

# INITIAL AHERA SURVEY



BONSACK ELEMENTARY SCHOOL

5437 CRUMPACKER DR, ROANOKE, VA 24019  
ROANOKE, VIRGINIA 24019

ECS PROJECT NO. 47:3555

FOR

ROANOKE COUNTY SCHOOLS

SEPTEMBER 7, 2017





September 7, 2017

Mr. George Assaid  
Roanoke County Schools  
5937 Cove Road

Roanoke, Virginia 24019  
gassaid@rcs.k12.va.us

ECS Project No. 47:3555

Reference: Initial AHERA Survey, Bonsack Elementary School, 5437 Crumpacker Dr, Roanoke, VA 24019, Roanoke, Virginia

Dear Mr. Assaid:

ECS Midwest, LLC (ECS) is pleased to provide Roanoke County Schools with the results of the above referenced Initial AHERA Survey performed at Bonsack Elementary School located at 5437 Crumpacker Dr, Roanoke, VA 24019 in Roanoke, 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: and the terms and conditions of the agreement authorizing those services.

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

Sincerely,

ECS Midwest, LLC

A handwritten signature in black ink, appearing to read 'Robert Curran', written in a cursive style.

Robert Curran  
Environmental Scientist  
rcurran@ecslimited.com  
804-353-6333

A handwritten signature in black ink, appearing to read 'Chris Chapman', written in a cursive style.

Christopher J. Chapman, CIH  
Director of Industrial Hygiene  
cchapman@ecslimited.com  
804-353-6333

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## EXECUTIVE SUMMARY

The subject building consists of the Bonsack Elementary School located at 5437 Crumpacker Drive in Roanoke, Virginia. The building consists of one floor level and was reportedly constructed in 1999. The facility consists of various classrooms, offices, storage rooms, cafeteria, bathrooms, a gym and a media center.

Per the United States Environmental Protection Agency (US EPA) requirements, the purpose of the survey was to evaluate the building materials within the school areas occupied by ACPS for asbestos-containing materials (ACMs). The non-invasive survey was performed in general per EPA Standard 40 CFR 763 Subpart E, Asbestos Hazard Emergency Response Act (AHERA) and OSHA Standard 29 CFR 1926.1101 Inspection Protocol.

The survey was performed for the readily accessible interior areas of the facility. Exterior and roofing materials were not included in this assessment as these areas are excluded under AHERA. During the survey, ECS attempted to locate suspect asbestos-containing building materials (ACBMs) in readily accessible areas. However, due to the destructive means required to access some materials, certain areas were deemed inaccessible (i.e. behind solid walls or sub-grade materials) and were not surveyed for suspect ACBMs. Unidentified suspect ACMs may be located in these and/or other inaccessible areas.

During our assessment, a total of 52 bulk samples were collected and a total of 79 layers were analyzed by the laboratory. Based on the laboratory analysis of the suspect bulk samples collected during the survey, none of the materials sampled were reported to contain asbestos. Please refer to Table 1 for a list of the suspect asbestos bulk samples collected during our survey. Our findings and recommendations for are discussed further in this report provided further in the report.

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## 1.0 SITE DESCRIPTION

The subject building consists of the Bonsack Elementary School located at 5437 Crumpacker Drive in Roanoke, Virginia. The building consists of one floor level and was reportedly constructed in 1999. The facility consists of various classrooms, offices, storage rooms, cafeteria, bathrooms, gym, and a media center.

## 2.0 PURPOSE

The Asbestos Hazard Emergency Response Act (AHERA) requires public school districts to inspect their schools for asbestos-containing building materials and prepare management plans for identified asbestos containing materials and to take action to prevent or reduce asbestos hazards. This is based on an "in-place" management of asbestos-containing materials. Personnel working on asbestos activities in schools must be trained and accredited in accordance with US EPA Asbestos Model Accreditation Plan requirements. Prior to renovation or demolition of asbestos containing materials facility owners must also comply with the US EPA Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations.

The purpose of the Asbestos Containing Materials (AHERA) Survey was to identify asbestos-containing materials (ACMs) which may require special handling and/or disposal if removed disturbed during normal routine maintenance activities performed on the building.

## 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). The following represents a summary of our onsite work performed on August 16, 2017.

### 3.1 Asbestos-Containing Materials

The non-invasive asbestos survey was performed by asbestos inspectors (License No. 3303003809) who have received EPA accredited training and are licensed by the Commonwealth of Virginia. 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.

Samples of suspect ACMs were collected utilizing hand tools and placed into individual, labeled plastic bags. Unique bulk suspect ACM samples were submitted to Environmental Hazards Services, LLC (EHS), Inc. in Richmond, Virginia for analysis via Polarized Light Microscopy (PLM) in accordance with current EPA-600 methodology. Materials consisting of additional layers were analyzed separately. EHS is listed as an accredited laboratory by the National Voluntary Laboratory Accreditation Plan



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(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. In total, 52 bulk representative samples were submitted to the laboratory of which 79 layers were analyzed.

## 4.0 RESULTS

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

### 4.1 Asbestos-Containing Materials

Asbestos-Containing Material (ACMs) are 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.

None of the materials submitted for analysis to EHS were reported to contain asbestos. Please refer to Table 1 attached to this report for a list of the suspect asbestos bulk samples collected during our survey.

### 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/materials were deemed inaccessible and were not assessed during this survey.

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

Materials which are commonly suspected to contain asbestos located in inaccessible areas of similarly constructed buildings include:

- Air Handler Components in the air handlers (interior components);
- Ceramic Wall/Floor Tile Mastics/Compounds;
- Fire Door and associated Casing Insulation in locations requiring a rated fire door and door casing;
- Roof Structures – roof systems;
- Waterproofing Membrane/Mastics/vapor barriers within exterior wall cavities, behind Interior finishes, exterior veneer and/or subgrade walls;
- Various Duct Mastics;
- Textured sheet flooring and mastic in classroom bathrooms;



- CMU wall expansion materials

## 5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of the Initial AHERA 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 EHS were reported to contain detectable concentrations of asbestos. If additional suspect asbestos-containing materials are uncovered during future renovation activities 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 a certified asbestos inspector in accordance with 29 CFR 1926.1101.

Suspect ACMs may be present in inaccessible areas and portions of the building which were not assessed due to occupancy or locked areas. Prior to any renovation efforts which will involve any of those areas or the demolition of the building, a follow-up survey should be performed to include destructive means to access these areas as necessary. ECS recommends that this report be filed as part of the school facilities AHERA documentation.

## 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.

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 other warranty, expressed or implied, is made.

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: Asbestos Bulk Sample Results**

**TABLE 1**  
**BULK SAMPLING OF SUSPECT ASBESTOS-CONTAINING MATERIALS**

<u>Sample #</u>	<u>Sampling Location</u>	<u>Material/Description</u>	<u>Analytical Results</u>
1-1	MAIN OFFICE	White CMU Wall Coating	NAD
1-2	ROOM 203	White CMU Wall Coating	NAD
1-3	ROOM 103	White CMU Wall Coating	NAD
1-4	ROOM 408	White CMU Wall Coating	NAD
1-5	CAFETERIA COOLER STORAGE	White CMU Wall Coating	NAD
1-6	MEDIA CENTER	White CMU Wall Coating	NAD
1-7	WALL OUTSIDE GUIDANCE OFFICE	White CMU Wall Coating	NAD
2-1A	MAIN HALL @ 200'S	Grey Mottled 12"x12" Floor Tile	NAD
2-1B	MAIN HALL @ 200'S	Yellow Mastic Associated with Grey Mottled Floor Tile	NAD
2-1C	MAIN HALL @ 200'S	Brown Leveling Compound	NAD
2-2A	HALL @ ROOM 111	Grey Mottled 12"x12" Floor Tile	NAD
2-2B	HALL @ ROOM 111	Yellow Mastic Associated with Grey Mottled Floor Tile	NAD
2-3A	ROOM 409	Grey Mottled 12"x12" Floor Tile	NAD
2-3B	ROOM 409	Yellow Mastic Associated with Grey Mottled Floor Tile	NAD
3-1A	ROOM 204	Blue 4" Vinyl Cove Baseboard	NAD
3-1B	ROOM 204	Yellow Mastic Associated with Blue VCB	NAD
3-2A	ROOM 210	Blue 4" Vinyl Cove Baseboard	NAD
3-2B	ROOM 210	Yellow Mastic Associated with Blue VCB	NAD
4-1A	MAIN HALL @ 200'S	Blue Mottled 12"x12" Floor Tile	NAD
4-1B	MAIN HALL @ 200'S	Yellow Mastic Associated with Blue Mottled Floor Tile	NAD

Table Notes:

NAD = No Asbestos Detected

N/A = Sample Not Analyzed; Positive Stop

**Bold** - Asbestos Containing Materials

<u>Sample #</u>	<u>Sampling Location</u>	<u>Material/Description</u>	<u>Analytical Results</u>
4-2A	ROOM 210	Blue Mottled 12"x12" Floor Tile	NAD
4-2B	ROOM 210	Yellow Mastic Associated with Blue Mottled Floor Tile	NAD
5-1A	ROOM 401	Green Mottled 12"x12" Floor Tile	NAD
5-1B	ROOM 401	Yellow Mastic Associated with Green Mottled Floor Tile	NAD
5-2A	ROOM 404	Green Mottled 12"x12" Floor Tile	NAD
5-2B	ROOM 404	Yellow Mastic Associated with Green Mottled Floor Tile	NAD
6-1A	ROOM 111	Red Mottled 12"x12" Floor Tile	NAD
6-1B	ROOM 111	Yellow Mastic Associated with Red Mottled Floor Tile	NAD
6-2A	ROOM 116	Red Mottled 12"x12" Floor Tile	NAD
6-2B	ROOM 116	Yellow Mastic Associated with Red Mottled Floor Tile	NAD
7-1	HALL @ ROOM 201	Fissure Pinhole Ceiling Tile	NAD
7-2	NURSES OFFICE	Fissure Pinhole Ceiling Tile	NAD
7-3	GYM/CAFETERIA PLATFORM	Fissure Pinhole Ceiling Tile	NAD
8-1A	200'S STORAGE CLOSET	Drywall Ceiling	NAD
8-1B	200'S STORAGE CLOSET	Joint Compound associated with the Drywall Ceiling	NAD
8-2A	GYM STORAGE	Drywall Ceiling	NAD
8-2B	GYM STORAGE	Joint Compound associated with the Drywall Ceiling	NAD
9-1	ROOM 302	Interior Door Caulk	NAD
9-2	KITCHEN DRY STORAGE	Interior Door Caulk	NAD
10-1	EXIT ADJACENT TO GYM OFFICE	Perimeter Door Caulk	NAD
10-2	EXIT 3	Perimeter Door Caulk	NAD
11-1	COMPUTER LAB	Interior Metal Window Caulk	NAD

Table Notes:

NAD = No Asbestos Detected

N/A = Sample Not Analyzed; Positive Stop

**Bold** - Asbestos Containing Materials

<u>Sample #</u>	<u>Sampling Location</u>	<u>Material/Description</u>	<u>Analytical Results</u>
11-2	COMPUTER LAB	Interior Metal Window Caulk	NAD

Table Notes:

NAD = No Asbestos Detected

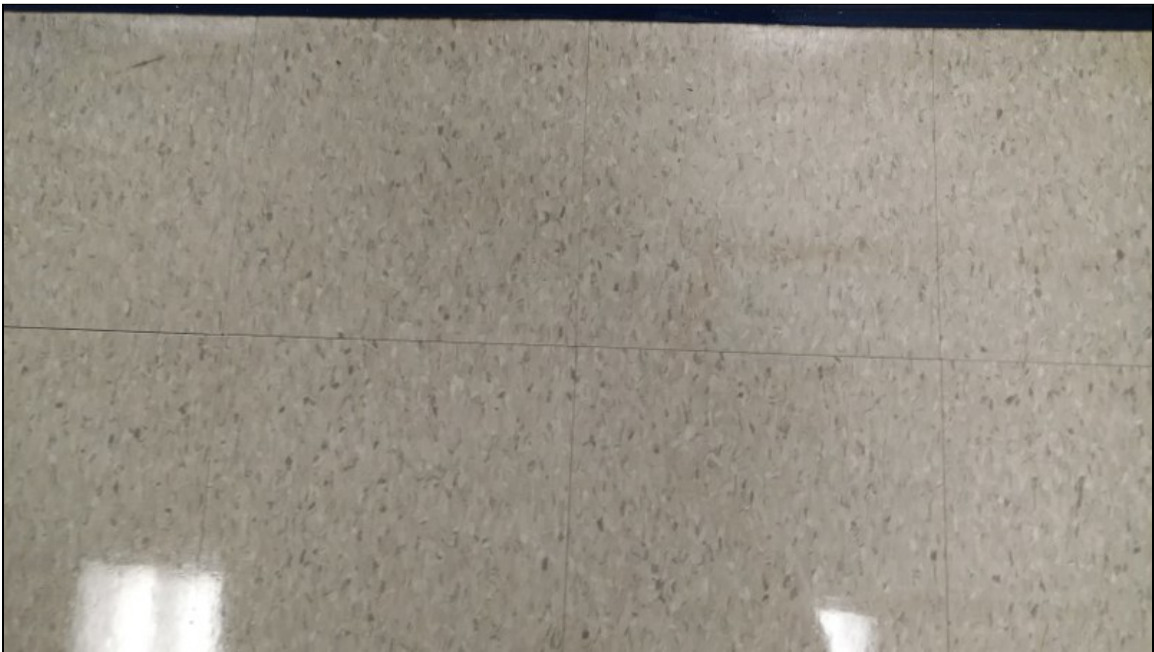
N/A = Sample Not Analyzed; Positive Stop

**Bold** - Asbestos Containing Materials

# **Appendix II: Site Photographs**



1 - View of typical CMU wall coating



2 - View of typical grey mottled 12"x12" floor tile



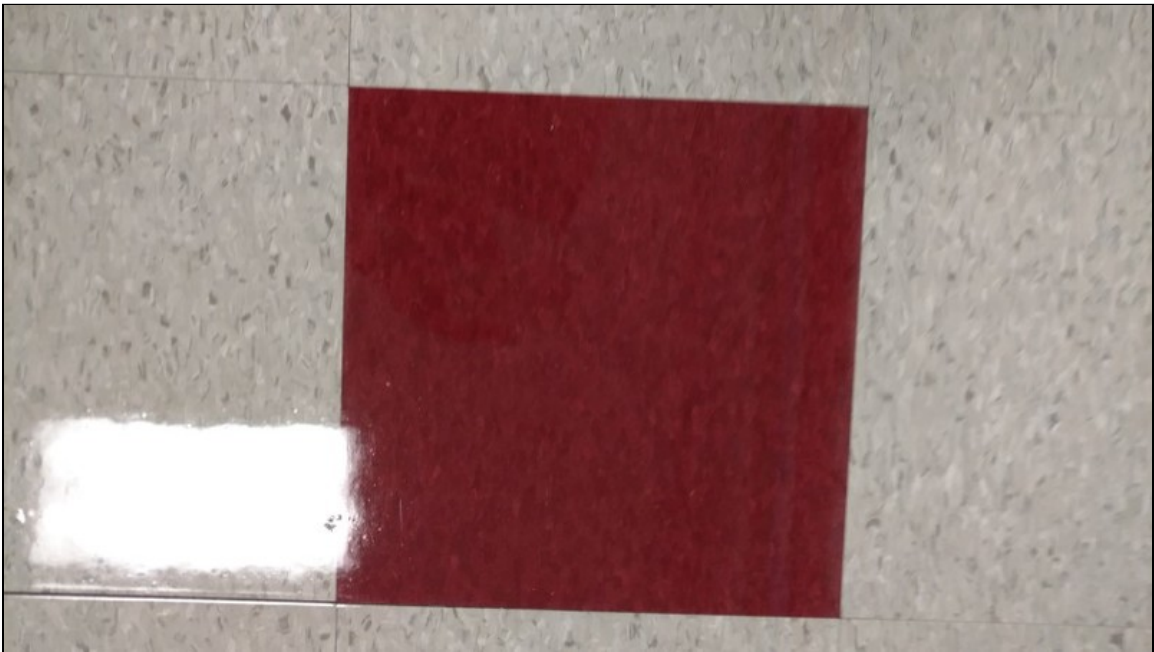
3 - View of typical 4" blue vinyl cove baseboard



4 - View of typical blue mottled 12"x12" floor tile



5 - View of typical green mottled 12"x12" floor tile



6 - View of typical red mottled 12"x12" floor tile





7 - View of typical fissure/pinhole ceiling tile



8 - View of typical drywall and joint compound ceiling



9 - View of typical interior metal door frame caulk



10 - View of typical perimeter door frame caulk



11 - View of typical interior metal window frame caulk



12 - View of typical 4" red vinyl cove baseboard



13 - View of typical grey/white mottled 12:x12: floor tile



14 - View of typical pinhole ceiling tile



15 - View of typical drywall and joint compound wall



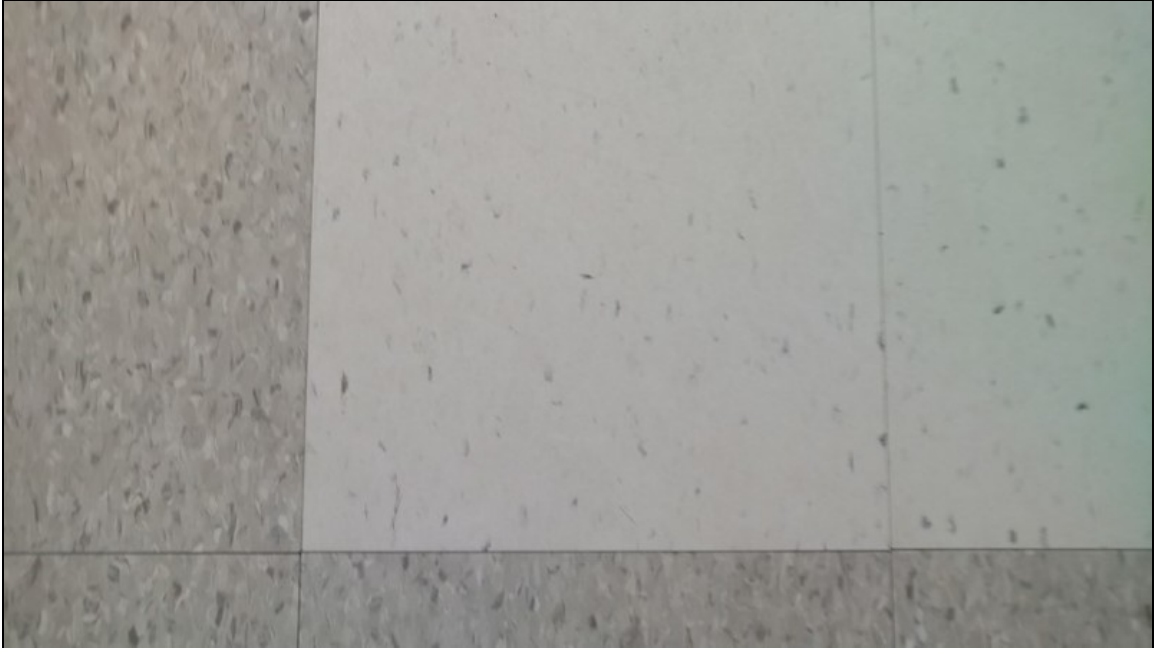
16 - View of typical gypsum ceiling tile



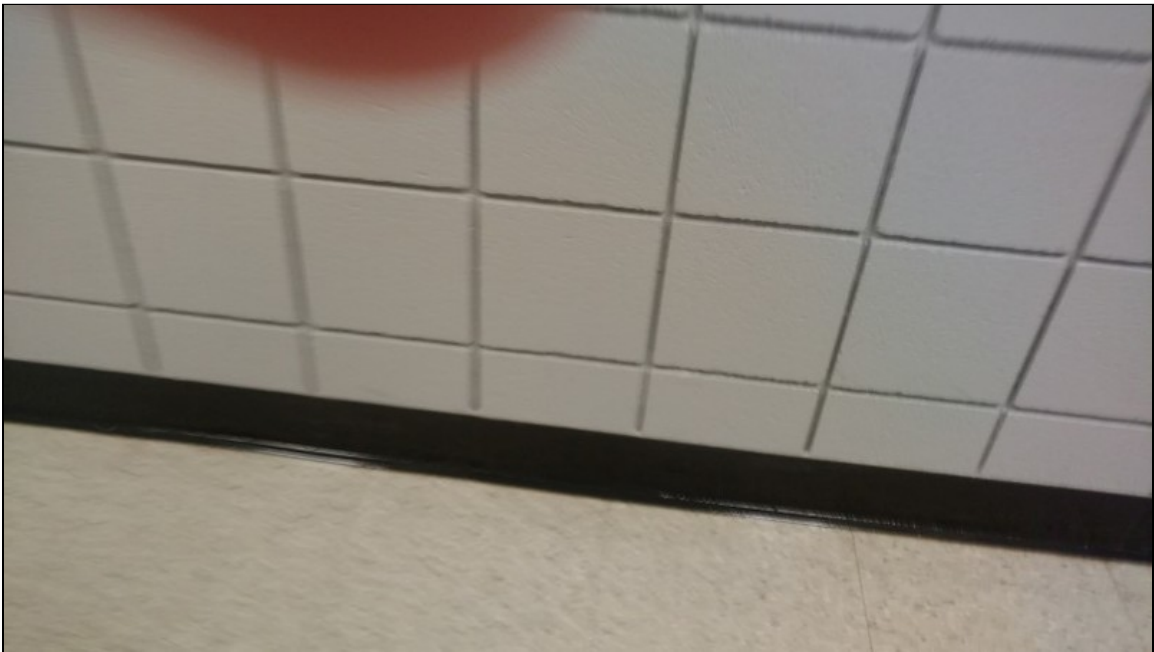
17 - View of typical white fiberglass pipe insulation mastic



18 - View of typical grey HVAC duct mastic



19 - View of typical white with black streak 12"x12" floor tile



20 - View of typical black 4" vinyl cove baseboard

# **Appendix III: Laboratory Report(s)**





Environmental Hazards Services, L.L.C.  
 7469 Whitepine Rd  
 Richmond, VA 23237  
 Telephone: 800.347.4010

## Asbestos Bulk Analysis Report

**Report Number:** 17-08-02791

**Client:** ECS Mid-Atlantic - Roanoke  
 7670 Enon Drive  
 Suite 101  
 Roanoke, VA 24019

**Received Date:** 08/21/2017  
**Analyzed Date:** 08/22/2017  
**Reported Date:** 08/24/2017

**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

**Client Number:**  
 200608

**Fax Number:**

# Laboratory Results

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-001 1-1		White Paint; Homogeneous <i>White CMU Wall Coating</i>	NAD	100% Non-Fibrous
17-08-02791-002 1-2		White Paint; Homogeneous <i>White CMU Wall Coating</i>	NAD	100% Non-Fibrous
17-08-02791-003 1-3		White Paint; Homogeneous <i>White CMU Wall Coating</i>	NAD	100% Non-Fibrous
17-08-02791-004 1-4		White Paint; Homogeneous <i>White CMU Wall Coating</i>	NAD	100% Non-Fibrous
17-08-02791-005 1-5		White Paint; Homogeneous <i>White CMU Wall Coating</i>	NAD	100% Non-Fibrous
17-08-02791-006 1-6		White Paint; Homogeneous <i>White CMU Wall Coating</i>	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

**Client Number:** 200608

**Report Number:** 17-08-02791

**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-007 1-7		White Paint; Homogeneous <i>White CMU Wall Coating</i>	NAD	100% Non-Fibrous
17-08-02791-008A 2-1	Tile	Gray Vinyl; Homogeneous <i>Grey Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-008B 2-1	Mastic	Yellow Adhesive; Homogeneous <i>Grey Mottled 12"x12" Floor Tile and Mastic</i>	NAD	5% Cellulose 95% Non-Fibrous
17-08-02791-008C 2-1	Leveling Comp.	Brown Granular; Homogeneous <i>Grey Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-009A 2-2	Tile	Gray Vinyl; Homogeneous <i>Grey Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-009B 2-2	Mastic	Yellow Adhesive; Homogeneous <i>Grey Mottled 12"x12" Floor Tile and Mastic</i>	NAD	2% Cellulose 98% Non-Fibrous
17-08-02791-010A 2-3	Tile	Gray Vinyl; Homogeneous <i>Grey Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

**Client Number:** 200608  
**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

**Report Number:** 17-08-02791

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-010B  2-3	Mastic	Yellow Adhesive; Homogeneous  <i>Grey Mottled 12"x12" Floor Tile and Mastic</i>	NAD	2% Cellulose 98% Non-Fibrous
17-08-02791-011A  3-1	Cove Base	Blue Vinyl; Homogeneous  <i>Blue 4" Vinyl Cove Baseboard and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-011B  3-1	Mastic	Tan Adhesive; Homogeneous  <i>Blue 4" Vinyl Cove Baseboard and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-012A  3-2	Cove Base	Blue Vinyl; Homogeneous  <i>Blue 4" Vinyl Cove Baseboard and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-012B  3-2	Mastic	Tan Adhesive; Homogeneous  <i>Blue 4" Vinyl Cove Baseboard and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-013A  4-1	Tile	Blue Vinyl; Homogeneous  <i>Blue Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-013B  4-1	Mastic	Yellow Adhesive; Homogeneous  <i>Blue Mottled 12"x12" Floor Tile and Mastic</i>	NAD	2% Cellulose 98% Non-Fibrous
17-08-02791-014A  4-2	Tile	Blue Vinyl; Homogeneous  <i>Blue Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

**Client Number:** 200608

**Report Number:** 17-08-02791

**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-014B  4-2	Mastic	Yellow Adhesive; Homogeneous  <i>Blue Mottled 12"x12" Floor Tile and Mastic</i>	NAD	2% Cellulose 98% Non-Fibrous
17-08-02791-015A  5-1	Tile	Green Vinyl; Homogeneous  <i>Green Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-015B  5-1	Mastic	Yellow Adhesive; Homogeneous  <i>Green Mottled 12"x12" Floor Tile and Mastic</i>	NAD	2% Cellulose 98% Non-Fibrous
17-08-02791-016A  5-2	Tile	Green Vinyl; Homogeneous  <i>Green Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-016B  5-2	Mastic	Yellow Adhesive; Homogeneous  <i>Green Mottled 12"x12" Floor Tile and Mastic</i>	NAD	2% Cellulose 98% Non-Fibrous
17-08-02791-017A  6-1	Tile	Red Vinyl; Homogeneous  <i>Red Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-017B  6-1	Mastic	Yellow Adhesive; Homogeneous  <i>Red Mottled 12"x12" Floor Tile and Mastic</i>	NAD	4% Cellulose 96% Non-Fibrous
17-08-02791-018A  6-2	Tile	Red Vinyl; Homogeneous  <i>Red Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous

## Environmental Hazards Services, L.L.C

**Client Number:** 200608  
**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

**Report Number:** 17-08-02791

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-018B  6-2	Mastic	Yellow Adhesive; Homogeneous  <i>Red Mottled 12"x12" Floor Tile and Mastic</i>	NAD	4% Cellulose 96% Non-Fibrous
17-08-02791-019  7-1		Brown Fibrous; White Paint; Inhomogeneous  <i>Fissure Pinhole Ceiling Tile</i>	NAD	65% Cellulose 5% Fibrous Glass 30% Non-Fibrous
17-08-02791-020  7-2		Brown Fibrous; White Paint; Inhomogeneous  <i>Fissure Pinhole Ceiling Tile</i>	NAD	65% Cellulose 5% Fibrous Glass 30% Non-Fibrous
17-08-02791-021  7-3		Brown Fibrous; White Paint; Inhomogeneous  <i>Fissure Pinhole Ceiling Tile</i>	NAD	65% Cellulose 5% Fibrous Glass 30% Non-Fibrous
17-08-02791-022A  8-1	Drywall	White Powder; Brown Fibrous; Inhomogeneous  <i>Drywall and Joint Compound Ceiling</i>	NAD	20% Cellulose 80% Non-Fibrous
17-08-02791-022B  8-1	Joint Comp.	White Granular; Homogeneous  <i>Drywall and Joint Compound Ceiling</i>	NAD	100% Non-Fibrous
17-08-02791-023A  8-2	Drywall	White Powder; Brown Fibrous; Inhomogeneous  <i>Drywall and Joint Compound Ceiling</i>	NAD	20% Cellulose 80% Non-Fibrous

# Environmental Hazards Services, L.L.C

**Client Number:** 200608

**Report Number:** 17-08-02791

**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-023B  8-2	Joint Comp.	White Granular; Homogeneous  <i>Drywall and Joint Compound Ceiling</i>	NAD	100% Non-Fibrous
17-08-02791-024  9-1		White Adhesive; Homogeneous  <i>Interior Door Caulk</i>	NAD	100% Non-Fibrous
17-08-02791-025  9-2		White Adhesive; Homogeneous  <i>Interior Door Caulk</i>	NAD	100% Non-Fibrous
17-08-02791-026  10-1		White Adhesive; Homogeneous  <i>Perimeter Door Caulk</i>	NAD	100% Non-Fibrous
17-08-02791-027  10-2		White Adhesive; Homogeneous  <i>Perimeter Door Caulk</i>	NAD	100% Non-Fibrous
17-08-02791-028  11-1		White Adhesive; Homogeneous  <i>Interior Metal Window Caulk</i>	NAD	100% Non-Fibrous
17-08-02791-029  11-2		White Adhesive; Homogeneous  <i>Interior Metal Window Caulk</i>	NAD	100% Non-Fibrous
17-08-02791-030A  12-1	Cove Base	Red Vinyl; Homogeneous  <i>Red 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

**Client Number:** 200608

**Report Number:** 17-08-02791

**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-030B 12-1	Mastic	Tan Adhesive; Homogeneous <i>Red 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous
17-08-02791-031A 12-2	Cove Base	Red Vinyl; Homogeneous <i>Red 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous
17-08-02791-031B 12-2	Mastic	Tan Adhesive; Homogeneous <i>Red 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous
17-08-02791-032A 13-1	Tile	Tan Vinyl; Homogeneous <i>Grey/White Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-032B 13-1	Mastic	Yellow Adhesive; Homogeneous <i>Grey/White Mottled 12"x12" Floor Tile and Mastic</i>	NAD	1% Cellulose 99% Non-Fibrous
17-08-02791-033A 13-2	Tile	Tan Vinyl; Homogeneous <i>Grey/White Mottled 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-033B 13-2	Mastic	Yellow Adhesive; Homogeneous <i>Grey/White Mottled 12"x12" Floor Tile and Mastic</i>	NAD	1% Cellulose 99% Non-Fibrous
17-08-02791-034 14-1		Brown Fibrous; White Paint; Inhomogeneous <i>Pinhole Ceiling Tile</i>	NAD	65% Cellulose 5% Fibrous Glass 30% Non-Fibrous

## Environmental Hazards Services, L.L.C

**Client Number:** 200608

**Report Number:** 17-08-02791

**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-035  14-2		Brown Fibrous; White Paint; Inhomogeneous  <i>Pinhole Ceiling Tile</i>	NAD	65% Cellulose 5% Fibrous Glass 30% Non-Fibrous
17-08-02791-036A  15-1	Cove Base	Green Vinyl; Homogeneous  <i>Green 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous
17-08-02791-036B  15-1	Mastic	Tan Adhesive; Homogeneous  <i>Green 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous
17-08-02791-037A  15-2	Cove Base	Green Vinyl; Homogeneous  <i>Green 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous
17-08-02791-037B  15-2	Mastic	Tan Adhesive; Homogeneous  <i>Green 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous
17-08-02791-038  16-1		Blue Granular; Gray Vinyl; Homogeneous  <i>Blue Vinyl Sheet Floor</i>	NAD	100% Non-Fibrous
17-08-02791-039  16-2		Blue Granular; Gray Vinyl; Homogeneous  <i>Blue Vinyl Sheet Floor</i>	NAD	100% Non-Fibrous
17-08-02791-040  17-1		Gray Powder; Homogeneous  <i>Gypsum Ceiling Tile</i>	NAD	1% Cellulose 18% Fibrous Glass 81% Non-Fibrous



# Environmental Hazards Services, L.L.C

**Client Number:** 200608

**Report Number:** 17-08-02791

**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-041  17-2		Gray Powder; Homogeneous  <i>Gypsum Ceiling Tile</i>	NAD	1% Cellulose 18% Fibrous Glass 81% Non-Fibrous
17-08-02791-042  18-1		White Adhesive; Homogeneous  <i>White Fiberglass Pipe Insulation Mastic</i>	NAD	1% Cellulose 3% Wollastonite 96% Non-Fibrous
17-08-02791-043  18-2		Tan Adhesive; Homogeneous  <i>White Fiberglass Pipe Insulation Mastic</i>	NAD	1% Cellulose 3% Wollastonite 96% Non-Fibrous
17-08-02791-044A  19-1	Drywall	White Powder; Brown Fibrous; Inhomogeneous  <i>Drywall and Joint Compound Wall</i>	NAD	20% Cellulose 80% Non-Fibrous
17-08-02791-044B  19-1	Joint Comp.	White Granular; Homogeneous  <i>Drywall and Joint Compound Wall</i>	NAD	100% Non-Fibrous
17-08-02791-045A  19-2	Drywall	White Powder; Brown Fibrous; Inhomogeneous  <i>Drywall and Joint Compound Wall</i>	NAD	20% Cellulose 80% Non-Fibrous
17-08-02791-045B  19-2	Joint Comp.	White Granular; Homogeneous  <i>Drywall and Joint Compound Wall</i>	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

**Client Number:** 200608

**Report Number:** 17-08-02791

**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-046A  19-3	Drywall	Gray Powder; Brown Fibrous; Inhomogeneous  <i>Drywall and Joint Compound Wall</i>	NAD	20% Cellulose 80% Non-Fibrous
17-08-02791-046B  19-3	Joint Comp.	White Granular; Homogeneous  <i>Drywall and Joint Compound Wall</i>	NAD	100% Non-Fibrous
17-08-02791-047  20-1		Gray Adhesive; Homogeneous  <i>Grey HVAC Duct Mastic</i>	NAD	5% Cellulose 95% Non-Fibrous
17-08-02791-048  20-2		Gray Adhesive; Homogeneous  <i>Grey HVAC Duct Mastic</i>	NAD	5% Cellulose 95% Non-Fibrous
17-08-02791-049A  21-1	Tile	White Vinyl; Homogeneous  <i>White with Black Streak 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous
17-08-02791-049B  21-1	Mastic	Yellow Adhesive; Homogeneous  <i>White with Black Streak 12"x12" Floor Tile and Mastic</i>	NAD	2% Cellulose 98% Non-Fibrous
17-08-02791-050A  21-2	Tile	White Vinyl; Homogeneous  <i>White with Black Streak 12"x12" Floor Tile and Mastic</i>	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

**Client Number:** 200608

**Report Number:** 17-08-02791

**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
17-08-02791-050B  21-2	Mastic	Yellow Adhesive; Homogeneous  <i>White with Black Streak 12"x12" Floor Tile and Mastic</i>	NAD	2% Cellulose 98% Non-Fibrous
17-08-02791-051A  22-1	Cove Base	Black Vinyl; Homogeneous  <i>Black 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous
17-08-02791-051B  22-1	Mastic	Tan Adhesive; Homogeneous  <i>Black 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous
17-08-02791-052A  22-2	Cove Base	Black Vinyl; Homogeneous  <i>Black 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous
17-08-02791-052B  22-2	Mastic	Tan Adhesive; Homogeneous  <i>Black 4" Vinyl Cove Baseboard</i>	NAD	100% Non-Fibrous

# Environmental Hazards Services, L.L.C

**Client Number:** 200608  
**Project/Test Address:** RCPS - Bonsack Elementary; Roanoke, VA

**Report Number:** 17-08-02791

Lab Sample Number <i>Client Sample Number</i>	Layer Type	Lab Gross Description <i>Client Sample Description</i>	Asbestos	Other Materials
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**QC Sample:** 87-M12011-3  
**QC Blank:** SRM 1866 Fiberglass  
**Reporting Limit:** 1% Asbestos  
**Method:** EPA Method 600/R-93/116, EPA Method 600/M4-82-020  
**Analyst:** Christian H. Schaible



Reviewed By Authorized Signatory:

Tasha Eaddy  
QA/QC Clerk

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Each distinct component in an inhomogeneous sample was analyzed separately and reported as a composite. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714 NVLAP #101882-0 VELAP 460172. All information concerning sampling location, date, and time can be found on Chain-of-Custody. Environmental Hazards Services, L.L.C. does not perform any sample collection.

Environmental Hazards Services, L.L.C. recommends reanalysis by point count (for more accurate quantification) or Transmission Electron Microscopy (TEM), (for enhanced detection capabilities) for materials regulated by EPA NESHAP (National Emission Standards for Hazardous Air Pollutants) and found to contain less than ten percent (<10%) asbestos by polarized light microscopy (PLM). Both services are available for an additional fee.

400 Point Count Analysis, where noted, performed per EPA Method 600/R-93/116 with a Reporting Limit of 0.25%.

\* All California samples analyzed by Polarized Light Microscopy, EPA Method 600/M4-82-020, Dec. 1982.

LEGEND: NAD = no asbestos detected

52 PLM

sample bag labeled \* Extra Sample 21-2 KKT/TE 8/23/17



# Asbestos Chain-of-Custody

Environmental Hazards Services, LLC

7469 Whitepine Rd, Richmond, VA 23237

(800) 347-4010

www.leadlab.com

Company Name: ECS Mid-Atlantic, LLC Address: 7670 Enon Dr. # 101 City/State/Zip: Roanoke/VA/24109  
 Phone: 540-362-2000 e-Mail: amoon@ecslimited.com Acct No. \_\_\_\_\_  
 Project Name: RCPS - Bonsack Elementary rcurran@ecslimited.com City/State: Roanoke/VA  
 Collected By: Robert Curran PO# 47:3555  
 Positive Stop Analysis:  Yes  No \*Analyze All Drywall/Joint Compound Date Collected: 8/16/2017

Turn Around Time: If no TAT is specified, samples will be processed as 3-Day TAT

1-Day  2-Day  3-Day  Same Day Analysis: PLM

No.	Client Sample ID	Sample Location
1-1	White CMU Wall Coating	Main Office
1-2	White CMU Wall Coating	Room 203
1-3	White CMU Wall Coating	Room 103
1-4	White CMU Wall Coating	Room 408
1-5	White CMU Wall Coating	Cafeteria Cooler Storage
1-6	White CMU Wall Coating	Media Center
1-7	White CMU Wall Coating	Wall Outside Guidance Office
2-1	Grey Mottled 12"x12" Floor Tile and Mastic	Main Hall @ 200's
2-2	Grey Mottled 12"x12" Floor Tile and Mastic	Hall @ Room 111
2-3	Grey Mottled 12"x12" Floor Tile and Mastic	Room 409
3-1	Blue 4" Vinyl Cove Baseboard and Mastic	Room 204
3-2	Blue 4" Vinyl Cove Baseboard and Mastic	Room 210
4-1	Blue Mottled 12"x12" Floor Tile and Mastic	Main Hall @ 200's
4-2	Blue Mottled 12"x12" Floor Tile and Mastic	Room 210
5-1	Green Mottled 12"x12" Floor Tile and Mastic	Room 401
5-2	Green Mottled 12"x12" Floor Tile and Mastic	Room 404
6-1	Red Mottled 12"x12" Floor Tile and Mastic	Room 111
6-2	Red Mottled 12"x12" Floor Tile and Mastic	Room 116
7-1	Fissure Pinhole Ceiling Tile	Hall @ Room 201
7-2	Fissure Pinhole Ceiling Tile	Nurses Office
7-3	Fissure Pinhole Ceiling Tile	Gym/Cafeteria Platform
8-1	Drywall and Joint Compound Ceiling	200's Storage Closet
8-2	Drywall and Joint Compound Ceiling	Gym Storage
9-1	Interior Door Caulk	Room 302
9-2	Interior Door Caulk	Kitchen Dry Storage
10-1	Perimeter Door Caulk	Exit Adjacent to Gym Office
10-2	Perimeter Door Caulk	Exit 3
11-1	Interior Metal Window Caulk	Computer Lab
11-2	Interior Metal Window Caulk	Computer Lab
12-1	Red 4" Vinyl Cove Baseboard	Room 101
12-2	Red 4" Vinyl Cove Baseboard	Room 116
13-1	Grey/White Mottled 12"x12" Floor Tile and Mastic	Room 108
13-2	Grey/White Mottled 12"x12" Floor Tile and Mastic	Room 118
14-1	Pinhole Ceiling Tile	Room 208
14-2	Pinhole Ceiling Tile	Hall @ Room 109
15-1	Green 4" Vinyl Cove Baseboard	Room 406
15-2	Green 4" Vinyl Cove Baseboard	Room 408
16-1	Blue Vinyl Sheet Floor	Cafeteria Serving Line
16-2	Blue Vinyl Sheet Floor	Kitchen
17-1	Gypsum Ceiling Tile	Cafeteria Serving Line
17-2	Gypsum Ceiling Tile	Kitchen
18-1	White Fiberglass Pipe Insulation Mastic	Boiler Room
18-2	White Fiberglass Pipe Insulation Mastic	Boiler Room
19-1	Drywall and Joint Compound Wall	Room 401
19-2	Drywall and Joint Compound Wall	Main Office
19-3	Drywall and Joint Compound Wall	Room 301
20-1	Grey HVAC Duct Mastic	Room 118
20-2	Grey HVAC Duct Mastic	Hall @ Room 201
21-1	White with Black Streak 12"x12" Floor Tile and Mastic	Art Room
21-1	White with Black Streak 12"x12" Floor Tile and Mastic	Art Room
22-1	Black 4" Vinyl Cove Baseboard	Main Hall

17-08-02791



Due Date:  
 08/24/2017  
 (Thursday)  
 ER

*Handwritten initials*

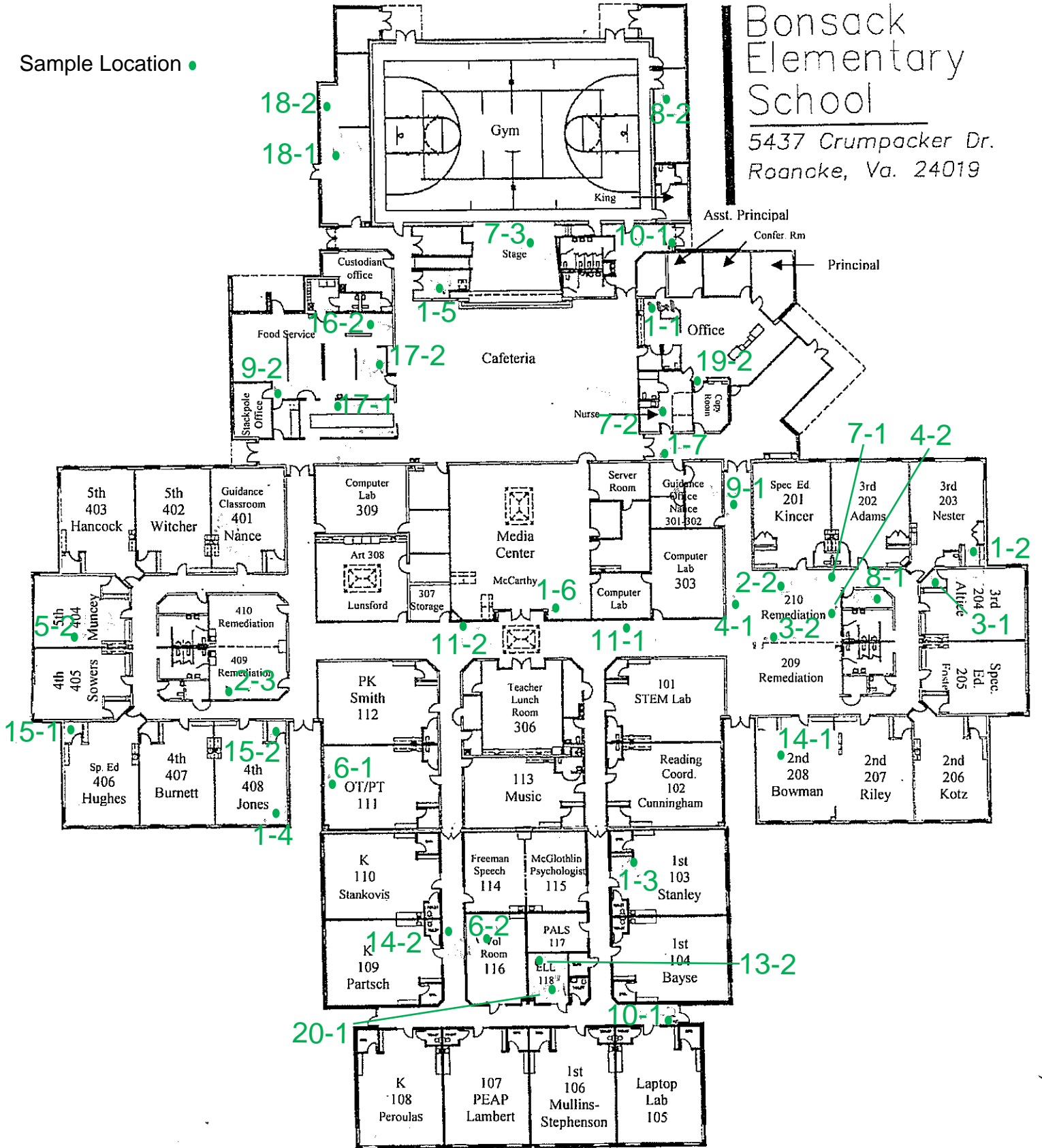
*Handwritten signature and date: T. M. 8/21/17*

22-2	Black 4" Vinyl Cove Baseboard	Main Hall
Released By:	Robert Curran, 08-17-17, 17:50 <i>Robert Curran</i>	Please apply special pricing
		Please do not analyze fiberglass or CMU block layers
Received By:	<i>J. [Signature]</i>	8/21/17 11:2

# **Appendix IV: Drawings**

Sample Location ●

Bonsack  
Elementary  
School  
5437 Crumpacker Dr.  
Roanoke, Va. 24019





# **Appendix V: Certifications/ Licenses**

# DPOR License Lookup License Number

## 3303003809

### License Details

<b>Name</b>	CURRAN, ROBERT WILLIAM
<b>License Number</b>	3303003809
<b>License Description</b>	Asbestos Inspector License
<b>Rank</b>	Asbestos Inspector
<b>Address</b>	RICHMOND, VA 23220-0000
<b>Initial Certification Date</b>	2012-11-30
<b>Expiration Date</b>	2017-11-30

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