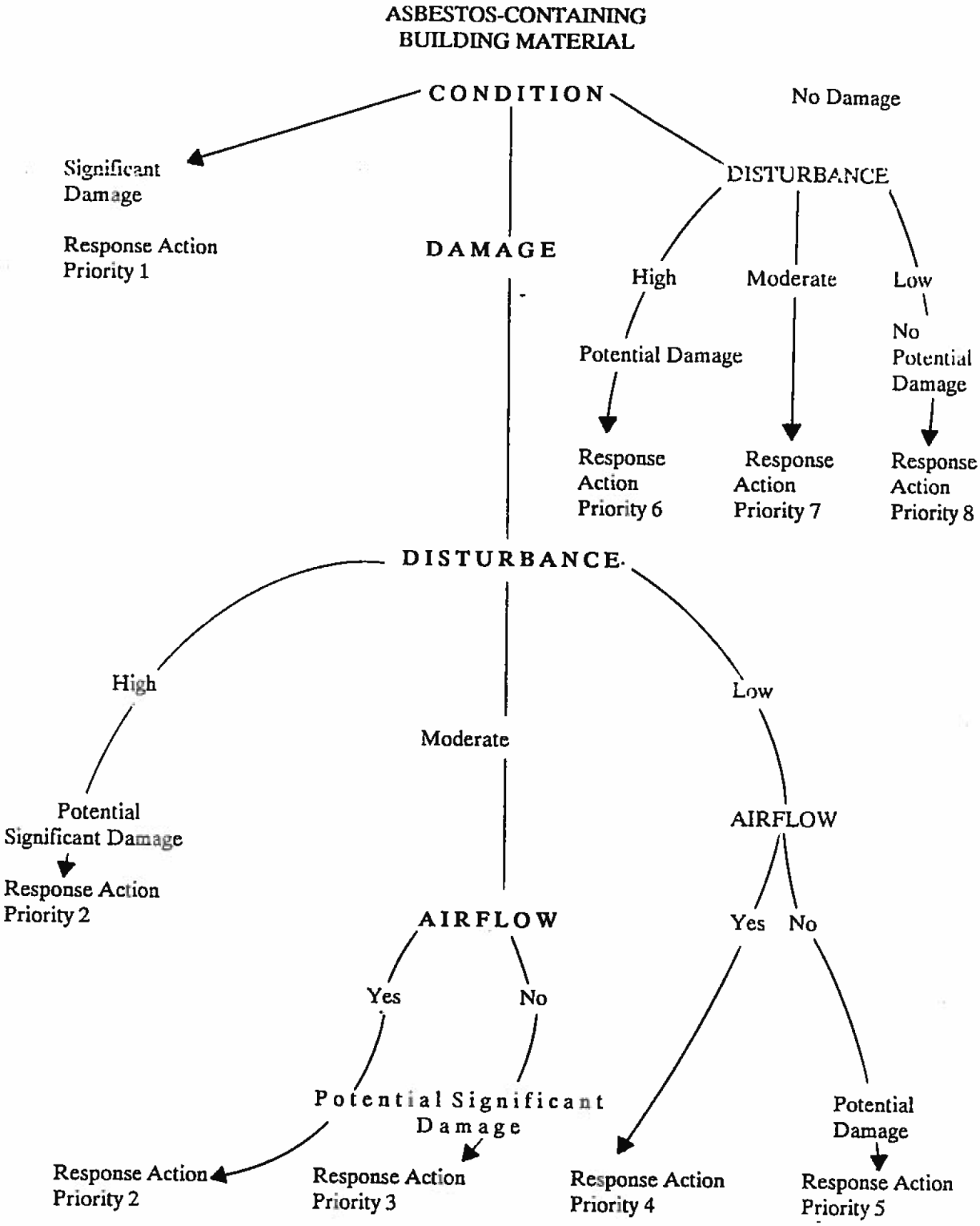
R E M O V A L C O S T
S U M M A R Y

BUILDING NAME: Cora Kelly Magnet School

HOMOGENEOUS AREA ID	EST. AMOUNT OF MATERIAL	REMOVAL	REPLACEMENT
M99-Fire Doors	7 ea	$ 2,800.00	$ 1,400.00
TOTAL From Previous Document G.S.1		151,552.11	41,513.40
TOTAL for Cora Kelly Magnet School		$154,352.11	$42,913.40

Note:

Cost estimates are for LEA planning purposes only. All cost estimates are based on a three man crew performing the abatement actions. Included in the cost estimates are the following: contractor general mobilization costs, contractor daily project costs, and contractor costs for air testing per 40 CFR 763 Appendix A Unit II requirements. Material replacement costs are also provided assuming any materials removed will be replaced by the contractor. Refined or actual abatement costs can only be determined upon definition of project scope and project design, based on the actual response, as selected by the LEA. Cost estimates for removal of fire doors are being provided for administrative purposes only and do not constitute a recommendation for removal except in cases of damage.



Response Action Priority Key

Alexandria City Public Schools
3 Year AHERA Reinspection
Cora Kelly Magnet School
April 14, 1992

In accordance with paragraph 763.85(b)(1) of the Asbestos Hazard Emergency Response Act (AHERA), the Cora Kelly Magnet School was reinspected on April 14, 1992. The reinspection was accomplished by Ernest R. Drew, III, a certified and licensed Inspector and Management Planner, under the rules established by the Commonwealth of Virginia Department of Commerce. Mr. Drew's asbestos Inspector license number is 3303000246 and his Management Planner license number is 3304000179.

Only the areas of asbestos containing building materials (ACBM) that were identified by A. F. Meyer in their initial inspection of April 22, 1988 were reinspected.

The transite board ceiling in the gym (M03) has been removed and should be deleted from the Management Plan. The seven fire doors (M99) are all metal jacketed and show no damage. They are nonfriable and the assessment remains Category 5 (ACBM with potential for damage).

All the thermal system insulation (TSI) in the boiler room and crawl space is in excellent condition. The material shows no damage (< 1%) and is painted. The assessment remains category 5. The only exception to the assessment was the debris in the crawl space (T30). This material has been cleaned up and should be removed from the Management Plan.

The remaining TSI and the fire doors are being maintained in accordance with the Management Plan and the laws of Virginia and the United States Environmental Protection Agency. Extra precautions are being taken to prevent fiber releases and ensure a safe environment for the students and faculty.

A copy of this report must be filed with and become a part of the school Management Plan. The next six month surveillance is due October 14, 1992 and the next three year reinspection is due no later than April 14, 1995.

Ernest R. Drew, III
Virginia Inspector #3303000246
Virginia Management Planner #3304000179

MasiMax
Resources, Inc.

THREE-YEAR REINSPECTION OF ASBESTOS-CONTAINING MATERIALS
ALEXANDRIA CITY PUBLIC SCHOOL SYSTEMS (ACPS)
Cora Kelly Elementary School
August 10, 2007

MasiMax Resources Inc. – Environmental Health & Safety Services (MasiMax) conducted the Three Year Re-Inspection of Asbestos-Containing Materials (ACM) at the Cora Kelly Elementary School on June 26, 2007. The purpose of the re-inspection was to assess the condition of all friable and non-friable Asbestos Containing Building Materials (ACBMs) listed as present from the previous triennial re-inspection.

The Scope of Work included a review of the Asbestos Operations & Management Plan (O&M), asbestos inspection and assessment of ACBM, and updated recommended response actions based on the condition of the ACBM.

All tasks were performed in accordance with re-inspection and assessment criteria established by the Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA), 40 CFR, Part 763.85 and Part 763.88. Each homogeneous area of ACM identified by the previous triennial re-inspection report was inspected. Additionally, the quantity, type, current conditions and recommendations are provided in the table presented in Attachment A.

MasiMax's performed an assessment of the school's asbestos O&M to review if the information required by AHERA is present and current. A checklist of the assessment findings is presented in Attachment B. Included in the checklist is the Local Education Agency's (LEA) designated person listed in the on-site O&M plan; however, ACPS should verify if this information is current.

The re-inspection was conducted by Virginia state licensed asbestos inspectors. All work was directed and supervised by a Certified Industrial Hygienist (CIH) who is also licensed by the State of Virginia as an Asbestos Management Planner. Copies of the Virginia asbestos inspector and management planner licenses are presented in Attachment C.

Under the AHERA requirements 763.93, a copy of the triennial re-inspection report shall be included in the ACPS's Management Plan. In addition, all six (6) month periodic inspection reports, response actions conducted at the school, and personnel training records shall be included in the Management Plan. It is the responsibility of the LEA designated person to ensure the Management Plan is updated regularly and made available to any interested party.

Mark Schneider, CIH, PG, LAC
VA Management Planner # 3304 001536
Exp. 06/30/2008

Bjarne Smith
VA Asbestos Inspector # 3303 002764
Exp. 08/31/2007

Amy Chang
VA Asbestos Inspector # 3303 002399
Exp. 05-31-2008

Corporate Headquarters
1375 Piccard Drive • Suite 175 • Rockville, MD 20850
Phone: 240-632-0610 • Fax: 240-632-0519 • www.masimax.com

Environmental Health and Safety Services
11417 Sunset Hills Road • Suite 225 • Reston, VA 20190
Phone: 571-203-7766 • Fax: 571-203-7911

CHECKLIST FOR ALEXANDRIA CITY PUBIC SCHOOLS AHERA MANAGEMENT PLANS

SCHOOL NAME: Cora Kelly- No O&M found on site.

Yes No

☐ ■ Name and address of school, including a statement of whether the facility has friable, non-friable ACBM, suspect friable ACBM, or suspect non-friable ACBM.

Comments: _____

Yes

☐ LEA – Designated Person

Name: No Name Found Phone #: _____

Yes No

☐ ■ Initial Inspection Reports including:

- Date of inspection;
- Diagram or description of ACBM material locations;
- Bulk sample analysis report;
- Initial response action recommendations;
- Assessment of asbestos materials; and,
- Signature, state, and accreditation # of inspector(s).

Comments: _____

Yes No

☐ ■ Records of all response actions for the last three (3) years (or longer), including:

- Detailed description of response actions;
- Air sample results;
- Signature, state, and accreditation of air sampler;
- Signature, state and accreditation of designer; and,
- Signature, state, and accreditation of contractor.

Comments: _____

Yes No

☐ ■ Recommendations for all response actions.

Comments: _____

Yes No

☐ ■ Signature, State, and accreditation of Management Planner, Inspector(s), Designer(s), and Contractor(s) for initial and all re-inspections.

Comments: _____

Yes No

☐ ■ 6-Month O&M Inspections

Comments: _____

Inspector (s): Bjarne Smith and Amy Chang Date: 6/26/07

Management Planner: _____ Date: 08/21/2007

City of Alexandria - AHERA Inspection

School Cora Kelley **Date** 6/26/2007 **Inspector(s)** Bjarne Smith & Amy Chang

Location	Material	Size	Color	Amount	Unit	Comment	Class	Friable	Damage	Damage Location	Damage Amount	Damage Description	Recommend-ation
AHU between rooms 45 & 41	Surfacing trowled mortar	ALL	N/A	100	SF	Removed	5	No	No	N/A	N/A	N/A	N/A
AHU between rooms 45 & 41	Vibration Damper	ALL	N/A	2	EA	Removed	5	No	No	N/A	N/A	N/A	N/A
AHU between rooms 45 & 41	TSI-elbows, joints	4 in	N/A	16	EA	Removed	5	No	No	N/A	N/A	N/A	N/A
AHU room in room 38	Vibration Damper	ALL	White	2	EA	Removed	N/A	No	No	N/A	N/A	N/A	N/A
AHU room in rooms 38	TSI-elbows	ALL	White	10	EA	Removed	N/A	No	No	N/A	N/A	N/A	N/A

City of Alexandria - AHERA Inspection

School **Cora Kelley** Date 6/26/2007 Inspector(s) Bjarne Smith & Amy Chang

Location	Material	Size	Color	Amount	Unit	Comment	Class	Friable	Damage	Damage Location	Damage Amount	Damage Description	Recommend-ation
AHU Room next to room 41	Trowled ceiling	ALL	White	ALL	ALL	Above drop ceiling	0	No	No	N/A	N/A	N/A	O & M
AHU room next to room 41	TSI-elbows	ALL	White	11	EA	Removed	N/A	No	No	N/A	N/A	N/A	N/A
AHU room next to room 41	Vibration Damper	ALL	White	3	EA	Removed	N/A	No	No	N/A	N/A	N/A	N/A
Art Room	Floor Tile	9x9	Green w/black trim	< 1000	SF	Unable to locate/Covered with carpet or tile	5	No	No	N/A	N/A	N/A	O & M
Boiler Room	TSI-pipe runs	14 in	N/A	12	LF	Removed	5	No	No	N/A	N/A	N/A	N/A

City of Alexandria - AHERA Inspection

School **Cora Kelley** Date 6/26/2007 Inspector(s) Bjarne Smith & Amy Chang

Location	Material	Size	Color	Amount	Unit	Comment	Class	Friable	Damage	Damage Location	Damage Amount	Damage Description	Recommend-ation
Boiler Room	TSI-pipe runs	6 in	N/A	3	EA	Removed	5	No	No	N/A	N/A	N/A	N/A
Boiler room crawl space 1-7	TSI-Pipe Lagging	ALL	N/A	5	SF	Inaccessible -could not observe	1	No	No	N/A	N/A	N/A	O & M
Boiler room Duct	TSI-boiler insulation	18 in	N/A	30	LF	Removed	5	No	No	N/A	N/A	N/A	N/A
Boiler Room Pipe	TSI-pipe runs	18 in	N/A	33	LF	Removed	5	No	No	N/A	N/A	N/A	N/A
Boiler room Water Heater	TSI-pipes,joints, elbows	6 in	N/A	36	LF	Removed	1	No	No	N/A	N/A	N/A	N/A

City of Alexandria - AHERA Inspection

School **Cora Kelley** Date 6/26/2007 Inspector(s) Bjarne Smith & Amy Chang

Location	Material	Size	Color	Amount	Unit	Comment	Class	Friable	Damage	Damage Location	Damage Amount	Damage Description	Recommend-ation
Boiler storage	Floor Tile	9x9	Green w/black trim			Unable to locate/Covered with carpet or tile	5	No	No	N/A	N/A	N/A	O & M
Cafeteria HVAC room	Floor Tile	9x9	Red white	< 100	SF	Unable to locate /Covered with tile	5	No	No	N/A	N/A	N/A	O & M
Gym /Outdoor play area	Transite ceiling	ALL	N/A	8000	SF	Removed	0	No	No	N/A	N/A	N/A	N/A
Hallways	Fire Doors	door	N/A	ALL	ALL	Door by rm 45, 2nd fl, damage near top & by knob.	5	No	Yes	Door near room 45	Minor damage	N/A	O & M
HVAC stairwell library	TSI- elbows VD	Various	Tan	< 100	SF	Removed	5	No	No	N/A	N/A	N/A	N/A

City of Alexandria - AHERA Inspection

School **Cora Kelley** Date 6/26/2007 Inspector(s) Bjarne Smith & Amy Chang

Location	Material	Size	Color	Amount	Unit	Comment	Class	Friable	Damage	Damage Location	Damage Amount	Damage Description	Recommend-ation
Janitor's closet by clinic	Floor Tile	12x12	Green			Partial under carpet. Damaged.	5	No	Yes	Near door	4 SF	N/A	O & M
JC btw. bathrooms outside of office	Incadescent light insulation	6 in	Silver/brown	1	EA	Not present/removed	5	No	No	N/A	N/A	N/A	O & M
Library	Mastic on foil wrap	ALL	Black	ALL	ALL	Removed	5	No	No	N/A	N/A	N/A	N/A
Library AHU room	TSI-elbows	ALL	white	6-8	EA	Removed	0	No	No	N/A	N/A	N/A	N/A
Library AHU room	Vibration damper	ALL	White	2	EA	Material was removed	5	No	No	N/A	N/A	N/A	N/A

City of Alexandria - AHERA Inspection

School **Cora Kelley** Date 6/26/2007 Inspector(s) Bjarne Smith & Amy Chang

Location	Material	Size	Color	Amount	Unit	Comment	Class	Friable	Damage	Damage Location	Damage Amount	Damage Description	Recommend-ation
Library AHU room	TSI-elbows	6 in	White	6	EA	Removed	5	No	No	N/A	N/A	N/A	N/A
Media Storage AHU#2	Surfacing trowled ceiling	ALL	N/A	70	SF	Ceiling surface is damaged	5	No	Yes	N/A	1 SF	N/A	O & M
Media Storage AHU#2	Debris	debris	N/A	1	CU'	Removed	5	No	No	N/A	N/A	N/A	N/A
Media Storage AHU#2	TSI-pipe runs	ALL	N/A	25	LF	Removed	5	No	No	N/A	N/A	N/A	N/A
Media Storage AHU#2	Vibration Damper	ALL	N/A	1	EA	Removed	N/A	No	No	N/A	N/A	N/A	N/A

City of Alexandria - AHERA Inspection

School **Cora Kelley** Date 6/26/2007 Inspector(s) Bjarne Smith & Amy Chang

Location	Material	Size	Color	Amount	Unit	Comment	Class	Friable	Damage	Damage Location	Damage Amount	Damage Description	Recommend-ation
Room #32	Floor Tile	9x9	Green w/black trim			Unable to locate/Covered with carpet or tile	5	No	No	N/A	N/A	N/A	O & M
Room 11	Window ledge	ALL	Black	ALL	ALL	Minor damage at very right of room	5	No	Yes	Back right of room	Minor damage	N/A	O & M
Room 38 AHU	Surfacing trowled mortar	ALL	N/A	100	SF	Removed	5	No	No	N/A	N/A	N/A	N/A
Room 38 AHU	Vibration Damper	ALL	N/A	1	EA	Removed	5	No	No	N/A	N/A	N/A	N/A
Room 38 AHU	TSI-elbows, joints	ALL	N/A	11-13	EA	Removed	5	No	No	N/A	N/A	N/A	N/A

City of Alexandria - AHERA Inspection

School **Cora Kelley** Date 6/26/2007 Inspector(s) Bjarne Smith & Amy Chang

Location	Material	Size	Color	Amount	Unit	Comment	Class	Friable	Damage	Damage Location	Damage Amount	Damage Description	Recommend-ation
Video Lab AHU #1	Vibration Damper	ALL	N/A	1	EA	Removed	7	No	No	N/A	N/A	N/A	N/A
Video Lab AHU #1	TSI-pipe runs	4 in	N/A	30	LF	Removed	5	No	No	N/A	N/A	N/A	N/A
Video Lab AHU #1	TSI-elbows, joints	4 in	N/A	12	EA	Removed	5	No	No	N/A	N/A	N/A	N/A
Video Lab AHU #1	Debris	debris	N/A	<1	SF	Removed	7	No	No	N/A	N/A	N/A	N/A

LIMITED ASBESTOS-CONTAINING MATERIALS SURVEY

CORA KELLY SCHOOL FOR MATH, SCIENCE, AND TECHNOLOGY

KITCHEN RENOVATION PROJECT

3600 COMMONWEALTH AVENUE
ALEXANDIRA, VIRGINIA 22305

ECS PROJECT NO. 47:1519-A4

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

DECEMBER 11, 2019

December 11, 2019

Ms. Azjargal Bartlett
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314
azjargal.bartlett@acps.k12.va.us

ECS Project No. 47:1519-A4

Reference: Limited Asbestos-Containing Materials Survey, Cora Kelly School for Math, Science, and Technology, 3600 Commonwealth Avenue, Alexandira, Virginia

Dear Ms. Bartlett:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the above referenced Limited Asbestos-Containing Materials Survey performed at Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandira, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:13387-EP and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Catey Bourne
Assistant Staff Project Manager
cbourne@ecslimited.com
703-471-8400

Diana Krass
Environmental Senior Project Manager
dkrass@ecslimited.com
703-471-8400

EXECUTIVE SUMMARY

The subject property consists of Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. The purpose of the survey was to determine if asbestos-containing materials (ACMs) are present in the kitchen, dry storage room, kitchen office, kitchen employee bathroom, and cafeteria serving area of the school building which may be impacted during proposed renovations. As requested by the client, no other materials or areas were included in this survey.

Based on the laboratory analysis of the bulk samples collected during the survey, the following materials were reported to contain asbestos:

- Black Floor Tile (Second Layer, Unknown Size);
- Red Floor Tile (Second Layer, Unknown Size); and,
- Green Floor Tile (Second Layer, Unknown Size) and associated Black Mastic.

The above-referenced asbestos-containing flooring materials were observed underneath other flooring systems in the surveyed areas.

Recommendations regarding the removal and disposal of the ACMs identified by ECS can be found in Section 5.0 of this report. The executive summary is an integral portion of this report, however, ECS recommends the report be read in its entirety.

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Appendix V: Certifications/Licenses

1.0 SITE DESCRIPTION

The subject property consists of Cora Kelly School for Math, Science, and Technology located at 3600 Commonweatlh Avenue in Alexandria, Virginia. Reportedly, the kitchen is scheduled for renovations. This survey was limited to materials and areas that may be impacted during the proposed renovations, which includes the kitchen, dry storage room, kitchen office, kitchen employee bathroom, and the serving area of the cafeteria. As requested by the client, no other materials or areas were included in this survey.

2.0 PURPOSE

The purpose of the Limited Asbestos-Containing Materials Survey was to identify asbestos-containing materials (ACMs), which may require special handling and/or disposal if removed during construction activities.

3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by regulation(s) for the identification of Asbestos-Containing Materials (ACMs).

3.1 Asbestos-Containing Materials

The non-destructive asbestos survey was performed by an asbestos inspector who has received EPA accredited training and is licensed by the Commonwealth of Virginia. Samples of suspect ACMs were collected utilizing hand tools and placed into individual, labeled plastic bags. Unique bulk suspect ACM samples were submitted to Scientific Analytical Institute, Inc. in Greensboro, North Carolina for analysis via Polarized Light Microscopy (PLM) in accordance with current EPA-600 methodology. Materials consisting of additional layers were analyzed separately. Scientific Analytical Institute, Inc. 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 by currently approved EPA methodology by PLM.

During the survey, ECS attempted to identify suspect ACMs in readily accessible areas. However, due to the destructive means required to identify some materials, certain areas were deemed inaccessible (i.e. behind walls or sub grade materials) and were not surveyed for suspect ACMs. Unidentified suspect ACMs may be located in these and/or other inaccessible areas.

Samples were collected in general accordance with EPA Standard 40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA) and OSHA Standard 29 CFR 1926.1101 Inspection Protocol. Multiple samples of each unique material were submitted. Samples were analyzed using “Positive Stop” methodology. If one sample of a homogeneous material is reported 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.

4.0 RESULTS

The following is a summary of laboratory results, findings and observations.

4.1 Asbestos-Containing Materials

An Asbestos-Containing Material (ACM) is defined as any material containing more than one percent (>1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, PLM. Materials are categorized by the U.S. EPA in the following categories:

- Friable ACMs are defined as any ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.
- Non-friable ACMs are defined as any ACM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- Category I non-friable ACM are listed as following: packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than one percent (>1%) asbestos.
- Category II non-friable ACM are listed as any material, excluding Category I non-friable ACM, containing more than one percent (>1%) asbestos.

Regulated Asbestos Containing Materials (RACM) are friable ACM or non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or has crumbled, been pulverized, or reduced to powder in the course of renovation and/or demolition operations.

Scientific Analytical Institute, Inc. submitted a signed final laboratory report to ECS on December 4, 2019. Five of the bulk samples submitted for analysis were reported to contain asbestos in detectable concentrations. These materials are summarized below. In total, 40 bulk samples were submitted to the laboratory of which 64 layers were analyzed. A complete list of the sampled materials submitted for analysis and sample locations are located in the Appendix of this report. Additional details regarding the overall locations of the materials identified as asbestos-containing are provided further in the report. Photographs of collected samples reported as asbestos-containing are also located in the Appendix of this report.

Summary of Asbestos-Containing Materials Identified

Sample Location	Material Description	Analytical Result	Category
Storage Room, Serving Area, Near Walk-in Freezer	Black Floor Tile (Unknown Size, Second Layer)	3%-5% Chrysotile	Category I Non-Friable
Kitchen	Green Floor Tile and associated Black Mastic (Unknown Size, Second Layer)	Tile: 2% Chrysotile Mastic: 5% Chrysotile	Category I Non-Friable
Serving Area	Red Floor Tile (Unknown Size, Second Layer)	8% Chrysotile	Category I Non-Friable

ECS observed two layers of vinyl floor tiles throughout the space. The second layer of floor tiles were reported to contain asbestos, which includes a black floor tile, red floor tile, and green floor tile and were observed throughout the surveyed areas. The sizes of these three floor tiles is unknown.

The black mastic associated with the green floor tile was also reported to contain asbestos. Any black floor mastic observed in the surveyed areas; kitchen, dry storage room, kitchen office, kitchen employee bathroom and the serving area of the cafeteria should be considered asbestos-containing. The identified asbestos-containing floor tiles and associated mastics may be located under other flooring systems, partition walls, fixtures, cabinets, furniture, etc. In total, approximately 1,800 square feet of asbestos-containing floor tile was observed. This estimated quantity should be verified by an asbestos abatement contractor prior to bid.

4.2 Suspect or Assumed Asbestos-Containing Materials

Due to the inaccessibility or the destructive means that asbestos sampling requires, 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, sub-grade sealants, flooring located below underlayments, areas behind exterior walls, pipe trenches, and subsurface utilities, etc. These areas were deemed inaccessible and were not assessed.

If these materials are discovered during construction activities, they should be presumed to contain asbestos and be treated as ACMs or be sampled immediately upon discovery and prior to disturbance for asbestos content by a certified asbestos inspector in accordance with 29 CFR 1926.1101.

Based upon our past experience in the identification of ACMs in similarly constructed buildings, the following additional suspect ACMs may also be located in inaccessible areas of the structure:

- **Fire Door Insulation** in doors and associated casing;
- **Thermal System Insulation** in refrigerator/freezer units;
- **Vermiculite Filler** associated with Concrete Masonry Units (CMU);
- T**hermal System Pipe Insulation/Fittings and associated Mastics** behind solid walls and ceilings, and/or below floors;
- **Pipe Flange Gaskets** associated with heating and plumbing systems;
- **Mastics** associated with ceramic wall and floor tiles (not already identified);
- **Spray or Troweled on Fireproofing** above ceilings, along structural components, over-spray, etc.; and,
- **Mastic/Felt Papers** associated with mirrors, bulletin boards, countertops, and casework.

5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the Limited Asbestos-Containing Materials Survey, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

5.1 Asbestos-Containing Materials

ECS recommends where a material type has been identified as asbestos containing that other materials with similar color, texture, age and size throughout the building's interior and exterior be assumed to contain asbestos. Please refer to Section 4.1 for a complete list of building materials that were reported positive for asbestos and to Section 4.2 for materials that were assumed to contain asbestos.

Asbestos-containing materials to be disturbed as part of the renovations must be properly removed by a Virginia-licensed asbestos abatement contractor prior to disturbance by construction activities. The Commonwealth of Virginia requires 20 calendar-days notice prior to the removal of regulated ACM, including removal of greater than 10 square feet of floor tile. For non-friable materials, the notification requirements in general will be dependent on the means/methods used by the contractor to abate these materials.

If ACMs are to be removed, it is recommended that an industrial hygienist monitor the project. This involves collecting air samples from within and outside abatement work areas to monitor the asbestos abatement contractor's work practices over the course of the project. The industrial hygienist should evaluate if the asbestos abatement work is in accordance with project specifications, U.S. EPA regulation 40 CFR Part 61-National Emission Standards for Hazardous Air Pollutants Subpart M: National Emission Standard for Asbestos, and U.S. Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926.1101 – Asbestos in Construction. The industrial hygienist should assess each work area to monitor the removal of ACMs. Only after the industrial hygienist has determined the identified ACMs have been removed should final clearance air samples be collected (if necessary).

Suspect ACMs not observed due to inaccessibility or not sampled due to the destructive means that sampling would require may also be encountered during construction activities. At the time of the survey, only limited destructive means were used to locate or sample suspect ACMs; therefore, additional suspect ACMs may remain within inaccessible areas that include, but are not limited to, sub-grade walls, structural members, topping slabs, exterior areas, sub-grade sealants, vapor barriers, pipe trenches and other subsurface utilities, etc. If additional suspect ACMs are uncovered which were not accessible during this survey, it is recommended that these materials either be assumed to contain asbestos or be sampled prior to disturbance upon discovery for asbestos content by an asbestos inspector in accordance with 29 CFR 1926.1101.

Should any identified ACM remain in place, ECS recommends (and AHERA regulations require) the development and implementation of a site-specific Asbestos Management Plan detailing routine maintenance and repair operations, contractor notification procedures, and all other requirements under EPA 40 CFR 763 and OSHA 29 CFR 1926.1101.

6.0 LIMITATIONS

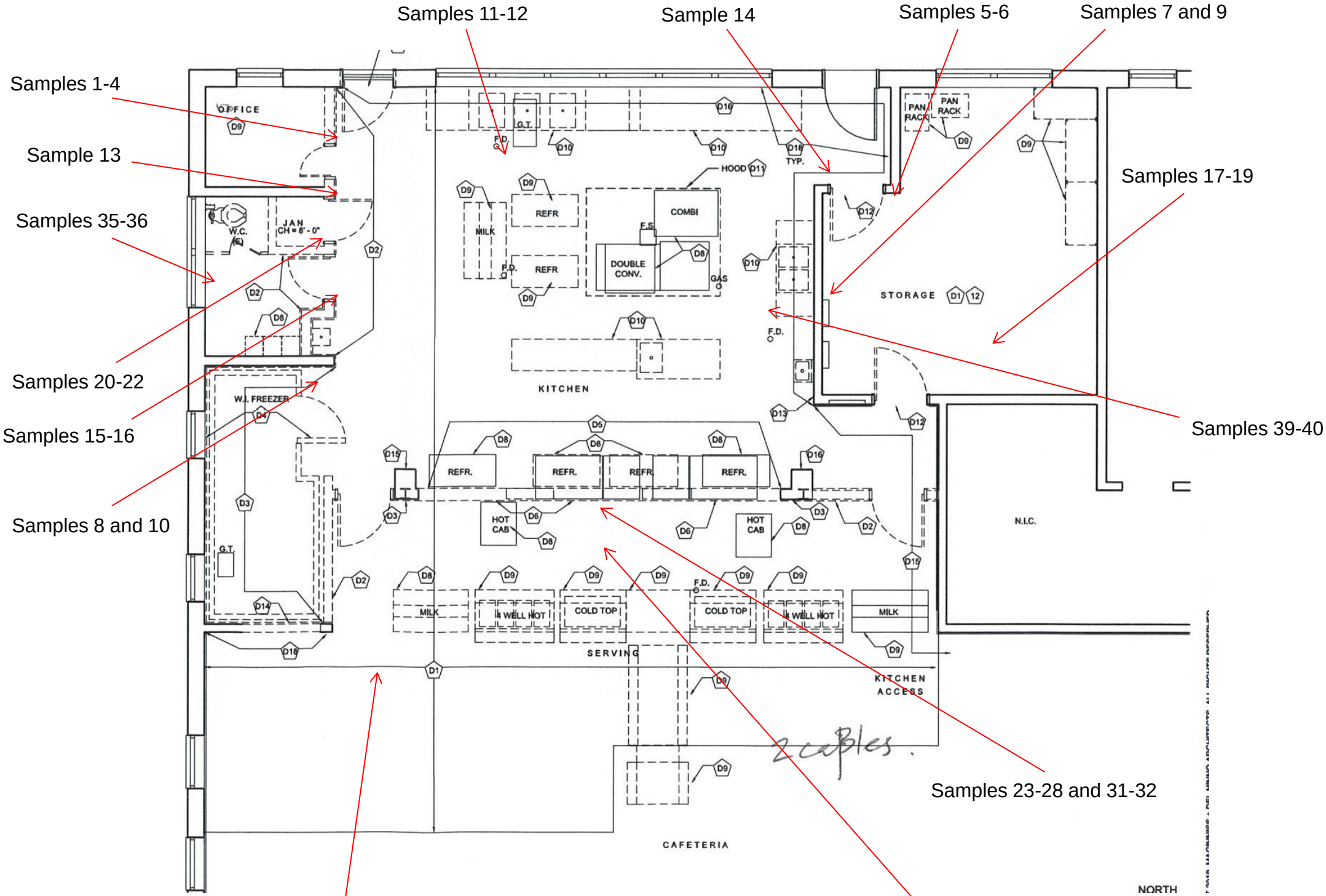
The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which 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 warranty, expressed or implied, is made.

The 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 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. 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 ECS and the client.

Our recommendations are in part based on federal, state, and local 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.

Appendix I: Drawings



Cora Kelly Elementary School
Kitchen Renovation
3600 Commonwealth Avenue
Alexandria, VA 22305

ECS

SAMPLING LOCATIONS

Alexandria City Public Schools

SCALE NTS

Project No. 47:1519-A4

Site Visit: 11/20/19

Appendix II: Site Photographs



1 - View of Asbestos-Containing Black Floor Tile (Second Layer) in the Kitchen. Sample Nos. 9 and 10.



2 - View of Asbestos-Containing Green Floor Tile (Second Layer) and associated black mastic in the Kitchen. Sample Nos. 11 and 12.



3 - View of Asbestos-Containing Red Floor Tile (Second Layer) in the Serving Area. Sample Nos. 33 and 34.

Appendix III: Asbestos Bulk Sample Results

TABLE

SUSPECT ASBESTOS-CONTAINING MATERIALS BULK SAMPLING RESULTS

Sample #	Sampling Location	Material/Description	Analytical Results
1 - A	Office	6" Black Cove Base	NAD
1 - B	Office	Yellow Mastic associated with 6" Black Cove Base	NAD
2 - A	Office	6" Black Cove Base	NAD
2 - B	Office	Yellow Mastic associated with 6" Black Cove Base	NAD
3	Office	12" x 12" Blue Gray Floor Tile	NAD
4	Serving Area	12" x 12" Blue Gray Floor Tile	NAD
5 - A	Storage Room	6" Black Cove Base	NAD
5 - B	Storage Room	White Mastic associated with 6" Black Cove Base	NAD
6 - A	Storage Room	6" Black Cove Base	NAD
6 - B	Storage Room	White Mastic associated with 6" Black Cove Base	NAD
7 - A	Storage Room	12" x 12" White Mottled Floor Tile	NAD
7 - B	Storage Room	Yellow Mastic associated with 12" x 12" White Mottled Floor Tile	NAD
8 - A	Near Walk-In Freezer	12" x 12" White Mottled Floor Tile	NAD
8 - B	Near Walk-In Freezer	Yellow Mastic associated with 12" x 12" White Mottled Floor Tile	NAD
9	**Storage Room**	**Unknown Size Black Floor Tile (Second Layer)**	**3% Chrysotile**
10	**Near Walk-In Freezer**	**Unknown Size Black Floor Tile (Second Layer)**	**N/A**
11 - A	Near 3-Stage Sink	12" x 12" White Mottled Floor Tile	NAD
11 - B	**Near 3-Stage Sink**	**Unknown Size Green Floor Tile (Second Layer)**	**2% Chrysotile**
11 - C	**Near 3-Stage Sink**	**Black Mastic associated with Unknown Size Green Floor Tile (Second Layer)**	**5% Chrysotile**
11 - D	Near 3-Stage Sink	Gray Leveling Compound associated with Unknown Size Green Floor Tile (Second Layer)	NAD
12 - A	**Near 3-Stage Sink**	**Unknown Size Green Floor Tile (Second Layer)**	**N/A**
12 - B	**Near 3-Stage Sink**	**Black Mastic associated with Unknown Size Green Floor Tile (Second Layer)**	**N/A**
12 - C	Near 3-Stage Sink	Gray Leveling Compound associated with Unknown Size Green Floor Tile (Second Layer)	NAD
13	Mop Closet	Interior White Door Caulk	NAD
14	Storage Room	Interior White Door Caulk	NAD
15	Bathroom	Bathroom Threshold Flooring	NAD

Table Notes:
Bold = Asbestos-Containing Materials
N/A = Not Analyzed, Positive Stop
NAD = No Asbestos Detected

TABLE

SUSPECT ASBESTOS-CONTAINING MATERIALS BULK SAMPLING RESULTS

Sample #	Sampling Location	Material/Description	Analytical Results
16	Bathroom	Bathroom Threshold Flooring	NAD
17 - A	Storage Room	Plaster Ceiling Finish	NAD
17 - B	Storage Room	Plaster Ceiling Base	NAD
18 - A	Storage Room	Plaster Ceiling Finish	NAD
18 - B	Storage Room	Plaster Ceiling Base	NAD
19 - A	Storage Room	Plaster Ceiling Finish	NAD
19 - B	Storage Room	Plaster Ceiling Base	NAD
20 - A	Mop Closet	Plaster Wall Finish	NAD
20 - B	Mop Closet	Plaster Wall Base	NAD
21 - A	Mop Closet	Plaster Wall Finish	NAD
21 - B	Mop Closet	Plaster Wall Base	NAD
22 - A	Mop Closet	Plaster Wall Finish	NAD
22 - B	Mop Closet	Plaster Wall Base	NAD
23 - A	Serving Area	12" x 12" Off-White Floor Tile	NAD
23 - B	Serving Area	Transparent Mastic associated with 12" x 12" Off-White Floor Tile	NAD
24 - A	Serving Area	12" x 12" Off-White Floor Tile	NAD
24 - B	Serving Area	Transparent Mastic associated with 12" x 12" Off-White Floor Tile	NAD
25	Serving Area	12" x 12" Tan Floor Tile	NAD
26	Serving Area	12" x 12" Tan Floor Tile	NAD
27 - A	Serving Area	12" x 12" Red Floor Tile	NAD
27 - B	Serving Area	Yellow Mastic associated with 12" x 12" Red Floor Tile	NAD
28 - A	Serving Area	12" x 12" Red Floor Tile	NAD
28 - B	Serving Area	Yellow Mastic associated with 12" x 12" Red Floor Tile	NAD
29 - A	Serving Area	12" x 12" Green Floor Tile	NAD
29 - B	Serving Area	Yellow Mastic associated with 12" x 12" Green Floor Tile	NAD
30 - A	Serving Area	12" x 12" Green Floor Tile	NAD

Table Notes:
Bold = Asbestos-Containing Materials
N/A = Not Analyzed, Positive Stop
NAD = No Asbestos Detected

TABLE

SUSPECT ASBESTOS-CONTAINING MATERIALS BULK SAMPLING RESULTS

Sample #	Sampling Location	Material/Description	Analytical Results
30 - B	Serving Area	Yellow Mastic associated with 12" x 12" Green Floor Tile	NAD
31 - A	**Serving Area**	**Unknown Size Black Floor Tile (Second Layer)**	**5% Chrysotile**
31 - B	Serving Area	Transparent Mastic Unknown Size Black Floor Tile (Second Layer)	NAD
32 - A	**Serving Area**	**Unknown Size Black Floor Tile (Second Layer)**	**N/A**
32 - B	Serving Area	Transparent Mastic Unknown Size Black Floor Tile (Second Layer)	NAD
33 - A	**Serving Area**	**Unknown Size Red Floor Tile (Second Layer)**	**8% Chrysotile**
33 - B	Serving Area	Yellow Mastic Unknown Size Red Floor Tile (Second Layer)	NAD
34 - A	**Serving Area**	**Unknown Size Red Floor Tile (Second Layer)**	**N/A**
34 - B	Serving Area	Yellow Mastic Unknown Size Red Floor Tile (Second Layer)	NAD
35 - A	Bathroom	6" Red Ceramic Floor Tile	NAD
35 - B	Bathroom	Gray Grout associated with 6" Red Ceramic Floor Tile	NAD
36 - A	Bathroom	6" Red Ceramic Floor Tile	NAD
36 - B	Bathroom	Gray Grout associated with 6" Red Ceramic Floor Tile	NAD
37	Serving Area	Ceiling Drywall	NAD
38	Serving Area	Ceiling Drywall	NAD
39	Near 3-Stage Sink	Black Floor Mastic	NAD
40	Near 3-Stage Sink	Black Floor Mastic	NAD

Table Notes:
Bold = Asbestos-Containing Materials
N/A = Not Analyzed, Positive Stop
NAD = No Asbestos Detected

Appendix IV: Laboratory Report(s)

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP LAB CODE 200644-0

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Catey Bourne

Project: Cora Kelly Kitchen Reno 47:1519-A4

Lab Order ID: 71930218
Analysis ID: 71930218_PLM
Date Received: 12/2/2019
Date Reported: 12/4/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
1 - A *71930218PLM_1*	6" Black Cove Base with Brown Msatic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Dissolved
1 - B *71930218PLM_41*	6" Black Cove Base with Brown Msatic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
2 - A *71930218PLM_2*	6" Black Cove Base with Brown Msatic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Dissolved
2 - B *71930218PLM_42*	6" Black Cove Base with Brown Msatic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
3 *71930218PLM_3*	12" x 12" Blue Floor Tile *tile only*	**None Detected**		**100% Other**	Blue, Gray Non Fibrous Heterogeneous Dissolved
4 *71930218PLM_4*	12" x 12" Blue Floor Tile *tile only*	**None Detected**		**100% Other**	Blue, Gray Non Fibrous Heterogeneous Dissolved
5 - A *71930218PLM_5*	6" Black Cove Base with White Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Dissolved
5 - B *71930218PLM_43*	6" Black Cove Base with White Mastic *mastic*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Dissolved

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Eloisa Blake (57)
Bobby Wheatley (12)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP LAB CODE 200644-0

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Project: Cora Kelly Kitchen Reno 47:1519-A4

Lab Order ID: 71930218
Analysis ID: 71930218_PLM
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Date Reported: 12/4/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
6 - A *71930218PLM_6*	6" Black Cove Base with White Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Dissolved
6 - B *71930218PLM_44*	6" Black Cove Base with White Mastic *mastic*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Dissolved
7 - A *71930218PLM_7*	12" x 12" White Mottled Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	White, Beige Non Fibrous Heterogeneous Dissolved
7 - B *71930218PLM_45*	12" x 12" White Mottled Floor Tile with Yellow Mastic *mastic - small sample*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
8 - A *71930218PLM_8*	12" x 12" White Mottled Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	White, Beige Non Fibrous Heterogeneous Dissolved
8 - B *71930218PLM_46*	12" x 12" White Mottled Floor Tile with Yellow Mastic *mastic - small sample*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
9 *71930218PLM_9*	Unknown Size Black Floor Tile (Second Layer)	**3% Chrysotile**	**5% Wollastonite**	**92% Other**	Black Non Fibrous Heterogeneous Dissolved
10 *71930218PLM_10*	Unknown Size Black Floor Tile (Second Layer)	**Not Analyzed**			

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Bulk Asbestos Analysis

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Date Received: 12/2/2019
Date Reported: 12/4/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
11 - A *71930218PLM_11*	Unknown Size Green Floor Tile (Second Layer) and Brown Leveling Compound *white tile*	**None Detected**		**100% Other**	White Non Fibrous Heterogeneous Dissolved
11 - B *71930218PLM_47*	Unknown Size Green Floor Tile (Second Layer) and Brown Leveling Compound *green tile*	**2% Chrysotile**		**98% Other**	Green Non Fibrous Heterogeneous Dissolved
11 - C *71930218PLM_48*	Unknown Size Green Floor Tile (Second Layer) and Brown Leveling Compound *mastic*	**5% Chrysotile**		**95% Other**	Black Non Fibrous Homogeneous Dissolved
11 - D *71930218PLM_49*	Unknown Size Green Floor Tile (Second Layer) and Brown Leveling Compound *leveling compound*	**None Detected**		**100% Other**	Gray Non Fibrous Heterogeneous Crushed
12 - A *71930218PLM_12*	Unknown Size Green Floor Tile (Second Layer) and Brown Leveling Compound *tile*	**Not Analyzed**			
12 - B *71930218PLM_50*	Unknown Size Green Floor Tile (Second Layer) and Brown Leveling Compound *mastic*	**Not Analyzed**			
12 - C *71930218PLM_51*	Unknown Size Green Floor Tile (Second Layer) and Brown Leveling Compound *leveling compound*	**None Detected**		**100% Other**	Gray Non Fibrous Heterogeneous Crushed
13 *71930218PLM_13*	Interior White Door Caulk *small sample*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Dissolved

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Analyst

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Bulk Asbestos Analysis

By Polarized Light Microscopy
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Lab Order ID: 71930218
Analysis ID: 71930218_PLM
Date Received: 12/2/2019
Date Reported: 12/4/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
14 *71930218PLM_14*	Interior White Door Caulk	None Detected		100% Other	White Non Fibrous Homogeneous Dissolved
15 *71930218PLM_15*	Bathroom Threshold Flooring	None Detected		100% Other	Gray Non Fibrous Heterogeneous Crushed
16 *71930218PLM_16*	Bathroom Threshold Flooring	None Detected		100% Other	Gray Non Fibrous Heterogeneous Crushed
17 - A *71930218PLM_17*	Plaster Ceiling *finish*	None Detected		100% Other	White Non Fibrous Homogeneous Crushed
17 - B *71930218PLM_52*	Plaster Ceiling *base*	None Detected		100% Other	Gray Non Fibrous Heterogeneous Crushed
18 - A *71930218PLM_18*	Plaster Ceiling *finish*	None Detected		100% Other	White Non Fibrous Homogeneous Crushed
18 - B *71930218PLM_53*	Plaster Ceiling *base*	None Detected		100% Other	Gray Non Fibrous Heterogeneous Crushed
19 - A *71930218PLM_19*	Plaster Ceiling *finish*	None Detected		100% Other	White Non Fibrous Homogeneous Crushed

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Bobby Wheatley (12)

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Project: Cora Kelly Kitchen Reno 47:1519-A4

Lab Order ID: 71930218
Analysis ID: 71930218_PLM
Date Received: 12/2/2019
Date Reported: 12/4/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
19 - B *71930218PLM_54*	Plaster Ceiling *base*	**None Detected**		**100% Other**	Gray Non Fibrous Heterogeneous Crushed
20 - A *71930218PLM_20*	Plaster Wall *finish*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Crushed
20 - B *71930218PLM_55*	Plaster Wall *base*	**None Detected**		**100% Other**	Gray Non Fibrous Heterogeneous Crushed
21 - A *71930218PLM_21*	Plaster Wall *finish*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Crushed
21 - B *71930218PLM_56*	Plaster Wall *base*	**None Detected**		**100% Other**	Gray Non Fibrous Heterogeneous Crushed
22 - A *71930218PLM_22*	Plaster Wall *finish*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Crushed
22 - B *71930218PLM_57*	Plaster Wall *base*	**None Detected**		**100% Other**	Gray Non Fibrous Heterogeneous Crushed
23 - A *71930218PLM_23*	12" x 12" Off-White Floor Tile *tile*	**None Detected**		**100% Other**	Beige Non Fibrous Heterogeneous Dissolved

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Lab Order ID: 71930218
Analysis ID: 71930218_PLM
Date Received: 12/2/2019
Date Reported: 12/4/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
23 - B *71930218PLM_58*	12" x 12" Off-White Floor Tile *mastic*	**None Detected**		**100% Other**	Transparent Non Fibrous Homogeneous Dissolved
24 - A *71930218PLM_24*	12" x 12" Off-White Floor Tile *tile*	**None Detected**		**100% Other**	Beige Non Fibrous Heterogeneous Dissolved
24 - B *71930218PLM_59*	12" x 12" Off-White Floor Tile *mastic*	**None Detected**		**100% Other**	Transparent Non Fibrous Homogeneous Dissolved
25 *71930218PLM_25*	12" x 12" Tan Floor Tile *tile only*	**None Detected**		**100% Other**	Tan Non Fibrous Heterogeneous Dissolved
26 *71930218PLM_26*	12" x 12" Tan Floor Tile *tile only*	**None Detected**		**100% Other**	Tan Non Fibrous Heterogeneous Dissolved
27 - A *71930218PLM_27*	12" x 12" Red Floor Tile *tile*	**None Detected**		**100% Other**	Red Non Fibrous Heterogeneous Dissolved
27 - B *71930218PLM_60*	12" x 12" Red Floor Tile *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
28 - A *71930218PLM_28*	12" x 12" Red Floor Tile *tile*	**None Detected**		**100% Other**	Red Non Fibrous Heterogeneous 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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

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Bulk Asbestos Analysis

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Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
28 - B *71930218PLM_61*	12" x 12" Red Floor Tile *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
29 - A *71930218PLM_29*	12" x 12" Green Floor Tile *tile*	**None Detected**		**100% Other**	Green Non Fibrous Heterogeneous Dissolved
29 - B *71930218PLM_62*	12" x 12" Green Floor Tile *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
30 - A *71930218PLM_30*	12" x 12" Green Floor Tile *tile*	**None Detected**		**100% Other**	Green Non Fibrous Heterogeneous Dissolved
30 - B *71930218PLM_63*	12" x 12" Green Floor Tile *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
31 - A *71930218PLM_31*	Unknown Size Black Floor Tile (Second Layer) *tile*	**5% Chrysotile**		**95% Other**	Black Non Fibrous Heterogeneous Dissolved
31 - B *71930218PLM_64*	Unknown Size Black Floor Tile (Second Layer) *mastic*	**None Detected**		**100% Other**	Transparent Non Fibrous Homogeneous Dissolved
32 - A *71930218PLM_32*	Unknown Size Black Floor Tile (Second Layer) *tile*	**Not Analyzed**			

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Bobby Wheatley (12)

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Date Received: 12/2/2019
Date Reported: 12/4/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
32 - B *71930218PLM_65*	Unknown Size Black Floor Tile (Second Layer) *mastic*	**None Detected**		**100% Other**	Transparent Non Fibrous Homogeneous Dissolved
33 - A *71930218PLM_33*	Unknown Size Red Floor Tile (Second Layer) *tile*	**8% Chrysotile**		**92% Other**	Red Non Fibrous Homogeneous Dissolved
33 - B *71930218PLM_66*	Unknown Size Red Floor Tile (Second Layer) *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
34 - A *71930218PLM_34*	Unknown Size Red Floor Tile (Second Layer) *tile*	**Not Analyzed**			
34 - B *71930218PLM_67*	Unknown Size Red Floor Tile (Second Layer) *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
35 - A *71930218PLM_35*	6" Red Ceramic Floor Tile *ceramic tile*	**None Detected**		**100% Other**	Red Non Fibrous Heterogeneous Crushed
35 - B *71930218PLM_68*	6" Red Ceramic Floor Tile *grout*	**None Detected**		**100% Other**	Gray Non Fibrous Heterogeneous Crushed
36 - A *71930218PLM_36*	6" Red Ceramic Floor Tile *ceramic tile*	**None Detected**		**100% Other**	Red Non Fibrous Heterogeneous Crushed

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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Eloisa Blake (57)
Bobby Wheatley (12)

Analyst

Approved Signatory

P-F-002 r15 1/16/2021

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP LAB CODE 200644-0

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Catey Bourne

Project: Cora Kelly Kitchen Reno 47:1519-A4

Lab Order ID: 71930218
Analysis ID: 71930218_PLM
Date Received: 12/2/2019
Date Reported: 12/4/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
36 - B	6" Red Ceramic Floor Tile	**None Detected**		**100% Other**	Gray, Beige Non Fibrous Heterogeneous
71930218PLM_69	*grout*				Crushed
37	Ceiling Drywall and Joint Compound	**None Detected**	**15% Cellulose**	**85% Other**	Gray Non Fibrous Heterogeneous
71930218PLM_37	*drywall only*				Crushed
38	Ceiling Drywall and Joint Compound	**None Detected**	**15% Cellulose**	**85% Other**	Gray Non Fibrous Heterogeneous
71930218PLM_38	*drywall only*				Crushed
39	Black Floor Mastic	**None Detected**		**100% Other**	Black Non Fibrous Heterogeneous
71930218PLM_39	*analyzed mastic only*				Crushed, Dissolved
40	Black Floor Mastic	**None Detected**		**100% Other**	Black Non Fibrous Heterogeneous
71930218PLM_40	*analyzed mastic only*				Crushed, 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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Eloisa Blake (57)
Bobby Wheatley (12)

Analyst

Approved Signatory

11930218

Client:	Ecs Mid Atlantic
Contact:	Catey Bourne
Address:	14026 Thunderbolt Place
Phone:	(703)-471-8400
Fax:	
Email:	cbourne@ecslimited.com
Project:	Cora Kelly Kitchen Reno 47:1519-A4
Client Notes:	Positive Stop
P.O. #:	47:1519-A4
Date Submitted:	11/26/2019
Analysis:	PLM EPA 600/R-93/116
Turnaround Time:	3 Day

"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.

Scientific Analytical Institute

4604 Dundas Drive
Greensboro, NC 27407
Phone: 336.292.3888
Fax: 336.292.3313
Email: lab@sailab.com

Sample Number	Data 1	Sample Description	Data 2
<<			
1		6" Black Cove Base with Brown Msatic	Office
2		6" Black Cove Base with Brown Msatic	Office
3		12" x 12" Blue Floor Tile	Office
4		12" x 12" Blue Floor Tile	Serving Area
5		6" Black Cove Base with White Mastic	Storage Room
6		6" Black Cove Base with White Mastic	Storage Room
7		12" x 12" White Mottled Floor Tile with Yellow Mastic	Storage Room
8		12" x 12" White Mottled Floor Tile with Yellow Mastic	Near Walk-In Freezer
9		Unknown Size Black Floor Tile (Second Layer)	Storage Room
10		Unknown Size Black Floor Tile (Second Layer)	Near Walk-In Freezer
11		Unknown Size Green Floor Tile (Second Layer) and Brown Leveling Compound	Near 3-Stage Sink
12		Unknown Size Green Floor Tile (Second Layer) and Brown Leveling Compound	Near 3-Stage Sink
13		Interior White Door Caulk	Mop Closet
14		Interior White Door Caulk	Storage Room
15		Bathroom Threshold Flooring	Bathroom
16		Bathroom Threshold Flooring	Bathroom
17		Plaster Ceiling	Storage Room
18		Plaster Ceiling	Storage Room
19		Plaster Ceiling	Storage Room
20		Plaster Wall	Mop Closet
21		Plaster Wall	Mop Closet
22		Plaster Wall	Mop Closet
23		12" x 12" Off-White Floor Tile	Serving Area
24		12" x 12" Off-White Floor Tile	Serving Area
25		12" x 12" Tan Floor Tile	Serving Area
26		12" x 12" Tan Floor Tile	Serving Area
27		12" x 12" Red Floor Tile	Serving Area
28		12" x 12" Red Floor Tile	Serving Area
29		12" x 12" Green Floor Tile	Serving Area
30		12" x 12" Green Floor Tile	Serving Area
31		Unknown Size Black Floor Tile (Second Layer)	Serving Area
32		Unknown Size Black Floor Tile (Second Layer)	Serving Area
33		Unknown Size Red Floor Tile (Second Layer)	Serving Area
34		Unknown Size Red Floor Tile (Second Layer)	Serving Area
35		6" Red Ceramic Floor Tile	Bathroom
36		6" Red Ceramic Floor Tile	Bathroom
37		Ceiling Drywall and Joint Compound	Serving Area
38		Ceiling Drywall and Joint Compound	Serving Area
39		Black Floor Mastic	Near 3-Stage Sink
40		Black Floor Mastic	Near 3-Stage Sink

Accepted ☒

Rejected ☐

Relinquished By

Received By

12/2 1030A

Appendix V: Certifications/ Licenses

DPOR License Lookup License Number 3303004293

License Details

Name	BOURNE, CATHERINE GRACE
License Number	3303004293
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	ALEXANDRIA, VA 22304
Initial Certification Date	2017-07-18
Expiration Date	2020-07-31

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ASBESTOS ABATEMENT MONITORING REPORT

CORA KELLY SCHOOL FOR MATH, SCIENCE AND TECHNOLOGY

3600 COMMONWEALTH AVENUE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:1519-A3

FOR

ALEXANDRIA CITY PUBLIC SCHOOLS

MAY 19, 2020

May 19, 2020

Mr. Paul May
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314
paul.may@acps.k12.va.us

ECS Project No. 47:1519-A3

Reference: Asbestos Abatement Monitoring Report, Cora Kelly School for Math, Science and Technology, 3600 Commonwealth Avenue, Alexandria, Virginia

Dear Mr. May:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with this summary report of the asbestos abatement work performed during the above-referenced project. ECS performed visual assessments, evaluations, and air monitoring and sampling during the removal of asbestos-containing materials (ACMs). This report includes a project description, a summary of the asbestos abatement activities observed by ECS, and a summary of the work conducted by ECS including laboratory results.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Bobby L. Rhett
Project Manager
brhett@ecslimited.com
703-471-8400

Diana Krass
Environmental Senior Project Manager
dkrass@ecslimited.com
703-471-8400

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TABLE OF APPENDICES

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Appendix II: Certifications/Licenses

1.0 PROJECT DESCRIPTION

The asbestos abatement project included removal of asbestos-containing materials (ACMs) identified in the survey report for the Cora Kelly Elevator Project (ECS Report Reference No. 47:1519-A3 dated January 24, 2020). The asbestos abatement work was performed by WACO, Inc., in general, between April 7, 2020 and April 10, 2020 and included the removal of the following asbestos-containing materials (ACMs):

- Floor Tile and associated Mastic from the Second floor, Office 241 and the Copy Room; and,
- Plaster Ceiling from the Second Floor Copy Room.

In addition, the abatement workers removed a newly identified area of floor tile and mastic from the kitchen at Cora Kelly associated with the kitchen renovation project (ECS Reference Report No. 47:1519-A4, dated December 11, 2019).

Please note that the above-referenced ACMs, and other ACMs or assumed ACMs are still present at the above-referenced school building. No other areas or materials were included in this asbestos abatement project.

2.0 ECS SCOPE OF WORK

ECS was tasked with performing visual assessments and evaluations, monitoring and air sampling during and after the removal of the above-identified asbestos-containing materials (ACMs) within the above-referenced subject building.

3.0 ASBESTOS ABATEMENT ACTIVITIES

3.1 Asbestos Removal

Asbestos abatement was performed by WACO, Inc. within regulated work areas in the second floor copy room, second floor office 241, and first floor kitchen. The regulated work areas within the subject building consisted of enclosures placed under negative pressure constructed of 6-mil polyethylene sheeting.

3.2 Daily Air Sampling

During the asbestos abatement project, ECS collected and analyzed air samples using Phase Contrast Microscopy (PCM) in general accordance with applicable federal and Virginia regulations. Samples were collected during the project outside the work areas to monitor airborne fiber concentrations. In general, the air sampling found the engineering controls (i.e., polyethylene sheeting, negative air pressure, High Efficiency Particulate Air (HEPA) filtration adequate to keep fiber concentrations on air samples collected outside the regulated work areas below the Virginia PCM re-occupancy limit of <0.01 fibers per cubic centimeter (f/cc). Air sample results are included within the technicians' daily field notes.

3.3 ECS Observations

ECS reviewed the asbestos credentials of the abatement workers. The credential documentation reviewed was noted to be current at the time presented to ECS.

ECS observed abatement workers utilizing personal protective equipment deemed necessary for asbestos abatement work by applicable OSHA and Virginia regulations (respirators, disposable protective clothing, eye protection, hard hats, gloves, etc.).

4.0 FINAL CLEARANCE AIR SAMPLING

After WACO, Inc. had removed the specified asbestos-containing materials (ACMs) and related waste from the work areas, ECS performed final clearance visual assessments to survey each work area and evaluate if the ACMs had been removed and if dust and/or debris remained in the work areas. Following the completion of the final clearance visual assessments, ECS reported the results to WACO, Inc. .

Final clearance air samples were collected from the second floor work area in general accordance with aggressive sampling protocol described in 40 CFR 763 Subpart E Appendix A and analyzed via Transmission Electron Microscopy (TEM) as required by EPA and Virginia regulations. The results of the TEM final clearance air samples collected from the work area were found to be below the EPA and Virginia re-occupancy limit of 70 structures per square millimeter (70 s/mm^2).

Final clearance air samples in the first floor kitchen were collected in general accordance with the aggressive sampling protocol described in 40 CFR 763 Subpart E Appendix A and analyzed via Phase Contrast Microscopy (PCM) as permitted by EPA and Virginia regulations. The results of the PCM final clearance air samples collected from the first floor kitchen work area were found to be below the EPA and Virginia PCM re-occupancy limit of 0.01 fibers per cubic centimeter (f/cc).

5.0 CLOSING

ECS's daily monitoring field reports and PCM air sample results are enclosed along with copies of the TEM laboratory reports. If we can be of further assistance to you, please do not hesitate to contact us at (703) 471-8400.

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which 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 warranty, expressed or implied, is made.

The 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 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. 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 ECS and the client.

Our recommendations are in part based on federal, state, and local 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

Appendix I: Daily Field Reports with PCM and TEM Air Sample Results

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

April 10, 2020
Alexandria City Public Schools
1340 Braddock Place Suite 620
Alexandria, VA 22314

ATTN: Paul May

RE: **ACPS - Cora Kelly Library ACM**
ECS Job # **1519-A3**

Permits:
Location: **3600 Commonwealth Avenue**
Alexandria, VA 22305

X Field Reports **X** For your use **X** As requested

CC: Alexandria City Public Schools - John Finnigan

ENCL: Field Report # 1 4/7/2020 6 PCM

Diana D. Krass
Environmental Senior Project Manager

Robert Lawrence Rhett
Environmental Project Manager

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2. *The information in this report relates only to the activities performed on the report date.*
3. *Where appropriate, this report includes statements as to compliance with applicable project drawings, and specifications for the activities, performed on this report date.*
4. *Incomplete or non-conforming work will be reported for future resolution.*
5. *The results of samples and/or specimens obtained or prepared for supersequent laboratory testing will be presented in separate reports/documents.*

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**1519-A3**
Report No.	**1**
Day & Date	**Tuesday 4/7/2020**
Weather	**65 °/ Sunny**
On-Site Time	**8.50**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**8.50**
Re Obs Time	**0.00**

Project	**ACPS - Cora Kelly Library ACM**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools**
Contractor	**None Listed**

Remarks **6 PCM**

Trip Charges*	Tolls/Parking*	Mileage*	Time of	Arrival	Departure
Chargeable Items				**6:00A**	**2:30P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. The material to be removed today is asbestos-containing floor tile and associated mastic, and plaster from the second floor copy room, and office 241.

SECOND FLOOR COPY ROOM AND OFFICE 241

Prior to starting the removal of the specified materials, the abatement contractor employees were asked to provide their asbestos abatement license for review. No workers were found to be without valid asbestos abatement licenses.

Prior to starting the removal of the specified material, the abatement permit was reviewed. The permit was on-site and the removal of the specified material could begin.

Throughout the morning, the abatement contractor setup containment on the second floor.

At 6:30 am, PCM air samples were started outside the work area. The sampling pumps were calibrated using a rotameter to 2.0 liters per minute.

At 12:00 pm, the sampling pumps were checked using a rotameter. The flow rate was 2.0 liters per minute. The PCM air samples were stopped and gathered from outside the work area.

The abatement contractor requested a pre-abatement survey of the regulated work area. The Pre-Abatement Checklist was completed and is attached to this report.

At 12:15 pm, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 5.0 liters per minute.

At 2:15 pm, the sampling pumps were checked using a rotameter. The flow rate was 5.0 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area.

GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and stored temporarily within the work area.

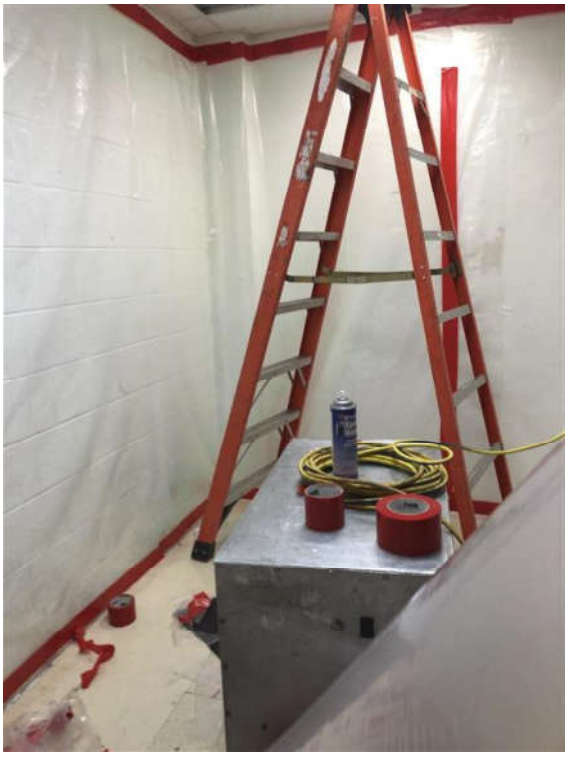
The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.

Attachments



View of Containment Exterior during Work Area Preparation

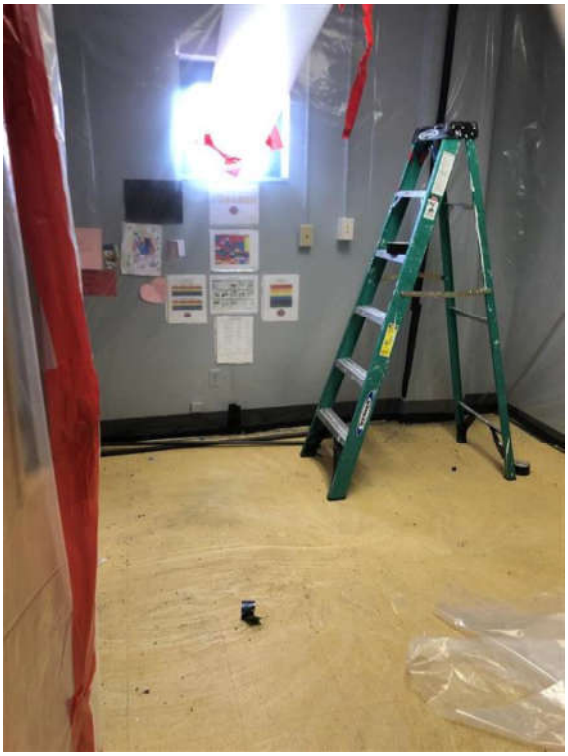
Figure 1



View of Second Floor Copy Room Work Area

Figure 2

Attachments



View of Second Floor Office 241 Work Area

Figure 3



View of Second Floor Office 241 Work Area

Figure 4

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet

WORK AREA SAMPLES

Project Number: 1519-A3
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Date: 4/8/2020
Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (lpm)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
04072003 JO	Second Floor - IWA	12:05 PM	2:15 PM	5.0	5.0	5.0	130	650.0	7.0	100	0.005
04072005 JO	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
04072001 JO	Second Floor - OWA	6:30 AM	12:00 PM	2.0	2.0	2.0	330	660.0	2.0	100	0.001
04072002 JO	Second Floor - OWA	6:30 AM	11:00 AM	2.0	2.0	2.0	270	540.0	1.0	100	0.001
04072004 JO	Second Floor - OWA	12:05 PM	2:14 PM	5.0	5.0	5.0	129	645.0	1.0	100	0.001
04072006 JO	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

Notes: NFD = None Fibers Detected OWA = Outside Work Area IWA = Inside Work Area

Notes:

ECS Technician: John A O'Neil **Date:** 4/8/2020

ECS Mid-Atlantic, LLC

Pre-Abatement Work Area Checklist

Project Number: 1519-A3 **Date:** 4/8/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Copy Room and Office 241

	Work Area Location/Description	Second Floor Copy Room and
Administrative	Training Certificates/Licenses	Satisfactory
	Permits	Satisfactory
	EPA/State/Local Notification	Satisfactory
Work Area	Public Access Restricted	Satisfactory
	Warning Signs/Tape Posted	Satisfactory
Negative Air Filtration	Number of Units	2
	Pre-Filters In-Use/Available	Satisfactory
	Exhausted from Work Area	Satisfactory
	Pressure Differential Monometer Operating	Satisfactory
Equipment	HEPA Vacuum Available	Satisfactory
	Amended Water Sprayers	Satisfactory
Decontamination Enclosure	Clean Room	Satisfactory
	Shower Water Available	Satisfactory
	Waste Water Filtration In-Use	Satisfactory
	Disposable Towels	Satisfactory
	Soap	Satisfactory
	Equipment Room	Satisfactory
Personal Protective Equipment	Type of Respirator	Half Face
	Type of Filters Used	P100
	Disposable Protective Clothing	Satisfactory
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 4/8/2020

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A3 **Date:** 4/8/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Copy Room and Office 241

	Work Area Location/Description	Second Floor Copy Room and
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	4
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 4/8/2020

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

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Alexandria City Public Schools
1340 Braddock Place Suite 620
Alexandria, VA 22314

ATTN: Paul May

RE: **ACPS - Cora Kelly Library ACM**
ECS Job # **1519-A3**

Permits:
Location: **3600 Commonwealth Avenue**
Alexandria, VA 22305

X Field Reports **X** For your use **X** As requested

CC: Alexandria City Public Schools - John Finnigan

ENCL: Field Report # 2 4/8/2020 6 pcm

Diana D. Krass
Environmental Senior Project Manager

Robert Lawrence Rhett
Environmental Project Manager

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ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**1519-A3**
Report No.	**2**
Day & Date	**Wednesday 4/8/2020**
Weather	**75 °/ Sunny**
On-Site Time	**8.50**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**8.50**
Re Obs Time	**0.00**

Project	**ACPS - Cora Kelly Library ACM**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools**
Contractor	**None Listed**

Remarks **6 pcm**

Trip Charges*	Tolls/Parking*	Mileage*	Time of	Arrival	Departure
Chargeable Items				**6:00A**	**2:30P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. The material to be removed today is asbestos-containing floor tile with associated mastic, and ceiling plaster from the second floor copy room and office 241.

SECOND FLOOR COPY ROOM AND OFFICE 241

At 6:15 am, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

Workers were observed using hand tools to remove asbestos-containing floor tile and ceiling plaster. ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and stored temporarily within the work area.

At 10:15 am, the sampling pumps were checked using a rotameter. The flow rate was 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area. A second set of air samples was started in these locations.

At 2:15 pm, the sampling pumps were checked using a rotameter. The flow rate was 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area.

The second floor work area should be completed tomorrow, and final clearance air samples will be taken at the end of the work day.

GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The

Daily Work Area Survey Checklist was completed and is attached to this report.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.

By John A O'Neil, -– Assistant Staff Project Manager

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet

WORK AREA SAMPLES

Project Number: 1519-A3
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Date: 4/9/2020
Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (lpm)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
04082006 JO	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
04082003 JO	Second Floor - OWA, hallway outside 241	10:15 AM	2:15 PM	2.5	2.5	2.5	240	600.0	1.5	100	0.001
04082001 JO	Second Floor - OWA, hallway outside 241	6:15 AM	10:15 AM	2.5	2.5	2.5	240	600.0	1.0	100	0.001
04082004 JO	Second Floor - IWA, Room 241	10:15 AM	2:15 PM	2.5	2.5	2.5	240	600.0	8.5	100	0.007
04082002 JO	Second Floor - IWA, Room 241	6:15 AM	10:15 AM	2.5	2.5	2.5	240	600.0	6.5	100	0.005
04082005 JO	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

Notes: NFD = None Fibers Detected OWA = Outside Work Area IWA = Inside Work Area

Notes:

ECS Technician: John A O'Neil **Date:** 4/9/2020

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A3 **Date:** 4/9/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Copy Room and Office 241

	Work Area Location/Description	Second Floor Copy Room and
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	4
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 4/9/2020

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

April 10, 2020
Alexandria City Public Schools
1340 Braddock Place Suite 620
Alexandria, VA 22314

ATTN: Paul May

RE: **ACPS - Cora Kelly Library ACM**
ECS Job # **1519-A3**

Permits:
Location: **3600 Commonwealth Avenue**
Alexandria, VA 22305

X Field Reports **X** For your use **X** As requested

CC: Alexandria City Public Schools - John Finnigan

ENCL: Field Report # 3 4/9/2020

Diana D. Krass
Environmental Senior Project Manager

Robert Lawrence Rhett
Environmental Project Manager

Disclaimer

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2. *The information in this report relates only to the activities performed on the report date.*
3. *Where appropriate, this report includes statements as to compliance with applicable project drawings, and specifications for the activities, performed on this report date.*
4. *Incomplete or non-conforming work will be reported for future resolution.*
5. *The results of samples and/or specimens obtained or prepared for supersequent laboratory testing will be presented in separate reports/documents.*

ECS Mid-Atlantic, LLC
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(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**1519-A3**
Report No.	**3**
Day & Date	**Thursday 4/9/2020**
Weather	**65 °/ Rain**
On-Site Time	**9.00**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**10.25**
Re Obs Time	**0.00**

Project	**ACPS - Cora Kelly Library ACM**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools**
Contractor	**None Listed**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	Time of	Arrival	Departure
Chargeable Items				**6:00A**	**3:00P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. The work for today is to complete the removal of asbestos-containing floor tile with associated mastic and ceiling plaster from the second floor copy room and office 241. Preparation and abatement of the first floor kitchen work area will begin tomorrow.

Prior to starting the removal of the specified materials, the abatement contractor employees were asked to provide their asbestos abatement license for review. No workers were found to be without valid asbestos abatement licenses.

Prior to starting the removal of the specified material, the abatement permit was reviewed. The permit was on-site and the removal of the specified material could begin.

SECOND FLOOR COPY ROOM AND OFFICE 241 WORK AREA

At 6:15 am, PCM air samples were started inside and outside the work area . The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

At 11:15 am, the sampling pumps were checked using a rotameter. The flow rate was 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area.

The abatement contractor stated the specified materials had been removed from the regulated work area and requested a visual survey to confirm compliance. The Final Clearance Visual Survey Checklist was completed and is attached to this report.

Following the successful completion of the final clearance visual survey, the abatement contractor applied an encapsulant to surfaces within the regulated work areas. After waiting for the encapsulant to dry, aggressive air sampling was performed. Five (5) TEM air samples were started within the second floor

work area and Five (5) TEM air samples were started outside the work area. The sampling pumps were calibrated using a rotameter to 9.5 liters per minute. One field blank sample was opened within the work area for 30 seconds. One field blank sample was opened outside the work area for 30 seconds.

At 3:00 pm, the sampling pumps were checked using a rotameter after the air within the regulated work area was sampled using PCM cassettes for 130 minutes at 9.5 liters per minute. The air sampling pumps were stopped and the cassettes were gathered for analysis. The samples were transported to EMSL Analytical, Inc. (EMSL) in Beltsville, Maryland for asbestos analysis. A copy of the laboratory results and chain of custody will be provided to the client upon receipt from EMSL.

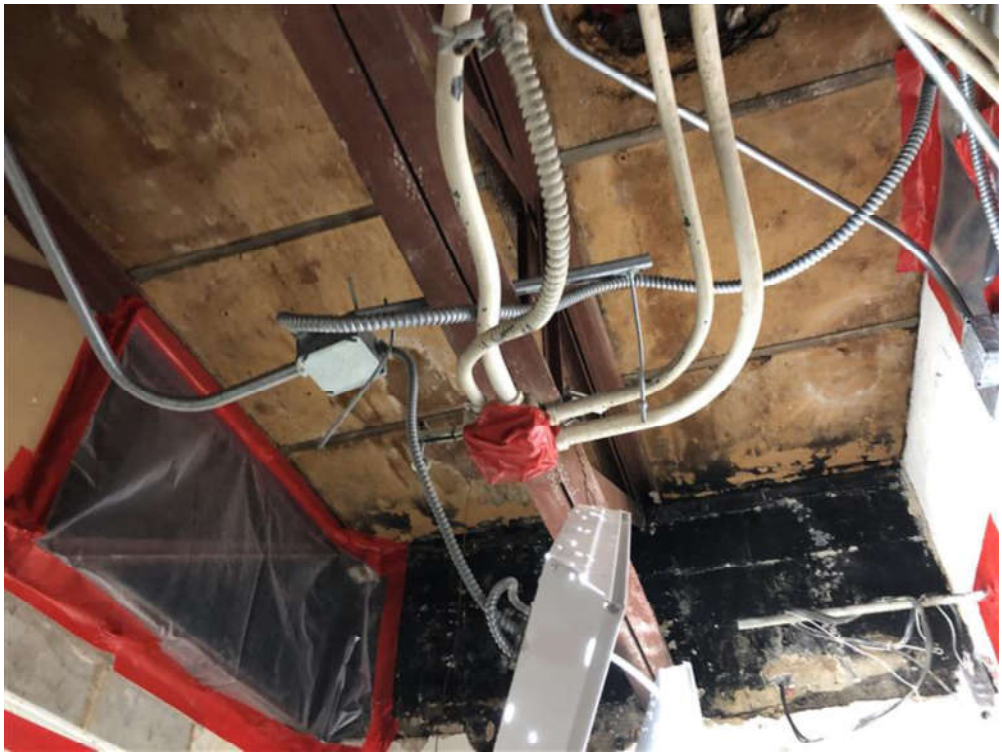
GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and stored temporarily within the work area.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.

Attachments



View of Second Floor Copy Room Ceiling following Removal of Ceiling Plaster

Figure 1



View of Second Floor Copy Room Floor following Removal of Floor Tile and Mastic

Figure 2

Attachments



View of Second Floor Office 241 following Removal of Floor Tile and Mastic

Figure 3

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet

WORK AREA SAMPLES

Project Number: 1519-A3
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Date: 4/9/2020
Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (lpm)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
04092016 JO	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
04092014 JO	Second Floor - OWA	6:15 AM	11:15 AM	2.5	2.5	2.5	300	750.0	1.5	100	0.001
04092017 JO	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
04092015 JO	Second Floor - IWA	6:15 AM	11:15 AM	2.5	2.5	2.5	300	750.0	7.5	100	0.005

Notes: NFD = None Fibers Detected OWA = Outside Work Area IWA = Inside Work Area

Notes:

ECS Technician: John A O'Neil **Date:** 4/9/2020

ECS Mid-Atlantic, LLC

Final Clearance Checklist

Project Number: 1519-A3 **Date:** 4/9/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Copy Room and Office 241 Work Area

	Work Area Location/Description	Second Floor Copy Room and
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	Floors	Satisfactory
	Walls	Satisfactory
	Ceiling	Satisfactory
	Windows	Satisfactory
	Mechanical Equipment	Satisfactory
	Ducts	Satisfactory
	Pipes	Satisfactory
	Lighting	Satisfactory
	Other Surfaces	Satisfactory
	Specified ACM Removed	Satisfactory
	Work Area Encapsulated	Satisfactory
	Negative Air Filtration Functioning	Satisfactory
	Waste Bags Removed	Satisfactory
	Final Clearance Air Sample Type	TEM
	Number of Samples Collected	13
	Sample Volume (liters)	1235
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 4/9/2020

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A3 **Date:** 4/9/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Copy Room and Office 241 Work Area

	Work Area Location/Description	Second Floor Copy Room and
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	2
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 4/9/2020

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

April 13, 2020
Alexandria City Public Schools
1340 Braddock Place Suite 620
Alexandria, VA 22314

ATTN: Paul May

RE: **ACPS - Cora Kelly Library ACM**
ECS Job # **1519-A3**

Permits:
Location: **3600 Commonwealth Avenue**
Alexandria, VA 22305

X Field Reports **X** For your use **X** As requested

CC: Alexandria City Public Schools - John Finnigan

ENCL: Field Report # 4 4/10/2020

Diana D. Krass
Environmental Senior Project Manager

Robert Lawrence Rhett
Environmental Project Manager

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4. *Incomplete or non-conforming work will be reported for future resolution.*
5. *The results of samples and/or specimens obtained or prepared for supersequent laboratory testing will be presented in separate reports/documents.*

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
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(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**1519-A3**
Report No.	**4**
Day & Date	**Friday 4/10/2020**
Weather	**55 °/ Cloudy**
On-Site Time	**8.75**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**8.75**
Re Obs Time	**0.00**

Project	**ACPS - Cora Kelly Library ACM**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools**
Contractor	**None Listed**

Remarks

Trip Charges*	Tolls/Parking*	Mileage*	Time of	Arrival	Departure
Chargeable Items				**9:00A**	**5:45P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. The material to be removed today is floor tile and associated mastic from the first floor kitchen.

Prior to starting the removal of the specified materials, the abatement contractor employees were asked to provide their asbestos abatement license for review. No workers were found to be without valid asbestos abatement licenses.

Prior to starting the removal of the specified material, the abatement permit was reviewed. The permit was on-site and the removal of the specified material could begin.

FIRST FLOOR KITCHEN WORK AREA MONITORING

The abatement contractor requested a pre-abatement survey of the regulated work area. The Pre-Abatement Checklist was completed and is attached to this report.

At 10:00 am, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

At 2:30 pm, the sampling pumps were checked using a rotameter. The flow rate was 2.5 liters per minute. The PCM air samples were stopped and gathered from outside the work area.

The abatement contractor stated the specified materials have been removed from the regulated work area and requested a visual survey to confirm compliance. The Final Clearance Visual Survey Checklist was completed and is attached to this report.

Following the successful completion of the final clearance visual survey, the abatement contractor applied

an encapsulant to surfaces within the regulated work area. After waiting for the encapsulant to dry, air sampling was performed. Five (5) PCM air samples were started within the regulated work area. The sampling pumps were calibrated using a rotameter to 9.5 liters per minute.

At 5:10 pm, the sampling pumps were checked using a rotameter after the air within the regulated work area was sampled using PCM cassettes for 150 minutes at 9.5 liters per minute. The air sampling pumps were stopped and the cassettes were gathered for analysis.

GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and loaded into the contractor's box truck.

The US EPA and Commonwealth of Virginia re-occupancy limit is 0.01 fibers per cubic centimeter of air (f/cc). The analytical results of the PCM final clearance air samples collected from the duct wall chase were reported to be less than this maximum allowable limits set by applicable regulations, which meets the project requirements.

Attachments



View of First Floor Kitchen work area prior to abatement

Figure 1



View of First Floor Kitchen work area prior to abatement

Figure 2

Attachments



View of First Floor Kitchen following removal of floor tile and mastic

Figure 3



View of First Floor Kitchen work area following removal of floor tile and mastic

Figure 4

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet

WORK AREA SAMPLES

Project Number: 1519-A3
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Date: 4/12/2020
Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (lpm)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
04102008 JO	First Floor Kitchen - FC	3:00 PM	5:10 PM	9.5	9.5	9.5	130	1235.0	4.0	100	0.002
04102009 JO	First Floor Kitchen - FC	3:00 PM	5:10 PM	9.5	9.5	9.5	130	1235.0	3.0	100	0.001
04102003 JO	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
04102006 JO	First Floor Kitchen - FC	3:00 PM	5:10 PM	9.5	9.5	9.5	130	1235.0	3.0	100	0.001
04102002 JO	First Floor Kitchen - IWA	10:00 AM	2:30 PM	2.5	2.5	2.5	270	675.0	6.5	100	0.005
04102001 JO	First Floor Kitchen - OWA	10:00 AM	2:30 PM	2.5	2.5	2.5	270	675.0	2.0	100	0.001
04102005 JO	First Floor Kitchen - FC	3:00 PM	5:10 PM	9.5	9.5	9.5	130	1235.0	2.5	100	0.001
04102007 JO	First Floor Kitchen - FC	3:00 PM	5:10 PM	9.5	9.5	9.5	130	1235.0	5.5	100	0.002
04102004 JO	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

Notes: NFD = None Fibers Detected OWA = Outside Work Area IWA = Inside Work Area

Notes: FC = Final Clearance

ECS Technician: John A O'Neil **Date:** 4/12/2020

ECS Mid-Atlantic, LLC

Pre-Abatement Work Area Checklist

Project Number: 1519-A3 **Date:** 4/12/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: First Floor Kitchen Work Area

	Work Area Location/Description	First Floor Kitchen Work Area
Administrative	Training Certificates/Licenses	Satisfactory
	Permits	Satisfactory
	EPA/State/Local Notification	Satisfactory
Work Area	Public Access Restricted	Satisfactory
	Warning Signs/Tape Posted	Satisfactory
Negative Air Filtration	Number of Units	1
	Pre-Filters In-Use/Available	Satisfactory
	Exhausted from Work Area	Satisfactory
	Pressure Differential Monometer Operating	Satisfactory
Equipment	HEPA Vacuum Available	Satisfactory
	Amended Water Sprayers	Satisfactory
Decontamination Enclosure	Clean Room	Satisfactory
	Shower Water Available	Satisfactory
	Waste Water Filtration In-Use	Satisfactory
	Disposable Towels	Satisfactory
	Soap	Satisfactory
	Equipment Room	Satisfactory
Personal Protective Equipment	Type of Respirator	Half Face
	Type of Filters Used	P100
	Disposable Protective Clothing	Satisfactory
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 4/12/2020

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A3 **Date:** 4/12/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: First Floor Kitchen Work Area

	Work Area Location/Description	First Floor Kitchen Work Area
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	2
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 4/12/2020

ECS Mid-Atlantic, LLC

Final Clearance Checklist

Project Number: 1519-A3 **Date:** 4/12/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: First Floor Kitchen Work Area

	Work Area Location/Description	First Floor Kitchen Work Area
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	Floors	Satisfactory
	Walls	Satisfactory
	Ceiling	Satisfactory
	Windows	Satisfactory
	Mechanical Equipment	Satisfactory
	Ducts	Satisfactory
	Pipes	Satisfactory
	Lighting	Satisfactory
	Other Surfaces	Satisfactory
	Specified ACM Removed	Satisfactory
	Work Area Encapsulated	Satisfactory
	Negative Air Filtration Functioning	Satisfactory
	Waste Bags Removed	Satisfactory
	Final Clearance Air Sample Type	PCM
	Number of Samples Collected	5
	Sample Volume (liters)	1235
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 4/12/2020

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705

Tel/Fax: (301) 937-5700 / (301) 937-5701

http://www.EMSL.com / beltsvillelab@emsl.com

EMSL Order: 192003770
Customer ID: ECMA78
Customer PO:
Project ID:

Attention: Bobby Rhett
ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Project: 47:1519-A3 ACPS CORRA KELLY/AGGRESSIVE AIR SAMPLING

Phone: (703) 471-8400
Fax: (703) 471-8400
Received Date: 04/09/2020 16:08 PM
Analysis Date: 04/10/2020
Collected Date: 04/09/2020

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm²)	Non Asb	Asbestos Type(s)	#Structures ≥0.5µ < 5µ	#Structures ≥5µ	Analytical Sensitivity (S/cc)	Asbestos Concentration (S/mm²)	Asbestos Concentration (S/cc)
04092001JO *192003770-0001*	IWA/FINAL CLEARANCE 2ND FL COPY/241	1235.00	0.0650	0	None Detected	0	0	0.0048	<15.00	<0.0048
04092002JO *192003770-0002*	IWA/FINAL CLEARANCE 2ND FL COPY/241	1235.00	0.0650	0	None Detected	0	0	0.0048	<15.00	<0.0048
04092003JO *192003770-0003*	IWA/FINAL CLEARANCE 2ND FL COPY/241	1235.00	0.0650	0	None Detected	0	0	0.0048	<15.00	<0.0048
04092004JO *192003770-0004*	IWA/FINAL CLEARANCE 2ND FL COPY/241	1235.00	0.0650	0	None Detected	0	0	0.0048	<15.00	<0.0048
04092005JO *192003770-0005*	IWA/FINAL CLEARANCE 2ND FL COPY/241	1235.00	0.0650	0	None Detected	0	0	0.0048	<15.00	<0.0048

Analyst(s)

Joe Centifonti (5)

Joe Centifonti, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. Beltsville, MD NVLAP Lab Code 200293-0

Initial report from: 04/10/2020 11:39 AM

OrderID: 192003770

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*: 192003770

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Company Name: ECS Mid-Atlantic		**EMSL Customer ID:**	
Street: 14026 Thunderbolt Place Suite 100		**City:** Chantilly	**State/Province:**
Zip/Postal Code: 20151	**Country:** USA	**Telephone #:**	**Fax #:**
Report To (Name): Bobby Rhett		**Please Provide Results:** ☐ Fax ☐ Email	
Email Address: BRhett@ecslimited.com		**Purchase Order:**	
Project Name/Number: 47.1519.A3 ACES Comm Kelly		**EMSL Project ID** *(Internal Use Only)*:	
U.S. State Samples Taken: VA		**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt	

EMSL-Bill to: ☐ Same ☐ Different - If Bill to is Different note instructions in Comments**
Third Party Billing requires written authorization from third party

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☒ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

**For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0 1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NYS 198 8 SOF-V
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☒ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
- ☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
- ☐ TEM Qualitative via Filtration Prep
- ☐ TEM Qualitative via Drop Mount Prep
- ☐ Cincinnati Method EPA 600/R-04/004 – PLM/TEM (BC only)

Other: ☐

☐ Check For Positive Stop – Clearly Identify Homogenous Group

Filter Pore Size (Air Samples): ☐ 0.8µm ☐ 0.45µm

Samplers Name: John Oneil **Samplers Signature:**

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
040920 0130	IWI / Final Clearance 2nd floor corr / 241	1235	4/9/20
040920 0230			
040920 0330			
040920 0430			
040920 0530			

Client Sample # (s): - **Total # of Samples:** 13

Relinquished (Client): **Date:** 4/9/20 **Time:** 4:00

Received (Lab): Jennifer Drop Box **Date:** **Time:**

Comments/Special Instructions: Asbestos Air samples only Analyze Only IWI Samples

CC: Joneil@ecslimited.com

OrderID: 192003770

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Microbiology Chain of Custody

EMSL Order Number *(Lab Use Only)*:

EMSL ANALYTICAL, INC
528 MINEOLA AVENUE
CARLE PLACE, NY 11514
PHONE: (516) 997-7251
FAX.(516) 997-7528

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Location/Description	Sample Type	Potable/ NonPotable	Test Code	Volume/ Area	Date/Time Collected	Temperature (°C) (Lab Use Only)
0100200600	OVA/ Final Clearance 2nd Floor		☐P ☐NP		1235	4/9/20	
07	" / 241		☐P ☐NP				
08			☐P ☐NP				
09			☐P ☐NP				
10			☐P ☐NP				
11	Field Blank opened 30 sec before entrance		☐P ☐NP				
12	Field Blank opened 30 seconds in containment		☐P ☐NP				
13	Field Blank not opened		☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				

Comments/Special Instructions:

Page 2 of 2 pages

Appendix II: Certifications/ Licenses

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2020

NUMBER
3309002004

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS
ASBESTOS PROJECT MONITOR LICENSE

JOHN ALEXANDER O'NEIL
4835 CORDELL AVE
APT 812
BETHESDA, MD 20814

DPOR

Mary Broz-Vaughan, Director

Status can be verified at http://www.dpor.virginia.gov

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR-LIC (02/2017)

(DETACH HERE)

DPOR COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS
ASBESTOS PROJECT MONITOR LICENSE
NUMBER: 3309002004 EXPIRES: 12-31-2020

JOHN ALEXANDER O'NEIL
4835 CORDELL AVE
APT 812
BETHESDA, MD 20814

(FOLD)

Status can be verified at http://www.dpor.virginia.gov

DPOR-PC (02/2017)

ASBESTOS ABATEMENT SUMMARY REPORT

CORA KELLY ELEMENTARY SCHOOL - KITCHEN

3600 COMMONWEALTH AVENUE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:1519-A5

FOR

ALEXANDRIA CITY PUBLIC SCHOOLS

JUNE 1, 2020

June 1, 2020

Ms. Azjargal Bartlett
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314
nicole.settles@acps.k12.va.us

ECS Project No. 47:1519-A5

Reference: Asbestos Abatement Summary Report, Cora Kelly Elementary School - Kitchen, 3600 Commonwealth Avenue, Alexandria, Virginia

Dear Ms. Bartlett:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with this summary report of the asbestos abatement work performed during the above-referenced project. ECS performed visual assessments, evaluations, and air monitoring and sampling during the removal of asbestos-containing materials (ACMs). This report includes a project description, a summary of the asbestos abatement activities observed by ECS, and a summary of the work conducted by ECS including laboratory results.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Catey Bourne
Assistant Staff Project Manager
Assessor Email
703-471-8400

Diana Krass
Environmental Senior Project Manager
dkrass@ecslimited.com
703-471-8400

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TABLE OF APPENDICES

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1.0 PROJECT DESCRIPTION

The subject property consists of Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. The asbestos abatement work was performed by Waco, Inc., in general, from December 30, 2019 through January 2, 2020, and included the removal of the following asbestos-containing materials (ACMs):

- Multiple layers of asbestos-containing floor tile and associated black floor mastic from the kitchen work area which included the kitchen, kitchen office, kitchen mop closet, kitchen dry storage room, and the cafeteria serving area which extended from the kitchen approximately twelve feet into the cafeteria.

No other areas of the kitchen/cafeteria, or other areas of the school were included in this abatement. Please note that the above-referenced asbestos-containing materials (ACMs) may be located in non-accessible areas of the kitchen/cafeteria and/or in areas of the school building that were not included in the scope of work. This scope of work did not include any other identified or assumed ACMs.

2.0 ECS SCOPE OF WORK

ECS was tasked with performing visual assessments and evaluations, monitoring and air sampling during and after the removal of the above-identified asbestos-containing materials (ACMs) within the above-referenced subject building.

3.0 ASBESTOS ABATEMENT ACTIVITIES

3.1 Asbestos Removal

Asbestos abatement was performed by Waco, Inc. within a regulated work area. The regulated work area within the subject building consisted of enclosures placed under negative pressure constructed of 6-mil polyethylene sheeting.

3.2 Daily Air Sampling

During the asbestos abatement project, ECS collected and analyzed air samples using Phase Contrast Microscopy (PCM) in general accordance with applicable federal and Virginia regulations. Samples were collected during the project outside the work area to monitor airborne fiber concentrations. In general, the air sampling found the engineering controls (i.e., polyethylene sheeting, negative air pressure, High Efficiency Particulate Air (HEPA) filtration adequate to keep fiber concentrations on air samples collected outside the regulated work area below the Virginia PCM re-occupancy limit of <0.01 fibers per cubic centimeter (f/cc). Air sample results are included within the technicians' daily field notes.

3.3 ECS Observations

ECS reviewed the asbestos credentials of the abatement workers. The credential documentation reviewed was noted to be current at the time presented to ECS.

ECS observed abatement workers utilizing personal protective equipment deemed necessary for asbestos abatement work by applicable OSHA and Virginia regulations (respirators, disposable protective clothing, eye protection, hard hats, gloves, etc.).

4.0 FINAL CLEARANCE AIR SAMPLING

After Waco, Inc. had removed the specified asbestos-containing materials (ACMs) and related waste from the work area, ECS performed a final clearance visual assessment to survey the work area and evaluate if the ACMs had been removed and if dust and/or debris remained in the work area. Following the completion of the final clearance visual assessments, ECS reported the results to Waco, Inc. Final clearance air samples were collected from the kitchen work area in accordance with aggressive sampling protocol described in Unit III.B.7.d of 40 CFR 763 Subpart E Appendix A and analyzed via Transmission Electron Microscopy (TEM) in accordance with federal and Virginia regulations. The results of the TEM final clearance air samples collected from the work area were found to be below the Virginia re-occupancy limit of 70 structures per square millimeter (70 s/mm^2).

5.0 CLOSING

ECS's daily monitoring field reports and PCM air sample results are enclosed along with copies of the TEM laboratory reports. If we can be of further assistance to you, please do not hesitate to contact us at (703) 471-8400.

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which 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 warranty, expressed or implied, is made.

The 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 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. 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 ECS and the client.

Our recommendations are in part based on federal, state, and local 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.

Appendix I: Daily Field Reports with Air Sample Results

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

January 3, 2020

Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, VA 22314

ATTN: Ms. Azjargal E. Bartlett

RE: **ACPS - Cora Kelly Kitchen Abatement**
ECS Job # **47:1519-A5**

Permits:
Location: **3600 Commonwealth Avenue**
Alexandria, VA

We are enclosing: **X** Field Reports **X** For your use **X** As requested

CC: **Alexandria City Public Schools - John Finnigan**
Alexandria City Public Schools - Carol Cheney
Waco Inc. - Steve E. Williams

ENCL:

Field Report # 1 12/30/2019

Diana D. Krass
Environmental Senior Project Manager

Bobby Rhett
Environmental Project Manager

Disclaimer
1. This report (and any attachments) shall not be reproduced except in full without prior written approval of ECS.
2. The information in this report relates only to the activities performed on the report date.
3. Where appropriate, this report includes statements as to compliance with applicable project drawings and specifications for the activities performed on this report date.
4. Incomplete or non-conforming work will be recorded for future resolution.
5. The results of samples and/or specimens obtained or prepared for subsequent laboratory testing will be presented in separate reports/documents.

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**47:1519-A5**
Report No.	**1**
Day & Date	**Monday 12/30/2019**
Weather	**50°/ Rain**
On-Site Time	**10.50**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**10.50**
Re Obs.Time	**0.00**

Project **ACPS - Cora Kelly Kitchen Abatement**

Location **Alexandria, VA**

Client **Alexandria City Public Schools - Azjargal E. Bartlett**

Contractor **Waco Inc. - Steve E. Williams**

Remarks

Trip Charges* Tolls/Parking* Mileage*

Time of Arrival **06:00A** Departure **04:30P**

Chargeable Items

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. Materials to be removed today are floor tile and mastic in the kitchen area of the school. The work area included: the kitchen, kitchen office, kitchen mop closet, kitchen storage room, and the serving area which extended from the kitchen approximately twelve feet into the cafeteria.

Prior to starting the removal of the specified material, the abatement permit was reviewed. The undersigned was notified the permit was on-site and the removal of the specified materials could begin.

Prior to starting the removal of the specified materials, the abatement contractor employees were asked to provide their asbestos abatement license for review. No workers were found to be without valid asbestos abatement licenses.

The abatement contractor requested a pre-abatement survey of the regulated work area. The Pre-Abatement Checklist was completed and is attached to this report.

Between 1:07 pm and 1:12 pm, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 3.0 liters per minute.

Abatement workers were observed removing the multiple layers of floor tile using hand tools.

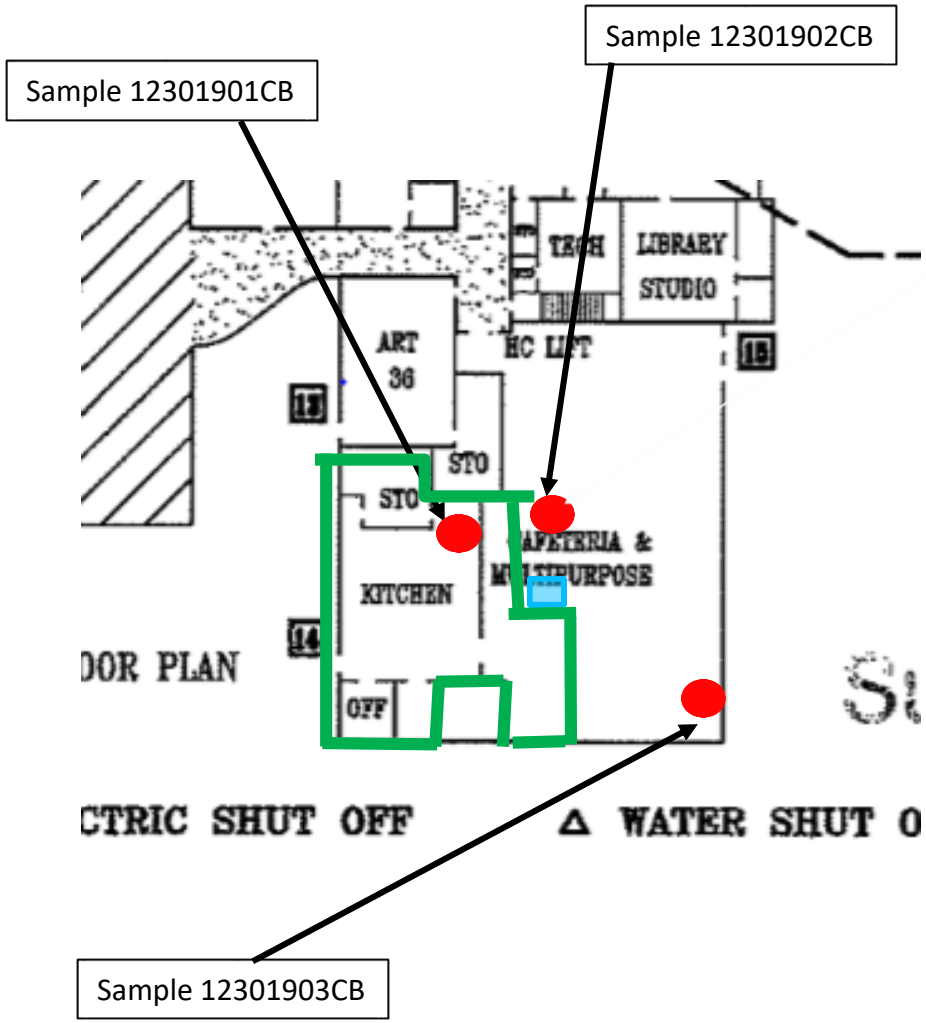
The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the

applicable regulations. Waste bags were labeled and stored temporarily within the work area.

Between 3:42 and 3:46 pm, the sampling pumps were checked using a rotameter. The flow rate was 2.0 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.



Legend

Work Area

Daily Sample location

3-stage decontamination unit location

Cora Kelly Elementary School
3600 Commonwealth Avenue
Alexandria, VA 22305

SAMPLING LOCATIONS
ACPS

SCALE NTS

Project No. 47:1519-A5

Date 12/30/19



Attachment No. 1
View of Work Area during Pre-Abatement Survey



Attachment No. 2
View of Work Area during Pre-Abatement Survey



Attachment No. 3
View of Work Area during Pre-Abatement Survey

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet
WORK AREA SAMPLES

Project Number: 1519-A5

Project Address: 3600 Commonwealth Avenue ,Alexandria,VA-22305

Date: 12/30/2019

Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (min)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
12301901CB	IWA - Kitchen	1:07 PM	3:42 PM	3.0	3.0	3.0	155	465.0	4.0	100	0.004
12301902CB	OWA- Near Decontamination Unit	1:07 PM	3:42 PM	3.0	3.0	3.0	155	465.0	0.5	100	0.001
12301903CB	OWA- Near Negative Air Machine Exhaust	1:12 PM	3:46 PM	3.0	3.0	3.0	154	462.0	0.0	100	0.000
12301904CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
12301905CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

NFD = None Fibers Detected; OWA = Outside Work Area; IWA = Inside Work Area; FC = Final Clearance

Notes:

ECS Technician: Catey Bourne

Date: 12/30/2019

ECS Mid-Atlantic, LLC

Pre-Abatement Work Area Checklist

Project Number: 1519-A5 **Date:** 12/30/2019

Project Address: 3600 Commonwealth Avenue
,Alexandria,VA-22305

Work Area Location/Description: Kitchen/Floor Tile and Mastic

Administrative	Training Certificates/Licenses	Satisfactory
	Permits	Satisfactory
	EPA/State/Local Notification	Satisfactory
Work Area	Public Access Restricted	Satisfactory
	Warning Signs/Tape Posted	Satisfactory
Negative Air Filtration	Number of Units	4
	Pre-Filters In-Use/Available	Satisfactory
	Exhausted from Work Area	Satisfactory
	Pressure Differential Monometer Operating	Satisfactory
Equipment	HEPA Vacuum Available	Satisfactory
	Amended Water Sprayers	Satisfactory
Decontamination Enclosure	Clean Room	Satisfactory
	Shower Water Available	Satisfactory
	Waste Water Filtration In-Use	Satisfactory
	Disposable Towels	Satisfactory
	Soap	Satisfactory
	Equipment Room	Satisfactory
Personal Protective Equipment	Type of Respirator	Half Face APR
	Type of Filters Used	P-100
	Disposable Protective Clothing	Satisfactory
	Work Area Acceptable	Yes

Notes:

ECS Technician: Catey Bourne **Date:** 12/30/2019

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A5 **Date:** 12/30/2019

Project Address: 3600 Commonwealth Avenue
,Alexandria,VA-22305

Work Area Location/Description: Kitchen/Floor Tile and Mastic

Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	3
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Catey Bourne **Date:** 12/30/2019

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

January 3, 2020

Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, VA 22314

ATTN: Ms. Azjargal E. Bartlett

RE: **ACPS - Cora Kelly Kitchen Abatement**
ECS Job # **47:1519-A5**

Permits:
Location: **3600 Commonwealth Avenue**
Alexandria, VA

We are enclosing: **X** Field Reports **X** For your use **X** As requested

CC: **Alexandria City Public Schools - John Finnigan**
Alexandria City Public Schools - Carol Cheney
Waco Inc. - Steve E. Williams

ENCL:

Field Report # 2 12/31/2019

Diana D. Krass
Environmental Senior Project Manager

Bobby Rhett
Environmental Project Manager

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3. Where appropriate, this report includes statements as to compliance with applicable project drawings and specifications for the activities performed on this report date.
4. Incomplete or non-conforming work will be recorded for future resolution.
5. The results of samples and/or specimens obtained or prepared for subsequent laboratory testing will be presented in separate reports/documents.

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**47:1519-A5**
Report No.	**2**
Day & Date	**Tuesday 12/31/2019**
Weather	**50°/ Sunny**
On-Site Time	**7.50**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**7.50**
Re Obs.Time	**0.00**

Project	**ACPS - Cora Kelly Kitchen Abatement**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools - Azjargal E. Bartlett**
Contractor	**Waco Inc. - Steve E. Williams**

Remarks

Trip Charges* Tolls/Parking* Mileage*

Chargeable Items

Time of	Arrival	Departure
	06:00A	**01:30P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. Materials to be removed today are floor tile and mastic in the kitchen area of the school. The work area included: the kitchen, kitchen office, kitchen mop closet, kitchen storage room, and the serving area which extended from the kitchen approximately twelve feet into the cafeteria.

Between 6:50 am and 6:52 am, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 3.0 liters per minute.

Abatement workers were observed removing the multiple layers of floor tile using hand tools. Black mastic was removed from the floor using a chemical remover, and hand tools.

Between 10:07 am and 10:10 am, the sampling pumps were checked using a rotameter. The flow rate was 3.0 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area. New PCM air samples were started.

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and placed in a temporary hauling container.

Between 1:25 pm and 1:27 pm, the sampling pumps were checked using a rotameter. The flow rate was 3.0 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area.

By **Catey Bourne, — Assistant Staff Project Manager** 1302

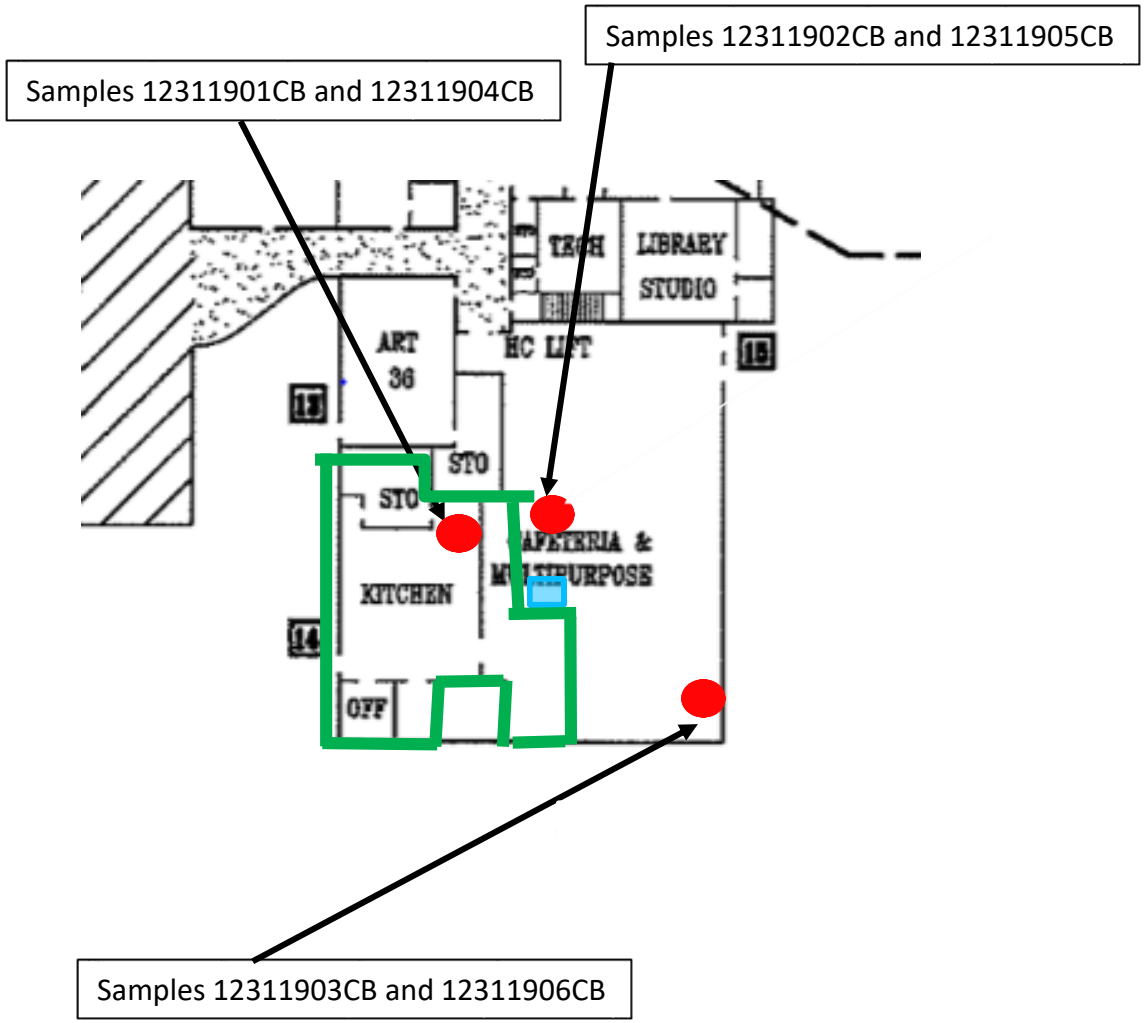
63231

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No. **47:1519-A5**
Report No. **2**
Project **ACPS - Cora Kelly Kitchen Abatement**
Day & Date **Tuesday 12/31/2019**

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.



Legend

Work Area

Daily Sample location

3-stage decontamination unit location

Cora Kelly Elementary School
3600 Commonwealth Avenue
Alexandria, VA 22305

SAMPLING LOCATIONS
ACPS

SCALE NTS

Project No. 47:1519-A5

Date 12/31/19

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet
WORK AREA SAMPLES

Project Number: 1519-A5

Project Address: 3600 Commonwealth Avenue ,Alexandria,VA-22305

Date: 01/02/2020

Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (min)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
12311901CB	IWA- Kitchen Work Area	6:50 AM	10:07 AM	3.0	3.0	3.0	197	591.0	6.0	100	0.005
12311902CB	OWA - near work area entrance	6:50 AM	10:07 AM	3.0	3.0	3.0	197	591.0	0.0	100	0.000
12311903CB	OWA - near HEPA unit exhaust	6:52 AM	10:10 AM	3.0	3.0	3.0	198	594.0	0.0	100	0.000
12311904CB	IWA - Kitchen Work Area	10:07 AM	1:25 PM	3.0	3.0	3.0	198	594.0	2.0	100	0.002
12311905CB	OWA - near work area entrance	10:07 AM	1:25 PM	3.0	3.0	3.0	198	594.0	0.0	100	0.000
12311906CB	OWA - near HEPA unit exhaust	10:10 AM	1:27 PM	3.0	3.0	3.0	197	591.0	2.0	100	0.002
12311907CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
12311908CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

NFD = None Fibers Detected; OWA = Outside Work Area; IWA = Inside Work Area; FC = Final Clearance

Notes:

ECS Technician: Catey Bourne

Date: 01/02/2020

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A5 **Date:** 01/02/2020

Project Address: 3600 Commonwealth Avenue
,Alexandria,VA-22305

Work Area Location/Description: Kitchen Work Area/Reoval of floor tile and mastic

Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	6
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Catey Bourne **Date:** 01/02/2020

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

January 8, 2020

Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, VA 22314

ATTN: Ms. Azjargal E. Bartlett

RE: **ACPS - Cora Kelly Kitchen Abatement**
ECS Job # **47:1519-A5**

Permits:
Location: **3600 Commonwealth Avenue**
Alexandria, VA

We are enclosing: **X** Field Reports **X** For your use **X** As requested

CC: **Alexandria City Public Schools - John Finnigan**
Alexandria City Public Schools - Carol Cheney
Waco Inc. - Steve E. Williams

ENCL:

Field Report # 3 01/02/2020

Diana D. Krass
Environmental Senior Project Manager

Bobby Rhett
Environmental Project Manager

Disclaimer
1. This report (and any attachments) shall not be reproduced except in full without prior written approval of ECS.
2. The information in this report relates only to the activities performed on the report date.
3. Where appropriate, this report includes statements as to compliance with applicable project drawings and specifications for the activities performed on this report date.
4. Incomplete or non-conforming work will be recorded for future resolution.
5. The results of samples and/or specimens obtained or prepared for subsequent laboratory testing will be presented in separate reports/documents.

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**47:1519-A5**
Report No.	**3**
Day & Date	**Thursday 01/02/2020**
Weather	**45°/ Sunny**
On-Site Time	**10.00**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**10.00**
Re Obs.Time	**0.00**

Project	**ACPS - Cora Kelly Kitchen Abatement**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools - Azjargal E. Bartlett**
Contractor	**Waco Inc. - Steve E. Williams**

Remarks

Trip Charges* Tolls/Parking* Mileage*

Chargeable Items

Times of	Arrival	Departure
	06:00A	**08:30A**
	09:30A	**05:00P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. Materials to be removed today are floor tile and associated mastic in the kitchen work area of the school. The work area included: the kitchen, kitchen office, kitchen mop closet, kitchen storage room, and the serving area which extended from the kitchen approximately twelve feet into the cafeteria.

Between 7:00 am and 7:05 am, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 3.0 liters per minute.

Abatement workers were observed removing black mastic from the edges of the floor using a grinder with vacuum attachment. Cleaning of the work area was performed after the removal of the mastic.

Between 1:30 pm and 1:35 pm, the sampling pumps were checked using a rotameter. The flow rate was 3.0 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area.

The abatement contractor stated the specified materials had been removed from the regulated work area and requested a visual survey to confirm compliance. The Final Clearance Visual Survey Checklist was completed and is attached to this report.

Following the successful completion of the final clearance visual survey, the abatement contractor applied an encapsulant to surfaces within the regulated work area. After waiting for the encapsulant to dry, Five (5) TEM air samples were started within the regulated work area and Five (5) TEM air samples were started outside the work area. The sampling pumps were calibrated using a rotameter to 9.5 liters per minute. One field blank sample was opened within the work area for 30 seconds. One field blank sample was opened outside the work area for 30

seconds.

At 4:43 pm, the sampling pumps were checked using a rotameter after the air within and outside the regulated work area was sampled using TEM cassettes for 107 minutes at 9.5 liters per minute. The sampling cassettes, including the two field blanks and one sealed blank were labeled with unique identification and transported to EMSL Analytical Laboratory Inc. (EMSL) in Beltsville, Maryland for asbestos analysis.

The US EPA and Commonwealth of Virginia maximum allowable airborne asbestos concentration from within the work area is 70 structures per millimeter squared (s/mm2). In order to be deemed acceptable, the average of the interior samples analyzed must have asbestos concentrations of 70 s/mm2 or less. EMSL informed ECS that the analytical results of the TEM final clearance air samples collected from the kitchen work area found the airborne asbestos fiber concentrations to be less than this maximum allowable concentration. The client and abatement contractor supervisor were informed of the results. A copy of the laboratory report is attached.

GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and placed in a temporary hauling container.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.



Attachment No. 1
View of Kitchen Work Area during Final Clearance



Attachment No. 2
View of Kitchen Work Area during Final Clearance



Attachment No. 3
View of Kitchen Work Area during Final Clearance

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet
WORK AREA SAMPLES

Project Number: 1519-A5

Project Address: 3600 Commonwealth Avenue ,Alexandria,VA-22305

Date: 01/03/2020

Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (min)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
01022001CB	IWA- Kitchen Work Area	7:00 AM	1:30 PM	3.0	3.0	3.0	390	1170.0	16.0	100	0.007
01022002CB	OWA- Kitchen Work Area	7:00 AM	1:30 PM	3.0	3.0	3.0	390	1170.0	7.0	100	0.003
01022003CB	OWA- Kitchen Work Area	7:05 AM	1:35 PM	3.0	3.0	3.0	390	1170.0	1.0	100	0.000
01022004CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
01022005CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

NFD = None Fibers Detected; OWA = Outside Work Area; IWA = Inside Work Area; FC = Final Clearance

Notes:

ECS Technician: Catey Bourne

Date: 01/03/2020

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705

Tel/Fax: (301) 937-5700 / (301) 937-5701

http://www.EMSL.com / beltsvillelab@emsl.com

EMSL Order: 192000056
Customer ID: ECMA78
Customer PO:
Project ID:

Attention: Bobby Rhett
ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151
Project: CORA KELLY/47:1519-A5

Phone: (703) 471-8400
Fax: (703) 471-8400
Received Date: 01/03/2020 08:32 AM
Analysis Date: 01/03/2020
Collected Date: 01/02/2020

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm²)	Non Asb	Asbestos Type(s)	#Structures ≥0.5µ < 5µ	#Structures ≥5µ	Analytical Sensitivity (S/cc)	Asbestos Concentration (S/mm²)	Asbestos Concentration (S/cc)
01 *192000056-0001*	IWA - KIT WORK AREA	1206.50	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
02 *192000056-0002*	IWA - KIT WORK AREA	1206.50	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
03 *192000056-0003*	IWA - KIT WORK AREA	1206.50	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
04 *192000056-0004*	IWA - KIT WORK AREA	1206.50	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
05 *192000056-0005*	IWA - KIT WORK AREA	1206.50	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049

Analyst(s)

Emily Baker (5)

Joe Centifonti, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. Beltsville, MD NVLAP Lab Code 200293-0

Initial report from: 01/03/2020 12:46 PM

OrderID: 192000056

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*

192000056

Company Name : ECS Mid-Atlantic		**EMSL Customer ID:**	
Street: 14026 Thunderbolt Pl		**City:** Chantilly	**State/Province:** VA
Zip/Postal Code: 20151	**Country:** USA	**Telephone #:**	**Fax #:**
Report To (Name): Bobby Rhett		**Please Provide Results:** ☐ Fax ☒ Email	
Email Address: brhett@ecslimited.com		**Purchase Order:** 47.1519-A5	
Project Name/Number: Cora Kelly / 47:1519-A5		**EMSL Project ID** *(Internal Use Only).*	
U.S. State Samples Taken: VA		**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt	

EMSL-Bill to: ☐ Same ☐ Different - If Bill to is Different note instructions in Comments**
Third Party Billing requires written authorization from third party

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☒ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT You will be asked to sign an authorization form for this service Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PCM - Air ☐ Check if samples are from NY
☐ NIOSH 7400
☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
Point Count
☐ 400 (<0 25%) ☐ 1000 (<0 1%)
Point Count w/Gravimetric
☐ 400 (<0 25%) ☐ 1000 (<0.1%)
☐ NYS 198.1 (friable in NY)
☐ NYS 198 6 NOB (non-friable-NY)
☐ NYS 198.8 SOF-V
☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
☒ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☐ ISO 10312

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (non-friable-NY)
☐ Chatfield SOP
☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
Fibers >10µm ☐ Waste ☐ Drinking
All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
☐ Microvac - ASTM D 5755
☐ Wipe - ASTM D6480
☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
☐ PLM EPA 600/R-93/116 with milling prep (<0 25%)
☐ TEM EPA 600/R-93/116 with milling prep (<0 1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep
☐ Cincinnati Method EPA 600/R-04/004 – PLM/TEM (BC only)

Other:
☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Filter Pore Size (Air Samples): ☐ 0.8µm ☒ 0.45µm

Samplers Name: Catey Bourne **Samplers Signature:** CBourne

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
01	IWA-Kitchen work Area	1206.5	1/2/19
02	↓	↓	↓
03			
04			
05			

Client Sample # (s): 01 - 13 **Total # of Samples:** 13

Relinquished (Client): CBourne **Date:** 1/2/19 **Time:** 6:00 pm

Received (Lab): L. Marcotte Fed Ex **Date:** **Time:**

Comments/Special Instructions:
Analyze samples 01-05 only

Page 1 of 2 pages

OrderID: 192000056

Asbestos Chain of Custody

EMSL ANALYTICAL, INC
LABORATORY • PRODUCTS • TRAINING

EMSL Order Number *(Lab Use Only)*:

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
06	OWA-Kitchen Work Area	1206.5	1/2/19
07	↓	↓	↓
08			
09			
10			
11	Field Blank (IWA)	-	-
12	Field Blank (OWA)	-	-
13	Sealed Blank	-	-

*Comments/Special Instructions:

Page 2 of 2 pages

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A5 **Date:** 01/03/2020

Project Address: 3600 Commonwealth Avenue
,Alexandria,VA-22305

Work Area Location/Description: Kitchen Work Area

Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	3
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Catey Bourne **Date:** 01/03/2020

ECS Mid-Atlantic, LLC

Final Clearance Checklist

Project Number: 1519-A5 **Date:** 01/03/2020

Project Address: 3600 Commonwealth Avenue
,Alexandria,VA-22305

Work Area Location/Description: Kitchen Work Area

Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	Floors	Satisfactory
	Walls	Satisfactory
	Ceiling	Satisfactory
	Windows	Satisfactory
	Mechanical Equipment	Satisfactory
	Ducts	Satisfactory
	Pipes	Satisfactory
	Lighting	Satisfactory
	Other Surfaces	Satisfactory
	Specified ACM Removed	Satisfactory
	Work Area Encapsulated	Satisfactory
	Negative Air Filtration Functioning	Satisfactory
	Waste Bags Removed	Satisfactory
	Final Clearance Air Sample Type	TEM
	Number of Samples Collected	13
	Sample Volume (liters)	1206.5
	Work Area Acceptable	Yes

Notes:

ECS Technician: Catey Bourne **Date:** 01/03/2020

Appendix II: Certifications/ Licenses

DPOR License Lookup License Number 3309001881

License Details

Name	BOURNE, CATHERINE GRACE
License Number	3309001881
License Description	Asbestos Project Monitor License
Rank	Asbestos Project Monitor
Address	ALEXANDRIA, VA 22304
Initial Certification Date	2017-03-27
Expiration Date	2021-03-31

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ASBESTOS ABATEMENT SUMMARY REPORT

CORA KELLY ELEMENTARY SCHOOL - PSYCHOLOGY OFFICE

3600 COMMONWEALTH AVENUE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:1519-A6

FOR

ALEXANDRIA CITY PUBLIC SCHOOLS

JUNE 02, 2020

June 02, 2020

Ms. Carol Cheney
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314
carol.cheney@acps.k12.va.us

ECS Project No. 47:1519-A6

Reference: Asbestos Abatement Summary Report, Cora Kelly Elementary School - Psychology Office, 3600 Commonwealth Avenue, Alexandria, Virginia

Dear Ms. Cheney:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with this summary report of the asbestos abatement work performed during the above-referenced project. ECS performed visual assessments, evaluations, and air monitoring and sampling during the removal of asbestos-containing materials (ACMs). This report includes a project description, a summary of the asbestos abatement activities observed by ECS, and a summary of the work conducted by ECS including laboratory results.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Catey Bourne
Assistant Staff Project Manager
cbourne@ecslimited.com
703-471-8400

Diana Krass
Environmental Senior Project Manager
dkrass@ecslimited.com
703-471-8400

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TABLE OF APPENDICES

Appendix I: Daily Field Reports with Air Sample Results

Appendix II: Certifications/Licenses

1.0 PROJECT DESCRIPTION

The subject property consists of Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. The asbestos abatement work was performed by Waco, Inc., in general, from December 28, 2019 and December 29, 2019, and included the removal of asbestos-containing floor tiles and associated floor mastic from the psychology office and staff room near the main entrance of the school.

No other areas or other identified and assumed asbestos-containing materials (ACMs) were included in this abatement. Please note that the above-referenced ACMs or other identified and assumed ACMs may be present in other areas of the school building.

2.0 ECS SCOPE OF WORK

ECS was tasked with performing visual assessments and evaluations, monitoring and air sampling during and after the removal of the above-identified asbestos-containing materials (ACMs) within the above-referenced subject building.

3.0 ASBESTOS ABATEMENT ACTIVITIES

3.1 Asbestos Removal

Asbestos abatement was performed by Waco, Inc. within regulated a regulated work area. The regulated work area within the subject building consisted of an enclosure placed under negative pressure constructed of 6-mil polyethylene sheeting.

3.2 Daily Air Sampling

During the asbestos abatement project, ECS collected and analyzed air samples using Phase Contrast Microscopy (PCM) in general accordance with applicable federal and Virginia regulations. Samples were collected during the project outside the work area to monitor airborne fiber concentrations. In general, the air sampling found the engineering controls (i.e., polyethylene sheeting, negative air pressure, High Efficiency Particulate Air (HEPA) filtration adequate to keep fiber concentrations on air samples collected outside the regulated work area below the Virginia PCM re-occupancy limit of <0.01 fibers per cubic centimeter (f/cc). Air sample results are included within the technicians' daily field notes.

3.3 ECS Observations

ECS reviewed the asbestos credentials of the abatement workers. The credential documentation reviewed was noted to be current at the time presented to ECS.

ECS observed abatement workers utilizing personal protective equipment deemed necessary for asbestos abatement work by applicable OSHA and Virginia regulations (respirators, disposable protective clothing, eye protection, hard hats, gloves, etc.).

4.0 FINAL CLEARANCE AIR SAMPLING

After Waco, Inc. had removed the specified asbestos-containing materials (ACMs) and related waste from the work area, ECS performed a final clearance visual assessment to survey the work area and evaluate if the ACMs had been removed and if dust and/or debris remained in the work area. Following the completion of the final clearance visual assessment, ECS reported the results to Waco, Inc.

Final clearance air samples were collected from work area in accordance with aggressive sampling protocol described in Unit III.B.7.d of 40 CFR 763 Subpart E Appendix A and analyzed via Transmission Electron Microscopy (TEM) in accordance with federal and Virginia regulations. The results of the TEM final clearance air samples collected from the work area were found to be below the Virginia re-occupancy limit of 70 structures per square millimeter (70 s/mm^2).

5.0 CLOSING

ECS's daily monitoring field reports and PCM air sample results are enclosed along with copies of the TEM laboratory report(s). If we can be of further assistance to you, please do not hesitate to contact us at (703) 471-8400.

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which 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 warranty, expressed or implied, is made.

The 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 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. 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 ECS and the client.

Our recommendations are in part based on federal, state, and local 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.

Appendix I: Daily Field Reports with Air Sample Results

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

January 3, 2020

Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, VA 22314

ATTN: Carol Cheney

RE: **ACPS - Cora Kelly Psychology Office ACM**
ECS Job # **47:1519-A6**

Permits:
Location: **3600 Commonwealth Avenue**
Alexandria, VA

We are enclosing: **X** Field Reports **X** For your use **X** As requested

CC: **Alexandria City Public Schools - John Finnigan**
Alexandria City Public Schools - Paul May
Waco Inc. - Steve E. Williams

ENCL:

Field Report # 1 12/28/2019

Diana D. Krass
Environmental Senior Project Manager

Bobby Rhett
Environmental Project Manager

Disclaimer
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4. Incomplete or non-conforming work will be recorded for future resolution.
5. The results of samples and/or specimens obtained or prepared for subsequent laboratory testing will be presented in separate reports/documents.

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**47:1519-A6**
Report No.	**1**
Day & Date	**Saturday 12/28/2019**
Weather	**60°/ Sunny**
On-Site Time	**10.50**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**10.50**
Re Obs.Time	**0.00**

Project	**ACPS - Cora Kelly Psychology Office ACM**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools - Carol Cheney**
Contractor	**Waco Inc. - Steve E. Williams**

Remarks

Trip Charges* Tolls/Parking* Mileage*

Chargeable Items

Time of Arrival Departure
06:00A 04:30P

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. Materials to be removed today are floor tile and associated mastic in the psychology office and staff rooms near the main offices.

Prior to starting the removal of the specified material, the abatement permit was reviewed. The undersigned was notified the permit was on-site and the removal of the specified materials could begin.

Prior to starting the removal of the specified materials, the abatement contractor employees were asked to provide their asbestos abatement license for review. No workers were found to be without valid asbestos abatement licenses.

The abatement contractor requested a pre-abatement survey of the regulated work area. The Pre-Abatement Checklist was completed and is attached to this report.

At 9:17 am, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 3.0 liters per minute.

Abatement workers were observed removing the carpet from the work area. The carpet was removed without disturbing the floor tile and was disposed of as non-asbestos waste. All layers of floor tiles were removed from both rooms using hand tools, and the mastic was removed using a chemical remover and buffer.

At 3:00 pm, the sampling pumps were checked using a rotameter. The flow rate was 2.0 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area.

The abatement contractor stated the specified materials had been removed from the regulated

work area and requested a visual survey to confirm compliance. The Final Clearance Visual Survey Checklist was completed and is attached to this report.

Following the successful completion of the final clearance visual survey, the abatement contractor applied an encapsulant to surfaces within the regulated work area.

GENERAL

The regulated work areas were surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and placed in a temporary hauling container.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet
WORK AREA SAMPLES

Project Number: 1519-A6

Project Address: 3600 Commonwealth Avenue ,Alexandria,VA-22305

Date: 12/29/2019

Page: 1 of 1

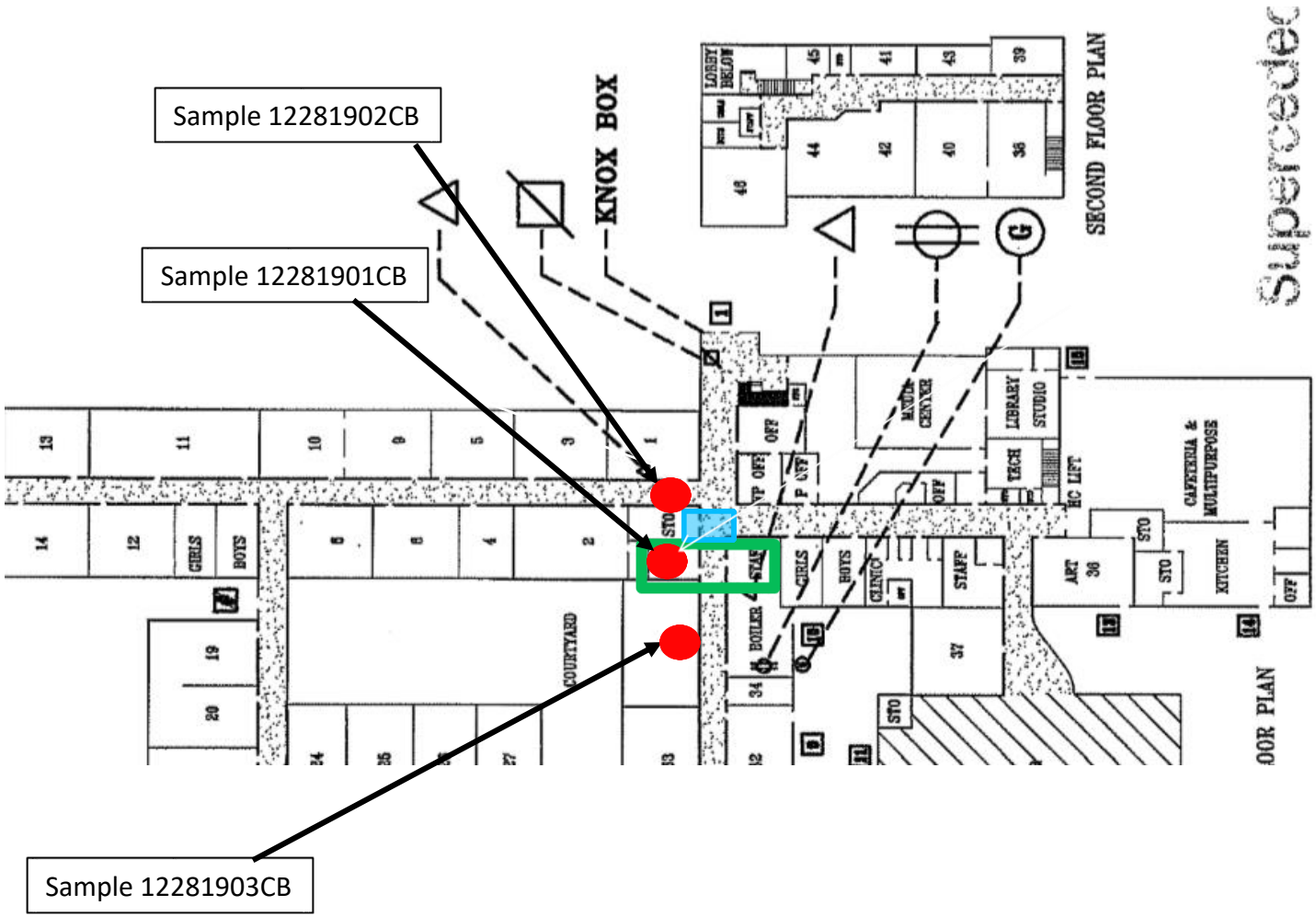
Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (min)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
12281901CB	IWA	9:17 AM	3:00 PM	3.0	3.0	3.0	343	1029.0	4.0	100	0.002
12281902CB	OWA- Near Decontamination Unit	9:17 AM	3:00 PM	3.0	3.0	3.0	343	1029.0	7.0	100	0.003
12281903CB	OWA- Near Negative Air Machine Exhaust	9:17 AM	3:00 PM	3.0	3.0	3.0	343	1029.0	2.0	100	0.001
12281904CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
12281905CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

NFD = None Fibers Detected; OWA = Outside Work Area; IWA = Inside Work Area; FC = Final Clearance

Notes:

ECS Technician: Catey Bourne

Date: 12/29/2019



Legend

- Work Area
- Daily Sample location
- 3-stage decontamination unit location

Cora Kelly Elementary School
3600 Commonwealth Avenue
Alexandria, VA 22305

SAMPLING LOCATIONS
ACPS

SCALE: NTS
Project No.: 47:1519-A6
Date: 12/28/19

ECS Mid-Atlantic, LLC

Pre-Abatement Work Area Checklist

Project Number: 1519-A6 **Date:** 12/29/2019

Project Address: 3600 Commonwealth Avenue
,Alexandria,VA-22305

Work Area Location/Description: Psychology Office/Floor Tile and Mastic

Administrative	Training Certificates/Licenses	Satisfactory
	Permits	Satisfactory
	EPA/State/Local Notification	Satisfactory
Work Area	Public Access Restricted	Satisfactory
	Warning Signs/Tape Posted	Satisfactory
Negative Air Filtration	Number of Units	2
	Pre-Filters In-Use/Available	Satisfactory
	Exhausted from Work Area	Satisfactory
	Pressure Differential Monometer Operating	Satisfactory
Equipment	HEPA Vacuum Available	Satisfactory
	Amended Water Sprayers	Satisfactory
Decontamination Enclosure	Clean Room	Satisfactory
	Shower Water Available	Satisfactory
	Waste Water Filtration In-Use	Satisfactory
	Disposable Towels	Satisfactory
	Soap	Satisfactory
	Equipment Room	Satisfactory
Personal Protective Equipment	Type of Respirator	Half Face APR
	Type of Filters Used	P100
	Disposable Protective Clothing	Satisfactory
	Work Area Acceptable	Yes

Notes:

ECS Technician: Catey Bourne **Date:** 12/29/2019

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A6 **Date:** 12/29/2019

Project Address: 3600 Commonwealth Avenue
,Alexandria,VA-22305

Work Area Location/Description: Psychology Offices/Floor Tile and Mastic

Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	3
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Catey Bourne **Date:** 12/29/2019

ECS Mid-Atlantic, LLC

Final Clearance Checklist

Project Number: 1519-A6 **Date:** 12/29/2019

Project Address: 3600 Commonwealth Avenue
,Alexandria,VA-22305

Work Area Location/Description: Psychology office

Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	Floors	Satisfactory
	Walls	Satisfactory
	Ceiling	Satisfactory
	Windows	N/A
	Mechanical Equipment	N/A
	Ducts	N/A
	Pipes	N/A
	Lighting	Satisfactory
	Other Surfaces	Satisfactory
	Specified ACM Removed	Satisfactory
	Work Area Encapsulated	Satisfactory
	Negative Air Filtration Functioning	Satisfactory
	Waste Bags Removed	Satisfactory
	Final Clearance Air Sample Type	TEM
	Number of Samples Collected	
	Sample Volume (liters)	
	Work Area Acceptable	Yes

Notes: Final clearance air samples will be collected on the next scheduled shift.

ECS Technician: Catey Bourne **Date:** 12/29/2019

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

January 3, 2020

Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, VA 22314

ATTN: Carol Cheney

RE: **ACPS - Cora Kelly Psychology Office ACM**
ECS Job # **47:1519-A6**

Permits:
Location: **3600 Commonwealth Avenue**
Alexandria, VA

We are enclosing: **X** Field Reports **X** For your use **X** As requested

CC: **Alexandria City Public Schools - John Finnigan**
Alexandria City Public Schools - Paul May
Waco Inc. - Steve E. Williams

ENCL:

Field Report # 2 12/29/2019

Diana D. Krass
Environmental Senior Project Manager

Bobby Rhett
Environmental Project Manager

Disclaimer
1. This report (and any attachments) shall not be reproduced except in full without prior written approval of ECS.
2. The information in this report relates only to the activities performed on the report date.
3. Where appropriate, this report includes statements as to compliance with applicable project drawings and specifications for the activities performed on this report date.
4. Incomplete or non-conforming work will be recorded for future resolution.
5. The results of samples and/or specimens obtained or prepared for subsequent laboratory testing will be presented in separate reports/documents.

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**47:1519-A6**
Report No.	**2**
Day & Date	**Sunday 12/29/2019**
Weather	**50°/ Rain**
On-Site Time	**2.75**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**2.75**
Re Obs.Time	**0.00**

Project	**ACPS - Cora Kelly Psychology Office ACM**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools - Carol Cheney**
Contractor	**Waco Inc. - Steve E. Williams**

Remarks

Trip Charges* Tolls/Parking* Mileage*

Chargeable Items

Time of Arrival **10:30A** Departure **01:15P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. Today's work consisted of collecting TEM final clearance air samples from the psychology office and staff room after the removal of floor tile and mastic.

On the previous work shift, following the successful completion of the final clearance visual survey, the abatement contractor applied an encapsulant to surfaces within the regulated work area. Today, aggressive air sampling was performed. Five (5) TEM air samples were started within the regulated work area and Five (5) TEM air samples were started outside the work area. The sampling pumps were calibrated using a rotameter to 8.0 liters per minute. One field blank sample was opened within the work area for 30 seconds. One field blank sample was opened outside the work area for 30 seconds.

At 1:28 pm, the sampling pumps were checked using a rotameter after the air within and outside the regulated work area was sampled using TEM cassettes for 120 minutes at 8.0 liters per minute. The sampling cassettes, including the two field blanks and one sealed blank were labeled with unique identification and transported to EMSL Analytical Laboratory, Inc. (EMSL) in Beltsville, Maryland for asbestos analysis.

The US EPA and Commonwealth of Virginia maximum allowable airborne asbestos concentration from within the work area is 70 structures per millimeter squared (s/mm2). In order to be deemed acceptable, the average of the interior samples analyzed must have asbestos concentrations of 70 s/mm2 or less. EMSL informed ECS that the analytical results of the TEM final clearance air samples collected from the psychology office and staff room were less than this maximum allowable concentration. The client and abatement contractor supervisor were informed of the results. A copy of the laboratory report is attached.

By **Catey Bourne, — Assistant Staff Project Manager** 1302

63195

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705

Tel/Fax: (301) 937-5700 / (301) 937-5701

http://www.EMSL.com / beltsvillelab@emsl.com

EMSL Order: 191915652
Customer ID: ECMA78
Customer PO: 47:1519-A6
Project ID:

Attention: Bobby Rhett
ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151
Project: CORA KELLY / 47:1519-A6

Phone: (703) 471-8400
Fax: (703) 471-8400
Received Date: 12/30/2019 08:44 AM
Analysis Date: 12/30/2019
Collected Date: 12/30/2019

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm²)	Non Asb	Asbestos Type(s)	#Structures ≥0.5µ < 5µ	#Structures ≥5µ	Analytical Sensitivity (S/cc)	Asbestos Concentration (S/mm²)	Asbestos Concentration (S/cc)
01	IWA PSYCH OFFICE	1200.00	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
191915652-0001										
02	IWA PSYCH OFFICE	1200.00	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
191915652-0002										
03	IWA PSYCH OFFICE	1200.00	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
191915652-0003										
04	IWA PSYCH OFFICE	1200.00	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
191915652-0004										
05	IWA PSYCH OFFICE	1200.00	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
191915652-0005										

Analyst(s)

Joe Centifonti (5)

Joe Centifonti, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. Beltsville, MD NVLAP Lab Code 200293-0

Initial report from: 12/30/2019 12:31 PM

OrderID: 191915652

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (*Lab Use Only*): 191915652

PHONE:
FAX:

Company Name: ECS Mid-Atlantic		**EMSL Customer ID:**	
Street: 14026 Thunderbolt Pl		**City:** Chantilly	**State/Province:** VA
Zip/Postal Code: 20151	**Country:**	**Telephone #:**	**Fax #:**
Report To (Name): Bobby Rhett		**Please Provide Results:** ☐ Fax ☑ Email	
Email Address: brhett@ecslimited.com		**Purchase Order:** 47.1519-A6	
Project Name/Number: Cora Kelly / 47.1519-A6		**EMSL Project ID** (*Internal Use Only*):	
U.S. State Samples Taken: VA		**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt	

EMSL-Bill to: ☒ Same ☒ Different - If Bill to is Different note instructions in Comments**
Third Party Billing requires written authorization from third party

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour	☐ 6 Hour	☐ 24 Hour	☐ 48 Hour	☐ 72 Hour	☐ 96 Hour	☐ 1 Week	☐ 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air ☐ Check if samples are from NY
☐ NIOSH 7400
☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
☐ PLM EPA 600/R-93/116 (<1%)
☐ PLM EPA NOB (<1%)
Point Count
☐ 400 (<0.25%) ☐ 1000 (<0.1%)
Point Count w/Gravimetric
☐ 400 (<0.25%) ☐ 1000 (<0.1%)
☐ NYS 198.1 (friable in NY)
☐ NYS 198.6 NOB (non-friable-NY)
☐ NYS 198.8 SOF-V
☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
☒ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☐ ISO 10312

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (non-friable-NY)
☐ Chatfield SOP
☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
Fibers >10µm ☐ Waste ☐ Drinking
All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
☐ Microvac - ASTM D 5755
☐ Wipe - ASTM D6480
☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)
☐ TEM EPA 600/R-93/116 with milling prep (<0.1%)
☐ TEM Qualitative via Filtration Prep
☐ TEM Qualitative via Drop Mount Prep
☐ Cincinnati Method EPA 600/R-04/004 – PLM/TEM (BC only)

Other:
☐

☐ Check For Positive Stop – Clearly Identify Homogenous Group

Filter Pore Size (Air Samples): ☐ 0.8µm ☐ 0.45µm

Samplers Name:

Samplers Signature:

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
01	IWA - PSYch office	1200 L	12/29/19
02			
03			
04			
05			

Client Sample # (s): 01 - 13 **Total # of Samples:** 13

Relinquished (Client): **Date:** **Time:**

Received (Lab): Haulmk **Date:** **Time:**

Comments/Special Instructions: agressive sampling, only analyze IWA samples 01-05

RECEIVED
EMSL ANALYTICAL, INC.
BELTSVILLE, MD
2019 DEC 30 A 8:41

OrderID: 191915652

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (*Lab Use Only*):

PHONE:
FAX:

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
06	OWA-PSych office	1200 L	12/20/19
07	↓	↓	↓
08			
09			
10	↓	↓	
11	field blank-IWA	—	
12	field blank-OWA	—	
13	sealed blank	—	↓

***Comments/Special Instructions:**

Page 2 of 2 pages

Appendix II: Certifications/ Licenses

DPOR License Lookup License Number 3309001881

License Details

Name	BOURNE, CATHERINE GRACE
License Number	3309001881
License Description	Asbestos Project Monitor License
Rank	Asbestos Project Monitor
Address	ALEXANDRIA, VA 22304
Initial Certification Date	2017-03-27
Expiration Date	2021-03-31

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DPOR License Lookup build 1,377 (built 2020-05-13 05:28:12).

ASBESTOS ABATEMENT SUMMARY REPORT

CORA KELLY ELEMENTARY SCHOOL - SECOND FLOOR

3600 COMMONWEALTH AVENUE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:1519-A7

FOR

ALEXANDRIA CITY PUBLIC SCHOOLS

JUNE 05, 2020

June 05, 2020

Ms. Carol Cheney
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314
carol.cheney@acps.k12.va.us

ECS Project No. 47:1519-A7

Reference: Asbestos Abatement Summary Report, Cora Kelly Elementary School - Second Floor, 3600 Commonwealth Avenue, Alexandria, Virginia

Dear Ms. Cheney:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with this summary report of the asbestos abatement work performed during the above-referenced project. ECS performed visual assessments, evaluations, and air monitoring and sampling during the removal of asbestos-containing materials (ACMs). This report includes a project description, a summary of the asbestos abatement activities observed by ECS, and a summary of the work conducted by ECS including laboratory results.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Catey Bourne
Assistant Staff Project Manager
cbourne@ecslimited.com
703-471-8400

Diana Krass
Environmental Senior Project Manager
dkrass@ecslimited.com
703-471-8400

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TABLE OF APPENDICES

Appendix I: Daily Field Reports with Air Sample Results

Appendix II: Certifications/Licenses

1.0 PROJECT DESCRIPTION

The subject property consists of Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. The asbestos abatement work was performed by Waco, Inc., in general, from May 27, 2020 to June 3, 2020 and included the removal of asbestos-containing floor tiles and associated floor mastic from Rooms 38, 39, 40, 42, and 43 and the south end of the second floor hallway of the school.

No other areas or other identified and assumed asbestos-containing materials (ACMs) were included in this abatement. Please note that the above-referenced ACMs or other identified and assumed ACMs may be present in other areas of the school building.

2.0 ECS SCOPE OF WORK

ECS was tasked with performing visual assessments and evaluations, monitoring and air sampling during and after the removal of the above-identified asbestos-containing materials (ACMs) within the above-referenced school building.

3.0 ASBESTOS ABATEMENT ACTIVITIES

3.1 Asbestos Removal

Asbestos abatement was performed by Waco, Inc. within a regulated work area. The regulated work area within the subject building consisted of an enclosure placed under negative pressure constructed of 6-mil polyethylene sheeting.

3.2 Daily Air Sampling

During the asbestos abatement project, ECS collected and analyzed air samples using Phase Contrast Microscopy (PCM) in general accordance with applicable federal and Commonwealth of Virginia regulations. Samples were collected during the project outside the work area to monitor airborne fiber concentrations. In general, the air sampling found the engineering controls (i.e., polyethylene sheeting, negative air pressure, High Efficiency Particulate Air (HEPA) filtration adequate to keep fiber concentrations on air samples collected outside the regulated work area below the Commonwealth of Virginia PCM re-occupancy limit of <0.01 fibers per cubic centimeter (f/cc). Air sample results are included within the technicians' daily field notes.

3.3 ECS Observations

ECS reviewed the asbestos credentials of the abatement workers. The credential documentation reviewed was noted to be current at the time presented to ECS.

ECS observed abatement workers utilizing personal protective equipment deemed necessary for asbestos abatement work by applicable OSHA and Commonwealth of Virginia regulations (respirators, disposable protective clothing, eye protection, hard hats, gloves, etc.).

4.0 FINAL CLEARANCE AIR SAMPLING

After Waco, Inc. had removed the specified asbestos-containing materials (ACMs) and related waste from the work area, ECS performed final clearance visual assessments to survey the work area and evaluate if the ACMs had been removed and if dust and/or debris remained in the work area. Following the completion of the final clearance visual assessments, ECS reported the results to Waco, Inc.

Final clearance air samples were collected from the work area in accordance with aggressive sampling protocol described in Unit III.B.7.d of 40 CFR 763 Subpart E Appendix A and analyzed via Transmission Electron Microscopy (TEM) in accordance with federal and Commonwealth Virginia regulations. The results of the TEM final clearance air samples collected from each work area were found to be below the Commonwealth of Virginia re-occupancy limit of 70 structures per square millimeter (70 s/mm^2).

5.0 CLOSING

Copies of ECS's daily monitoring field reports are enclosed along with copies of laboratory report(s). If we can be of further assistance to you, please do not hesitate to contact us at (703) 471-8400.

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

The 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 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. 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 ECS and the client.

Our recommendations are in part based on federal, state, and local 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.

As with any similar survey of this nature, actual conditions exist only at the precise locations from which 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 warranty, expressed or implied, is made.

Appendix I: Daily Field Reports with Air Sample Results

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

May 29, 2020

Alexandria City Public Schools
1340 Braddock Place Suite 620
Alexandria, VA 22314

ATTN: Carol Cheney

RE: **ACPS - Cora Kelly, 2nd Floor, ACM Services**
ECS Job # **1519-A7**

Permits:
Location: **3600 Commonwealth Avenue Alexandria, VA 22305**

CC: Alexandria City Public Schools - John Finnigan

ENCL: Field Report # 1 5/27/2020 5 pcm

Diana D. Krass
Environmental Senior Project Manager

Robert Lawrence Rhett
Environmental Project Manager

Disclaimer

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2. *The information in this report relates only to the activities performed on the report date.*
3. *Where appropriate, this report includes statements as to compliance with applicable project drawings, and specifications for the activities, performed on this report date.*
4. *Incomplete or non-conforming work will be reported for future resolution.*
5. *The results of samples and/or specimens obtained or prepared for supersequent laboratory testing will be presented in separate reports/documents.*

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**1519-A7**
Report No.	**1**
Day & Date	**Wednesday 5/27/2020**
Weather	**78 °/ Sunny**
On-Site Time	**8.00**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**8.00**
Re Obs Time	**0.00**

Project	**ACPS - Cora Kelly, 2nd Floor, ACM Services**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools**
Contractor	**None Listed**

Remarks **5 pcm**

Trip Charges*	Tolls/Parking*	Mileage*	Time of	Arrival	Departure
Chargeable Items				**7:00A**	**3:00P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. The materials to be removed today are approximately 4,000 square feet of asbestos-containing floor tile and associated mastic from Rooms 38, 39, 40, 42, and 43, and from the south end of the second floor hallway between these rooms. The asbestos-containing floor tile is located underneath the carpet in the above-referenced rooms. The carpet will be removed and disposed of as asbestos-contaminated material.

At 7:00 am, the undersigned met with the abatement contractor supervisor, Mr. Santos Campos of Waco, Inc. (Waco). The abatement on the second floor will be divided into two phases. Waco will be starting Phase I today (Rooms 38, 39, 40, 42, and 43 and the south end of the hallway) and Phase II (Rooms 44, 45, 46, and the north end of the hallway) will be started at a later date. The flooring materials have already been abated in Room 41 and the second floor work room.

SECOND FLOOR WORK AREA (PHASE I)

Prior to starting the removal of the specified materials, the abatement contractor employees were asked to provide their asbestos abatement license for review. No workers were found to be without valid asbestos abatement licenses.

Prior to starting the removal of the specified materials, the abatement permit was reviewed. The permit was onsite.

The abatement contractor requested a pre-abatement survey of the regulated work area. The Pre-Abatement Checklist was completed and is attached to this report. The regulated work area was not yet set up in accordance with applicable regulations. The abatement contractor corrected the deficiencies and the work area was found satisfactory.

Between 11:46 am and 12:08 pm, PCM air samples were started inside and outside the work area. The sampling pump for the sample located inside the work area and the sample located outside the work area at the decontamination unit was calibrated using a rotameter to 4.0 liters per minute. The sampling pump for the sample located outside the work area at the critical barrier on the southwest staircase was calibrated using a rotameter to 2.5 liters per minute.

Between 2:10 pm and 2:15 pm, the sampling pumps were checked using a rotameter. The flow rates were 4.0 liters per minute for the sample located inside the work area and the sample located outside the work area at the decontamination unit and 2.5 liters per minute for the sample located outside the work area at the southwest staircase. The PCM air samples were stopped and gathered from inside and outside the work area for analysis.

GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and stored temporarily within the work area.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.

The US EPA and Commonwealth of Virginia re-occupancy limit is 0.01 fibers per cubic centimeter of air (f/cc). The analytical results of the air samples collected inside and outside the second floor work area were reported to be less than this maximum allowable limit, which meets the project requirements.

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet

WORK AREA SAMPLES

Project Number: 1519-A7
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

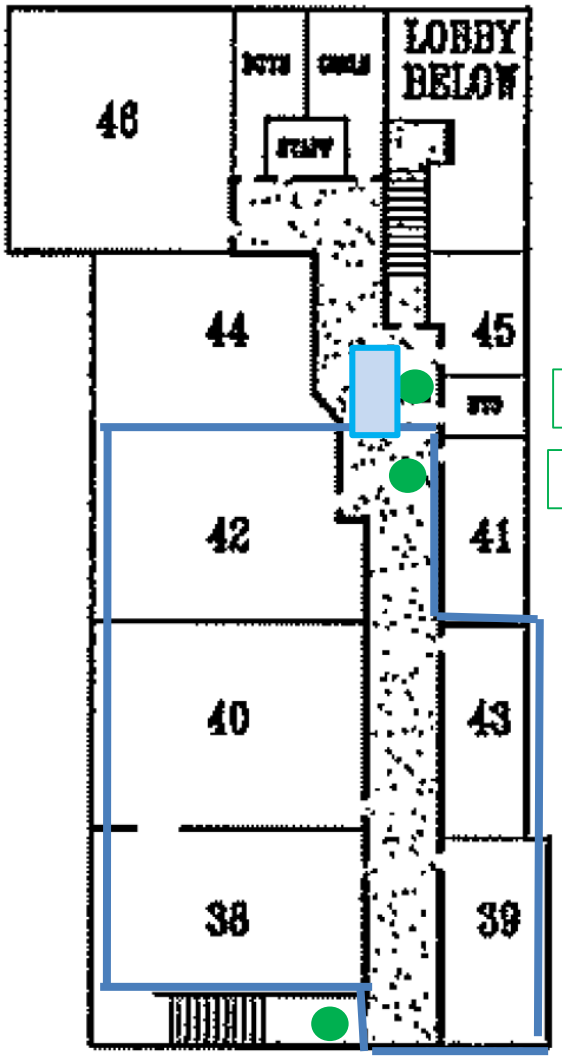
Date: 5/27/2020
Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (lpm)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
05272005 CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
05272001 CB	IWA- Second Floor Work Area	12:08 PM	2:15 PM	4.0	4.0	4.0	127	508.0	0.0	100	0.000
05272003 CB	OWA - Second Floor Work Area - Southwest Critical Barrier	11:46 AM	2:10 PM	2.5	2.5	2.5	144	360.0	0.0	100	0.000
05272002 CB	OWA- Second Floor Work Area - Decontamination Unit	12:08 PM	2:15 PM	4.0	4.0	4.0	127	508.0	3.0	100	0.003
05272004 CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

Notes: NFD = None Fibers Detected OWA = Outside Work Area IWA = Inside Work Area

Notes:

ECS Technician: Catey Bourne **Date:** 5/27/2020



PCM Air Sample Location

Work Area Perimeter

Decontamination Unit

Cora Kelly School for Math, Science, and Technology
3600 Commonwealth Avenue
Alexandria, VA 22305

WORK AREA SKETCH SECOND FLOOR

Scale: NTS

Project No. 47:1519-A7

5/27/20

Attachments



View of the Second Floor Work Area during the Pre-Abatement Survey

Figure 1



View of the Second Floor Work Area during the Pre-Abatement Survey

Figure 2

Attachments



View of the Second Floor Work Area during the Pre-Abatement Survey

Figure 3



View of the Second Floor Work Area during the Pre-Abatement Survey

Figure 4

ECS Mid-Atlantic, LLC

Pre-Abatement Work Area Checklist

Project Number: 1519-A7 **Date:** 5/27/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Phase 1 Work Area

	Work Area Location/Description	Second Floor Phase 1 Work Area
Administrative	Training Certificates/Licenses	Satisfactory
	Permits	Satisfactory
	EPA/State/Local Notification	Satisfactory
Work Area	Public Access Restricted	Satisfactory
	Warning Signs/Tape Posted	Satisfactory
Negative Air Filtration	Number of Units	6
	Pre-Filters In-Use/Available	Satisfactory
	Exhausted from Work Area	Satisfactory
	Pressure Differential Monometer Operating	Satisfactory
Equipment	HEPA Vacuum Available	Satisfactory
	Amended Water Sprayers	Satisfactory
Decontamination Enclosure	Clean Room	Satisfactory
	Shower Water Available	Satisfactory
	Waste Water Filtration In-Use	Satisfactory
	Disposable Towels	Satisfactory
	Soap	Satisfactory
	Equipment Room	Satisfactory
Personal Protective Equipment	Type of Respirator	Half Face APR
	Type of Filters Used	P100
	Disposable Protective Clothing	Satisfactory
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 5/27/2020

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A7 **Date:** 5/27/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Phase 1 Work Area

	Work Area Location/Description	Second Floor Phase 1 Work Area
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	3
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 5/27/2020

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LETTER OF TRANSMITTAL

May 29, 2020

Alexandria City Public Schools
1340 Braddock Place Suite 620
Alexandria, VA 22314

ATTN: Carol Cheney

RE: **ACPS - Cora Kelly, 2nd Floor, ACM Services**
ECS Job # **1519-A7**

Permits:
Location: **3600 Commonwealth Avenue Alexandria, VA 22305**

CC: Alexandria City Public Schools - John Finnigan

ENCL:			
	Field Report # 2	5/28/2020	8 PCM

Diana D. Krass
Environmental Senior Project Manager

Robert Lawrence Rhett
Environmental Project Manager

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FIELD REPORT

Project No.	**1519-A7**
Report No.	**2**
Day & Date	**Thursday 5/28/2020**
Weather	**80 °/ Rain**
On-Site Time	**8.50**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**8.50**
Re Obs Time	**0.00**

Project	**ACPS - Cora Kelly, 2nd Floor, ACM Services**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools**
Contractor	**None Listed**

Remarks **8 PCM**

Trip Charges*	Tolls/Parking*	Mileage*	Time of	Arrival	Departure
Chargeable Items				**6:00A**	**2:30P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. The material to be removed today is asbestos-containing floor tile and associated mastic from Rooms 38, 39, 40, 42, and 43, and the south end of the second floor hallway between these rooms. The asbestos-containing floor tile is located underneath the carpet in the room. The carpet will be removed and disposed of as asbestos-contaminated material.

SECOND FLOOR (PHASE I) WORK AREA MONITORING

Between 6:15 am and 6:18 am, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

Between 9:45 am and 9:50 am, the sampling pumps were checked using a rotameter. The flow rates were 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area for analysis. New PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

The abatement contractor was observed removing carpet and floor tiles utilizing hand tools. Mastic was removed using a mechanical grinder with a HEPA vacuum attachment.

Between 1:30 pm and 1:54 pm, the sampling pumps were checked using a rotameter. The flow rates were 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area for analysis.

GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

By Catey Bourne, --- Assistant Staff Project Manager 1302

65427

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and placed in a box truck lined with polyethylene sheeting for removal from the site.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.

The US EPA and Commonwealth of Virginia re-occupancy limit is 0.01 fibers per cubic centimeter of air (f/cc). The analytical results of the air samples collected inside and outside the second floor work area were reported to be less than this maximum allowable limit, which meets the project requirements.

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet

WORK AREA SAMPLES

Project Number: 1519-A7
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Date: 5/28/2020
Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (lpm)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
05282001 CB	IWA- Second Floor Work Area	6:16 AM	9:45 AM	2.5	2.5	2.5	209	522.5	3.5	100	0.003
05282006 CB	OWA- Second Floor Work Area Southwest Critical Barrier	9:50 AM	1:54 PM	2.5	2.5	2.5	244	610.0	0.0	100	0.000
05282003 CB	OWA- Second Floor Work Area Southwest Critical Barrier	6:18 AM	9:50 AM	2.5	2.5	2.5	212	530.0	2.0	100	0.002
05282008 CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
05282005 CB	OWA- Second Floor Work Area Decontamination Unit	9:45 AM	1:30 PM	2.5	2.5	2.5	225	562.5	0.0	100	0.000
05282007 CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
05282004 CB	IWA - Second Floor Work Area	9:45 AM	1:30 PM	2.5	2.5	2.5	225	562.5	1.0	100	0.001
05282002 CB	OWA- Second Floor Work Area Decontamation Unit	6:16 AM	9:45 AM	2.5	2.5	2.5	209	522.5	0.0	100	0.000

Notes: NFD = None Fibers Detected OWA = Outside Work Area IWA = Inside Work Area

Notes:

ECS Technician: Catey Bourne **Date:** 5/28/2020

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A7 **Date:** 5/28/2020

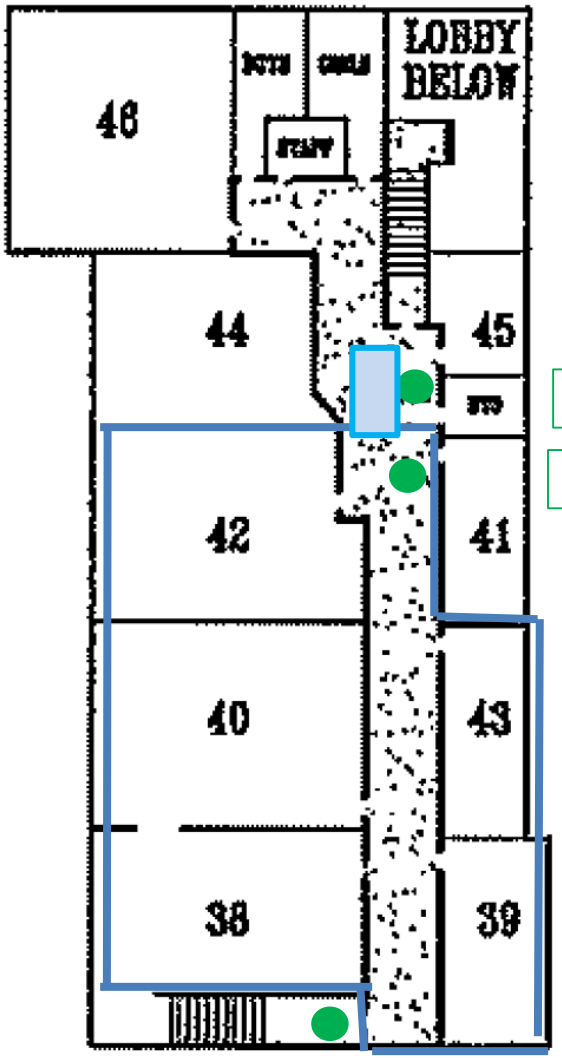
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Work Area

	Work Area Location/Description	Second Floor Work Area
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	6
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 5/28/2020



Samples 05282002CB and 05282005CB

Samples 05282001CB and 05282004CB

Samples 05282003CB and 05282006CB

PCM Air Sample Location

Work Area Perimeter

Decontamination Unit

Cora Kelly School for Math, Science, and Technology
3600 Commonwealth Avenue
Alexandria, VA 22305

WORK AREA SKETCH SECOND FLOOR

Scale: NTS

Project No. 47:1519-A7

5/28/20

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LETTER OF TRANSMITTAL

May 29, 2020

Alexandria City Public Schools
1340 Braddock Place Suite 620
Alexandria, VA 22314

ATTN: Carol Cheney

RE: **ACPS - Cora Kelly, 2nd Floor, ACM Services**
ECS Job # **1519-A7**

Permits:
Location: **3600 Commonwealth Avenue Alexandria, VA 22305**

CC: Alexandria City Public Schools - John Finnigan

ENCL: Field Report # 3 5/29/2020 8 PCM

Diana D. Krass
Environmental Senior Project Manager

Robert Lawrence Rhett
Environmental Project Manager

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(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**1519-A7**
Report No.	**3**
Day & Date	**Friday 5/29/2020**
Weather	**85 °/ Cloudy**
On-Site Time	**8.50**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**8.50**
Re Obs Time	**0.00**

Project	**ACPS - Cora Kelly, 2nd Floor, ACM Services**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools**
Contractor	**None Listed**

Remarks **8 PCM**

Trip Charges*	Tolls/Parking*	Mileage*	Time of	Arrival	Departure
Chargeable Items				**6:00A**	**2:30P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. The material to be removed today is asbestos-containing floor tile and associated mastic from Rooms 38, 39, 40, 42, and 43, and from the south end of the second floor hallway between these rooms. The asbestos-containing floor tile is located underneath the carpet in the rooms. The carpet will be removed and disposed of as asbestos-contaminated material.

SECOND FLOOR WORK AREA (PHASE I)

Between 6:35 am and 6:40 am, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

Between 10:00 am and 10:02 am, the sampling pumps were checked using a rotameter. The flow rates were 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area for analysis. New PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

The abatement contractor was observed removing carpet and floor tiles utilizing hand tools and shot blasting the black floor mastic with a HEPA-filtered shot blasting machine.

Between 1:20 and 1:35 pm, the sampling pumps were checked using a rotameter. The flow rates were 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area for analysis.

GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

By Catey Bourne, --- Assistant Staff Project Manager 1302

65442

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and placed in a box truck lined with polyethylene sheeting for temporary hauling.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.

The US EPA and Commonwealth of Virginia re-occupancy limit is 0.01 fibers per cubic centimeter of air (f/cc). The analytical results of the air samples collected from outside the second floor work area were reported to be less than the maximum allowable limits set by applicable regulations, which meets the project requirements.

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet

WORK AREA SAMPLES

Project Number: 1519-A7
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

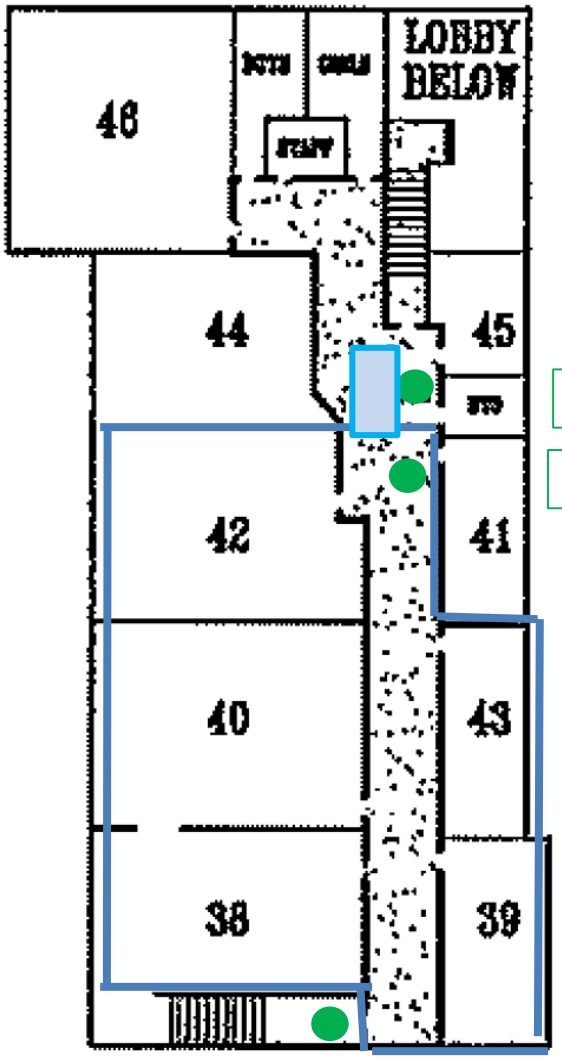
Date: 5/29/2020
Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (lpm)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
05292003 CB	OWA - Second Floor Work Area	6:40 AM	10:02 AM	2.5	2.5	2.5	202	505.0	1.0	100	0.001
05292004 CB	IWA - Second Floor Work Area	10:00 AM	1:30 PM	2.5	2.5	2.5	210	525.0	4.0	100	0.004
05292006 CB	OWA - Second Floor Work Area	10:02 AM	1:20 PM	2.5	2.5	2.5	198	495.0	1.5	100	0.001
05292001 CB	IWA - Second Floor Work Area	6:35 AM	10:00 AM	2.5	2.5	2.5	205	512.5	5.0	100	0.005
05292002 CB	OWA - Second Floor Work Area	6:35 AM	10:00 AM	2.5	2.5	2.5	205	512.5	3.0	100	0.003
05292008 CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
05292007 CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
05292005 CB	OWA - Second Floor Work Area	10:00 AM	1:30 PM	2.5	2.5	2.5	210	525.0	2.0	100	0.002

Notes: NFD = None Fibers Detected OWA = Outside Work Area IWA = Inside Work Area

Notes:

ECS Technician: Catey Bourne **Date:** 5/29/2020



PCM Air Sample Location

Work Area Perimeter

Decontamination Unit

Cora Kelly School for Math, Science, and Technology
3600 Commonwealth Avenue
Alexandria, VA 22305

WORK AREA SKETCH SECOND FLOOR

Scale: NTS

Project No. 47:1519-A7

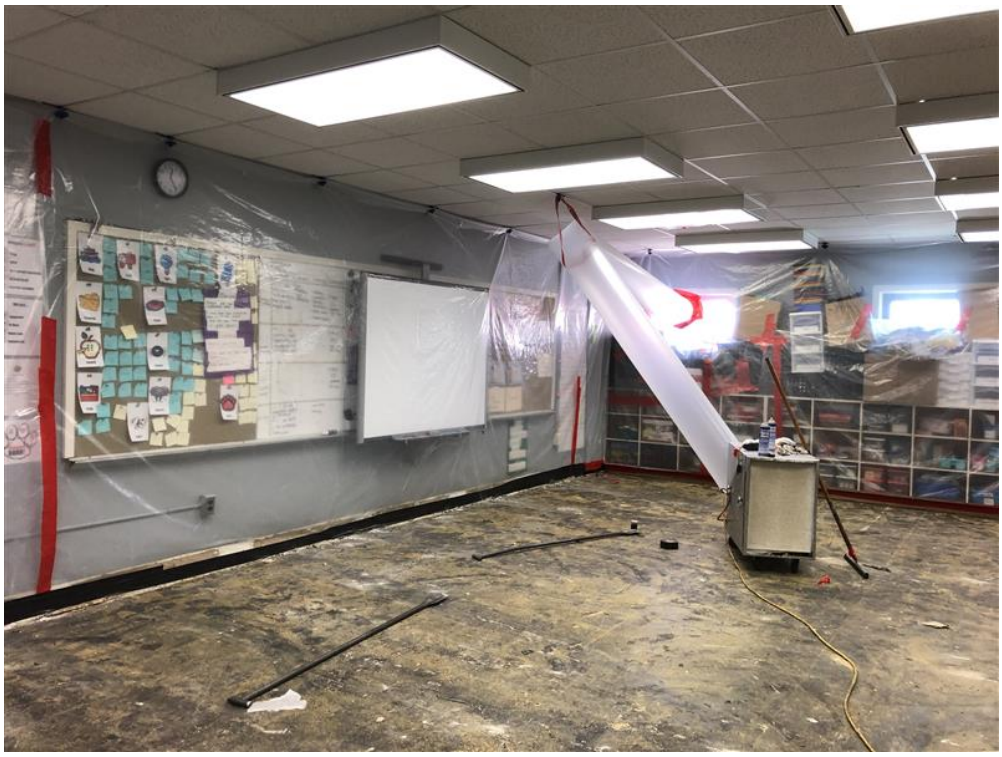
5/29/20

Attachments



View of the work area

Figure 1



View of the work area

Figure 2

Attachments



View of the work area

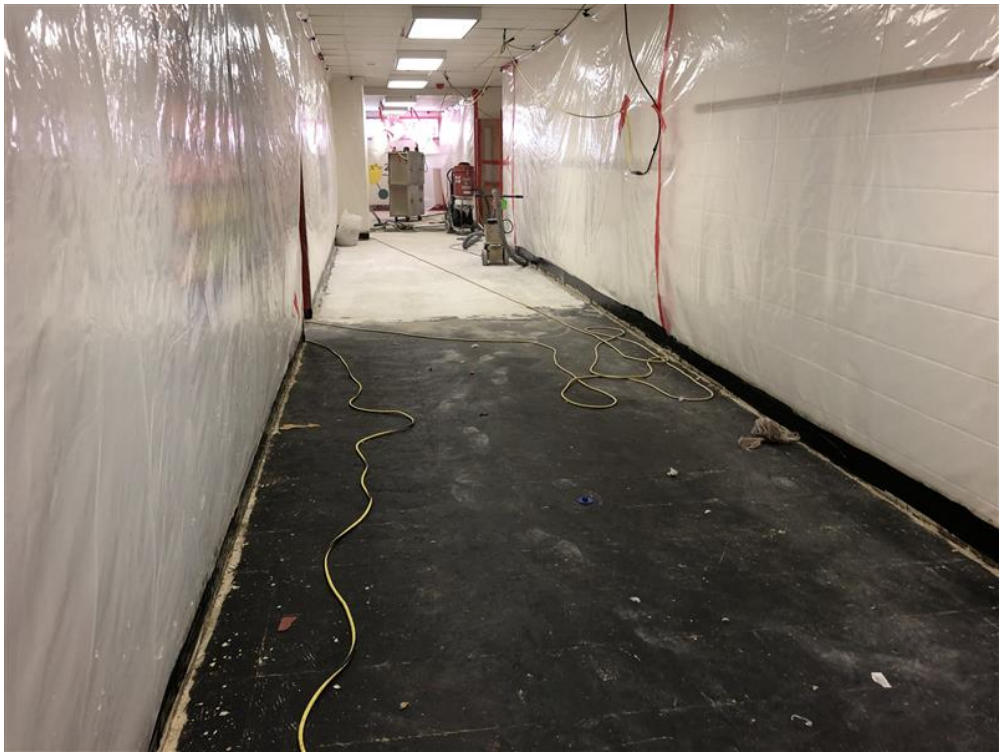
Figure 3



View of the work area

Figure 4

Attachments



View of the work area

Figure 5

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A7 **Date:** 5/29/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Work Area

	Work Area Location/Description	Second Floor Work Area
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	6
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 5/29/2020

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LETTER OF TRANSMITTAL

June 3, 2020

Alexandria City Public Schools
1340 Braddock Place Suite 620
Alexandria, VA 22314

ATTN: Carol Cheney

RE: **ACPS - Cora Kelly, 2nd Floor, ACM Services**
ECS Job # **1519-A7**

Permits:
Location: **3600 Commonwealth Avenue Alexandria, VA 22305**

CC: Alexandria City Public Schools - John Finnigan

ENCL:			
	Field Report # 4	6/1/2020	8 PCM

Diana D. Krass
Environmental Senior Project Manager

Robert Lawrence Rhett
Environmental Project Manager

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2. *The information in this report relates only to the activities performed on the report date.*
3. *Where appropriate, this report includes statements as to compliance with applicable project drawings, and specifications for the activities, performed on this report date.*
4. *Incomplete or non-conforming work will be reported for future resolution.*
5. *The results of samples and/or specimens obtained or prepared for supersequent laboratory testing will be presented in separate reports/documents.*

ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

FIELD REPORT

Project No.	**1519-A7**
Report No.	**4**
Day & Date	**Monday 6/1/2020**
Weather	**80 °/ Sunny**
On-Site Time	**8.50**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**8.50**
Re Obs Time	**0.00**

Project	**ACPS - Cora Kelly, 2nd Floor, ACM Services**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools**
Contractor	**None Listed**

Remarks **8 PCM**

Trip Charges*	Tolls/Parking*	Mileage*	Time of	Arrival	Departure
Chargeable Items				**6:00A**	**2:30P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. The material to be removed today is asbestos-containing floor tile and associated mastic from Rooms 38, 39, 40, 42, and 43, and the south end of the second floor hallway between these rooms. The asbestos-containing tile is located underneath the carpet in the above-referenced rooms. The carpet will be removed and disposed of as an asbestos-contaminated material.

SECOND FLOOR WORK AREA

Between 6:15 am and 6:20 am, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

Between 10:00 am and 10:05 am, the sampling pumps were checked using a rotameter. The flow rates were 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area for analysis. New PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

Between 1:45 pm and 1:50 pm, the sampling pumps were checked using a rotameter. The flow rates were 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area for analysis.

GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable

regulations. Waste bags were labeled and stored temporarily within the work area.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.

The US EPA and Commonwealth of Virginia re-occupancy limit is 0.01 fibers per cubic centimeter of air (f/cc). The analytical results of the PCM air samples collected from outside the second floor work area were reported to be less than this maximum allowable limit, which meets the project requirements.

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet

WORK AREA SAMPLES

Project Number: 1519-A7
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

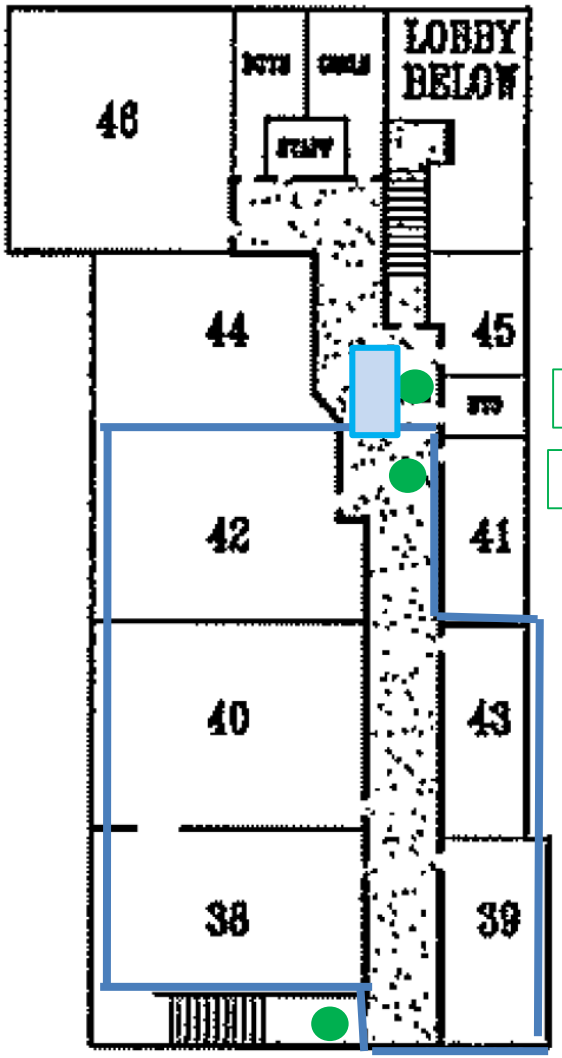
Date: 6/2/2020
Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (lpm)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
06012002 CB	OWA- Second Floor Work Area	6:15 AM	10:00 AM	2.5	2.5	2.5	225	562.5	1.0	100	0.001
06012004 CB	OWA- Second Floor Work Area	10:00 AM	1:45 PM	2.5	2.5	2.5	225	562.5	1.5	100	0.001
06012006 CB	OWA- Second Floor Work Area	10:03 AM	1:49 PM	2.5	2.5	2.5	226	565.0	3.0	100	0.003
06012001 CB	IWA- Second Floor Work Area	6:15 AM	10:00 AM	2.5	2.5	2.5	225	562.5	N/A	N/A	
06012005 CB	IWA- Second Floor Work Area	10:00 AM	1:45 PM	2.5	2.5	2.5	225	562.5	7.0	100	0.006
06012003 CB	OWA- Second Floor Work Area	6:20 AM	10:03 AM	2.5	2.5	2.5	223	557.5	2.0	100	0.002
06012007 CB	Field blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
06012008 CB	Field blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

Notes: NFD = None Fibers Detected OWA = Outside Work Area IWA = Inside Work Area

Notes: Sample 06012001CB was overloaded with particulates and/or dust, and the air sample was unable to be analyzed. The abatement contractor was notified and advised to use more water to control airborne dust within the containment. N/A = Not Available.

ECS Technician: Catey Bourne **Date:** 6/2/2020



Samples 06012002CB and 06012005CB

Samples 06012001CB and 06012004CB

Samples 06012003CB and 06012006CB

PCM Air Sample Location

Work Area Perimeter

Decontamination Unit

Cora Kelly School for Math, Science, and Technology
3600 Commonwealth Avenue
Alexandria, VA 22305

WORK AREA SKETCH SECOND FLOOR

Scale: NTS

Project No. 47:1519-A7

6/1/20

Attachments



View of work area during removal of black mastic

Figure 1

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A7 **Date:** 6/2/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Phase 1 Work Area

	Work Area Location/Description	Second Floor Phase 1 Work Area
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	6
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 6/2/2020

ECS Mid Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151-3232
(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

June 3, 2020

Alexandria City Public Schools
1340 Braddock Place Suite 620
Alexandria, VA 22314

ATTN: Carol Cheney

RE: **ACPS - Cora Kelly, 2nd Floor, ACM Services**
ECS Job # **1519-A7**

Permits:
Location: **3600 Commonwealth Avenue Alexandria, VA 22305**

CC: Alexandria City Public Schools - John Finnigan

ENCL: Field Report # 5 6/2/2020 8 PCM

Diana D. Krass
Environmental Senior Project Manager

Robert Lawrence Rhett
Environmental Project Manager

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FIELD REPORT

Project No.	**1519-A7**
Report No.	**5**
Day & Date	**Tuesday 6/2/2020**
Weather	**75 °/ Cloudy**
On-Site Time	**8.50**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**8.50**
Re Obs Time	**0.00**

Project	**ACPS - Cora Kelly, 2nd Floor, ACM Services**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools**
Contractor	**None Listed**

Remarks **8 PCM**

Trip Charges*	Tolls/Parking*	Mileage*	Time of	Arrival	Departure
Chargeable Items				**6:00A**	**2:30P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. The material to be removed today is asbestos-containing floor tile and associated mastic from Rooms 38, 39, 40, 42, and 43, and the south end of the second floor hallway between these rooms. The asbestos-containing floor tile and associated mastic is located underneath the carpet in the above-referenced rooms. The carpet was removed and disposed of as an asbestos-contaminated material.

SECOND FLOOR WORK AREA

The abatement contractor continued removing the floor mastic along the perimeters of the rooms and in the small spaces within the work area and began fine cleaning the work area.

Between 6:30 am and 6:35 am, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

Between 9:45 am and 9:55 am, the sampling pumps were checked using a rotameter. The flow rates were 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area for analysis. New PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

Between 1:30 pm and 1:37 pm, the sampling pumps were checked using a rotameter. The flow rates were 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area for analysis.

GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

By Catey Bourne, --- Assistant Staff Project Manager 1302

65500

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and stored in a box truck lined with polyethylene as a temporary hauling vehicle.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.

The US EPA and Commonwealth of Virginia re-occupancy limit is 0.01 fibers per cubic centimeter of air (f/cc). The analytical results of the PCM air samples collected from outside the second floor work area were reported to be less than this maximum allowable limit, which meets the project requirements.

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet

WORK AREA SAMPLES

Project Number: 1519-A7
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

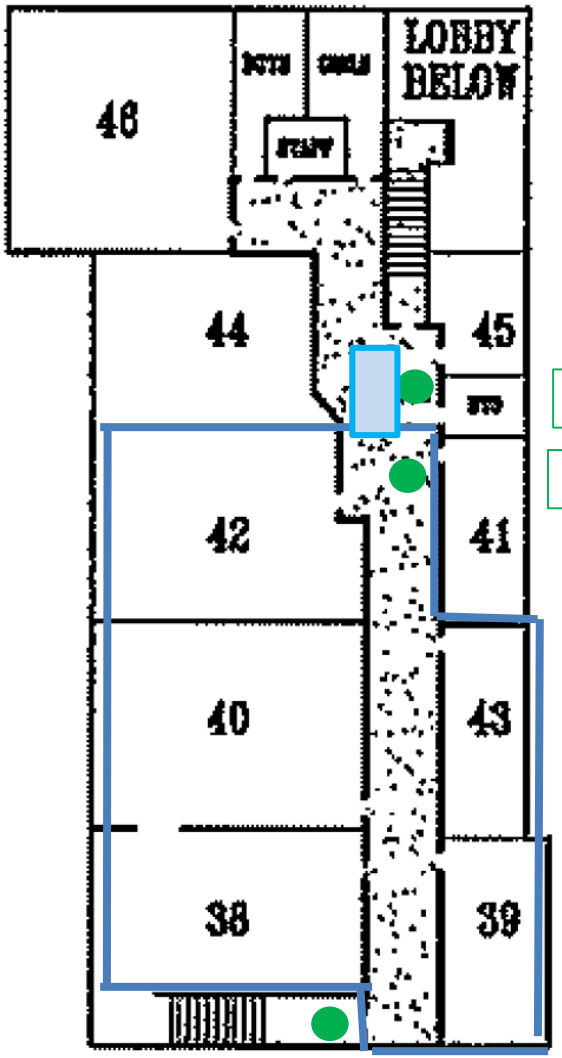
Date: 6/2/2020
Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (lpm)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
06022004 CB	IWA - Second Floor Work Area	9:50 AM	1:30 PM	2.5	2.5	2.5	220	550.0	3.0	100	0.003
06022005 CB	OWA - Second Floor Work Area	9:50 AM	1:30 PM	2.5	2.5	2.5	220	550.0	0.0	100	0.000
06022002 CB	OWA- Second Floor Work Area	6:30 AM	9:50 AM	2.5	2.5	2.5	200	500.0	0.0	100	0.000
06022003 CB	OWA- Second Floor Work Area	6:35 AM	9:55 AM	2.5	2.5	2.5	200	500.0	2.0	100	0.002
06022008 CB	Field blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
06022006 CB	OWA - Second Floor Work Area	9:55 AM	1:37 PM	2.5	2.5	2.5	222	555.0	0.0	100	0.000
06022001 CB	IWA- Second Floor Work Area	6:30 AM	9:50 AM	2.5	2.5	2.5	200	500.0	9.0	100	0.009
06022007 CB	Field blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

Notes: NFD = None Fibers Detected OWA = Outside Work Area IWA = Inside Work Area

Notes:

ECS Technician: Catey Bourne **Date:** 6/2/2020



PCM Air Sample Location

Work Area Perimeter

Decontamination Unit

Cora Kelly School for Math, Science, and Technology
3600 Commonwealth Avenue
Alexandria, VA 22305

WORK AREA SKETCH SECOND FLOOR

Scale: NTS

Project No. 47:1519-A7

6/2/20

Attachments



View of the work area following removal of mastic

Figure 1



View of the work area following removal of mastic

Figure 2

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A7 **Date:** 6/2/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Work Area

	Work Area Location/Description	Second Floor Work Area
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	6
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 6/2/2020

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(703) 471-8400 [Phone]
(703) 834-5527 [Fax]

LETTER OF TRANSMITTAL

June 4, 2020

Alexandria City Public Schools
1340 Braddock Place Suite 620
Alexandria, VA 22314

ATTN: Carol Cheney

RE: **ACPS - Cora Kelly, 2nd Floor, ACM Services**
ECS Job # **1519-A7**

Permits:
Location: **3600 Commonwealth Avenue Alexandria, VA 22305**

CC: Alexandria City Public Schools - John Finnigan

ENCL: Field Report # 6 6/3/2020 5 PCM 5 TEM

Diana D. Krass
Environmental Senior Project Manager

Robert Lawrence Rhett
Environmental Project Manager

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FIELD REPORT

Project No.	**1519-A7**
Report No.	**6**
Day & Date	**Wednesday 6/3/2020**
Weather	**90 °/ Sunny**
On-Site Time	**8.75**
Lab Time	**0.00**
Travel Time*	**0.00**
Total	**8.75**
Re Obs Time	**0.00**

Project	**ACPS - Cora Kelly, 2nd Floor, ACM Services**
Location	**Alexandria, VA**
Client	**Alexandria City Public Schools**
Contractor	**None Listed**

Remarks **5 PCM 5 TEM**

Trip Charges*	Tolls/Parking*	Mileage*	Time of	Arrival	Departure
Chargeable Items				**6:00A**	**2:45P**

* Travel time and mileage will be billed in accordance with the contract.

Summary of Services Performed (field test data, locations, elevations & depths are estimates) & Individuals Contacted.

The undersigned arrived on-site, as requested, to perform air monitoring and observe asbestos abatement. The material to be removed today is asbestos-containing floor tile and associated mastic from Rooms 38, 39, 40, 42, and 43 and the south end of the second floor hallway between the above-referenced rooms. The tile is located underneath the carpet within the rooms. The carpet was removed and disposed of as an asbestos-contaminated material.

SECOND FLOOR WORK AREA

Between 6:05 am and 6:10 am, PCM air samples were started inside and outside the work area. The sampling pumps were calibrated using a rotameter to 2.5 liters per minute.

Between 10:50 am and 10:55 am, the sampling pumps were checked using a rotameter. The flow rates were 2.5 liters per minute. The PCM air samples were stopped and gathered from inside and outside the work area for analysis.

The abatement contractor stated the specified materials had been removed from the regulated work area and requested a visual survey to confirm compliance. The Final Clearance Visual Survey Checklist was completed and is attached to this report. Floor tiles and mastic were still observed under partition walls and fixed shelves and cabinets.

Following the successful completion of the final clearance visual survey, the abatement contractor applied an encapsulant to surfaces within the regulated work area.

At 12:00 pm, aggressive air sampling was performed. Five (5) TEM air samples were started within the regulated work area and Five (5) TEM air samples were started outside the work area. The sampling pumps were calibrated using a rotameter to 8.0 liters per minute. One field blank sample was opened within the work area for 30 seconds. One field blank sample was opened outside the work area for 30

seconds.

At 2:30 pm, the sampling pumps were checked using a rotameter after the air within and outside the regulated work area was sampled using TEM cassettes for 150 minutes at 8.0 liters per minute. The sampling cassettes, including the two field blanks and one sealed blank were labeled with unique identification and transported to EMSL Analytical, Inc.(EMSL) in Beltsville, Maryland for analysis. A copy of the chain of custody has been attached.

The EPA and Commonwealth of Virginia maximum allowable airborne asbestos concentration from within the work area is 70 structures per millimeter squared (s/mm2). In order to be deemed acceptable, the average of the interior samples analyzed must have asbestos concentrations of 70 s/mm2 or less. EMSL laboratory informed ECS that the analytical results of the TEM final clearance air samples collected from the second floor Phase 1 (south) work area found the airborne asbestos fiber concentrations to be less than this maximum allowable concentration. The client and abatement contractor supervisor were informed of the results. A copy of the laboratory report is attached.

GENERAL

The regulated work area was surveyed to evaluate general compliance with applicable regulations. The Daily Work Area Survey Checklist was completed and is attached to this report.

ECS observed the abatement contractor placing the specified asbestos-containing materials in 6-mil polyethylene bags which were double-bagged and sealed in general accordance with the applicable regulations. Waste bags were labeled and placed in a temporary hauling vehicle.

The undersigned prepared and analyzed the PCM air sample cassettes for total fiber concentration in general accordance with NIOSH Method 7400. Results were recorded on the PCM Chain of Custody which is attached.

The US EPA and Commonwealth of Virginia re-occupancy limit is 0.01 fibers per cubic centimeter of air (f/cc). The analytical results of the PCM final clearance air samples collected from outside the second floor work area were reported to be less than the maximum allowable limits set by applicable regulations, which meets the project requirements.

ECS Mid-Atlantic, LLC

PCM Air Sample Field Data Sheet

WORK AREA SAMPLES

Project Number: 1519-A7
Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Date: 6/4/2020
Page: 1 of 1

Sample #	Location/Description	Start	Stop	Start Flow (lpm)	Stop Flow (lpm)	Average Flow (lpm)	Total Time (lpm)	Volume (l)	Fibers (#)	Field (#)	Result (f/cc)
06032001 CB	IWA - Second Floor Work Area	6:10 AM	10:55 AM	2.5	2.5	2.5	285	712.5	5.5	100	0.004
06032003 CB	OWA- Second Floor Work Area	6:05 AM	10:50 AM	2.5	2.5	2.5	285	712.5	0.0	100	0.000
06032002 CB	OWA- Second Floor Work Area	6:10 AM	10:55 AM	2.5	2.5	2.5	285	712.5	0.0	100	0.000
06032004 CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD
06032005 CB	Field Blank	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0	100	NFD

Notes: NFD = None Fibers Detected OWA = Outside Work Area IWA = Inside Work Area

Notes:

ECS Technician: Catey Bourne **Date:** 6/4/2020

Cora Kelly School for Math, Science, and Technology
3600 Commonwealth Avenue
Alexandria, VA 22305

WORK AREA SKETCH SECOND FLOOR

Scale: NTS

Project No. 47:1519-A7

6/3/20

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705

Tel/Fax: (301) 937-5700 / (301) 937-5701

http://www.EMSL.com / beltsvillelab@emsl.com

EMSL Order: 192005297
Customer ID: ECMA78
Customer PO:
Project ID:

Attention: Bobby Rhett
ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151
Project: Cora Kelly / 47:1519-A7

Phone: (703) 471-8400
Fax: (703) 471-8400
Received Date: 06/03/2020 15:36 PM
Analysis Date: 06/04/2020
Collected Date: 06/03/2020

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	Location	Volume (Liters)	Area Analyzed (mm²)	Non Asb	Asbestos Type(s)	#Structures ≥0.5µ < 5µ	#Structures ≥5µ	Analytical Sensitivity (S/cc)	Asbestos Concentration (S/mm²)	Asbestos Concentration (S/cc)
1	IWA- 2nd Fl. Phase 1	1200.00	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
192005297-0001										
2	IWA- 2nd Fl. Phase 1	1200.00	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
192005297-0002										
3	IWA- 2nd Fl. Phase 1	1200.00	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
192005297-0003										
4	IWA- 2nd Fl. Phase 1	1200.00	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
192005297-0004										
5	IWA- 2nd Fl. Phase 1	1200.00	0.0650	0	None Detected	0	0	0.0049	<15.00	<0.0049
192005297-0005										

Analyst(s)

George Malone (5)

Joe Centifonti, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. Results reported in both structures/cm3 and structures/mm2 are dependent on the volume of air sampled and measured by non-laboratory personnel are not the responsibility of EMSL and are not covered by the laboratory's NVLAP accreditation. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request.

Samples analyzed by EMSL Analytical, Inc. Beltsville, MD NVLAP Lab Code 200293-0

Initial report from: 06/04/2020 01:36 AM

OrderID: 192005297

EMSL ANALYTICAL, INC.
LABORATORY · PRODUCTS · TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*: 192005297

EMSL ANALYTICAL INC
10768 BALTIMORE AVE
BELTSVILLE MD 20705
PHONE: (301) 937-5700
FAX: (301) 937-5701

Company: ECS Mid-Atlantic	EMSL-Bill to: ☐ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 14026 Thunderbolt Pl	
City: Chantilly State/Province: VA	Zip/Postal Code: 20151 Country: USA
Report To (Name): Bobby Rhett	Telephone #: 703 471 8400
Email Address: BRhett@ecslimited.com	Fax #: Purchase Order: 47:1519-A7
Project Name/Number: Cora Kelly / 47:1519-A7	Please Provide Results: ☐ Fax ☒ Email
U.S. State Samples Taken: VA	CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☒ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

**For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide*

PCM - Air ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☒ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ TEM Qual. via Filtration Technique
- ☐ TEM Qual. via Drop-Mount Technique

Other:
- ☐

☐ Check For Positive Stop – Clearly Identify Homogenous Group

Filter Pore Size (Air Samples): ☐ 0.8µm ☒ 0.45µm

Samplers Name: Catey Bourne

Samplers Signature: CBourne

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1	1WA-2nd Fl Phase 1	1200 L	6/3/20
2	↓	↓	↓
3			
4			
5			
6	0WA- 2nd Fl Phase 1		
7	↓		
8			

Client Sample # (s): 1-13 Total # of Samples: 13

Relinquished (Client): CBourne Date: 6/3/20 Time: 3:30

Received (Lab): Date: Time:

Comments/Special Instructions: analyze samples 1-5 only please.

EMSL ANALYTICAL, INC.

Asbestos Chain of Custody

EMSL Order Number (*Lab Use Only*):

PHONE:
FAX:

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
9	OWA - 2nd Fl Phase 1	1200 L	6/3/20
10	↓	↓	↓
11	Field Blank	-	
12	Field Blank	-	
13	Sealed blank	-	

*Comments/Special Instructions:

Attachments



View of work area during final clearance visual survey

Figure 1



View of work area during final clearance visual survey

Figure 2

Attachments



View of work area during final clearance visual survey

Figure 3



View of work area during final clearance visual survey

Figure 4

Attachments



View of work area during final clearance visual survey

Figure 5

ECS Mid-Atlantic, LLC

Daily Work Area Checklist

Project Number: 1519-A7 **Date:** 6/4/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Work Area

	Work Area Location/Description	Second Floor Work Area
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	All Critical Barriers Intact	Satisfactory
	Wet Methods In-Use	Satisfactory
	Prompt Clean-Up	Satisfactory
	Adequate Lighting	Satisfactory
	Respiratory Protection	Satisfactory
	Disposable Clothing Worn Properly	Satisfactory
	No Respirators Stored in Work Area	Satisfactory
	Negative Air Filtration In-Use	Satisfactory
	Pre-Filters Clean	Satisfactory
	Exhaust Properly Vented	Satisfactory
	No Eating/Drinking/Smoking in Work Area	Satisfactory
End of Shift Checklist	Negative Air Filtration Machines Operating	Satisfactory
	Debris Bagged/Sealed	Satisfactory
	Work Area Secured from Public Access	Satisfactory
Air Samples Collected	Number of PCM Air Samples	3
	Number of PCM Blank Samples	2
	Work Area Acceptable	Yes

Notes:

ECS Technician: Bobby Rhett **Date:** 6/4/2020

ECS Mid-Atlantic, LLC

Final Clearance Checklist

Project Number: 1519-A7 **Date:** 6/4/2020

Project Address: 3600 Commonwealth Avenue
Alexandria, VA-22305

Work Area Location/Description: Second Floor Work Area

	Work Area Location/Description	Second Floor Work Area
Decontamination Enclosure	Floors and Walls Clean	Satisfactory
	No Debris Present	Satisfactory
	Signage Intact	Satisfactory
	Shower Functioning	Satisfactory
	Used Suits/Towels in Waste Bag	Satisfactory
Interior of Work Area	Floors	Satisfactory
	Walls	Satisfactory
	Ceiling	Satisfactory
	Windows	Satisfactory
	Mechanical Equipment	Satisfactory
	Ducts	N/A
	Pipes	N/A
	Lighting	Satisfactory
	Other Surfaces	Satisfactory
	Specified ACM Removed	Satisfactory
	Work Area Encapsulated	Satisfactory
	Negative Air Filtration Functioning	Satisfactory
	Waste Bags Removed	Satisfactory
	Final Clearance Air Sample Type	TEM
	Number of Samples Collected	13
	Sample Volume (liters)	1200
	Work Area Acceptable	Yes

Notes: ACM floor tiles and mastic still remain under partition walls, cabinets, and shelving.

ECS Technician: Bobby Rhett **Date:** 6/4/2020

Appendix II: Certifications/ Licenses

DPOR License Lookup License Number 3309001881

License Details

Name	BOURNE, CATHERINE GRACE
License Number	3309001881
License Description	Asbestos Project Monitor License
Rank	Asbestos Project Monitor
Address	ALEXANDRIA, VA 22304
Initial Certification Date	2017-03-27
Expiration Date	2021-03-31

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DPOR License Lookup build 1,377 (built 2020-05-13 05:28:12).

ASBESTOS-CONTAINING MATERIALS SURVEY AND ASBESTOS ABATEMENT SPECIFICATION

CORA KELLY SCHOOL FOR MATH, SCIENCE, AND TECHNOLOGY

3600 COMMONWEALTH AVENUE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:1519-A3

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

JANUARY 24, 2020

January 24, 2020

Mr. Paul May
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314
paul.may@acps.k12.va.us

ECS Project No. 47:1519-A3

Reference: Asbestos-Containing Materials Survey and Asbestos Abatement Specification, Cora Kelly School for Math, Science, and Technology, 3600 Commonwealth Avenue, Alexandria, Virginia

Dear Mr. May:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the above referenced Asbestos-Containing Materials Survey and Asbestos Abatement Specification performed at Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:13272-EPR and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Bobby L. Rhett
Project Manager
brhett@ecslimited.com
703-471-8400

Diana Krass
Environmental Senior Project Manager
dkrass@ecslimited.com
703-471-8400

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1.0 SITE DESCRIPTION

The subject property consists of Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. Reportedly, a portion of the library and second floor are scheduled for renovations to include installation of a new elevator. This asbestos-containing materials survey was limited to materials and areas that may be impacted during the proposed renovations, which include portions of the library, second floor copy room, and second floor classroom 41. As requested by the client, no other materials or areas were included in this survey.

2.0 PURPOSE

The purpose of the Asbestos-Containing Materials Survey and Asbestos Abatement Specification was to identify asbestos-containing materials (ACMs), which may require special handling and/or disposal if impacted during construction activities. The identification of ACMs may require trained labor, regulated work practices, and special disposal. ECS was also requested to prepare a limited Asbestos Abatement Specification to outline the procedures required for the asbestos abatement.

3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by regulation(s) for the identification of Asbestos-Containing Materials (ACMs).

3.1 Asbestos-Containing Materials

The non-destructive asbestos survey was performed by a Commonwealth of Virginia licensed asbestos inspector who has received EPA accredited training. ECS reviewed previous reports provided by Alexandria City Public Schools for the subject site. For materials that had not been previously sampled, samples of suspect ACMs were collected utilizing hand tools and placed into individual, labeled plastic bags. Unique bulk suspect ACM samples were submitted to Scientific Analytical Institute (SAI) in Greensboro, North Carolina for analysis via Polarized Light Microscopy (PLM) in accordance with current EPA-600 methodology. Materials consisting of additional layers were analyzed separately. Scientific Analytical Institute (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 by currently approved EPA methodology by PLM.

During the survey, ECS attempted to identify suspect ACMs in readily accessible areas. However, due to the destructive means required to identify some materials, certain areas were deemed inaccessible (i.e. behind walls or sub grade materials) and were not surveyed for suspect ACMs. Unidentified suspect ACMs may be located in these and/or other inaccessible areas.

Samples were collected in general accordance with EPA Standard 40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA) and OSHA Standard 29 CFR 1926.1101 Inspection Protocol. Multiple samples of each unique material were submitted. Samples were analyzed using “Positive Stop” methodology. If one sample of a homogeneous material is reported 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.

4.0 RESULTS

The following is a summary of laboratory results, findings and observations.

4.1 Asbestos-Containing Materials

An Asbestos-Containing Material (ACM) is defined as any material containing more than one percent (>1%) asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, PLM. Materials are categorized by the U.S. EPA in the following categories:

- Friable ACMs are defined as any ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.
- Non-friable ACMs are defined as any ACM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- Category I non-friable ACM are listed as following: packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than one percent (>1%) asbestos.
- Category II non-friable ACM are listed as any material, excluding Category I non-friable ACM, containing more than one percent (>1%) asbestos.

Regulated Asbestos Containing Materials (RACM) are friable ACM or non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or has crumbled, been pulverized, or reduced to powder in the course of renovation and/or demolition operations.

Scientific Analytical Institute (SAI) submitted a signed final laboratory report to ECS on December 2, 2019. In total, 16 bulk samples from 7 homogeneous areas were submitted to the laboratory of which 23 layers were analyzed. Four of the bulk sample layers submitted for analysis were reported to contain asbestos in detectable concentrations. These materials are summarized below, along with ACMs identified in previous surveys. A complete list of the sampled materials submitted for analysis and sample locations are located in the Appendix of this report. Previous reports are also attached. Additional details regarding the overall locations of the materials identified as asbestos-containing are provided further in the report. Photographs of collected samples reported as asbestos-containing are also located in the Appendix of this report.

Summary of Asbestos-Containing Materials Identified

Location	Material Description	Analytical Results	Category	Estimated Quantity
Classroom 41	Unknown Size Floor Tile (Under Carpet)	3% Chrysotile	Category I Non-Friable	20 Square Feet (along wall)
Classroom 41	Black Mastic associated with Unknown Size Floor Tile (Under Carpet)	8% Chrysotile	Category I Non-Friable	20 Square Feet (along wall)
Copy Room	12" x 12" Beige with Brown Streaks Floor Tile	3% Chrysotile	Category I Non-Friable	80 Square Feet
Copy Room	Black Mastic associated with 12" x 12" Beige with Brown Streaks Floor Tile	5% Chrysotile	Category I Non-Friable	80 Square Feet
Copy Room	Plaster Ceiling/Bulkhead	Previously Identified in Management Plan	Friable	120 Square Feet

The textured plaster located on the ceiling and bulkheads above the acoustic tile ceiling in the second floor copy room was previously identified to contain asbestos. This material will reportedly be disturbed by the project. ECS recommends complete abatement of the material from the copy room.

Samples of the 12" x 12" beige with brown streaks floor tile and underlying black mastic in the second floor copy room were reported to contain asbestos. Samples of the unknown size floor tile and underlying black mastic beneath the carpet in classroom 41 were also reported to contain asbestos. ECS understands that the wall of classroom 41 adjacent to the copy room will be relocated, and this floor tile along the wall will be disturbed. ECS recommends abatement of the flooring in the copy room, and removal of a sufficient quantity of floor tile in classroom 41 to meet the needs of the project. These identified asbestos-containing flooring materials may be present underneath furniture, cabinets, partition walls, etc.

Please note that these identified asbestos-containing materials are most likely present in other areas of the school building.

4.2 Suspect or Assumed Asbestos-Containing Materials

Due to the inaccessibility or the destructive means that asbestos sampling requires, additional suspect ACMs may remain within the building hidden in inaccessible locations that include, but are not limited to, the crawlspace below the library, sub-grade walls, structural members, topping slabs, sub-grade sealants, areas behind exterior walls, pipe trenches, and subsurface utilities, etc. These areas were deemed inaccessible and were not assessed.

Based upon our past experience in the identification of ACMs in similarly constructed buildings, the following additional suspect ACMs may also be located in inaccessible areas of the structure:

- **Fire Door Insulation** within doors and associated door frames;
- **Mastics** behind cabinets, display boards, mirrors, etc.;
- **Pipe Flange Gaskets** in heating and plumbing systems
- **Vapor Barrier** beneath wood flooring or behind paneling;
- **Waterproofing Materials** located below grade and/or within exterior walls; and,
- **Vermiculite Block Filler** associated with CMU block walls.

If these materials are discovered during construction activities, they should be presumed to contain asbestos and be treated as ACMs or be sampled immediately upon discovery and prior to disturbance for asbestos content by a certified asbestos inspector in accordance with 29 CFR 1926.1101.

5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the Asbestos-Containing Materials Survey and Asbestos Abatement Specification, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

5.1 Asbestos-Containing Materials

ECS recommends where a material type has been identified as asbestos containing that other materials with similar color, texture, age and size throughout the building's interior and exterior be assumed to contain asbestos. Please refer to Section 4.1 for a complete list of building materials that were reported positive for asbestos and to Section 4.2 for materials that were assumed to contain asbestos.

The Commonwealth of Virginia and EPA require notification in advance of asbestos abatement activity. For projects greater than 10 square or 10 linear feet of ACM, Virginia Department of Labor and Industry requires Virginia licensed asbestos workers and an abatement permit to be obtained. For projects greater than 160 square feet, 260 linear feet or 35 cubic feet of ACM, DOLI requires notice 20 calendar days in advance of the project, and the EPA requires 10 business day notification.

ECS has attached an Asbestos Abatement Project Specification document to outline the requirements for abatement. The specification typically defines the Contractor's scope of work and outline requirements and procedures that must be followed for the 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.

It is recommended that an industrial hygienist monitor the project. This involves collecting air samples from within and outside abatement work areas to monitor the asbestos abatement contractor's work practices over the course of the project. The industrial hygienist should evaluate if the asbestos abatement work is in accordance with project specifications, U.S. EPA regulation 40 CFR Part 61-National Emission Standards for Hazardous Air Pollutants Subpart M: National Emission Standard for Asbestos, and U.S. Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926.1101 – Asbestos in Construction. The industrial hygienist should assess each work area to monitor the removal of ACMs. Only after the industrial hygienist has determined the identified ACMs have been removed should final clearance air samples be collected (if necessary). The industrial hygiene monitoring scope is included in the project specification.

Suspect ACMs not observed due to inaccessibility or not sampled due to the destructive means that sampling would require may also be encountered during construction activities. At the time of the survey, only limited destructive means were used to locate or sample suspect ACMs; therefore, additional suspect ACMs may remain within 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, vapor barriers, pipe trenches and other subsurface utilities, etc. If additional suspect ACMs are uncovered which were not accessible during this survey, it is recommended that these materials either be assumed to contain asbestos or be sampled prior to disturbance upon discovery for asbestos content by an asbestos inspector in accordance with 29 CFR 1926.1101.

Should any identified ACM remain in place, ECS recommends the development and implementation of a site-specific Asbestos Operations and Maintenance Plan detailing routine maintenance and repair operations, contractor notification procedures, and all other requirements under OSHA – reference 29 CFR 1926.1101.

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

The 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 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. 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 ECS and the client.

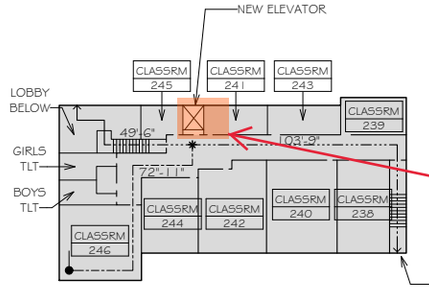
Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies, any conditions at the site 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.

During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which 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 warranty, expressed or implied, is made.

Appendix I: Figures

Reference: ECS AHERA Management Plan
Project No.: 47:1519-D
4/11/2017



Copy Room and Classroom 241(partial):

Abatement required in floor, above ceiling, and behind wall- pipe flange gaskets, TSI, waterproofing membranes, mastics, white surfacing trowel ceiling, floor tile.

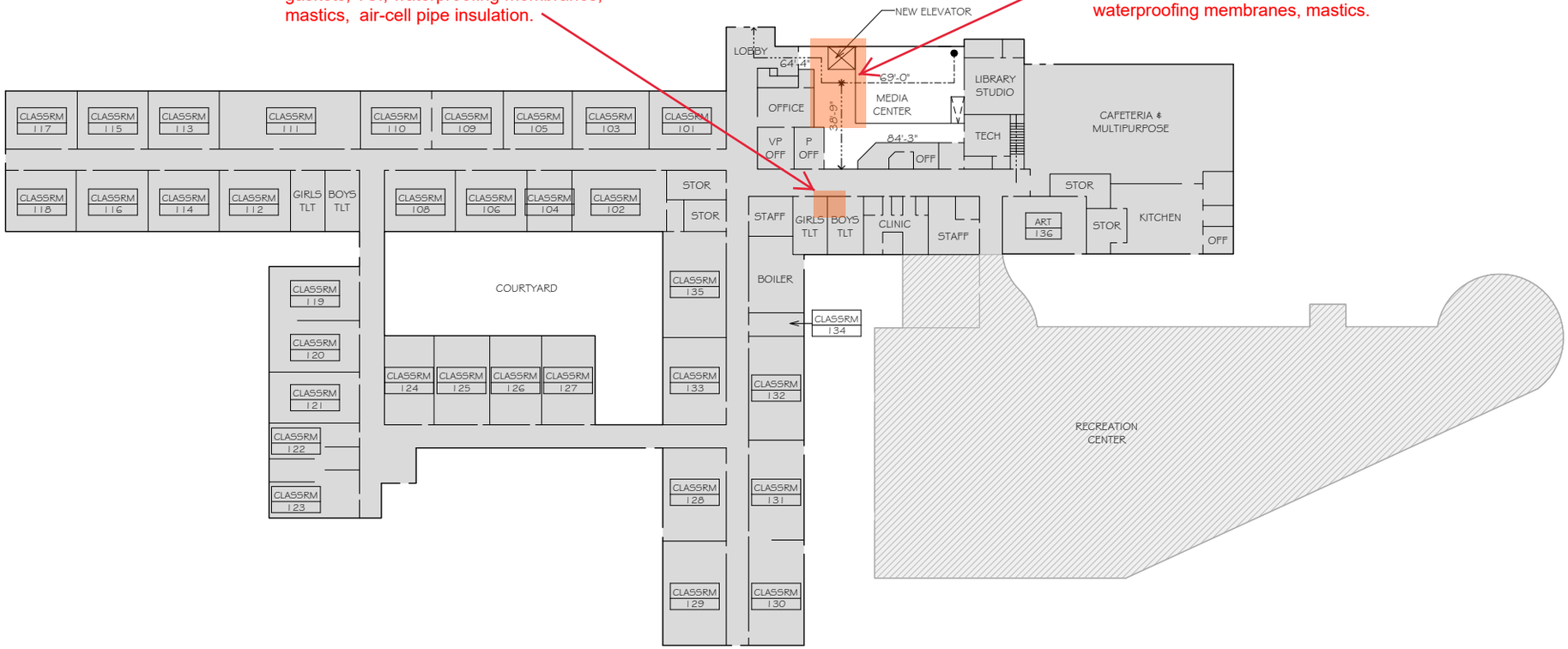
2 G1.01 2ND FLOOR EGRESS PLAN
1/32" = 1'-0"

Custodial Closet between Restrooms:

Abatement required above ceiling - pipe flange gaskets, TSI, waterproofing membranes, mastics, air-cell pipe insulation.

Media Center:

Abatement required in floor, above ceiling, and exterior wall.- pipe flange gaskets, TSI, waterproofing membranes, mastics.



1 G1.01 FIRST FLOOR EGRESS PLAN
1/32" = 1'-0"

Appendix II: Site Photographs



1 - View of Asbestos-Containing Beige Floor Tile and Black Mastic in the Second Floor Copy Room.



2 - View of Asbestos-Containing Floor Tile (Unknown Size) and Black Mastic underneath Carpet in Classroom 41.



3 - View of Asbestos-Containing Plaster Ceiling and Bulkhead in the Second Floor Copy Room

Appendix III: Asbestos Bulk Sample Results

SUSPECT ASBESTOS-CONTAINING MATERIALS BULK SAMPLING RESULTS

Sample #	Sampling Location	Material/Description	Analytical Results
E1	Library	Mixed Yellow and Black Carpet Mastic	None Detected
E2	Library	Mixed Yellow and Black Carpet Mastic	None Detected
E3	Library	White Floor Leveling Compound	None Detected
E4	Library	White Floor Leveling Compound	None Detected
E5 - A	Classroom 41	6" Black Cove Base with White Mastic - cove base	None Detected
E5 - B	Classroom 41	6" Black Cove Base with White Mastic - mixed mastics	None Detected
E6 - A	Classroom 41	6" Black Cove Base with White Mastic - covebase	None Detected
E6 - B	Classroom 41	6" Black Cove Base with White Mastic - mixed mastics	None Detected
E7 - A	Classroom 41	Unknown Size Floor Tile with Black Mastic (Under Carpet) - mastic 1	None Detected
E7 - B	**Classroom 41**	**Unknown Size Floor Tile with Black Mastic (Under Carpet) - tile**	**3% Chrysotile**
E7 - C	**Classroom 41**	**Unknown Size Floor Tile with Black Mastic (Under Carpet) - mastic 2**	**8% Chrysotile**
E8 - A	Classroom 41	Unknown Size Floor Tile with Black Mastic (Under Carpet) - mastic 1	None Detected
E8 - B	**Classroom 41**	**Unknown Size Floor Tile with Black Mastic (Under Carpet) - tile**	**Not Analyzed**
E8 - C	**Classroom 41**	**Unknown Size Floor Tile with Black Mastic (Under Carpet) - mastic 2**	**Not Analyzed**
E9 - A	**Copy Room**	**12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic - tile**	**3% Chrysotile**
E9 - B	**Copy Room**	**12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic - mastic**	**5% Chrysotile**
E10 - A	**Copy Room**	**12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic - tile**	**Not Analyzed**
E10 - B	**Copy Room**	**12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic - mastic**	**Not Analyzed**
E11	Copy Room	CMU Wall Skim Coat	None Detected
E12	Copy Room	CMU Wall Skim Coat	None Detected
E13	Copy Room	CMU Wall Skim Coat	None Detected
E14 - A	Copy Room	Plaster Wall - finish	None Detected
E14 - B	Copy Room	Plaster Wall - base	None Detected
E15 - A	Copy Room	Plaster Wall - finish	None Detected
E15 - B	Copy Room	Plaster Wall - base	None Detected
E16 - A	Copy Room	Plaster Wall - finish	None Detected
E16 - B	Copy Room	Plaster Wall - base	None Detected

Table Notes:
Bold = Asbestos-Containing Materials
N/A = Not Analyzed
None Detected = No Asbestos Detected

Appendix IV: Laboratory Report(s)

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP LAB CODE 200644-0

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Bobby Rhett
Catey Bourne

Project: Cora Kelly Elevator Project (47:1519-A3)

Lab Order ID: 71930143
Analysis ID: 71930143_PLM
Date Received: 12/2/2019
Date Reported: 12/2/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
E1 *71930143PLM_1*	Mixed Yellow and Black Carpet Mastic	**None Detected**		**100% Other**	Yellow, Black Non Fibrous Homogeneous Dissolved
E2 *71930143PLM_2*	Mixed Yellow and Black Carpet Mastic	**None Detected**		**100% Other**	Yellow, Black Non Fibrous Homogeneous Dissolved
E3 *71930143PLM_3*	White Floor Leveling Compound	**None Detected**		**100% Other**	Gray Non Fibrous Heterogeneous Crushed
E4 *71930143PLM_4*	White Floor Leveling Compound	**None Detected**		**100% Other**	Gray Non Fibrous Heterogeneous Crushed
E5 - A *71930143PLM_5*	6" Black Cove Base with White Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Ashed
E5 - B *71930143PLM_17*	6" Black Cove Base with White Mastic *mixed mastics*	**None Detected**		**100% Other**	White, Yellow Non Fibrous Heterogeneous Ashed
E6 - A *71930143PLM_6*	6" Black Cove Base with White Mastic *covebase*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Ashed
E6 - B *71930143PLM_18*	6" Black Cove Base with White Mastic *mixed mastics*	**None Detected**		**100% Other**	White, Yellow Non Fibrous Heterogeneous Ashed

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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Eloisa Blake (27)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP LAB CODE 200644-0

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Bobby Rhett
Catey Bourne

Project: Cora Kelly Elevator Project (47:1519-A3)

Lab Order ID: 71930143
Analysis ID: 71930143_PLM
Date Received: 12/2/2019
Date Reported: 12/2/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
E7 - A *71930143PLM_7*	Unknown Size Floor Tile with Black Mastic (Under Carpet) *mastic 1*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
E7 - B *71930143PLM_19*	Unknown Size Floor Tile with Black Mastic (Under Carpet) *tile*	**3% Chrysotile**		**97% Other**	Beige Non Fibrous Heterogeneous Dissolved
E7 - C *71930143PLM_20*	Unknown Size Floor Tile with Black Mastic (Under Carpet) *mastic 2*	**8% Chrysotile**		**92% Other**	Black Non Fibrous Homogeneous Dissolved
E8 - A *71930143PLM_8*	Unknown Size Floor Tile with Black Mastic (Under Carpet) *mastic 1*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
E8 - B *71930143PLM_21*	Unknown Size Floor Tile with Black Mastic (Under Carpet) *tile*	**Not Analyzed**			
E8 - C *71930143PLM_22*	Unknown Size Floor Tile with Black Mastic (Under Carpet) *mastic 2*	**Not Analyzed**			
E9 - A *71930143PLM_9*	12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic *tile*	**3% Chrysotile**		**97% Other**	Beige, Brown Non Fibrous Heterogeneous Dissolved
E9 - B *71930143PLM_23*	12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic *mastic*	**5% Chrysotile**		**95% Other**	Black Non Fibrous Homogeneous 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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Eloisa Blake (27)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP LAB CODE 200644-0

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Bobby Rhett
Catey Bourne

Project: Cora Kelly Elevator Project (47:1519-A3)

Lab Order ID: 71930143
Analysis ID: 71930143_PLM
Date Received: 12/2/2019
Date Reported: 12/2/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
E10 - A *71930143PLM_10*	12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic *tile*	**Not Analyzed**			
E10 - B *71930143PLM_24*	12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic *mastic*	**Not Analyzed**			
E11 *71930143PLM_11*	CMU Wall Skim Coat	**None Detected**		**100% Other**	White, Gray Non Fibrous Heterogeneous Crushed
E12 *71930143PLM_12*	CMU Wall Skim Coat	**None Detected**		**100% Other**	White, Gray Non Fibrous Heterogeneous Crushed
E13 *71930143PLM_13*	CMU Wall Skim Coat	**None Detected**		**100% Other**	White, Gray Non Fibrous Heterogeneous Crushed
E14 - A *71930143PLM_14*	Plaster Wall *finish*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Crushed
E14 - B *71930143PLM_25*	Plaster Wall *base*	**None Detected**		**100% Other**	Gray Non Fibrous Heterogeneous Crushed
E15 - A *71930143PLM_15*	Plaster Wall *finish*	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Crushed

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Eloisa Blake (27)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP LAB CODE 200644-0

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Bobby Rhett
Catey Bourne

Project: Cora Kelly Elevator Project (47:1519-A3)

Lab Order ID: 71930143
Analysis ID: 71930143_PLM
Date Received: 12/2/2019
Date Reported: 12/2/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
E15 - B	Plaster Wall	None Detected		100% Other	Gray Non Fibrous Heterogeneous
71930143PLM_26	*base*				Crushed
E16 - A	Plaster Wall	None Detected		100% Other	White Non Fibrous Homogeneous
71930143PLM_16	*finish*				Crushed
E16 - B	Plaster Wall	None Detected		100% Other	Gray Non Fibrous Heterogeneous
71930143PLM_27	*base*				Crushed

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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Eloisa Blake (27)

Analyst

Approved Signatory

11930143

Client:	Ecs Mid Atlantic
Contact:	Bobby Rhett
Address:	14026 Thunderbolt Place
Phone:	(703)-471-8400
Fax:	
Email:	brhett@ecslimited.com cbourne@ecslimited.com
Project:	Cora Kelly Elevator Project (47:1519-A3)
Client Notes:	**Positive Stop**
P.O. #:	47:1519-A3
Date Submitted:	11/26/2019
Analysis:	PLM EPA 600/R-93/116
Turnaround Time:	24 hour

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.

Scientific Analytical Institute

4604 Dundas Drive
Greensboro, NC 27407
Phone: 336.292.3888
Fax: 336.292.3313
Email: lab@sailab.com

Sample Number	Data 1	Sample Description	Data 2
<<			
E1		Mixed Yellow and Black Carpet Mastic	Library
E2		Mixed Yellow and Black Carpet Mastic	Library
E3		White Floor Leveling Compound	Library
E4		White Floor Leveling Compound	Library
E5		6" Black Cove Base with White Mastic	Classroom 41
E6		6" Black Cove Base with White Mastic	Classroom 41
E7		Unknown Size Floor Tile with Black Mastic (Under Carpet)	Classroom 41
E8		Unknown Size Floor Tile with Black Mastic (Under Carpet)	Classroom 41
E9		12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic	Copy Room
E10		12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic	Copy Room
E11		CMU Wall Skim Coat	Copy Room
E12		CMU Wall Skim Coat	Copy Room
E13		CMU Wall Skim Coat	Copy Room
E14		Plaster Wall	Copy Room
E15		Plaster Wall	Copy Room
E16		Plaster Wall	Copy Room

Accepted ☑

Rejected ☐

Relinquished By

Received By 12-2

10:30A

Appendix V: Certifications/ Licenses

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
07-31-2020

NUMBER
3303004293

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS
ASBESTOS INSPECTOR LICENSE

CATHERINE GRACE BOURNE
525 N HOWARD ST
APT 204
ALEXANDRIA, VA 22304

DPOR

Mary Broz-Vaughan, Acting Director

Status can be verified at http://www.dpor.virginia.gov

DPOR-LIC (05/2015)

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

(DETACH HERE)

DPOR COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS
ASBESTOS INSPECTOR LICENSE
NUMBER: 3303004293 EXPIRES: 07-31-2020

CATHERINE GRACE BOURNE
525 N HOWARD ST
APT 204
ALEXANDRIA, VA 22304

(FOLD)

Status can be verified at http://www.dpor.virginia.gov

DPOR-PC (05/2015)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
07-31-2020

NUMBER
3305001301

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS
ASBESTOS PROJECT DESIGNER LICENSE

DIANA DOLORES KRASS-HOFMANN
14026 THUNDERBOLT PLACE
SUITE 100
CHANTILLY, VA 20151

DPOR

Mary Broz-Vaughan, Acting Director

Status can be verified at http://www.dpor.virginia.gov

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR-LIC (05/2015)

(DETACH HERE)

DPOR COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR ASBESTOS, LEAD, AND HOME INSPECTORS
ASBESTOS PROJECT DESIGNER LICENSE
NUMBER: 3305001301 EXPIRES: 07-31-2020

DIANA DOLORES KRASS-HOFMANN
14026 THUNDERBOLT PLACE
SUITE 100
CHANTILLY, VA 20151

(FOLD)

Appendix VI: Asbestos Abatement Project Specification

SECTION 13 28 01
REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING BUILDING MATERIALS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- The Bidding Requirements, Contracting Requirements and Conditions of the Contract, and applicable parts of Division 1 – General Requirements shall be included in and made a part of this Section.

- ECS Hazardous Materials Report (Reference No. 47:1519-A3) dated January 24, 2020.

1.2 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.

B. The scope of work included in these documents 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 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. It is the responsibility of the bidder 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 representative, nor the Owner's Agent, nor the Architect, nor the Asbestos Project Monitor will be responsible for errors or omissions and/or changes for extra work arising from any bidders' failure to verify 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.

E. <u>Asbestos Containing Building Materials</u>

The Contractor shall remove and properly dispose of all of the following asbestos-containing building materials under the bid. Unless otherwise specified, the Contractor shall assume that all asbestos removal will occur within a negative pressure containment (minimum negative pressure 0.02" w.g.):

Asbestos-Containing Building Materials (ACBMs)

Scope of Work Location	Material	Friability	Estimated Quantity*
Second Floor Copy Room	White Textured Plaster on Ceiling and Bulkhead	Friable	120 SF
Second Floor Copy Room	12" x 12" Beige with Brown Streaks Floor Tile and associated Black Mastic	Category I Non-Friable	80 SF
Second Floor Classroom 41	Unknown Size Floor Tile and associated Black Mastic (below carpet)	Category I Non-Friable	Approx. 20 SF (along wall)

* SF = Square Foot

Contractor is responsible for verifying all quantities. Any exception taken should be noted with bid submission. Contractor is responsible for the removal of the ACMs identified entirely. Quantities provided are estimates only. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES.

Additional Abatement Notes:

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.

Contingency Unit Pricing: The Contractor shall provide units costs for the removal of the following materials, as needed/where disturbed:

1. Fire door insulation in rated fire door and door casings; estimate one door and frame for contingency pricing. Provide separate pricing for doors and door frames.

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.

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: Floor Tile and Mastic Removal; The Contractor shall remove this material within negative pressure enclosure (minimum neg. pressure 0.02" w.g.). The Contractor shall also be responsible for removal of multiple layers of flooring and mastic, if present. Where tile/mastic is present under carpet, furniture and/or partition walls, the Contractor shall be responsible for removal of carpet, furniture and wall framing also as asbestos waste unless it can be shown to the Owner's on-site Representative that mastic is not adhered to the carpet, furniture, or framing. The Contractor shall also be responsible for removal of flooring and mastic under all partition walls, carpet, fixtures, cabinets, furniture, etc. deemed accessible by

the Owner and/or Owner's Representative. The Contractor shall coordinate demolition to access these materials (if required) with the Owner and the general contractor on-site.

Note 5: The Abatement Contractor shall coordinate with the Mechanical, Electrical, Plumbing, and General Contractors to ensure that all appropriate systems that will be impacted by demolition have been properly decommissioned prior to the start of any work.

Note 6: 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.

Note 7: During demolition or other activities performed during the abatement process, no visible emissions of dust are allowed. The Contractor must use dust control measures (e.g. water) during renovation.

Note 8: The white textured plaster ceiling is located above suspended acoustic ceiling tiles.

Note 9: Where carpet or flooring is specified for demolition, the Contractor shall also be responsible for removal of flooring and mastic under partition walls, fixtures, cabinets, furniture, etc. deemed accessible by the Owner and/or Owner's Representative. The Contractor shall coordinate demolition to access these materials (if required) with the Owner and the general contractors on-site.

Carpet Removal above Asbestos-Containing Floor Tile and Mastic: Where tile/mastic is present under carpet (Classroom 41), the Contractor shall be responsible for removal of carpet in a manner that anticipates disturbance of the asbestos-containing materials below the carpet. The carpet shall be removed by a licensed asbestos abatement contractor in a demarcated work area using appropriate dust control procedures (barrier tape, wet methods) under the observation of the owner's representative/IHC. If any portion of the underlying tile and/or mastic is disturbed, the contractor shall immediately **STOP WORK** and establish a Regulated Area for abatement activity. ECS understands that the carpet will not be disposed during this project, and is to be re-installed.

F. Asbestos-Containing Building Materials contained herein have been previously determined to contain the following asbestos concentrations:

General Location	Material	Asbestos Amount and Type
Second Floor Copy Room	White Textured Plaster on Ceiling and Bulkhead	Previously Identified; No Analytical Report
Second Floor Copy Room	12" x 12" Beige with Brown Streaks Floor Tile and associated Black Mastic	3 – 5% Chrysotile
Second Floor Classroom 41	Unknown Size Floor Tile and associated Black Mastic (below carpet)	3 – 8% Chrysotile

It is the Contractor's responsibility to be aware of all materials which contain asbestos in the building.

1.3 PRE-EXISTING CONTAMINATION

The Contractor will be responsible for cleaning pre-existing contamination associated with the identified asbestos-containing building materials.

1.4 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

1.5 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
11 West 42nd St., 13th Floor
New York, NY 10036 (212) 642-4900

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

NFPA National Fire Protection Assoc.
One Batterymarch Park
P.O. Box 9101
Quincy, MA 02269-9101 (617) 770-3000 (800) 344-3555

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.

CFR Code of Federal Regulations
(Available from the Government Printing Office)
N. Capitol St. between G and H St., NW
Washington, DC 20402 (202) 783-3238
(Material is usually first published in the "Federal Register")

DOT Department of Transportation
400 Seventh St., SW
Washington, DC 20590 (202) 366-4000

EPA Environmental Protection Agency
401 M St., SW
Washington, DC 20460 (202) 260-2090

NIST National Institute of Standards and Technology
(U.S. Department of Commerce)
Gaithersburg, MD 20899 (301) 975-2000

OSHA Occupational Safety and Health Administration
(U.S. Department of Labor)
200 Constitution Ave., NW
Washington, DC 20210 (202) 219-6091

1.6 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.

1.7 SUB-CONTRACTING REQUIREMENTS

A. In the event that the Contractor sub-contracts a portion of the Work, the sub-contractor to the Contractor must meet all requirements of the Contractor 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 Contractor and sub-contractor entering into an agreement to perform work on-site.

1.8 NOTIFICATION TO CONTRACTOR

A. Asbestos-Containing Building Materials

1. The Work included within this Specification involves the disturbance of asbestos-containing building materials (ACBMs). All ACBMs known to be present at the work-site is presented in Section 1.02 of this Specification. The discovery of additional ACBMs 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 ACBMs will be bulk sampled by the Owner's Representative. No newly discovered ACBMs are to be disturbed until instructed as such by the Owner.

2. Removing or otherwise disturbing ACBMs 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 ACBMs within the building and ensure care is taken while working around the ACBMs 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 ACBMs will be performed in accordance with all applicable regulations and requirements set forth herein.

1.9 COORDINATION AND COMMUNICATION

A. Coordination

1. Coordinate the 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. 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. Notify Federal and State Agencies: Prior to removal of Regulated Asbestos Containing Materials (RACMs), notification is required by either Virginia and/or the EPA. This notification must be filed by a Virginia certified asbestos abatement contractor 20 calendar days prior to commencement of work. When using mechanical methods for the removal of floor tile and floor mastics, these materials become Regulated Asbestos-Containing Materials (RACMs). The Contractor is responsible for all permits and fees associated with the project notification.

2. It is the Work of the Contractor to inform all employees and contractors on-site the nature of the asbestos work, location of ACBMs, 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.

3. 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.

4. 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.

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.
   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.

1.10 ENVIRONMENTAL ABATEMENT SUB-CONTRACTOR QUALIFICATIONS

A. Environmental Abatement Sub-Contractor shall be licensed by the Commonwealth of Virginia for the removal of asbestos-containing building materials.

B. Project Supervisor: The Contractor shall employee 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 Commonwealth of Virginia regulations. The Project Supervisor will be responsible for performing the Work described herein in accordance with all applicable federal and Commonwealth of Virginia regulations as well as this Specification. Additionally, the Project Supervisor shall meet the following minimum criteria:

1. Training: The Project Supervisor must have a valid, non-expired training certification from a Commonwealth of Virginia approved trainer for a course that meets the requirements of the EPA Model Accreditation Plan for asbestos abatement contractor/supervisor and licensed by the Commonwealth of Virginia as a 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 Contractor.

C. Foreman: If the Contractor will staff more than 10 asbestos abatement workers, the Contractor shall provide a Foreman to directly supervise and manage no more than 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 Contractor.

1.11 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 General Contractor (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 breeching, 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: The Contractor shall 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.

1.12 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 six (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; and,
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, or quarter-face respirators for any purpose.

F. Hazardous Communication Program: Establish and implement a Hazardous Communication Program as required by 29 CFR 1926.59.

1.13 PROJECT MONITOR

A. The Owner shall contract an Industrial Hygiene Consultant (IHC) to provide on-site project monitoring and over-sight of the Contractor. The IHC shall not have any direct or indirect association with the GC or the Contractor. 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 Commonwealth of Virginia license as Asbestos Project Monitor and be trained through the National Institute of Occupational Safety and Health (NIOSH) 582 (or equivalency) course.

2. The 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 Contractor's work practices while ensuring compliance with this Specification and all applicable federal and State of Virginia 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.

1.14 SAMPLING

A. Baselines

1. Air Samples: Prior to the initiation of asbestos abatement work, if requested by the client, the PM shall collect Transmission Electron Microscopy (TEM) and Phase Contrast Microscopy (PCM) air samples throughout the building to establish baseline levels of fiber concentrations comparable with the analytical results of the final clearance air samples.

B. Sampling During Work

1. Air Sampling Outside Work Area: The PM shall collect Phase Contrast Microscopy (PCM) 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 0.01 fibers/cubic centimeter (f/cc). If concentrations rise above or equal to 0.01 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.

3. Air Sampling Inside Work Area: The PM may also 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. Asbestos: Maintain fiber concentrations at lowest possible levels, not to exceed 0.10 f/cc. If concentrations rise above this figure revise work procedures to reduce fiber levels.

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 each work area and no dust or debris remain.

2. Aggressive Air Sampling: Upon completion of abatement work and successful final clearance visual inspection, the PM shall perform final clearance aggressive air sampling for asbestos in accordance with Virginia regulations.

    a. PCM Analysis: If the total quantity of ACMs to be removed within the Work Area is less than 260 linear feet, 160 square feet and/or 35 cubic feet, PCM aggressive air samples will be collected from within each work area. Each of the samples collected from within the work area shall not exceed 0.01 f/cc as required by the Commonwealth of Virginia. Air samples shall have a minimum volume of 1,200 liters per sample.

    b. TEM Analysis: If the total quantity of ACMs to be removed within the Work Area is greater than 260 linear feet, 160 square feet and/or 35 cubic feet, TEM air samples will be collected from within each work area. The average of the fiber concentrations in the samples collected from within the work area shall not exceed 70 structure per square millimeter (70 s/mm^2) as required by the Commonwealth of Virginia. Air samples shall have a minimum volume of 1,200 liters per sample.

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 including sample analysis and sample collection fees.

D. OSHA Monitoring: OSHA Monitoring is work of the Contractor 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 Contractor shall correct the fault in work area enclosure and/or work procedures at no cost to the Owner.

1.15 SUBMITTALS

Five (5) days prior to the start of work, **submit 2 copies** of the following to the Owner's Representative for review. Do not starts 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. Commonwealth of Virginia Asbestos Abatement Contractor license;

2. Contingency Plans;

3. Emergency Directory;

4. Notifications: Copy of notification sent to the Commonwealth of Virginia (if apply);

5. Resumes for Supervisor and Foremen;

6. Accreditation: Submit evidence in the form of training course certificate and Commonwealth of Virginia Worker or Worker Supervisor license for the Supervisor, Foreman and workers as being trained in asbestos health and safety in accordance with the Commonwealth of Virginia regulations and EPA AHERA protocols;

7. Medical surveillance for Supervisor, Foreman, and workers;

8. Respirator Fit Test Records for each abatement worker;

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 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; and,
    c. Submit complete chemical information list of hazardous materials and associated 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. Safety Data Sheets:
    a. Submit Safety Data Sheets (SDS) 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 safety data sheets five (5) days prior to the Pre-Construction meeting as specified above. No product shall be used for which a SDS has not been previously submitted.
    c. If a change in material(s) used is required during the Work, submit appropriate SDS for the new materials and amend all applicable documentation (hazard communication program, respiratory protection program, etc) as required. Submission of SDS 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 Contractor's qualifications in reference to this Work. The Owner shall require at a minimum the following qualifications to be met in order to remove ACBMs from the facility:

1. Contractor shall submit all training accreditations and Commonwealth of Virginia licenses for employees who will be used to perform the specified work.

2. Contractor 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 Contractor representatives who shall have complete authority to speak for and make commitments for the Contractor (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 Contractor 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 Contractor 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 Contractor 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 Contractor’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

2.1 HAZARDOUS MATERIALS

The Contractor is required to have onsite, at all times, SDS on products being utilized during the execution of the 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.

2.2 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.

2.3 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, quarter face or half 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.

2.4 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.

2.5 SHOWER FACILITIES

A. When using mechanical removal methods, 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.

2.6 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).

2.7 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.

2.8 SCAFFOLDING

A. Provide scaffolding, ladders and/or staging, etc. as necessary to accomplish the work of this Specification. At this time, 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.

2.9 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

2.10 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.

2.11 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 µm and larger).

2. Second-stage (or intermediate) filter: medium efficiency (eg., effective for particles down to 5 µm).

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.

2.12 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.

2.13 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.

2.14 GLOVEBAGS

A. Glovebag abatement is not anticipated on this project.

B. If the Contractor requests permission to conducted removal of materials using glovebags, the glovebag abatement will be allowed only if performed in a critical barrier containment and with the written permission of the Owner's Representative, in accordance with regulations of Commonwealth of Virginia and OSHA Regulation 29 CFR 1926.1101.

2.15 ENCAPSULANTS

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

PART 3 EXECUTION

3.1 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.

3.2 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. Prior to removal of Regulated Asbestos Containing Materials (RACMs), notification is required by either Virginia and/or the EPA. This notification must be filed by a Virginia certified asbestos abatement contractor 20 calendar days prior to commencement of work. When using mechanical methods for the removal of floor tile and floor mastics, these materials become Regulated Asbestos-Containing Materials (RACMs). The Contractor is responsible for all permits and fees associated with the project notification.

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 or hauling container that shall comply with 40 CFR 61-SUBPART M, State, regional, and local standards. Temporary on-site storage shall be 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 (0.15 mm) 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. This is a requirement of the Contractor at all times including times when Contractor is not on-site during the performance of the work including times when Contractor personnel temporarily leave the work area.

1. If for any reason the work area(s) can not be adequately secured, the Contractor shall contact Campus Police before leaving the work area.

2. The Asbestos Project Monitor shall maintain a log of PCM air sample results from air samples collected outside of the work area, specifically occupied areas adjacent to the work area, for reference by Owner as needed. At the completion of the project, results of all PCM air samples collected from outside of the work area shall be turned over to Owner for recordkeeping purposes.

3. Asbestos Project Monitor shall notify Owner immediately if Contractor's work results in outside work area PCM samples exhibiting a total fiber concentration in excess of 0.01 f/cc or if visible emissions are observed emanating form the work area containment.

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
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
AUTHORIZED PERSONNEL ONLY
WEAR RESPIRATORY PROTECTION
AND PROTECTIVE CLOTHING
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
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST

3.3 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 either cleaned with amended water and a HEPA vacuum and then removed from the area or 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 is 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. Critical Barriers

1. Completely separate the Work Area(s) from other portions of the building, and the outside by closing all openings with sheet polyethylene barriers at least 6 mil (0.15 mm) in thickness, or by sealing cracks leading out of Work Area(s) 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(s) with duct tape alone or with polyethylene sheeting at least 6 mil (0.15 mm) 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 polyethylene barriers at least 6 mil (0.15 mm) in thickness as required to seal openings completely from each Work Area into adjacent areas. Seal the perimeter of all sheet polyethylene 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 polyethylene sheeting. The sheeting should be secured with duct tape or an equivalent method to provide a tight seal around the object.

E. Primary Barrier

1. Protect building and other surfaces in the Work Area(s) 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/Polyethylene: Protect surfaces in the Work Area(s) with at least two (2) layers of polyethylene sheeting on walls, from floor to ceiling.

3. Repair of Damaged Polyethylene Sheeting: Remove and replace polyethylene 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 polyethylene only when area is completely dry.

F. Stop Work: If the Critical or Primary barrier falls or is breached in any manner stop asbestos removal work immediately. Does not start work until authorized by the Project Manager.

G. 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.

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

I. Negative Pressure Enclosure

1. Isolate the Work Area(s) 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(s).

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 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 Work Area(s).

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 the Work Area(s) 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(s) 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 each 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 return air intakes: Erect seals with an air space at the return air intakes within each Work Area. 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 or intake.

J. Personal Decontamination Unit

1. Provide Decontamination Units with a shower that comply with 29 CFR 1926.51(f)(4)(ii) through (v) for each Work Area. Decontamination Units shall be physically attached to each Work Area. Note: Shower facility is required when using mechanical removal methods.

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, when required, located between the equipment and clean rooms. Note: When using mechanical removal methods, it is required 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.

3.4 SCAFFOLDING

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 polyethylene sheeting at least 6 mil (0.15 mm) in thickness and seal before removal from the Work Area.

3.5 WORK PROCEDURE

A. All Class I work, which includes the removal of friable asbestos-containing materials and associated asbestos-contaminated debris, is to be performed in a full containment:

1. Cover all windows, doors, ventilation units, ceiling, floor and wall surfaces with plastic sheeting sealed with tape and glue securely, as required. Use a minimum of two (2) layers of polyethylene sheeting at least 6 mil (0.15 mm) in thickness 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 (0.02" w.g.).

3. Attach a three (3)-station Personnel Decontamination Unit for worker decontamination to the Work Area.

B. When removing non-friable asbestos-containing material (Class II Work), a full containment is not required; however, it requires a minimum of two (2) workers to remove asbestos containing materials 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 materials, while the second worker applies the wetting agent and HEPA vacuums or bags up any debris generated.

   1. All Class II work is to be performed in a critical barrier containment with polyethylene sheeting at least 6 mil (0.15 mm) in thickness demarcated to restrict public access.

   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 (0.02" w.g.).

   3. When removing floor tile and/or mastic using mechanical methods, a three (3)-station Personnel Decontamination Unit for worker decontamination, with operating shower, shall be attached to the Work Area.

   4. Cleaning of mobile objects/items contaminated with asbestos-containing materials shall consider a Class II work.

C. Do not allow eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics in the Work Area.

D. Perform asbestos related work in accordance with 29 CFR 1926.1101, 40 CFR 61-SUBPART M, and as specified herein.

E. Personnel of other trades not engaged in the removal of asbestos containing material and demolition of asbestos contaminated materials 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.

F. 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.

G. Wet Removal techniques shall be used. Dry removal will not be permitted.

H. Coordinate abatement in a manner to minimize the number of work areas that will require final clearance air sampling.

I. High pressure washers are not permitted for the removal of ACM.

J. Wet asbestos-containing material (ACM) 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.

K. For areas not requiring full containment: With a minimum of two (2) workers, remove asbestos containing material (ACM) 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 while the second worker applies the wetting agent and HEPA vacuums or bags up any debris generated.

L. Remove material and immediately place in 6 mil (0.15 mm) in thickness polyethylene disposal bags.

M. 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.

N. Any asbestos waste material which will not fit inside pre-structured polyethylene bags shall be sealed in three (3) layers of polyethylene sheeting at least 6 mil (0.15 mm) in thickness, labeled, and inspected by the PM prior to removal from the Equipment Decontamination Unit.

O. Housekeeping: Maintain surfaces of the Work Area(s) 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. DO NOT USE COMPRESSED AIR.

P. Stop Work: If an asbestos fiber release or spill occurs outside of the Work Area(s), 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.

3.6 CONTAMINATION OF BUILDING MATERIALS DUE TO CONTAINMENT BREECH

A. If during the performance of the Work it is determined by the PM through air sampling and/or observations of dust and debris, that an Work Area breech or by other means the Contractor has caused areas of the building to be contaminated with asbestos, the Contractor shall stop work immediately. The Contractor shall clean all affected areas of the building determined to be contaminated by the PM, Owner or Owner's Representative at no additional cost to the Owner.

B. All decontamination and cleaning work will be performed by the Contractor until such cleaning has achieved a level of cleanliness deemed satisfactory by the PM via PCM air sample results which demonstrate the airborne fiber concentration in the affected area is less than 0.01 f/cc in addition to a visual inspection for the presence of dust, debris, and/or bulk asbestos material.

C. The Contractor shall credit or reimburse the Owner for all costs associated with additional air sampling and consulting performed by the PM related to the contamination caused by the Contractor.

D. Contractor accepts all liability for damages caused by Contractor's negligence and shall accept all responsibility and liability for damages claimed by any lawsuit or other legal action brought against the Owner, its employees, the Owner's Representatives and the PM as a result of asbestos contamination caused by Contractor.

3.7 ALTERNATIVE REMOVAL METHODS

A. All alternate methods shall be pre-approved by the Owner and the PM prior to execution. This includes alternate Work Area/Enclosure and Decontamination Units. The Owner and /or Owner's Representative will authorize in writing any acceptance of alternate removal methods.

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 polyethylene sheeting at least 6 mil (0.15 mm) in thickness. 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:

   a. Work Room: Construct Work Room in the same manner as a Primary Barrier fabricated from polyethylene sheeting at least 6 mil (0.15 mm) in thickness. Arrange so that Primary Barrier provides both a Critical and Primary Barrier. Line walls and floor of Work Room with a continuous Secondary Barrier.
   b. Change Room: Provide a Change Room attached to each Work Room. Fabricate Change Room from polyethylene sheeting at least 6 mil (0.15 mm) in thickness in the same manner as a Primary Barrier. Locate so that access to Work Area is though Change Room.
   c. Step Off Area: Cover floor in front of entry to Change Room with one layer of polyethylene sheeting at least 6 mil (0.15 mm) in thickness. Securely anchor sheet plastic to prevent slipping.
   d. 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 polyethylene sheeting. Fasten each layer on the top and one side. Each flap is to be three (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.
   e. Signage: At entry to Change Room post caution sign as required by 29 CFR 1926.

3. Testing: The mini-enclosure shall be inspected for leaks and smoke tested to detect breaches, and breaches sealed.

3.8 CLEAN-UP

A. Wet wipe, using a water and surfactant solution, all surfaces within each Work Area including polyethylene 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 within each Work Area 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 asbestos contaminated waste.

3.9 FINAL CLEARANCE

A. Prior to removal of polyethylene barriers and after pre-clearance cleanup 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 each Work Area.

B. If ACM, dust or debris is visibly identified by the PM, the Contractor shall re-clean the Work Area(s).

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/units.

D. When encapsulant is dry to the touch, the PM shall conduct final clearance sampling in accordance with Section 1.15C of this Specification.

3.10 TEAR-DOWN

A. After acceptable airborne concentration are attained but before the HEPA unit is turned off and the Work Area 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. Polyethylene sheeting, duct tape, etc. utilized in the construction of each Work Area Enclosure shall be disposed of as asbestos-contaminated waste.

3.11 DISPOSAL OF ASBESTOS

A. Waste generated as a result of asbestos removal shall be disposed of at an Environmental Protection Agency (EPA) and State of Virginia-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 asbestos disposal bag and wrapped material.

D. Prevent contamination of the transport vehicle. These precautions include lining the vehicle cargo area with polyethylene sheeting (similar to the 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 13 28 01

Appendix VII: Previous Reports

ECS MID-ATLANTIC, LLC
"Setting the Standard for Service"
Geotechnical • Construction Materials • Environmental • Facilities

April 7, 2017

Mr. Derrick Fulcher
Alexandria City Public Schools
1340 Braddock Place
Alexandria, Virginia 22314

ECS Project No. 47:1519-D

Reference: AHERA Three-Year Re-Inspection Report, Cora Kelly Magnet School, 3600 Commonwealth Avenue, Alexandria, VA

Dear Mr. Fulcher:

ECS Mid-Atlantic, LLC (ECS), is pleased to provide Alexandria City Public Schools with the results of the above referenced non-invasive AHERA Three-Year Re-Inspection Report for the Cora Kelly Magnet School. This work was performed in general conformance with ECS Proposal No. 47:1750-EP2, dated October 19, 2016, and ACPS Purchase Order Number 17003633. The following is a summary of results of the above referenced onsite work performed, in general, on December 30, 2016.

ECS appreciates this opportunity to provide these services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS MID-ATLANTIC, LLC

Michael Hamill
Asbestos Inspector
3303003941
Virginia License Number

Diana Krass
Asbestos Management Planner
3304001626
Virginia License Number

Attachments:

ACPS Asbestos-Containing Materials (ACMs) Summary
3-Year Re-Inspection ACM Summary Form
Table 1: Bulk Sampling of Suspect Asbestos-Containing Materials
Photographs
Laboratory Results and Chain of Custody

I:_e-projects\1501-1600\1519-D ACPS 3 YR AHERA - O&M Plans\Cora Kelly \1519-D Cora Kelly School 3-Yr Survey Report.doc

SITE DESCRIPTION

The subject property is improved with Cora Kelly Magnet School and is located at 3600 Commonwealth Avenue in Alexandria, Virginia. The building appears to have various renovations in the past. Most general classroom and common areas were accessible during the survey although some areas were not accessible due to occupancy, on-going maintenance work, or the rooms were locked.

PURPOSE

In general accordance with Title II, the Asbestos Hazard Emergency Response Act (AHERA) of the Toxic Substance Control ACT (TSCA), this school was re-inspected by an EPA and State of Virginia Accredited Asbestos Inspector and Management Planner. Under this law the local education agency (LEA) for each school system found to contain asbestos-containing materials (ACMs) must have those school buildings re-inspected once every three years.

Prior to renovation and/or demolition of ACMs, facility owners must also comply with the US EPA Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations. ECS was requested to perform an AHERA Three-Year Re-Inspection Survey for the school building to identify ACMs which may require repair, special handling, and/or removal.

PHYSICAL ASSESSMENT

ECS performed a physical assessment of the asbestos-containing materials (ACMs) that have been previously reported for the school building. A copy of the ACMs identified for the school building is attached to this report. The physical condition of each ACM observed by ECS during our survey is referenced in the attached summary table. Based on our observations of the accessible ACMs, the materials appeared to be generally in good condition, with the exception of the 9” x 9” red and white floor tiles and associated mastic within the janitor closets. The 9” x 9” red and white floor tiles and associated mastic appeared to be broken and in poor condition.

Various flooring materials were observed to have layering throughout the floor systems of the building. Newer floor tiles and/or carpeting were observed. It is expected that older flooring materials are present beneath newer flooring materials and are likely present under cabinets, partition walls, etc.

METHODS AND RESULTS

The asbestos survey was performed by a Commonwealth of Virginia licensed asbestos inspector who has received EPA accredited training (VA License No. 3303003941). The survey was performed in general accordance with EPA Standard 40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA) and OSHA Standard 29 CFR 1926.1101 Inspection Protocol.

During our survey on December 30, 2016, thirteen (13) bulk samples of suspect asbestos-containing materials (ACMs) were collected and submitted to the laboratory for analysis. Three of the bulk samples were reported to contain asbestos including the following: white ceramic chair rail caulk, multiple layered door caulk, and gray drywall joint compound. The sampling results are summarized in Table 1 attached to this report.

ECS attempted to identify suspect ACMs in readily accessible areas. However, due to the destructive means required to identify some materials, certain areas were deemed inaccessible (i.e. behind solid walls and/or ceilings, and/or sub-grade materials) and were not surveyed for suspect ACMs. Unidentified suspect ACMs may be located in these and/or other inaccessible areas.

FINDINGS AND RECOMMENDATIONS

During our survey, newly identified asbestos-containing materials (ACMs) including white ceramic chair rail caulk, multiple layered door caulk, and gray drywall joint compound were reported. ACMs that were accessible and observed were noted to be in good condition with the exception of the 9” x 9” red and white floor tiles and associated mastic within janitor closets. The 9” x 9” red and white floor tiles and associated mastic were observed to be broken and in poor condition.

ECS recommends the findings of this report should be implemented into the Asbestos Operations and Maintenance Plan (O&M Plan) for the school building and the materials continue to be managed within the O&M Plan. No additional training or notification is required as a result of adding these materials to the O&M Plan other than informing maintenance staff and outside contractors not to disturb these materials.

Based on our findings during this re-inspection, ECS recommends the following:

1. The above-mentioned damaged ACMs be repaired or abated as soon as feasible.

2. Notification of the existence and availability of the O&M Plan, which includes information on known and suspect ACMs, should be made available to the school staff, PTA, and parents of children attending the school on an annual basis.

3. Any contractors (electrical, mechanical, etc.) who are to perform a service at the building shall be notified of known and suspect ACMs at the building as identified in the O&M Plan, and be instructed not to disturb these materials in any way.

Federal and local regulations require ACMs be removed prior to disturbance by renovation and/or demolition. ECS recommends the identified ACMs reported to be present within the school building be removed prior to construction activities and disposed of by a licensed Commonwealth of Virginia asbestos abatement contractor if the ACMs are to be impacted. The findings of this report should be implemented into the O&M Plan for the school building.

Suspect ACMs not observed due to inaccessibility during the survey may be encountered during future construction activities and should be tested for asbestos or assumed as asbestos-containing. If any portions of the building outside of the areas surveyed for this study are to be impacted by construction activities, it is recommended that they also be surveyed for ACMs by a licensed Commonwealth of Virginia asbestos inspector prior to disturbance.

LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

The 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 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. 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 ECS and the client.

During this study, suspect asbestos samples were submitted for analysis at an NVLAP-accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which suspect asbestos 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.

Our recommendations are in part based on federal and local 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.

ATTACHMENT

ACPS ASBESTOS-CONTAINING MATERIALS (ACMS) SUMMARY

CORA KELLY MAGNET ELEMENTARY SCHOOL
ACPS ASBESTOS CONTAINING MATERIALS SUMMARY

Updated as of December 30, 2016

MATERIAL	LOCATION	FRIABILITY	CONDITION	COMMENTS	LAST INSPECTION DATE	RECOMMENDATION	SEMI-ANNUAL INSPECTION DATE	REMARKS
MATERIALS REPORTED AS ASBESTOS-CONTAINING MATERIALS ON PRIOR SURVEYS								
White Surfacing Trowel Ceiling	Copy Room	F	Damaged	Not Observed	30-Dec-16	Maintain in O & M Plan		Verify Removal
9' x 9" Green With Black Trim Floor Tiles and associated Mastic	Art Room 36, Music Room, and Room 32	NF	Intact	Assumed existing under existing flooring materials	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
9" x 9" Red and White Floor tiles and associated Mastic	Cafeteria HVAC Room and Janitors Closet	NF	Could not Observed	Damaged	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
Fire Doors	Hallways	F	Intact	Observed in other areas	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
12" x 12" Green Floor Tiles and associated Mastic	Janitor's Closet By Clinic	NF	Intact	9" x 9" Floor tile was also observed in this area.	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
Surfacing Trowel on Ceiling	Media Storage AHU#2 (Mechanical Room inside Tech Room)	F	Intact	Assumed to be in other areas	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
Black Transite Window Sill	Classrooms	NF	Intact	This material may be located on other areas of the building	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
MATERIALS REPORTED AS ASBESTOS-CONTAINING MATERIALS ON PRIOR SURVEYS THAT WERE NOT IDENTIFIED/OBSERVED BY ECS IN NOVEMBER 6, 2013 SURVEY								
TSI-Pipe Lagging	Boiler Room Crawl Space 1-7	F	Could not Observed	This material is reported as ACM; it was not observed in this area.	30-Dec-16	Maintain in O & M Plan		Verify Analytical Results
9' x 9" Green With Black Trim Floor Tiles and associated Mastic	Boiler Storage	NF	N/A	This material is reported as ACM; it was not observed in this area.	30-Dec-16	Maintain in O & M Plan		Not observed - Verify removal
Cinder Block Expansion Caulk	Throughout Building	NF	N/A	This material was reported as PACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
Surfacing Trowel on Ceiling	Media Storage AHU#2	F	N/A	This material was reported as ACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
1' x 1' Ceiling Tiles and associated Tiles	Above 2' x 4' Ceiling Tiles on the 1st Floor	NF	N/A	This material was reported as PACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed

CORA KELLY MAGNET ELEMENTARY SCHOOL
ACPS ASBESTOS CONTAINING MATERIALS SUMMARY

MATERIAL	LOCATION	FRIABILITY	CONDITION	COMMENTS	LAST INSPECTION DATE	RECOMMENDATION	SEMI-ANNUAL INSPECTION DATE	REMARKS
ASBESTOS CONTAINING MATERIALS SAMPLED BY ECS IN NOVEMBER 6, 2013 SURVEY								
Beige Floor Tile and associated Black Mastic	Classroom 29, 41 , and 45 (under Carpet)	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: Floor Tile - 5% Chrysotile Mastic - 8% Chrysotile
12" x 12" Beige Flecked Floor Tile and associated Black Mastic	Mechanical Room	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: Floor Tile - 5% Chrysotile Mastic - 5% Chrysotile
Air-Cell Pipe Insulation	Custodial Closet between Restrooms (Assumed behind Walls and above Hard Ceilings in other Areas)	F	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: 35% Chrysotile
Maroon Floor Tile and associated Black Mastic	Classroom 33 (under Carpet)	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: Floor Tile - 8% Chrysotile Mastic - 4% Chrysotile
Black Floor Tile and associated Mastic	Classroom 11, 28, and 30 (under Carpet)	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: Floor Tile - 6% Chrysotile Mastic - 5% Chrysotile
ASBESTOS CONTAINING MATERIALS SAMPLED BY ECS IN DECEMBER 30, 2016 SURVEY								
White Ceramic Chair Rail Caulk	1st Floor Hall by Clinic	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: 3% Chrysotile
Multiple Layered Door Caulk	1st Floor Hall by Room 32	NF	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: 5% Chrysotile
Gray Drywall Joint Compound (behind Plaster Wall)	Room 32 (Beneath Several Wall Systems)	F	Intact	This material assumed to be present in other areas	30-Dec-16	Add to O & M Plan		Asbestos: 3% Chrysotile
MATERIALS ASSUMED TO CONTAIN ASBESTOS								
Cinder Block Expansion Caulk	Throughout Building	NF	N/A	This material was reported as PACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
Surfacing Trowel on Ceiling	Media Storage AHU#2	F	N/A	This material was reported as ACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
1' x 1' Ceiling Tiles and associated Tiles	Above 2' x 4' Ceiling Tiles on the 1st Floor	NF	N/A	This material was reported as PACM; it was not observed in this area	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
Window and Door Caulk	Throughout Building	NF	Intact	Some door and window caulking were sampled as NAD. This material may be present in other areas.	30-Dec-16	Maintain in O & M Plan		None
Plaster Walls	Throughout Building	F	Intact	Sampled as NAD by ECS.	30-Dec-16	Remove from O & M Plan		None

CORA KELLY MAGNET ELEMENTARY SCHOOL
ACPS ASBESTOS CONTAINING MATERIALS SUMMARY

MATERIAL	LOCATION	FRIABILITY	CONDITION	COMMENTS	LAST INSPECTION DATE	RECOMMENDATION	SEMI-ANNUAL INSPECTION DATE	REMARKS
Floor Tiles and associated Mastic	Storage Room	NF	Intact	PACM until tested	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
12" x 12" Floor Tiles and associated Mastic (Various Colors)	Throughout Building	NF	Intact	PACM until tested	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
Transite Boards/Panels under the Windows	Room 11 - 18	NF	Intact	PACM until tested	30-Dec-16	Maintain in O & M Plan		Sample if proposed to be disturbed
4" Cove Base and associated Mastic	Throughout Building	NF	Intact	Various types of cove base and associated mastic were sampled as NAD by ECS.	30-Dec-16	Removed from O & M Plan		None
6" Black and Grey Cove base	Throughout Building	NF	Intact	Various types of cove base and associated mastic were sampled as NAD by ECS.	30-Dec-16	Removed from O & M Plan		None
Pin Mastic associated with Fiberglass Duct Insulation	Throughout Building	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Pipe Flange Gaskets	Throughout the Building	Unknown	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Electrical Panels: Transite Components	Mechanical Rooms	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Thermal System Insulation	Throughout building behind Solid Walls and Ceiling	F	Not Observed	PACM Until Tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Floor Felt under Wood Flooring	Stage or Throughout the Building	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Mirror Mastic	Bathrooms	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Chalkboards and associated Mastics	Classrooms	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Interior Pipe Wrap associated with Water Fountains and Radiators	Throughout the Building	F	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Waterproofing Membranes/Mastics	Behind Interior Finishes, Exterior Veneer and/or Subgrade Walls, and Under Ceramic Flooring	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed
Asphalt-Based Roofing Material and Caulks/Sealants	Roof	NF	Intact	PACM until tested	30-Dec-16	Add to O & M Plan		Sample if proposed to be disturbed

CORA KELLY MAGNET ELEMENTARY SCHOOL
ACPS ASBESTOS CONTAINING MATERIALS SUMMARY

MATERIAL	LOCATION	FRIABILITY	CONDITION	COMMENTS	LAST INSPECTION DATE	RECOMMENDATION	SEMI-ANNUAL INSPECTION DATE	REMARKS
NON-ASBESTOS CONTAINING MATERIALS SAMPLED BY ECS IN NOVEMBER 6, 2013 SURVEY								
Plaster Wall/Ceiling	Classroom 41 & 45, Mechanical Room, Media Room, Custodial Closet, and Hallway between Classrooms 11-17 & 28-35	N/A	N/A	N/A	N/A	N/A	N/A	Finish - NAD Base - NAD
Black Waterproofing/Tar	Classroom 41 & 45	N/A	N/A	N/A	N/A	N/A	N/A	Floor Tile - NAD
White Mastic on Fiberglass Duct Insulation	Hallway on the 2nd Floor	N/A	N/A	N/A	N/A	N/A	N/A	NAD
White Interior Window Caulk	Hallway on the 2nd Floor and Classrooms 42 & 46	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Black Interior Window Caulk	Hallway on the 2nd Floor, Cafeteria, and Classrooms 33	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Black Interior Door Caulk	Cafeteria and Exit Doors 4 & 6	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Drywall	Kitchen, Cafeteria, and Classroom 32	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Joint Compound	Kitchen, Cafeteria, and Classroom 33	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Brown Mastic associated with 6" Tan Cove Base	Mechanical Room	N/A	N/A	N/A	N/A	N/A	N/A	NAD
1' x 1' White Pinhole Ceiling Tile	Classrooms 11, 17, & 32	N/A	N/A	N/A	N/A	N/A	N/A	NAD
1' x 1' White Fissured Ceiling Tile	Hallway between Classrooms 28-35	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Black Glue Dot associated with 1' x 1' White Fissured Ceiling Tile	Hallway between Classrooms 28-35	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Brown Glue Dot associated with 1' x 1' White Fissured Ceiling Tile	Hallway between Classrooms 11 & 28-35	N/A	N/A	N/A	N/A	N/A	N/A	NAD
NON-ASBESTOS CONTAINING MATERIALS SAMPLED BY ECS IN DECEMBER 30, 2016 SURVEY								
Rough Plaster Ceiling	1st Floor Boiler Room	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Tan Drywall Wall Board	1st Floor Room 32 (Above Windows)	N/A	N/A	N/A	N/A	N/A	N/A	NAD
Gray Drywall Wall Board	1st Floor Room 32 (Behind Plaster Walls)	N/A	N/A	N/A	N/A	N/A	N/A	NAD

Notes: F = Friable; NF = Non-Friable; PACM = Presumed Asbestos Containing Material; O & M Plan = Operations and Maintenance Plan; NAD = No Asbestos Detected and NA = Not Applicable.

ATTACHMENT

3-YEAR RE-INSPECTION ACM SUMMARY FORM

Cora Kelly Magnet School 3-Year AHERA Re-Inspection Survey
Asbestos-Containing Materials Summary

Date: December 30, 2016

Address: 3600 Commonwealth Avenue, Alexandria, Virginia

Room	Material	Condition	Abated
Copy Room (Staff Room by Boiler Room)	White Surfacing Trowel Ceiling	Not Observed	Assumed[1]
Art Room 36, Music Room, and Room 32	9' x 9" Green With Black Trim Floor Tiles and associated Mastic	Not Observed (Assumed in Locked Closets or underneath other Flooring Materials)	No[2]
Janitors Closet	9" x 9" Red and White Floor Tiles and associated Mastic	Damaged	No[3]
Hallways	Fire Doors	Intact	No
Janitor's Closet By Clinic	12" x 12" Green Floor Tiles and associated Mastic	Intact	No
Media Storage AHU#2 (Mechanical Room inside Tech Room)	Surfacing Trowel on Ceiling	Not Observed	No[4]
Classrooms	Black Transite Window Sill	Intact	No
Boiler Room - Crawl Space 1-7	TSI-Pipe Lagging	Not Observed	No
Throughout Building	Cinder Block Expansion Caulking	Not Observed	No
Media Storage AHU#2	Surfacing Trowel on Ceiling	Not Observed	No

Room	Material	Condition	Abated
Above 2' x 4' Ceiling Tiles on the 1st Floor	1' x 1' Ceiling Tiles and associated Tiles	Not Observed	No
Classroom 29, 41 , and 45 (under Carpet)	Beige Floor Tile and associated Black Mastic	Not Observed (Assumed underneath other Flooring Materials)	No[5]
Mechanical Room	12" x 12" Beige Flecked Floor Tile and associated Black Mastic	Intact	No
Custodial Closet between Restrooms (Assumed behind Walls and above Hard Ceilings in other Areas)	Air-Cell Pipe Insulation	Not Observed (Assumed above hard ceilings)	No[6]
Classroom 33 (under Carpet)	Maroon Floor Tile and associated Black Mastic	Intact	No
Classroom 11, 28, and 30 (under Carpet)	Black Floor Tile and associated Mastic	Intact	No
1st Floor Hall by Clinic	White Ceramic Chair Rail Caulk	Intact	No
1st Floor Hall by Room 32	Multiple Layered Door Caulk	Intact	No
Room 32 (Beneath Several Wall Systems)	Gray Drywall Joint Compound (behind Plaster Wall)	Intact	No

Room	Material	Condition	Abated
Comments			
1. This material was noted to be present in Copy Room on the First Floor on a previous report. It was not observed to be present in this location during this inspection. Above the suspended ceiling, concrete decking was observed. At this time, this material is assumed to have been abated. 2. This material was noted to be present in Art Room #36, Music Room, and Room 32 on the First Floor on a previous report. It was not observed to be present in this location during this inspection. The closets in each of these rooms were inaccessible during this inspection. 3. This material was noted to be present in Cafeteria HVAC on 1st Floor on a previous report. This area was inaccessible during this survey. 4. This material was noted to be present in Media Storage AHU#2 on 1st Floor on a previous report. This area was inaccessible during this survey. 5. This material was noted to be present in Classrooms 29, 41, and 45 (under Carpet) on 1st Floor on a previous report. It was not observed in these locations during this inspection and is assumed to be in these locations underneath the carpet. 6. This material was noted to be present in Custodial Closet between Restrooms on a previous report. It was not observed in these locations during this inspection and is assumed to be in these locations beneath hard ceilings and walls.			

AHERA Inspector: Michael Hamill **License No: 3303003941**

Signature of Inspector: Michael Hamill

ATTACHMENT

TABLE 1
BULK SAMPLING OF SUSPECT ASBESTOS-CONTAINING MATERIALS

TABLE 1

BULK SAMPLING OF SUSPECT ASBESTOS-CONTAINING MATERIALS

Sample #	Sampling Location	Material/Description	Analytical Results
1	**Cora Kelly-1st Floor Hall by Clinic**	**White Ceramic Chair Rail Caulk**	**Asbestos: 3% Chrysotile**
2	Cora Kelly-1st Floor Hall by Room 32	White Ceramic Chair Rail Caulk	N/A
3	**Cora Kelly-1st Floor Clinic**	**Multiple Layered Door Caulk**	**Asbestos: 5% Chrysotile**
4	Cora Kelly-1st Floor Room 32	Multiple Layered Door Caulk	N/A
5	Cora Kelly-1st Floor Boiler Room	Troughed-On Rough Plaster Ceiling	NAD
6	Cora Kelly-1st Floor Boiler Room	Troughed-On Rough Plaster Ceiling	NAD
7	Cora Kelly-1st Floor Boiler Room	Troughed-On Rough Plaster Ceiling	NAD
8	Cora Kelly-1st Floor Room 32	Tan Drywall Wall Board above Windows	NAD
9	Cora Kelly-1st Floor Room 32	Tan Drywall Wall Board above Windows	NAD
10	Cora Kelly-1st Floor Room 32	Gray Drywall Wall Board behind Plaster Wall	NAD
11	Cora Kelly-1st Floor Room 32	Gray Drywall Wall Board behind Plaster Wall	NAD
12	**Cora Kelly-1st Floor Room 32**	**Gray Drywall Joint Compound behind Plaster Wall**	**Asbestos: 3% Chrysotile**
13	**Cora Kelly-1st Floor Room 32**	**Gray Drywall Joint Compound behind Plaster Wall**	**Asbestos: 3% Chrysotile**

Table Notes:
NAD = No Asbestos Detected
N/A = Sample Not Analyzed; Positive Stop
Bold = Asbestos-Containing Materials

ATTACHMENT

PHOTOGRAPHS



1. View of the damaged asbestos-containing 9” x 9” red and white floor tile with associated mastic in the janitor closets.



2. View of the asbestos-containing 12” x 12” beige flecked floor tile with associated mastic in the mechanical room.



3. View of the asbestos-containing white ceramic chair rail caulk in the hallway by the clinic. Sample No. 1.



4. View of the asbestos-containing multiple layered door caulk in the 1st floor clinic. Sample No. 3.



5. View of the asbestos-containing gray drywall joint compound behind plaster walls in Room 32. Sample Nos. 12 and 13.

ATTACHMENT

LABORATORY RESULTS AND CHAIN OF CUSTODY

Bulk Asbestos Analysis

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

AIHA LAP, LLC ACCREDITED LABORATORY INDUSTRIAL HYGIENE LAB #173190

NVLAP NVLAP Lab Code: 200664-0

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

Project: 47:1519-D/Cora Kelly

Attn: Beverly Sedon
Michael Hamill

Lab Order ID: 1700125
Analysis ID: 1700125_PLM
Date Received: 1/4/2017
Date Reported: 1/9/2017

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
1 *1700125PLM_1*	White Ceramic Chair Rail Caulk	**3% Chrysotile**		**97% Other**	White Non Fibrous Heterogeneous Dissolved
2 *1700125PLM_2*	White Ceramic Chair Rail Caulk	**Not Analyzed**			
3 *1700125PLM_3*	Multiple Layered Door Caulk	**5% Chrysotile**		**95% Other**	White, Tan Non Fibrous Heterogeneous Dissolved
4 *1700125PLM_4*	Multiple Layered Door Caulk	**Not Analyzed**			
5 *1700125PLM_5*	Troughed-On Rough Plaster Ceiling	**None Detected**		**80% Other** **20% Perlite**	Gray Non Fibrous Homogeneous Crushed
6 *1700125PLM_6*	Troughed-On Rough Plaster Ceiling	**None Detected**		**80% Other** **20% Perlite**	Gray Non Fibrous Homogeneous Crushed
7 *1700125PLM_7*	Troughed-On Rough Plaster Ceiling	**None Detected**		**80% Other** **20% Perlite**	Gray Non Fibrous Homogeneous Crushed
8 *1700125PLM_8*	Tan Drywall Wall Board above Windows	**None Detected**	**15% Cellulose**	**85% Other**	Tan Non Fibrous Heterogeneous Crushed

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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Bethany Nichols (13)

Analyst

Approved Signatory

Bulk Asbestos Analysis

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

AIHA LAP, LLC ACCREDITED LABORATORY INDUSTRIAL HYGIENE
LAB #173190

NVLAP
NVLAP Lab Code: 200664-0

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

Project: 47:1519-D/Cora Kelly

Attn: Beverly Sedon
Michael Hamill

Lab Order ID: 1700125
Analysis ID: 1700125_PLM
Date Received: 1/4/2017
Date Reported: 1/9/2017

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
9 *1700125PLM_9*	Tan Drywall Wall Board above Windows	**None Detected**	**15% Cellulose**	**85% Other**	Tan Non Fibrous Heterogeneous Crushed
10 *1700125PLM_10*	Gray Drywall Wall Board behind Plaster Wall	**None Detected**	**15% Cellulose**	**85% Other**	Gray Non Fibrous Heterogeneous Crushed
11 *1700125PLM_11*	Gray Drywall Wall Board behind Plaster Wall	**None Detected**	**15% Cellulose**	**85% Other**	Gray Non Fibrous Heterogeneous Crushed
12 *1700125PLM_12*	Gray Drywall Joint Compound behind Plaster Wall	**3% Chrysotile**		**97% Other**	Tan Non Fibrous Homogeneous Crushed
13 *1700125PLM_13*	Gray Drywall Joint Compound behind Plaster Wall	**3% Chrysotile**		**97% Other**	Tan Non Fibrous Homogeneous Crushed

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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Bethany Nichols (13)

Analyst

Approved Signatory

170125

Client:	ECS Mid-Atlantic, LLC	***Instructions:***
Contact:	Beverly Sedon	*Use Column "B" for your contact info*
Address:	14026 Thunderbolt Place, Suite	
Phone:	(703)-471-8400	*To See an Example Click the bottom Example Tab.*
Fax:		
Email:	bsedon@ecslimited.com mhamill@ecslimited.com	***Enter samples between "<<" and ">>"***
Project:	47:1519-D/Cora Kelly	***Begin Samples with a "<< "above the first sample and end with a ">>" below the last sample.***
Client Notes:	**Positive Stop** (Except for Plaster and Drywall/Joint Compound Samples)	*Only Enter your data on the first sheet "Sheet1"*
P.O. #.	47:1519-D/Cora Kelly	*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.*
Date Submitted:	1/3/2017 0:00	
Analysis:	PLM EPA 600/R-93/116	
TurnAroundTime:	5-day TAT	

Scientific Analytical Institute

4604 Dundas Drive
Greensboro, NC 27407
Phone: 336.292.3888
Fax: 336.292.3313
Email: lab@sailab.com

Sample Number	Data 1	Sample Description	Data 2
<<			
1	Cora Kelly-1st Floor Hall by Clinic	White Ceramic Chair Rail Caulk	
2	Cora Kelly-1st Floor Hall by Room 3	White Ceramic Chair Rail Caulk	
3	Cora Kelly-1st Floor Clinic	Multiple Layered Door Caulk	
4	Cora Kelly-1st Floor Room 32	Multiple Layered Door Caulk	
5	Cora Kelly-1st Floor Boiler Room	Troughed-On Rough Plaster Ceiling	
6	Cora Kelly-1st Floor Boiler Room	Troughed-On Rough Plaster Ceiling	
7	Cora Kelly-1st Floor Boiler Room	Troughed-On Rough Plaster Ceiling	
8	Cora Kelly-1st Floor Room 32	Tan Drywall Wall Board above Windows	
9	Cora Kelly-1st Floor Room 32	Tan Drywall Wall Board above Windows	
10	Cora Kelly-1st Floor Room 32	Gray Drywall Wall Board behind Plaster Wall	
11	Cora Kelly-1st Floor Room 32	Gray Drywall Wall Board behind Plaster Wall	
12	Cora Kelly-1st Floor Room 32	Gray Drywall Joint Compound behind Plaster Wall	
13	Cora Kelly-1st Floor Room 32	Gray Drywall Joint Compound behind Plaster Wall	
>>			

Accepted ☑

Rejected ☐

Relinquished By

Received By 1/4 10:30am

LIMITED ASBESTOS-CONTAINING MATERIALS BULK SAMPLING EVENT

CORA KELLY SCHOOL FOR MATH, SCIENCE, AND TECHNOLOGY

3600 COMMONWEALTH AVENUE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:1519-A6

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

FEBRUARY 04, 2020

February 04, 2020

Ms. Azjargal Bartlett
Alexandria City Public Schools
1340 Braddock Place
Suite 620
Alexandria, Virginia 22314

ECS Project No. 47:1519-A6

Reference: Limited Asbestos-Containing Materials Bulk Sampling Event, Cora Kelly School for Math, Science, and Technology, 3600 Commonwealth Avenue, Alexandria, Virginia

Dear Ms. Bartlett:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the above referenced Limited Asbestos-Containing Materials Bulk Sampling Event performed at Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:13577-EP and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Catey Bourne
Assistant Staff Project Manager
cbourne@ecslimited.com
703-471-8400

Diana Krass
Senior Project Manager
dkrass@ecslimited.com
703-471-8400

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1.0 SITE DESCRIPTION

The subject property consists of Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. The flooring materials in the first floor south hallway, east hallway, and main lobby were identified as asbestos-containing materials and previously abated.

This sampling event was limited to the first floor north hallway and first floor east hallway, between Room 19 and Room 27. Reportedly, the flooring materials in the above-referenced areas were of a newer construction age. No other materials or areas within the school building were included in this scope of work.

2.0 PURPOSE

The purpose of the Limited Asbestos-Containing Materials Bulk Sampling Event was to identify asbestos-containing materials (ACMs),which may require special handling and/or disposal if removed during construction activities.

3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by regulation(s) for the identification of Asbestos-Containing Materials (ACMs).

3.1 Asbestos-Containing Materials

The non-destructive asbestos survey was performed by an asbestos inspector who has received EPA accredited training and is licensed by the Commonwealth of Virginia. Samples of suspect ACMs were collected utilizing hand tools and placed into individual, labeled plastic bags. Unique bulk suspect ACM samples were submitted to Scientific Analytical Institute, Inc. in Greensboro, North Carolina for analysis via Polarized Light Microscopy (PLM) in accordance with current EPA-600 methodology. Materials consisting of additional layers were analyzed separately. Scientific Analytical Institute, Inc. 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 by currently approved EPA methodology by PLM.

During the survey, ECS attempted to identify suspect ACMs in readily accessible areas. However, due to the destructive means required to identify some materials, certain areas were deemed inaccessible (i.e. behind walls or sub grade materials) and were not surveyed for suspect ACMs. Unidentified suspect ACMs may be located in these and/or other inaccessible areas.

Samples were collected in general accordance with EPA Standard 40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA) and OSHA Standard 29 CFR 1926.1101 Inspection Protocol. Multiple samples of each unique material were submitted. Samples were analyzed using “Positive Stop” methodology. If one sample of a homogeneous material is reported 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.

4.0 RESULTS

The following is a summary of laboratory results, findings, and observations.

4.1 Asbestos-Containing Materials

Scientific Analytical Institute, Inc. submitted a signed final laboratory report to ECS on August 3, 2020. None of the bulk samples submitted for analysis were reported to contain asbestos in detectable concentrations. A complete list of the sampled materials submitted for analysis and sample locations are located in the Appendix of this report. In total, eight (8) bulk samples were submitted to the laboratory of which sixteen (16) layers were analyzed.

4.2 Suspect or Assumed Asbestos-Containing Materials

Due to the inaccessibility or the destructive means that asbestos sampling requires, 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, sub-grade sealants, flooring located below underlayments, areas behind exterior walls, pipe trenches, and subsurface utilities, etc. These areas were deemed inaccessible and were not assessed.

If these materials are discovered during construction activities, they should be presumed to contain asbestos and be treated as ACMs or be sampled immediately upon discovery and prior to disturbance for asbestos content by a certified asbestos inspector in accordance with 29 CFR 1926.1101.

5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the Limited Asbestos-Containing Materials Bulk Sampling Event, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

5.1 Asbestos-Containing Materials

None of the bulk samples submitted to Scientific Analytical Institute, Inc. were reported to contain detectable concentrations of asbestos. If additional suspect asbestos-containing materials are uncovered which were not accessible during this sampling event, it is recommended that these materials be sampled or tested immediately upon discovery for asbestos content by an asbestos inspector in accordance with 29 CFR 1926.1101.

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which 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 warranty, expressed or implied, is made.

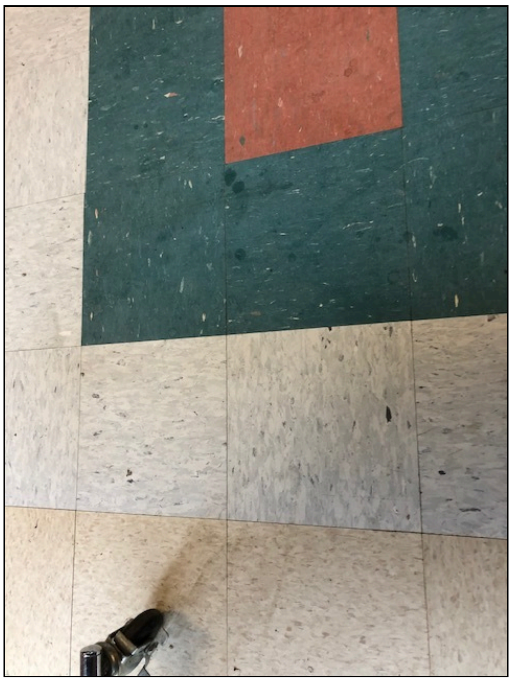
The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. 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 ECS and the client.

Our recommendations are in part based on federal, state, and local 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.

Appendix I: Site Photographs



1 - View of North First Floor Hallway



2 - View of Non Asbestos-Containing 12" x 12" Red, Green, Blue/Gray, and Tan Floor Tiles.

Appendix II: Asbestos Bulk Sample Results

BULK SAMPLING OF SUSPECT ASBESTOS-CONTAINING MATERIALS

Cora Kelly Elementary School
ECS Project No. 47:1518-A6
Site Visit: July 31, 2020

Sample #	Sample Location	Material/Description	Analytical Results
1 - A	Hallway near Room 19	12" x 12" Blue/Gray Floor Tile	NAD
1 - B	Hallway near Room 19	Yellow Mastic associated with 12" x 12" Blue/Gray Floor Tile	NAD
2 - A	Hallway near Room 19	12" x 12" Blue/Gray Floor Tile	NAD
2 - B	Hallway near Room 19	Yellow Mastic associated with 12" x 12" Blue/Gray Floor Tile	NAD
3 - A	Hallway near Room 21	12" x 12" Tan Floor Tile	NAD
3 - B	Hallway near Room 21	Yellow Mastic associated with 12" x 12" Tan Floor Tile	NAD
4 - A	Hallway near Room 21	12" x 12" Tan Floor Tile	NAD
4 - B	Hallway near Room 21	Yellow Mastic associated with 12" x 12" Tan Floor Tile	NAD
5 - A	Hallway near Room 20	12" x 12" Green Floor Tile	NAD
5 - B	Hallway near Room 20	Yellow Mastic associated with 12" x 12" Green Floor Tile	NAD
6 - A	Hallway near Room 24	12" x 12" Green Floor Tile	NAD
6 - B	Hallway near Room 24	Yellow Mastic associated with 12" x 12" Green Floor Tile	NAD
7 - A	Hallway near Room 20	12" x 12" Red Floor Tile	NAD
7 - B	Hallway near Room 20	Yellow Mastic associated with 12" x 12" Red Floor Tile	NAD
8 - A	Hallway near Room 24	12" x 12" Red Floor Tile	NAD
8 - B	Hallway near Room 24	Yellow Mastic associated with 12" x 12" Red Floor Tile	NAD

Notes:
Bold = Asbestos Containing Material
NAD = No Asbestos Detected
N/A = Sample Not Analyzed; Positive Stop

Appendix III: Laboratory Report(s)

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP LAB CODE 200644-0

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Catey Bourne
Bobby Rhett

Project: Core Kelly Hallways

Lab Order ID: 71947301
Analysis ID: 71947301_PLM
Date Received: 8/3/2020
Date Reported: 8/3/2020

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
1 - A *71947301PLM_1*	Blue/Gray Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
1 - B *71947301PLM_9*	Blue/Gray Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
2 - A *71947301PLM_2*	Blue/Gray Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
2 - B *71947301PLM_10*	Blue/Gray Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
3 - A *71947301PLM_3*	Tan Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
3 - B *71947301PLM_11*	Tan Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
4 - A *71947301PLM_4*	Tan Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Tan Non Fibrous Homogeneous Dissolved
4 - B *71947301PLM_12*	Tan Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous 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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Charmel Dozier (16)

Analyst

Approved Signatory

P-F-002 r15 1/16/2021

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP LAB CODE 200644-0

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Catey Bourne
Bobby Rhett

Project: Core Kelly Hallways

Lab Order ID: 71947301
Analysis ID: 71947301_PLM
Date Received: 8/3/2020
Date Reported: 8/3/2020

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
5 - A *71947301PLM_5*	Green Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Green Non Fibrous Homogeneous Dissolved
5 - B *71947301PLM_13*	Green Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
6 - A *71947301PLM_6*	Green Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Green Non Fibrous Homogeneous Dissolved
6 - B *71947301PLM_14*	Green Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
7 - A *71947301PLM_7*	Red Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Red Non Fibrous Homogeneous Dissolved
7 - B *71947301PLM_15*	Red Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
8 - A *71947301PLM_8*	Red Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Red Non Fibrous Homogeneous Dissolved
8 - B *71947301PLM_16*	Red Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous 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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Charmel Dozier (16)

Analyst

Approved Signatory

Client:	ECS Mid-Atlantic, LLC	***"Instructions:***
Contact:	Bobby Rhett	*Use Column "B" for your contact info*
Address:	14026 Thunderbolt Place, Suite	
Phone:	(703)-471-8400	*To See an Example Click the bottom Example Tab.*
Fax:		
Email:	cbourne@ecslimited.com; brhett@ecslimited.com	***Enter samples between "<<" and ">>"***
Project:	Cora Kelly Hallways	***Begin Samples with a "<< "above the first sample and end with a ">>" below the last sample.***
Client Notes:		*Only Enter your data on the first sheet "Sheet1"*
	Positive Stop	
P.O. #.	47:1519-A6	*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.*
Date Submitted:	7/31/20	
Analysis:.	PLM EPA 600/R-93/116	
TurnAroundTime:	24 Hour	

71947301

Scientific Analytical Institute

4604 Dundas Drive
Greensboro, NC 27407
Phone: 336.292.3888
Fax: 336.292.3313
Email: lab@sailab.com

Sample Number	Data 1	Sample Description	Data 2
<<			
1		Blue/Gray Floor Tile with Yellow Mastic	Hallway near Room 19
2		Blue/Gray Floor Tile with Yellow Mastic	Hallway near Room 19
3		Tan Floor Tile with Yellow Mastic	Hallway near Room 21
4		Tan Floor Tile with Yellow Mastic	Hallway near Room 21
5		Green Floor Tile with Yellow Mastic	Hallway near Room 20
6		Green Floor Tile with Yellow Mastic	Hallway near Room 24
7		Red Floor Tile with Yellow Mastic	Hallway near Room 20
8		Red Floor Tile with Yellow Mastic	Hallway near Room 24
>>			

Accepted ☑

Rejected ☐

N. Flanagan 8/03 10:30 AM

Relinquished By

Received By

Appendix IV: Certifications/ Licenses

DPOR License Lookup License Number 3303004293

License Details

Name	BOURNE, CATHERINE GRACE
License Number	3303004293
License Description	Asbestos Inspector License
Rank	Asbestos Inspector
Address	ALEXANDRIA, VA 22304
Initial Certification Date	2017-07-18
Expiration Date	2021-07-31

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LIMITED ASBESTOS-CONTAINING MATERIALS SAMPLING

CORA KELLY SCHOOL FOR MATH, SCIENCE, AND TECHNOLOGY

3600 COMMONWEALTH AVENUE
ALEXANDRIA, VIRGINIA 22305

ECS PROJECT NO. 47:1519-AA

FOR: ALEXANDRIA CITY PUBLIC SCHOOLS

JANUARY 13, 2021

January 13, 2021

Mr. John Finnigan
Alexandria City Public Schools
1340 Braddock Place
Alexandria, Virginia 22314

ECS Project No. 47:1519-AA

Reference: Limited Asbestos-Containing Materials Sampling, Cora Kelly School for Math, Science, and Technology, 3600 Commonwealth Avenue, Alexandria, Virginia

Dear Mr. Finnigan:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Alexandria City Public Schools with the results of the above referenced Limited Asbestos-Containing Materials Sampling performed at Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:16526-EP and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Alexandria City Public Schools with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC





Catey Bourne
Assistant Staff Project Manager
CBourne@ecslimited.com
703-471-8400

Michael Hamill, CIH
Senior Project Manager
MHamill@ecslimited.com
703-471-8400

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Appendix IV: Laboratory Report(s)

1.0 SITE DESCRIPTION

The subject building is identified as the Cora Kelly School for Math, Science, and Technology located at 3600 Commonwealth Avenue in Alexandria, Virginia. ECS was requested to sample the flooring systems and associated materials from various locations on the first floor of the school including: the art classroom (Room 36), the staff lounge near Room 37, the clinic, a mechanical room adjacent to the library, the library,the library offices, a storage closet near Room 2, the main office, the principal's office, and the vice principal's office.

The sampling event was limited to flooring materials in the the art classroom (Room 36), the staff lounge near Room 37, the clinic, a mechanical room adjacent to the library, the library, the library offices, a storage closet near Room 2, the main office, the principal's office, and the vice principal's office. No other areas or materials were included in this sampling event.

2.0 PURPOSE

The purpose of the Limited Asbestos-Containing Materials Sampling was to identify asbestos-containing materials (ACMs), which may require special handling and/or disposal if removed during construction activities.

3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practice(s) and methods specified by regulation(s) for the identification of Asbestos-Containing Materials (ACMs).

3.1 Asbestos-Containing Materials

The non-destructive asbestos survey was performed by an asbestos inspector who has received EPA accredited training and is licensed by the Commonwealth of Virginia. Samples of suspect ACMs were collected utilizing hand tools and placed into individual, labeled plastic bags. Unique bulk suspect ACM samples were submitted to Scientific Analytical Institute, Inc. in Greensboro, North Carolina for analysis via Polarized Light Microscopy (PLM) in accordance with current EPA-600 methodology. Materials consisting of additional layers were analyzed separately. Scientific Analytical Institute, Inc. 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 by currently approved EPA methodology by PLM.

During the survey, ECS attempted to identify suspect ACMs in readily accessible areas. However, due to the destructive means required to identify some materials, certain areas were deemed inaccessible (i.e. behind walls or sub grade materials) and were not surveyed for suspect ACMs. ECS was also unable to access the breastfeeding room in the library/media center. Unidentified suspect ACMs may be located in these and/or other inaccessible areas.

Samples were collected in general accordance with EPA Standard 40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA) and OSHA Standard 29 CFR 1926.1101 Inspection Protocol. Multiple samples of each unique material were submitted. Samples were analyzed using “Positive Stop” methodology. If one sample of a homogeneous material is reported 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.

4.0 RESULTS

The following is a summary of laboratory results, findings and observations.

4.1 Asbestos-Containing Materials

An Asbestos-Containing Material (ACM) is defined as any material containing more than one percent (>1%) asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, PLM. Materials are categorized by the U.S. EPA in the following categories:

- Friable ACMs are defined as any ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.
- Non-friable ACMs are defined as any ACM that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- Category I non-friable ACM are listed as following: packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than one percent (>1%) asbestos.
- Category II non-friable ACM are listed as any material, excluding Category I non-friable ACM, containing more than one percent (>1%) asbestos.

Regulated Asbestos Containing Materials (RACM) are friable ACM or non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or has crumbled, been pulverized, or reduced to powder in the course of renovation and/or demolition operations.

Scientific Analytical Institute, Inc. submitted a signed final laboratory report to ECS on January 4, 2021. Eleven (11) of the bulk samples submitted for analysis were reported to contain asbestos in detectable concentrations. These materials are summarized below. In total, 54 bulk samples were submitted to the laboratory of which 91 layers were analyzed. A complete list of the sampled materials submitted for analysis and sample locations are located in the Appendix of this report. Additional details regarding the overall locations of the materials identified as asbestos-containing are provided further in the report. Photographs of collected samples reported as asbestos-containing are also located in the Appendix of this report.

Summary of Asbestos-Containing Materials Identified

Location	Material Description	Analytical Results	Category	Estimated Quantity
Mechanical Room and Library Break Room	12" x 12" Beige with Brown Streaks Floor Tile and associated Mastic	Tile: 8% Chrysotile Mastic: 5% Chrysotile	Category I Non-Friable	200 Square Feet

Location	Material Description	Analytical Results	Category	Estimated Quantity
Staff Lounge	Black Mastic associated with Unknown Sized Brown Floor Tile (Beneath other Flooring Materials)	5% Chrysotile	Category I Non-Friable	600 Square Feet
Clinic	Unknown Sized Gray Floor Tile (2nd Layer of Floor Tile)	Tile: 5% Chrysotile	Category I Non-Friable	280 Square Feet
Clinic	Unknown Sized Dark Gray Floor Tile and associated Black Mastic (3rd Layer of Floor Tile)	Tile: 8% Chrysotile Mastic: 2% Chrysotile	Category I Non-Friable	280 Square Feet
Clinic Office	Light Gray Floor Tile Under Carpet and associated Black Mastic (Beneath Carpet)	Tile: 5% Chrysotile Mastic: 6% Chrysotile	Category I Non-Friable	275 Square Feet
Clinic Office	Unknown Sized Gray Floor Tile (Layer 2 under Carpet) and associated Black Mastic	Tile: 8% Chrysotile Mastic: 6% Chrysotile	Category I Non-Friable	275 Square Feet
Storage Room near Classroom 2	Black Mastic associated with Unknown Sized Gray Floor Tile (2nd Layer of Floor Tile)	6% Chrysotile	Category I Non-Friable	90 Square Feet

Flooring Materials

Asbestos-containing 12" x 12" beige with brown streaks floor tile with associated asbestos-containing black mastic was observed in the mechanical room adjacent to the library and in the library break room. This floor tile was not observed in other areas of the library. The floor tile was observed to be slightly damaged within the library break room. Assuming a 20% contingency factor, approximately 200 square feet of the 12" x 12" beige with brown streaks floor tile and associated black mastic are in library break room and mechanical room.

Three layers of flooring were observed in the staff lounge. The top layer of flooring was observed to be a non-asbestos-containing 12" x 12" tan floor tile with patches of a non-asbestos-containing 12" x 12" beige floor tile. The second layer was a non-asbestos-containing blue/gray floor tile. The bottom layer of flooring was a brown floor tile with asbestos-containing black mastic. Ceramic floor tiles were observed in the staff bathroom. Assuming a 20% contingency factor, approximately 600 square feet of the black mastic associated with the brown floor tile are in the staff lounge.

The flooring within the clinic was observed to consist of a 12" x 12" white with blue flecks floor tile in the main area, carpet in the clinic offices and clinic storage room, and ceramic floor tiles in the clinic bathroom. Three layers of flooring materials were observed in the main clinic area, the

offices, and storage room. The second layer of flooring was an asbestos-containing gray floor tile. The black mastic associated with this floor tile was reported as asbestos-containing in the clinic offices and storage room. The bottom layer of flooring throughout the main area of the clinic, the offices, and the storage room was an asbestos-containing gray floor tile with asbestos-containing black mastic. Assuming a 20% contingency factor, a combined total of approximately 555 square feet of asbestos-containing floor tiles and associated mastics are in the clinic, clinic offices, and clinic storage room.

The floor tile in the storage room near Classroom 2 was observed to be 12" x 12" blue/gray floor tile. A gray floor tile with asbestos-containing black mastic was observed under the 12" x 12" blue/gray floor tile. Assuming a 20% contingency factor, approximately 90 square feet of black mastic associated with a gray floor tile are in the storage room near Classroom 2.

Please note that these identified asbestos-containing materials may be present in other areas of the school building and in other areas in the surveyed areas including under other flooring, cabinets, shelves, partition walls, fixtures, furniture, ect.

4.2 Suspect or Assumed Asbestos-Containing Materials

Due to the inaccessibility or the destructive means that asbestos sampling requires, 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, sub-grade sealants, flooring located below underlayments, areas behind exterior walls, pipe trenches, and subsurface utilities, etc. These areas were deemed inaccessible and were not assessed. The survey was performed on specific areas of flooring materials within the subject building only. Additional asbestos-containing materials may be present on site.

If these materials are discovered during construction activities, they should be presumed to contain asbestos and be treated as ACMs or be sampled immediately upon discovery and prior to disturbance for asbestos content by a certified asbestos inspector in accordance with 29 CFR 1926.1101.

5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the Limited Asbestos-Containing Materials Sampling, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

5.1 Asbestos-Containing Materials

ECS recommends where a material type has been identified as asbestos containing that other materials with similar color, texture, age and size throughout the building's interior and exterior be assumed to contain asbestos. Please refer to Section 4.1 for a complete list of building materials that were reported positive for asbestos and to Section 4.2 for materials that were assumed to contain asbestos.

The Commonwealth of Virginia and EPA require notification in advance of asbestos abatement activity. For projects greater than 10 square or 10 linear feet of ACM, Virginia Department of Labor and Industry requires Virginia licensed asbestos workers and an abatement permit to be obtained. For projects greater than 160 square feet, 260 linear feet or 35 cubic feet of RACM, DOLI requires notice 20 calendar days in advance of the project, and the EPA requires 10 business day notification.

If ACMs are to be removed, it is recommended that an industrial hygienist monitor the project. This involves collecting air samples from within and outside abatement work areas to monitor the asbestos abatement contractor's work practices over the course of the project. The industrial hygienist should evaluate if the asbestos abatement work is in accordance with project specifications, U.S. EPA regulation 40 CFR Part 61-National Emission Standards for Hazardous Air Pollutants Subpart M: National Emission Standard for Asbestos, and U.S. Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1926.1101 – Asbestos in Construction. The industrial hygienist should assess each work area to monitor the removal of ACMs. Only after the industrial hygienist has determined the identified ACMs have been removed should final clearance air samples be collected (if necessary).

Suspect ACMs not observed due to inaccessibility or not sampled due to the destructive means that sampling would require may also be encountered during construction activities. At the time of the survey, only limited destructive means were used to locate or sample suspect ACMs; therefore, additional suspect ACMs may remain within 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, vapor barriers, pipe trenches and other subsurface utilities, etc.] If additional suspect ACMs are uncovered which were not accessible during this survey, it is recommended that these materials either be assumed to contain asbestos or be sampled prior to disturbance upon discovery for asbestos content by an asbestos inspector in accordance with 29 CFR 1926.1101.

ECS recommends that the results of this sampling event be added to the schools AHERA management plan.

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which 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 warranty, expressed or implied, is made.

The 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 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. 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 ECS and the client.

Our recommendations are in part based on federal, state, and local 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.

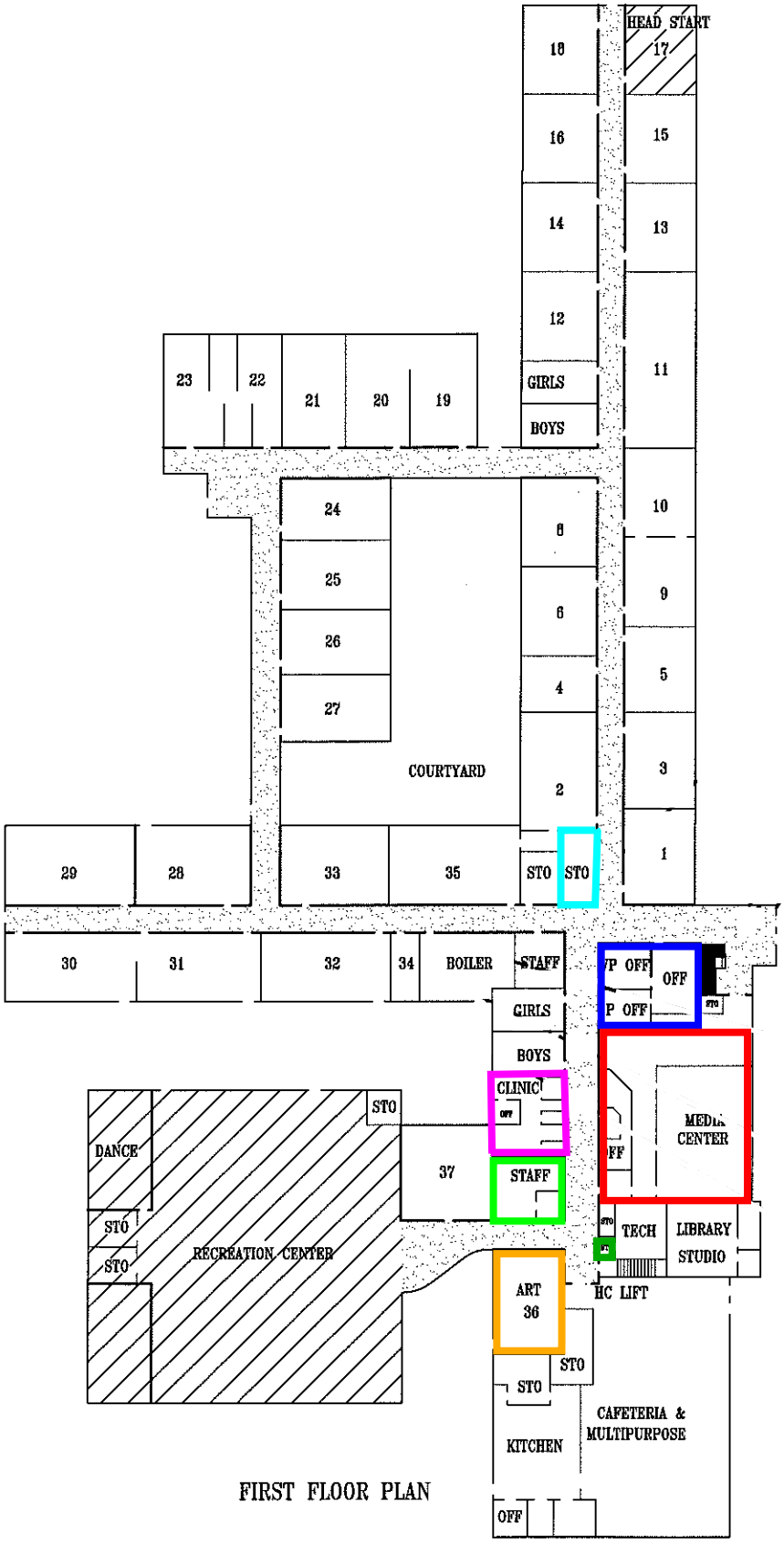
Appendix I: Scope of Work Sketch

ONE SAMPLE FROM THESE LOCATIONS

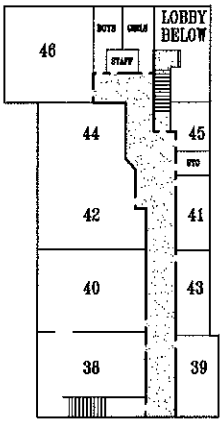
- Storage Closet
- Art Classroom
- Staff Lounge
- Custodial Closet

A COUPLE SAMPLES FROM THESE LOCATIOS

- Main Office, Prin./VP Offices
- Library /Media Center - Offices
- Health Clinic / Offices



FIRST FLOOR PLAN



SECOND FLOOR PLAN

CORA KELLY SCHOOL FOR MATH
3600 Commonwealth Avenue
Alexandria, Va 22305
(T) 703-706-4420 (F) 703-706-4425

FLOOR PLAN

Alexandria City Public Schools
2000 North Beauregard Street
Alexandria, Va 22311
(T) 703-824-6600
(TDD) 703-824-6666
(EMER.) 703-866-5300

Appendix II: Site Photographs



1 - View of asbestos-containing beige with brown streaks floor tile with asbestos-containing black mastic in the mechanical room near the library. Sample number 1.



2 - View of asbestos-containing beige with brown streaks floor tile with asbestos-containing black mastic in the library break room. Sample number 2.



3 - View of 12" x 12" tan floor tile in the staff lounge above an unknown sized gray floor tile with an asbestos-containing black mastic. Sample number 13.



4 - View of 12" x 12" white with blue streaks floor tile in the clinic located above two layers of asbestos-containing unknown size gray floor tiles with asbestos-containing black mastics. Sample numbers 23 and 25.



5 - View of two layers of asbestos-containing gray floor tiles with asbestos-containing black mastics located under the carpet in the clinic office. Sample numbers 27 and 29



6 - View of a 12" x 12" gray floor tile with asbestos-containing black mastic located under a 12" x 12" blue/gray floor tile with black streaks in the storage room near classroom 2. Sample number 51.

Appendix III: Asbestos Bulk Sample Results

SUSPECT ASBESTOS-CONTAINING MATERIALS BULK SAMPLING RESULTS

Sample #	Sampling Location	Material/Description	Analytical Results
1 - A	**Mechanical Room across From Art Room**	**12" x 12" Beige with Brown Streaks Floor Tile**	**8% Chrysotile**
1 - B	**Mechanical Room across From Art Room**	**Black Mastic associated with 12" x 12" Beige with Brown Streaks Floor Tile**	**5% Chrysotile**
2 - A	**Library Break Room**	**12" x 12" Beige with Brown Streaks Floor Tile**	**N/A**
2 - B	**Library Break Room**	**Black Mastic associated with 12" x 12" Beige with Brown Streaks Floor Tile**	**N/A**
3	Mechanical Room across from Art Room	Residual Brown Cove Base Mastic	NAD
4	Clinic	Residual Brown Cove Base Mastic	NAD
5 - A	Art Room (Room 36)	12" x 12" White with Gray and Black Streaks Floor Tile	NAD
5 - B	Art Room (Room 36)	Yellow Mastic associated with 12" x 12" White with Gray and Black Streaks Floor Tile	NAD
6 - A	Art Room (Room 36)	12" x 12" White with Gray and Black Streaks Floor Tile	NAD
6 - B	Art Room (Room 36)	Yellow Mastic associated with 12" x 12" White with Gray and Black Streaks Floor Tile	NAD
7 - A	Art Room (Room 36)	6" Black Cove Base	NAD
7 - B	Art Room (Room 36)	Brown Mastic associated with 6" Black Cove Base	NAD
8 - A	Library	6" Black Cove Base	NAD
8 - B	Library	Brown Mastic associated with 6" Black Cove Base	NAD
9 - A	Staff Lounge near Room 37	12" x 12" Tan Floor Tile (Layer 1)	NAD
9 - B	Staff Lounge near Room 37	Yellow Mastic associated with 12" x 12" Tan Floor Tile (Layer 1)	NAD
10 - A	Staff Lounge near Room 37	12" x 12" Tan Floor Tile (Layer 1)	NAD
10 - B	Staff Lounge near Room 37	Yellow Mastic associated with 12" x 12" Tan Floor Tile (Layer 1)	NAD
11 - A	Staff Lounge near Room 37	Yellow Mastic associated with Unknown Sized Blue/Gray Floor Tile (Layer 2)	NAD
11 - B	Staff Lounge near Room 37	Unknown Sized Blue/Gray Floor Tile (Layer 2)	NAD
11 - C	Staff Lounge near Room 37	Brown Mastic associated with Unknown Sized Blue/Gray Floor Tile (Layer 2)	NAD
12 - A	Staff Lounge near Room 37	Yellow Mastic associated with Unknown Sized Blue/Gray Floor Tile (Layer 2)	NAD
12 - B	Staff Lounge near Room 37	Unknown Sized Blue/Gray Floor Tile (Layer 2)	NAD
12 - C	Staff Lounge near Room 37	Brown Mastic associated with Unknown Sized Blue/Gray Floor Tile (Layer 2)	NAD
13 - A	Staff Lounge near Room 37	Yellow Mastic associated with Unknown Sized Unknown Color Floor Tile (Layer 3)	NAD
13 - B	Staff Lounge near Room 37	Unknown Sized Brown Floor Tile (Layer 3)	NAD
13 - C	**Staff Lounge near Room 37**	**Black Mastic associated with Unknown Sized Unknown Color Floor Tile (Layer 3)**	**5% Chrysotile**

Table Notes:
Bold = Asbestos-Containing Materials
N/A = Not Analyzed
None Detected = No Asbestos Detected

SUSPECT ASBESTOS-CONTAINING MATERIALS BULK SAMPLING RESULTS

Sample #	Sampling Location	Material/Description	Analytical Results
14 - A	Staff Lounge near Room 37	Yellow Mastic associated with Unknown Sized Unknown Color Floor Tile (Layer 3)	NAD
14 - B	Staff Lounge near Room 37	Unknown Sized Brown Floor Tile (Layer 3)	NAD
14 - C	**Staff Lounge near Room 37**	**Black Mastic associated with Unknown Sized Unknown Color Floor Tile (Layer 3)**	**N/A**
15 - A	Staff Lounge near Room 37	12" x 12" Beige Floor Tile (Patch)	NAD
15 - B	Staff Lounge near Room 37	Yellow Mastic associated with 12" x 12" Beige Floor Tile (Patch)	NAD
16 - A	Staff Lounge near Room 37	12" x 12" Beige Floor Tile (Patch)	NAD
16 - B	Staff Lounge near Room 37	Yellow Mastic associated with 12" x 12" Beige Floor Tile (Patch)	NAD
17 - A	Staff Lounge near Room 37	4" Tan Cove Base	NAD
17 - B	Staff Lounge near Room 37	White Mastic associated with 4" Tan Cove Base	NAD
18 - A	Staff Lounge near Room 37	4" Tan Cove Base	NAD
18 - B	Staff Lounge near Room 37	White Mastic associated with 4" Tan Cove Base	NAD
19 - A	Staff Lounge near Room 37	4" White Cove Base	NAD
19 - B	Staff Lounge near Room 37	Brown Mastic associated with 4" White Cove Base	NAD
20 - A	Staff Lounge near Room 37	4" White Cove Base	NAD
20 - B	Staff Lounge near Room 37	Brown Mastic associated with 4" White Cove Base	NAD
21 - A	Clinic	12" x 12" White with Blue Flecks Floor Tile (Layer 1)	NAD
21 - B	Clinic	Yellow Mastic associated with 12" x 12" White with Blue Flecks Floor Tile (Layer 1)	NAD
22 - A	Clinic	12" x 12" White with Blue Flecks Floor Tile (Layer 1)	NAD
22 - B	Clinic	Yellow Mastic associated with 12" x 12" White with Blue Flecks Floor Tile (Layer 1)	NAD
23 - A	**Clinic**	**Unknown Sized Grayish Floor Tile (Layer 2)**	**5% Chrysotile**
23 - B	Clinic	Brown Mastic associated with Unknown Sized Grayish Floor Tile (Layer 2)	NAD
24 - A	**Clinic**	**Unknown Sized Grayish Floor Tile (Layer 2)**	**N/A**
24 - B	Clinic	Brown Mastic associated with Unknown Sized Grayish Floor Tile (Layer 2)	NAD
25 - A	**Clinic**	**Unknown Sized Dark Gray Floor Tile (Layer 3)**	**8% Chrysotile**
25 - B	**Clinic**	**Black Mastic associated with Unknown Sized Dark Gray Floor Tile (Layer 3)**	**2% Chrysotile**
26 - A	**Clinic**	**Unknown Sized Dark Gray Floor Tile (Layer 3)**	**N/A**
26 - B	**Clinic**	**Black Mastic associated with Unknown Sized Dark Gray Floor Tile (Layer 3)**	**N/A**

Table Notes:
Bold = Asbestos-Containing Materials
N/A = Not Analyzed
None Detected = No Asbestos Detected

SUSPECT ASBESTOS-CONTAINING MATERIALS BULK SAMPLING RESULTS

Sample #	Sampling Location	Material/Description	Analytical Results
27 - A	Clinic Office	Yellow Carpet Mastic	NAD
27 - B	**Clinic Office**	**Light Gray Floor Tile Under Carpet**	**5% Chrysotile**
27 - C	**Clinic Office**	**Black Mastic associated with Light Gray Floor Tile Under Carpet**	**6% Chrysotile**
28 - A	Clinic Storage Room	Yellow Carpet Mastic	NAD
28 - B	**Clinic Storage Room**	**Light Gray Floor Tile Under Carpet**	**N/A**
28 - C	**Clinic Storage Room**	**Black Mastic associated with Light Gray Floor Tile Under Carpet**	**N/A**
29 - A	**Clinic Office**	**Unknown Sized Gray Floor Tile (Layer 2 under Carpet)**	**8%Chrysotile**
29 - B	**Clinic Office**	**Black Mastic Unknown Sized Gray Floor Tile (Layer 2 under Carpet)**	**6%Chrysotile**
30 - A	**Clinic Storage Room**	**Unknown Sized Gray Floor Tile (Layer 2 under Carpet)**	**N/A**
30 - B	**Clinic Storage Room**	**Black Mastic Unknown Sized Gray Floor Tile (Layer 2 under Carpet)**	**N/A**
31 - A	Clinic Office	6" Black Cove Base	NAD
31 - B	Clinic Office	Yellow Mastic associated with 6" Black Cove Base	NAD
32 - A	Clinic Storage Room	6" Black Cove Base	NAD
32 - B	Clinic Storage Room	Yellow Mastic associated with 6" Black Cove Base	NAD
33 - A	Clinic Office	6" Brittle Black Cove Base	NAD
33 - B	Clinic Office	Black Mastic associated with 6" Brittle Black Cove Base	NAD
34 - A	Clinic Office	6" Brittle Black Cove Base	NAD
34 - B	Clinic Office	Black Mastic associated with 6" Brittle Black Cove Base	NAD
35 - A	Clinic	6" Light Brown Cove Base (Behind Black Cove Base)	NAD
35 - B	Clinic	Yellow Mastic associated with 6" Light Brown Cove Base (Behind Black Cove Base)	NAD
36 - A	Clinic	6" Light Brown Cove Base (Behind Black Cove Base)	NAD
36 - B	Clinic	Yellow Mastic associated with 6" Light Brown Cove Base (Behind Black Cove Base)	NAD
37	Library (Upper Level)	Yellow Carpet Mastic and Gray Leveling Compound	NAD
38	Library (Lower Level)	Yellow Carpet Mastic and Gray Leveling Compound	NAD
39	Library Book Storage Room	Brown Carpet Mastic and White Floor Tile	NAD
40	Library Book Storage Room	Brown Carpet Mastic and White Floor Tile	NAD
41	Library Office	Black/Mixed Carpet Mastic	NAD

Table Notes:
Bold = Asbestos-Containing Materials
N/A = Not Analyzed
None Detected = No Asbestos Detected

SUSPECT ASBESTOS-CONTAINING MATERIALS BULK SAMPLING RESULTS

Sample #	Sampling Location	Material/Description	Analytical Results
42	Library IT Room	Black/Mixed Carpet Mastic	NAD
43	Main Office (Reception Area)	Green Carpet Mastic with Brown Residual Mastic	NAD
44	Main Office (Principal's Office)	Green Carpet Mastic with Brown Residual Mastic	NAD
45	Main Office (Vice Principal's Office)	Gray Floor Leveling Compound	NAD
46	Main Office (Storage Closet)	Gray Floor Leveling Compound	NAD
47 - A	Main Office (Reception Area)	6" Black Cove Base	NAD
47 - B	Main Office (Reception Area)	White Mastic associated with 6" Black Cove Base	NAD
48 - A	Main Office (Reception Area)	6" Black Cove Base	NAD
48 - B	Main Office (Reception Area)	White Mastic associated with 6" Black Cove Base	NAD
49 - A	Storage Closet near Classroom 2	12" x 12" Blue/Gray Floor Tile with Black Streaks	NAD
49 - B	Storage Closet near Classroom 2	Yellow Mastic associated with 12" x 12" Blue/Gray Floor Tile with Black Streaks	NAD
50 - A	Storage Closet near Classroom 2	12" x 12" Blue/Gray Floor Tile with Black Streaks	NAD
50 - B	Storage Closet near Classroom 2	Yellow Mastic associated with 12" x 12" Blue/Gray Floor Tile with Black Streaks	NAD
51 - A	Storage Closet near Classroom 2	Unknown Sized Gray Floor Tile (Layer 2)	NAD
51 - B	**Storage Closet near Classroom 2**	**Black Mastic associated with Unknown Sized Gray Floor Tile (Layer 2)**	**6% Chrysotile**
52 - A	Storage Closet near Classroom 2	Unknown Sized Gray Floor Tile (Layer 2)	NAD
52 - B	**Storage Closet near Classroom 2**	**Black Mastic associated with Unknown Sized Gray Floor Tile (Layer 2)**	**N/A**
53 - A	Storage Closet near Classroom 2	4" Beige Cove Base	NAD
53 - B	Storage Closet near Classroom 2	White Mastic associated with 4" Beige Cove Base	NAD
54 - A	Storage Closet near Classroom 2	4" Beige Cove Base	NAD
54 - B	Storage Closet near Classroom 2	White Mastic associated with 4" Beige Cove Base	NAD

Table Notes:
Bold = Asbestos-Containing Materials
N/A = Not Analyzed
None Detected = No Asbestos Detected

Appendix IV: Laboratory Report(s)

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP TESTING NVLAP LAB CODE 200664-0

Lab ID # 173190

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Catey Bourne

Project: Cora Kelly 47:1519-AA

Lab Order ID: 71956915
Analysis ID: 71956915_PLM
Date Received: 12/29/2020
Date Reported: 1/4/2021

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
1 - A *71956915PLM_1*	12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic *tile*	**8% Chrysotile**		**92% Other**	Tan Non Fibrous Homogeneous Dissolved
1 - B *71956915PLM_55*	12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic *mastic*	**5% Chrysotile**		**95% Other**	Black Non Fibrous Homogeneous Dissolved
2 - A *71956915PLM_2*	12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic *tile*	**Not Analyzed**			
2 - B *71956915PLM_56*	12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic *mastic*	**Not Analyzed**			
3 *71956915PLM_3*	Residual Brown Cove base Mastic	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Dissolved
4 *71956915PLM_4*	Residual Brown Cove base Mastic	**None Detected**		**100% Other**	Brown, Yellow Non Fibrous Heterogeneous Dissolved
5 - A *71956915PLM_5*	12" x 12" White with Gray and Black Streaks Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
5 - B *71956915PLM_57*	12" x 12" White with Gray and Black Streaks Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous 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. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Megan Javonovich (102)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP TESTING NVLAP LAB CODE 200664-0

INDUSTRIAL HYGIENE ISO/IEC 17025:2017 Accredited Laboratory AIHA LAP, LLC AIHAACCREDITEDLABS.ORG Lab ID # 173190

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Catey Bourne

Project: Cora Kelly 47:1519-AA

Lab Order ID: 71956915
Analysis ID: 71956915_PLM
Date Received: 12/29/2020
Date Reported: 1/4/2021

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
6 - A *71956915PLM_6*	12" x 12" White with Gray and Black Streaks Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Dissolved
6 - B *71956915PLM_58*	12" x 12" White with Gray and Black Streaks Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
7 - A *71956915PLM_7*	6" Black Cove Base with Brown Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Ashed
7 - B *71956915PLM_59*	6" Black Cove Base with Brown Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Ashed
8 - A *71956915PLM_8*	6" Black Cove Base with Brown Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Ashed
8 - B *71956915PLM_60*	6" Black Cove Base with Brown Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Ashed
9 - A *71956915PLM_9*	12" x 12" Tan Floor Tile with Yellow Mastic (Layer 1) *tile*	**None Detected**		**100% Other**	Beige Non Fibrous Homogeneous Dissolved
9 - B *71956915PLM_61*	12" x 12" Tan Floor Tile with Yellow Mastic (Layer 1) *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved

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Megan Javonovich (102)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP TESTING NVLAP LAB CODE 200664-0

INDUSTRIAL HYGIENE ISO/IEC 17025:2017 Accredited Laboratory AIHA LAP, LLC AIHAACCREDITEDLABS.ORG Lab ID # 173190

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Catey Bourne

Project: Cora Kelly 47:1519-AA

Lab Order ID: 71956915
Analysis ID: 71956915_PLM
Date Received: 12/29/2020
Date Reported: 1/4/2021

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
10 - A *71956915PLM_10*	12" x 12" Tan Floor Tile with Yellow Mastic (Layer 1) *tile*	**None Detected**		**100% Other**	Beige Non Fibrous Homogeneous Dissolved
10 - B *71956915PLM_62*	12" x 12" Tan Floor Tile with Yellow Mastic (Layer 1) *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
11 - A *71956915PLM_11*	Unknown Sized Blue/Gray Floor Tile with Brown mastic (Layer 2) *mastic 1*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
11 - B *71956915PLM_63*	Unknown Sized Blue/Gray Floor Tile with Brown mastic (Layer 2) *tile*	**None Detected**		**100% Other**	Blue Non Fibrous Homogeneous Dissolved
11 - C *71956915PLM_64*	Unknown Sized Blue/Gray Floor Tile with Brown mastic (Layer 2) *mastic 2*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
12 - A *71956915PLM_12*	Unknown Sized Blue/Gray Floor Tile with Brown mastic (Layer 2) *mastic 1*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
12 - B *71956915PLM_65*	Unknown Sized Blue/Gray Floor Tile with Brown mastic (Layer 2) *tile*	**None Detected**		**100% Other**	Blue Non Fibrous Homogeneous Dissolved
12 - C *71956915PLM_66*	Unknown Sized Blue/Gray Floor Tile with Brown mastic (Layer 2) *mastic 2*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved

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Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
13 - A *71956915PLM_13*	Unknown Sized Unknown Color Floor Tile with Black Mastic (Layer 3) *mastic 1*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
13 - B *71956915PLM_67*	Unknown Sized Unknown Color Floor Tile with Black Mastic (Layer 3) *tile*	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Dissolved
13 - C *71956915PLM_68*	Unknown Sized Unknown Color Floor Tile with Black Mastic (Layer 3) *mastic 2*	**5% Chrysotile**		**95% Other**	Black Non Fibrous Homogeneous Dissolved
14 - A *71956915PLM_14*	Unknown Sized Unknown Color Floor Tile with Black Mastic (Layer 3) *mastic 1*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
14 - B *71956915PLM_69*	Unknown Sized Unknown Color Floor Tile with Black Mastic (Layer 3) *tile*	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Dissolved
14 - C *71956915PLM_70*	Unknown Sized Unknown Color Floor Tile with Black Mastic (Layer 3) *mastic 2*	**Not Analyzed**			
15 - A *71956915PLM_15*	12" x 12" Beige Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Beige Non Fibrous Homogeneous Dissolved
15 - B *71956915PLM_71*	12" x 12" Beige Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved

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Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
16 - A *71956915PLM_16*	12" x 12" Beige Floor Tile with Yellow Mastic *tile*	**None Detected**		**100% Other**	Beige Non Fibrous Homogeneous Dissolved
16 - B *71956915PLM_72*	12" x 12" Beige Floor Tile with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
17 - A *71956915PLM_17*	4" Tan Cove Base with White Mastic *cove base*	**None Detected**		**100% Other**	Beige Non Fibrous Homogeneous Ashed
17 - B *71956915PLM_73*	4" Tan Cove Base with White Mastic *mastic*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Ashed
18 - A *71956915PLM_18*	4" Tan Cove Base with White Mastic *cove base*	**None Detected**		**100% Other**	Beige Non Fibrous Homogeneous Ashed
18 - B *71956915PLM_74*	4" Tan Cove Base with White Mastic *mastic*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Ashed
19 - A *71956915PLM_19*	4" White Cove Base with Brown Mastic *cove base*	**None Detected**		**100% Other**	Beige Non Fibrous Homogeneous Ashed
19 - B *71956915PLM_75*	4" White Cove Base with Brown Mastic *mastic*	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Dissolved

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Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
20 - A *71956915PLM_20*	4" White Cove Base with Brown Mastic *cove base*	**None Detected**		**100% Other**	Beige Non Fibrous Homogeneous Ashed
20 - B *71956915PLM_76*	4" White Cove Base with Brown Mastic *mastic*	**None Detected**		**100% Other**	Brown Non Fibrous Homogeneous Dissolved
21 - A *71956915PLM_21*	12" x 12" White with Blue Flecks Floor Tile with Yellow Mastic (Layer 1) *tile*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Dissolved
21 - B *71956915PLM_77*	12" x 12" White with Blue Flecks Floor Tile with Yellow Mastic (Layer 1) *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
22 - A *71956915PLM_22*	12" x 12" White with Blue Flecks Floor Tile with Yellow Mastic (Layer 1) *tile*	**None Detected**		**100% Other**	White Non Fibrous Homogeneous Dissolved
22 - B *71956915PLM_78*	12" x 12" White with Blue Flecks Floor Tile with Yellow Mastic (Layer 1) *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
23 - A *71956915PLM_23*	Unknown Sized Grayish Floor Tile with Brown Mastic (Layer 2) *tile*	**5% Chrysotile**		**95% Other**	Tan, Brown Non Fibrous Homogeneous Dissolved
23 - B *71956915PLM_79*	Unknown Sized Grayish Floor Tile with Brown Mastic (Layer 2) *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved

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Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
24 - A *71956915PLM_24*	Unknown Sized Grayish Floor Tile with Brown Mastic (Layer 2) *tile*	**Not Analyzed**			
24 - B *71956915PLM_80*	Unknown Sized Grayish Floor Tile with Brown Mastic (Layer 2) *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
25 - A *71956915PLM_25*	Unknown Sized Dark Gray Floor Tile with Black Mastic (Layer 3) *tile*	**8% Chrysotile**		**92% Other**	Brown, Tan Non Fibrous Homogeneous Dissolved
25 - B *71956915PLM_81*	Unknown Sized Dark Gray Floor Tile with Black Mastic (Layer 3) *mastic*	**2% Chrysotile**		**98% Other**	Black Non Fibrous Homogeneous Dissolved
26 - A *71956915PLM_26*	Unknown Sized Dark Gray Floor Tile with Black Mastic (Layer 3) *tile*	**Not Analyzed**			
26 - B *71956915PLM_82*	Unknown Sized Dark Gray Floor Tile with Black Mastic (Layer 3) *mastic*	**Not Analyzed**			
27 - A *71956915PLM_27*	Yellow Carpet Mastic and Light Gray Floor Tile with Black Mastic *mastic 1*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
27 - B *71956915PLM_83*	Yellow Carpet Mastic and Light Gray Floor Tile with Black Mastic *tile*	**5% Chrysotile**		**95% Other**	Gray Non Fibrous Homogeneous Dissolved

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Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
27 - C *71956915PLM_84*	Yellow Carpet Mastic and Light Gray Floor Tile with Black Mastic *mastic 2*	**6% Chrysotile**		**94% Other**	Black Non Fibrous Homogeneous Dissolved
28 - A *71956915PLM_28*	Yellow Carpet Mastic and Light Gray Floor Tile with Black Mastic *mastic 1*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
28 - B *71956915PLM_85*	Yellow Carpet Mastic and Light Gray Floor Tile with Black Mastic *tile*	**Not Analyzed**			
28 - C *71956915PLM_86*	Yellow Carpet Mastic and Light Gray Floor Tile with Black Mastic *mastic 2*	**Not Analyzed**			
29 - A *71956915PLM_29*	Unknown Sized Gray Floor Tile with Black Mastic (Layer 2) *tile*	**8% Chrysotile**		**92% Other**	Gray Non Fibrous Homogeneous Dissolved
29 - B *71956915PLM_87*	Unknown Sized Gray Floor Tile with Black Mastic (Layer 2) *mastic*	**6% Chrysotile**		**94% Other**	Black Non Fibrous Homogeneous Dissolved
30 - A *71956915PLM_30*	Unknown Sized Gray Floor Tile with Black Mastic (Layer 2) *tile*	**Not Analyzed**			
30 - B *71956915PLM_88*	Unknown Sized Gray Floor Tile with Black Mastic (Layer 2) *mastic*	**Not Analyzed**			

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31 - A *71956915PLM_31*	6" Black Cove Base with Yellow Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Ashed
31 - B *71956915PLM_89*	6" Black Cove Base with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Ashed
32 - A *71956915PLM_32*	6" Black Cove Base with Yellow Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Ashed
32 - B *71956915PLM_90*	6" Black Cove Base with Yellow Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Ashed
33 - A *71956915PLM_33*	6" Brittle Black Cove Base with Black Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Ashed
33 - B *71956915PLM_91*	6" Brittle Black Cove Base with Black Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Ashed
34 - A *71956915PLM_34*	6" Brittle Black Cove Base with Black Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Ashed
34 - B *71956915PLM_92*	6" Brittle Black Cove Base with Black Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Ashed

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35 - A *71956915PLM_35*	6" Light Brown Cove Base with Yellow Mastic (Behind Black Cove Base) *cove base*	**None Detected**		**100% Other**	Tan Non Fibrous Homogeneous Ashed
35 - B *71956915PLM_93*	6" Light Brown Cove Base with Yellow Mastic (Behind Black Cove Base) *mastic*	**None Detected**		**100% Other**	Tan, Brown Non Fibrous Heterogeneous Dissolved
36 - A *71956915PLM_36*	6" Light Brown Cove Base with Yellow Mastic (Behind Black Cove Base) *cove base*	**None Detected**		**100% Other**	Tan Non Fibrous Homogeneous Ashed
36 - B *71956915PLM_94*	6" Light Brown Cove Base with Yellow Mastic (Behind Black Cove Base) *mixed mastic*	**None Detected**		**100% Other**	Tan, Brown Non Fibrous Heterogeneous Dissolved
37 *71956915PLM_37*	Yellow Carpet Mastic and Gray Leveling Compound *mastic/leveling compound*	**None Detected**		**100% Other**	Yellow, Gray Non Fibrous Heterogeneous Dissolved
38 *71956915PLM_38*	Yellow Carpet Mastic and Gray Leveling Compound *mastic/leveling compound*	**None Detected**		**100% Other**	Yellow, Gray Non Fibrous Heterogeneous Dissolved
39 *71956915PLM_39*	Brown Carpet Mastic and White Floor Tile *mastic/leveling compound*	**None Detected**		**100% Other**	Yellow, Gray Non Fibrous Heterogeneous Dissolved
40 *71956915PLM_40*	Brown Carpet Mastic and White Floor Tile *mastic/leveling compound*	**None Detected**		**100% Other**	Yellow, Gray Non Fibrous Heterogeneous Dissolved

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41 *71956915PLM_41*	Black/Mixed Carpet Mastic *mastic/leveling compound*	**None Detected**		**100% Other**	Yellow, Gray Non Fibrous Heterogeneous Dissolved
42 *71956915PLM_42*	Black/Mixed Carpet Mastic *mastic/leveling compound*	**None Detected**		**100% Other**	Yellow, Gray Non Fibrous Heterogeneous Dissolved
43 *71956915PLM_43*	Green Carpet Mastic with Brown Residual Mastic *mastic/leveling compound*	**None Detected**		**100% Other**	Green, Yellow, Gray Non Fibrous Heterogeneous Dissolved
44 *71956915PLM_44*	Green Carpet Mastic with Brown Residual Mastic *mastic/leveling compound*	**None Detected**		**100% Other**	Green, Yellow, Gray Non Fibrous Heterogeneous Dissolved
45 *71956915PLM_45*	Gray Floor Leveling Compound	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Crushed
46 *71956915PLM_46*	Gray Floor Leveling Compound	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Crushed
47 - A *71956915PLM_47*	6" Black Cove Base with White Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Ashed
47 - B *71956915PLM_95*	6" Black Cove Base with White Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Ashed

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Megan Javonovich (102)

Analyst

Approved Signatory

P-F-002 r15 1/16/2021

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP TESTING NVLAP LAB CODE 200664-0

AIHA ACCREDITED LABS.ORG Lab ID # 173190

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Catey Bourne

Project: Cora Kelly 47:1519-AA

Lab Order ID: 71956915
Analysis ID: 71956915_PLM
Date Received: 12/29/2020
Date Reported: 1/4/2021

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
48 - A *71956915PLM_48*	6" Black Cove Base with White Mastic *cove base*	**None Detected**		**100% Other**	Black Non Fibrous Homogeneous Ashed
48 - B *71956915PLM_96*	6" Black Cove Base with White Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Ashed
49 - A *71956915PLM_49*	12" x 12" Blue/Gray Floor Tile with Black Streaks with Brown Mastic *tile*	**None Detected**		**100% Other**	White, Blue Non Fibrous Homogeneous Dissolved
49 - B *71956915PLM_97*	12" x 12" Blue/Gray Floor Tile with Black Streaks with Brown Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
50 - A *71956915PLM_50*	12" x 12" Blue/Gray Floor Tile with Black Streaks with Brown Mastic *tile*	**None Detected**		**100% Other**	White, Blue Non Fibrous Homogeneous Dissolved
50 - B *71956915PLM_98*	12" x 12" Blue/Gray Floor Tile with Black Streaks with Brown Mastic *mastic*	**None Detected**		**100% Other**	Yellow Non Fibrous Homogeneous Dissolved
51 - A *71956915PLM_51*	Unknown Sized Gray with Brown Mastic and Black Mastic (Layer 2) *tile*	**None Detected**		**100% Other**	Tan, Brown Non Fibrous Homogeneous Dissolved
51 - B *71956915PLM_99*	Unknown Sized Gray with Brown Mastic and Black Mastic (Layer 2) *mastic*	**6% Chrysotile**		**94% Other**	Black Non Fibrous Homogeneous Dissolved

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Megan Javonovich (102)

Analyst

Approved Signatory

Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and 40 CFR, Part 763, Subpart E, App.E

NVLAP TESTING
NVLAP LAB CODE 200664-0

AIHA ACCREDITED LABS.ORG
Lab ID # 173190

Customer: ECS Mid-Atlantic, LLC
14026 Thunderbolt Place
Suite 100
Chantilly, VA 20151

Attn: Catey Bourne

Project: Cora Kelly 47:1519-AA

Lab Order ID: 71956915
Analysis ID: 71956915_PLM
Date Received: 12/29/2020
Date Reported: 1/4/2021

Sample ID *Lab Sample ID*	Description *Lab Notes*	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes Treatment
52 - A *71956915PLM_52*	Unknown Sized Gray with Brown Mastic and Black Mastic (Layer 2) *tile*	**None Detected**		**100% Other**	Tan, Brown Non Fibrous Homogeneous Dissolved
52 - B *71956915PLM_100*	Unknown Sized Gray with Brown Mastic and Black Mastic (Layer 2) *mastic*	**Not Analyzed**			
53 - A *71956915PLM_53*	4" Beige Cove Base with White Mastic *cove base*	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Ashed
53 - B *71956915PLM_101*	4" Beige Cove Base with White Mastic *mastic*	**None Detected**		**100% Other**	Cream Non Fibrous Homogeneous Ashed
54 - A *71956915PLM_54*	4" Beige Cove Base with White Mastic *cove base*	**None Detected**		**100% Other**	Gray Non Fibrous Homogeneous Ashed
54 - B *71956915PLM_102*	4" Beige Cove Base with White Mastic *mastic*	**None Detected**		**100% Other**	Cream Non Fibrous Homogeneous Ashed

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Megan Javonovich (102)

Analyst

Approved Signatory

71956915

Client:	ECS Mid-Atlantic, LLC	***"Instructions:***
Contact:	Catey Bourne	*Use Column "B" for your contact info*
Address:	14026 Thunderbolt Place, Suite	
Phone:	(703)-471-8400	*To See an Example Click the bottom Example Tab.*
Fax:		
Email:	cbourne@ecslimited.com	***Enter samples between "<<" and ">>"***
Project:	Cora Kelly 47:1519-AA	***Begin Samples with a "<< "above the first sample and end with a ">>" below the last sample.***
Client Notes:		*Only Enter your data on the first sheet "Sheet1"*
	Positive Stop	
P.O. #.	47:1519-AA	*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.*
Date Submitted:	12/28/2020 0:00	
Analysis:	PLM EPA 600/R-93/116	
Turnaround Time:	3 day TAT	

Scientific Analytical Institute

4604 Dundas Drive
Greensboro, NC 27407
Phone: 336.292.3888
Fax: 336.292.3313
Email: lab@sailab.com

<<		
1	12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic	Mechanical Room across From Art Room
2	12" x 12" Beige with Brown Streaks Floor Tile with Black Mastic	Library Break Room
3	Residual Brown Cove base Mastic	Mechanical Room across From Art Room
4	Residual Brown Cove base Mastic	Mechanical Room across From Art Room
5	12" x 12" White with Gray and Black Streaks Floor Tile with Yellow Mastic	Art Room (Room 36)
6	12" x 12" White with Gray and Black Streaks Floor Tile with Yellow Mastic	Art Room (Room 36)
7	6" Black Cove Base with Brown Mastic	Art Room (Room 36)
8	6" Black Cove Base with Brown Mastic	Library
9	12" x 12" Tan Floor Tile with Yellow Mastic (Layer 1)	Teachers Lounge
10	12" x 12" Tan Floor Tile with Yellow Mastic (Layer 1)	Teachers Lounge
11	Unknown Sized Blue/Gray Floor Tile with Brown mastic (Layer 2)	Teachers Lounge
12	Unknown Sized Blue/Gray Floor Tile with Brown mastic (Layer 2)	Teachers Lounge
13	Unknown Sized Unknown Color Floor Tile with Black Mastic (Layer 3)	Teachers Lounge
14	Unknown Sized Unknown Color Floor Tile with Black Mastic (Layer 3)	Teachers Lounge
15	12" x 12" Beige Floor Tile with Yellow Mastic	Teachers Lounge
16	12" x 12" Beige Floor Tile with Yellow Mastic	Teachers Lounge
17	4" Tan Cove Base with White Mastic	Teachers Lounge
18	4" Tan Cove Base with White Mastic	Teachers Lounge
19	4" White Cove Base with Brown Mastic	Teachers Lounge
20	4" White Cove Base with Brown Mastic	Teachers Lounge
21	12" x 12" White with Blue Flecks Floor Tile with Yellow Mastic (Layer 1)	Clinic
22	12" x 12" White with Blue Flecks Floor Tile with Yellow Mastic (Layer 1)	Clinic
23	Unknown Sized Grayish Floor Tile with Brown Mastic (Layer 2)	Clinic
24	Unknown Sized Grayish Floor Tile with Brown Mastic (Layer 2)	Clinic
25	~~Unknown Sized Dark Gray Floor Tile with Black Mastic (Layer 3)~~	~~Clinic~~
26	Unknown Sized Dark Gray Floor Tile with Black Mastic (Layer 3)	Clinic
27	Yellow Carpet Mastic and Light Gray Floor Tile with Black Mastic	Clinic Office
28	Yellow Carpet Mastic and Light Gray Floor Tile with Black Mastic	Clinic Storage Room
29	Unknown Sized Gray Floor Tile with Black Mastic (Layer 2)	Clinic Office
30	Unknown Sized Gray Floor Tile with Black Mastic (Layer 2)	Clinic Storage Room
31	6" Black Cove Base with Yellow Mastic	Clinic Office
32	6" Black Cove Base with Yellow Mastic	Clinic Storage Room
33	6" Brittle Black Cove Base with Black Mastic	Clinic Office
34	6" Brittle Black Cove Base with Black Mastic	Clinic Office
35	6" Light Brown Cove Base with Yellow Mastic (Behind Black Cove Base)	Clinic
36	6" Light Brown Cove Base with Yellow Mastic (Behind Black Cove Base)	Clinic
37	Yellow Carpet Mastic and Gray Leveling Compound	Library (Upper Level)
38	Yellow Carpet Mastic and Gray Leveling Compound	Library (Lower Level)
39	Brown Carpet Mastic and White Floor Tile	Library Book Storage Room
40	Brown Carpet Mastic and White Floor Tile	Library Book Storage Room
41	Black/Mixed Carpet Mastic	Library Office
42	Black/Mixed Carpet Mastic	Library IT Room
43	Green Carpet Mastic with Brown Residual Mastic	Main Office (Reception Area)
44	Green Carpet Mastic with Brown Residual Mastic	Main Office (Principal's Office)
45	Gray Floor Leveling Compound	Main Office (Vice Principal's Office)
46	Gray Floor Leveling Compound	Main Office (Storage Closet)
47	6" Black Cove Base with White Mastic	Main Office (Reception Area)
48	6" Black Cove Base with White Mastic	Main Office (Reception Area)
49	12" x 12" Blue/Gray Floor Tile with Black Streaks with Brown Mastic	Storage Closet in Classroom 2
50	12" x 12" Blue/Gray Floor Tile with Black Streaks with Brown Mastic	Storage Closet in Classroom 2
51	Unknown Sized Gray with Brown Mastic and Black Mastic (Layer 2)	Storage Closet in Classroom 2
52	Unknown Sized Gray with Brown Mastic and Black Mastic (Layer 2)	Storage Closet in Classroom 2
53	4" Beige Cove Base with White Mastic	Storage Closet in Classroom 2
54	4" Beige Cove Base with White Mastic	Storage Closet in Classroom 2
>>		

Accepted ☒

Rejected ☐

Relinquished By

Received By 12/29 10:30AM