Addendum

14 March 2019

Addendum No.	ONE
Project:	USCB Science and Technology Building Roof Repairs (Sealant)
	University of South Carolina Beaufort **University of South Carolina** WTS # 1702 USC # H36-9515
From:	Gene Bell, AIA LEED AP BD+C
To:	Prospective Bidders / Plan Holders

Addenda are issued prior to execution of Contract. All instructions contained herein shall be reflected in the Contract Sum and this Addendum will be made a part of the Contract Documents, if, as, and when a Construction Contract is awarded.

This Addendum forms a part of the Contract Documents and modifies the original documents dated February 21, 2019, as noted below. Acknowledge receipt of this Addendum in this space provided on the Bid Form. Failure to do so will subject the Bidder to disqualification.

This Addendum consists of 01 pages and the following attachments:

Limited Asbestos & Lead Survey dated March 05, 2018 ..... 28 Pages
USC Contractor Requirements for Disturbance of LEAD Containing Materials.....1 Page
PreBid Signin Sheet..... 1 Pages

A. ASBESTOS AND LEAD SURVEY: Attached please find the Limited Asbestos & Lead Survey for Information Only. No ACMs were found. No Lead was found above DHEC allowable levels. Nevertheless, lead may be present in paint and any destructive actions to suspected lead paint will need to be handled per OSHA and USC Contractor Requirements for Disturbance of LEAD Containing Materials, also attached.

B. PREBID SIGNIN SHEETS: See attached

C. REVISIONS TO THE DRAWINGS:

a. Where the drawings note for the existing mullion caps to be removed, the contractor may leave the existing curtainwall mullion caps and re-seal the cap to the face of the brick without removing.

D. REVISIONS TO THE PROJECT MANUAL: None

E. CLARIFICATIONS:

a. Last Addenda will be issued by March 22nd at 2pm.
b. Last Day for Questions or Substitutions is March 20th by noon.

c. The Owner does not want any evidence that work is ongoing at the building on May 3rd, during commencement. Once the bid has been awarded and after the protest period, the University will work with the contractor to determine a date of commencement. Prior to May 3rd, submittals, samples and initial pull tests can be preformed on site. Any work may be preformed on site as long as no materials are left onsite on May 3rd.

F. QUESTIONS

a. Will a laydown area be provided for at the site? **A: Yes, Owner will work with the Contractor to designate an area for laydown, parking and equipment.**

b. Who is the manufacturer of the current window system? **A: The manufacturer of the existing system is YKK.**

c. Will water and electric be available on site? **A: Yes, per section 015000, the contractor will be allowed to connect to the existing water and electric service.**

d. Will the University allow trees to be tied back and bushes to be cut back to allow access to the wall? Is the contractor to replace the plantings? **A: USCB will coordinate with and provide trimming or removal of plant material with the contractor. The contractor will only replace plantings identified to remain and damaged during construction.**

END OF ADDENDA

Limited Asbestos and Lead-Based Paint Assessment Report
USCB Bluffton Campus – Science and Technology Building
Bluffton, South Carolina
S&ME Project No. 4261-18-024

Assessment Performed By:

03-05-18

James L. McMillan (SCDHEC Accreditation #BI-01643) Date

PREPARED FOR:

University of South Carolina
Facilities Design and Construction
1300 Pickens Street
Columbia, SC 29201

PREPARED BY:

S&ME, Inc.
620 Wando Park Boulevard
Mt Pleasant, SC 29464

March 13, 2018

March 13, 2018

University of South Carolina
Facilities Design and Construction
1300 Pickens Street
Columbia, South Carolina 29201

Attention: Mr. Lee Miller
mille979@mailbox.sc.edu

Mr. Dwight Jones, PE
djones@uscb.edu

Reference: **Limited Asbestos and Lead-Based Paint Assessment Report**
Science and Technology Building - Exterior Sealant and Roof
USCB – Bluffton Campus
Bluffton, South Carolina
S&ME Project No. 4261-18-024

Gentlemen:

S&ME, Inc. (S&ME) is pleased to provide the enclosed report detailing the limited asbestos and lead-based paint assessment of the exterior sealants and roof of the referenced structure. The attached report presents the findings of S&ME's evaluation conducted on February 28, 2018. The assessment was performed in general accordance with S&ME Proposal 42-1800104 dated January 31, 2018 and the terms and conditions of the current Geotechnical and Material Testing Indefinite Delivery Contract (H27-D262-PD), between S&ME and the University of South Carolina dated February 28, 2017. The enclosed report includes the executive summary, project background, assessment procedures, findings and results, and conclusions and recommendations for the proper treatment of asbestos containing materials and lead-based paint.

This report is provided for the sole use of the University of South Carolina. Use of this report by any other parties will be at such party's sole risk and S&ME, Inc. disclaims liability for any such use or reliance by third parties. The results presented in this report are indicative of conditions only during the time of the assessment and of the specific areas referenced. The information provided in this assessment report should not be used as a bidding document, and field conditions should be verified.

We appreciate the opportunity to provide you with our industrial hygiene services. If you have any questions concerning this report, please call us at (843) 884-0005.

Sincerely,
S&ME, Inc.

James L. McMillan
Industrial Hygiene Staff Professional

Tom Behnke, PG, CHMM
Project Manager

Table of Contents

Appendices

Executive Summary

Information concerning the project was provided by Mr. Gene Bell with Watson Tate Savory Architects. We understand that the roofing systems will be replaced on the Science and Technology Building and the exterior sealants on the building will also be replaced or repaired. The roofing systems on the building is EPDM rubber over concrete and metal form deck and metal roof panels. The assessment was limited to various roof areas and exterior sealants to be disturbed by the proposed renovations as described by the client. The assessment also complies with federal, state, and local asbestos requirements regarding identification of asbestos containing materials (ACMs) that may be disturbed due to renovation or demolition.

The Science and Technology Building is two-story, approximately 40,000 square feet in size, and consists mainly of office areas and classrooms associated with USCB Bluffton. Interior finishes in the subject area include drywall walls and ceilings, acoustical ceiling tiles, and carpet and ceramic flooring. Exterior finishes include brick-veneer and concrete, and EPDM and metal roofing areas. The structure was occupied on the day of our site visit.

Asbestos

The suspect ACMs sampled and analyzed as part of this assessment included roof patch material, various sealants, flashing material, and expansion joint material. The Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) defines a material an ACM if an asbestos content greater than one percent (>1%) is detected in a representative sample. Of the representative materials sampled and analyzed as part of this assessment, no ACMs were identified.

If additional suspect ACMs not addressed in this report are discovered during the planned renovation activities, bulk samples must be collected by a SCDHEC licensed inspector and analyzed for asbestos content prior to disturbance or disposal of the suspect material(s). This report should also be provided to the contractor(s) to assist with compliance with applicable State and Federal regulations.

Lead-Based Paint Assessment

A lead-based paint assessment was performed of representative exterior painted components associated with the subject areas. The components were analyzed using direct measurement X-Ray Fluorescence (XRF) technology using a Thermo-Scientific XLp 302 (serial #25910). For the purpose of this assessment, painted surfaces with lead concentrations meeting the SCDHEC disposal limit (0.7 mg/cm2) are considered lead-based paint.

Of the representative suspect painted components tested, none exhibited lead concentrations meeting the SCDHEC disposal limit of 0.7 mg/cm2. Low levels of lead were present which may be applicable to the standards of the OSHA 29 CFR 1926.62 (Lead in Construction) dependent upon the tasks impacting those surfaces.

Destructive actions to paint containing detectable levels of lead (e.g. component removal, demolition, sanding, grinding, burning, paint preparation, etc.) will require the contractor comply with the standards of the OSHA regulation 29 CFR 1926.62 (Lead in Construction), including but not limited to training, initial exposure monitoring, the use of personal protective equipment, and medical surveillance.

This summary is for convenience of the reader and should not be completely relied upon without reviewing the full contents of this report, including appended materials.

1.0 Background

S&ME, Inc. (S&ME) was contracted by the University of South Carolina (USC) to perform an asbestos and lead-based paint assessment of various roof areas and exterior sealants associated with the Science and Technology Building located at the USC Beaufort Bluffton campus at 1 University Boulevard in Bluffton, South Carolina. We understand that the roofing systems will be replaced on the Science and Technology Building and the exterior sealants on the building will also be replaced or repaired. The assessment was requested to identify the presence of asbestos containing materials (ACMs) and lead-based paint associated with the referenced areas due to planned renovation activities. The assessment also complies with federal, state, and local asbestos requirements regarding identification of asbestos containing building materials that may be disturbed due to renovation or demolition.

1.1 Asbestos Assessment

The asbestos assessment was conducted to assess, sample, and identify ACMs in accordance with regulatory requirements. The identification of ACMs will aid in the prevention of occupational exposures and/or environmental releases of airborne asbestos. Identification of ACMs also complies with Title 40 Code of the Federal Regulations, part 61, and State regulation 61-86.1 enforced by the South Carolina Department of Health and Environmental Control (SCDHEC), along with Title 29 Code of Federal Regulations, part 1926 enforced by the Occupational Safety and Health Administration (OSHA). The following sections describe the assessment procedures used, results of the suspect ACMs sampled and analyzed, and conclusions and recommendations related to ACMs.

1.2 Lead-Based Paint

The purpose of the testing was to assess and identify lead-based paint coatings associated with the referenced areas. The identification of these materials will aid in the compliance of occupational exposure (OSHA) and/or environmental releases of airborne lead dust in accordance with OSHA 29 CFR 1926.62 (Lead in Construction) and provide information to determine proper disposal of lead-based paint coated components and debris in accordance with the SCDHEC and the Environmental Protection Agency (EPA).

2.0 Site and Project Description

2.1 Purpose

The purpose of the assessment was to identify the presence of ACMs and lead-based paint prior to renovation activities. An assessment strategy appropriate for this purpose was presented in our proposal and is described in this report. The report should be interpreted only with regard to the specific locations and materials referenced.

2.2 Site Description

The Science and Technology Building is two-story, approximately 40,000 square feet in size, and consists mainly of office areas and classrooms associated with USCB Bluffton. Interior finishes in the subject area include drywall

walls and ceilings, acoustical ceiling tiles, and carpet and ceramic flooring. Exterior finishes include brick-veneer and concrete, and EPDM and metal roofing areas. The structure was occupied on the day of our site visit.

3.0 Assessment Procedures

3.1 Asbestos Containing Materials

The assessment was performed by observing and sampling suspect ACMs associated with the roof and exterior sealants. The possibility exists that suspect materials were undetected in inaccessible areas such as pipe chases, roofing overlays, or wall voids. If additional suspect ACMs not identified in this report are discovered during destructive activities, bulk samples must be collected by a SCDHEC licensed inspector and analyzed for asbestos content prior to disturbance or disposal of the suspect materials.

A sampling strategy was developed to provide representative samples in accordance with the SCDHEC and EPA. Bulk samples of suspect ACMs were collected by a SCDHEC licensed inspector. The bulk samples were then extracted from suspect ACMs and recorded on a chain of custody record and submitted to our in-house Polarized Light Microscopy (PLM) laboratory. The samples were subsequently analyzed by PLM, and confirmation analysis was performed by Transmission Electron Microscopy (TEM) by *EMSL Analytical*, for non-friable organically bound materials reported negative by PLM. The laboratories are located in Charlotte, North Carolina and are accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), which is administered by the National Institute of Standards and Technology.

Polarized Light Microscopy (PLM)

The suspect materials were analyzed by trained microscopists using PLM techniques coupled with dispersion staining in accordance with EPA Test Method Title 40 Code of Federal Regulations, Chapter I (1-1-87 edition), Part 763, Subpart F-APPENDIX A. This method identifies asbestos mineral fibers based on six optical characteristics: morphology, birefringence, refractive index, extinction angle, sign of elongation and dispersion staining colors. The laboratory analysis reports the specific type of asbestos identified (there are six asbestos minerals) and the percentage of asbestos present.

Transmission Electron Microscopy (TEM)

Suspect non-friable organically bound materials, exhibiting negative results via PLM analysis, were analyzed by trained microscopists via TEM, in accordance with ASTM E2356 per SCDHEC requirements.

3.2 Lead-Based Paint

Lead-based paint testing was performed on representative painted components associated with the referenced areas. The components were analyzed with a Thermo-Scientific XLp-302 XRF spectrum analyzer (serial #25910). The suspect painted finishes were selected based on the color of the topcoat and the underlying paint layers and/or the substrate on which it was applied. The possibility exists that lead-based paint finishes are present in those inaccessible areas such as pipe chases, wall voids, etc. The SCDHEC defines a lead-based paint as any paint

containing lead at concentrations equaling 0.7 mg/cm^2 or greater by XRF testing. For the purpose of the assessment, paint containing 0.7 mg/cm^2 or greater was considered lead-based paint due to the planned activities.

The OSHA does not recognize a threshold level of lead for definition purposes, only the airborne concentration of lead a worker is exposed. The current OSHA regulations recognize an airborne action level of 30 micrograms per cubic meter (µg/m^3) during an eight-hour day and a permissible exposure limit of 50 µg/m^3.

4.0 Findings and Results

4.1 Asbestos

The suspect ACMs sampled on February 28, 2018, and analyzed as part of this assessment consisted of roof patch material, various sealants, flashing material, and expansion joint material. The EPA and the OSHA defines a material an ACM if an asbestos content of greater than one percent (>1%) is detected in a representative sample. Of the representative materials sampled and analyzed as part of this assessment, no ACMs were identified.

A summary of asbestos results is provided in **Appendix I**, and exhibits the sample number, location, type of material tested, approximate quantity of the material sampled, condition of the material, and corresponding result for each sample. A diagram of bulk sample locations and photographs is provided in **Appendix II**, and a copy of the inspector's SCDHEC license is provided in **Appendix III**. Copies of the laboratory analyses and chain-of-custody records are provided in **Appendix IV**.

4.2 Lead-Based Paint

Of the representative suspect painted components tested, none exhibited lead concentrations meeting the SCDHEC disposal limit of 0.7 mg/cm^2. However, low levels of lead were present which may be applicable to the standards of the OSHA 29 CFR 1926.62 (Lead in Construction) dependent upon the tasks impacting those surfaces.

The summary of XRF readings is provided in **Appendix V**, and should be reviewed in full.

5.0 Conclusions and Recommendations

The asbestos and lead-based paint assessment performed on January 18, 2018, of the various roof areas and exterior sealants associated with the Science and Technology Building located at USC Beaufort Bluffton campus at 1 University Boulevard in Bluffton, South Carolina, did not identify the presence of ACMs, or lead-based paint applicable to SCDHEC and EPA disposal standards. However, low levels of lead were identified that may be applicable to the standards of the OSHA, depending upon the tasks impacting those painted surfaces. This report should be provided to the contractor(s) to assist with compliance with applicable State and Federal regulations

5.1 Asbestos Recommendations

If additional suspect materials not addressed in this report are discovered during renovation activities, work impacting those suspect materials must cease and bulk samples must be collected by a SCDHEC licensed inspector and analyzed for asbestos content, prior to disturbance or disposal.

5.2 Lead-Based Paint

Destructive actions to paint containing low levels of lead (e.g. component removal, demolition, sanding, grinding, burning, paint preparation, etc.) may require the contractor comply with the standards of the OSHA regulations 29 CFR 1926.62 (Lead in Construction) depending upon the planned impacts to those subject paints. OSHA compliance may require training, initial exposure monitoring, the use of personal protective equipment, and medical surveillance.

Paint coatings may be present that contain low levels of lead that cannot be detected by X-ray fluorescence, and may be applicable to OSHA regulations 29 CFR 1926.62. The quantities reported by XRF may be useful in determining the relative risk associated with various demolition tasks, for example disturbances to paints with low lead levels may be less likely to result in airborne lead exposures in excess of the OSHA Action Level.

6.0 Assumptions and Limitations

This report is provided for the sole use of the Client. Use of this report by any other parties will be at such party's sole risk, and S&ME disclaims liability for any such use or reliance by third parties. The results presented in this report are indicative of conditions only during the time of the sampling period and of the specific areas referenced. Under no circumstances is this report to be used as a bidding document, or as a project design or specification.

S&ME performed the services in accordance with generally accepted practices of reputable environmental consultants undertaking similar studies at the same time and in the same geographical area. S&ME has endeavored to meet this standard of care. No other warranty, expressed or implied, is intended or made with respect to this report or S&ME's services. Users of this report should consider the scope and limitations related to these services when developing opinions as to risks associated with the site.

The findings of the asbestos evaluation were based largely on visual observations within the amount of time available. The findings do not warrant that all asbestos-containing materials have been identified; asbestos-containing materials could be present in areas not readily-accessible to observation. In addition, the actual locations and quantities of materials determined to contain asbestos may vary from those herein. Apparent homogeneous sampling areas may vary in actual asbestos content due to previous renovations, maintenance or related operations.

The assessment did not include destructive actions. Therefore, possibility exists that suspect materials were undetected in inaccessible, covered, or concealed areas. If additional suspect materials are discovered during the planned destructive activities, bulk samples must be collected by an asbestos inspector and analyzed for asbestos content.

The findings of the lead-based paint evaluation were based largely on furnished information, visual observations within the amount of time available, and the specific number of areas analyzed. The findings do not warrant that all painted surfaces containing lead have been identified; different underlying painted surfaces which contain lead could exist under similar top layers. Also, apparent similarly painted surfaces may vary in actual lead content.

Appendices

Appendix I – Summary of Asbestos Results

Table I: Summary of Asbestos Results

HA	Material Description	Material Location	[2]Approx. Quantity	Category (F/I/II)	Material Type	Condition/ Potential for Disturbance	Sample No.	Sample Location	Type and [1]Percent Asbestos
WRP	Roof Patch (white)	2nd Story Roof - Various Areas	10 SF	NF Cat I			024-WRP-01		ND
							024-WRP-02		ND
							024-WRP-03		ND
GJ	Joint Material (grey)	2nd Story Roof Entry	36 LF	NF Cat I			024-GJ-01		ND
							024-GJ-02		ND
							024-GJ-03		ND[3]
WS	Sealant (white)	Various Seams and Joints	100 LF	NF Cat I			024-WS-01		ND
							024-WS-02		ND
							024-WS-03		ND[3]
BS	Sealant (black)	Various Seams and Joints	100 LF	NF Cat I			024-BS-01		ND
							024-BS-02		ND
							024-BS-03		ND[3]
BFM	Flashing Material (black)	2nd Story Roof Entry	75 SF	NF Cat I			024-BFM-01		ND
							024-BFM-02		ND
							024-BFM-03		ND[3]
EX	Expansion Joint Material	Various Seams and Joints	<1,000 LF	NF Cat I			024-EX-01		ND
							024-EX-02		ND
							024-EX-03		ND[3]

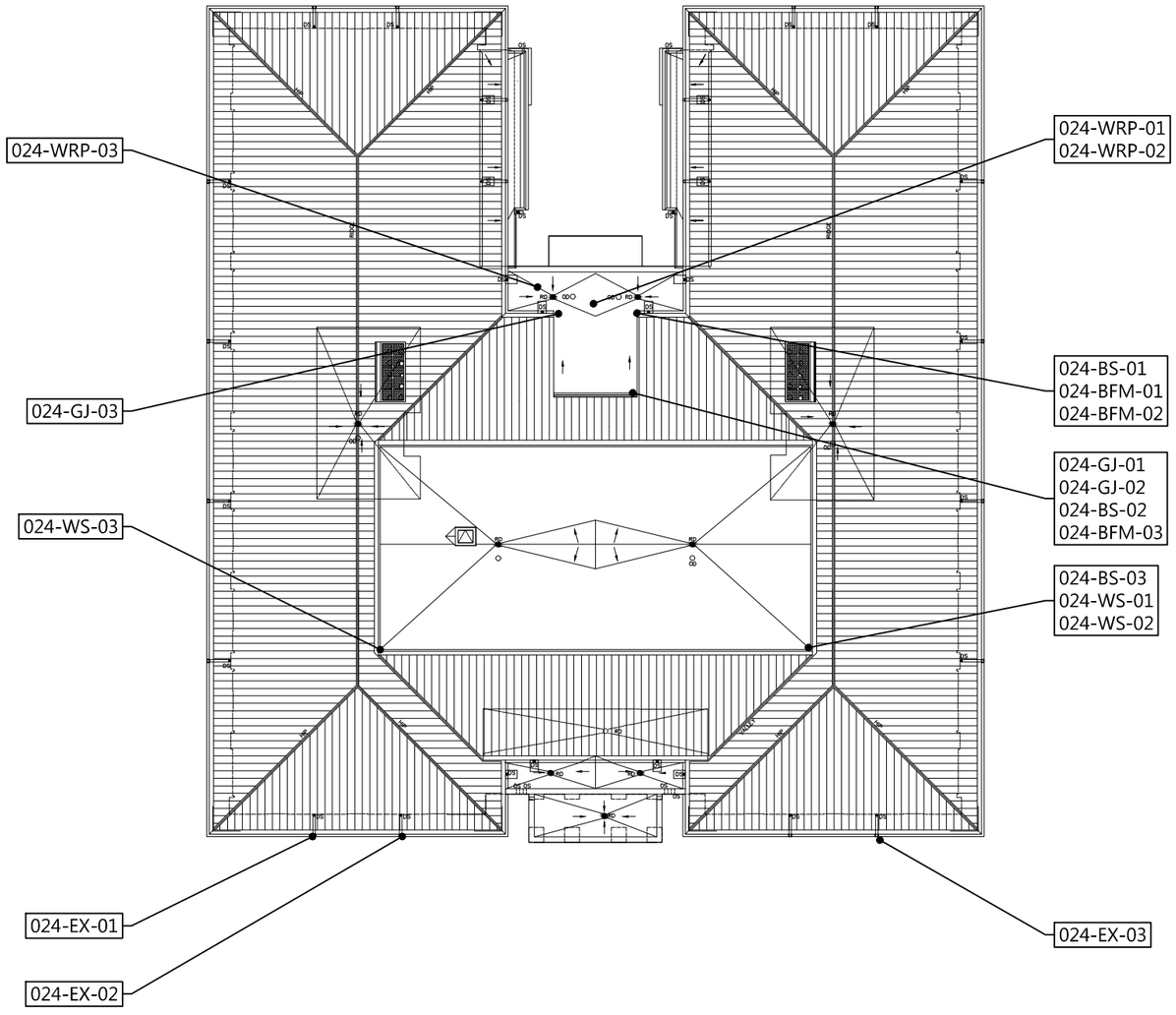
ND = No Asbestos Detected
N/A = Not Applicable
SF = square feet
LF = linear feet
LPD = low potential for disturbance
PD = potential for disturbance
PSD = potential for significant disturbance
HA = homogeneous area
G = good
D = damaged
SD = significantly damaged
Cat. I = category I
F= friable
NF = non-friable
EA = each
Cat. II = category II
Misc = miscellaneous
Surf = surfacing
TSI = thermal system insulation

[1]EPA, SCDHEC and OSHA defines a material as asbestos containing if an asbestos content greater than one percent (>1%) is detected in a representative sample.

[2]Quantities are estimated, and should not be used for bidding purposes, as field conditions should be verified.

[3]Samples analyzed by TEM to confirm negative results reported by PLM analysis.

Appendix II – Diagram of Bulk Sample Locations and Photographs



LEGEND

024-XX-XX BULK SAMPLE LOCATION

NOTES: NO ASBESTOS WAS DETECTED IN THE BULK SAMPLES COLLECTED AND ANALYZED.

NO PAINTED SURFACES MEETING THE SCDHEC DISPOSAL LIMIT OF 0.7 mg/cm^2 WERE DETECTED.

0 30 60

GRAPHIC SCALE (IN FEET)

LIMITED ASBESTOS & LEAD-BASED PAINT ASSESSMENT

SCIENCE & TECHNOLOGY BUILDING
1 UNIVERSITY BOULEVARD
BLUFFTON, SOUTH CAROLINA

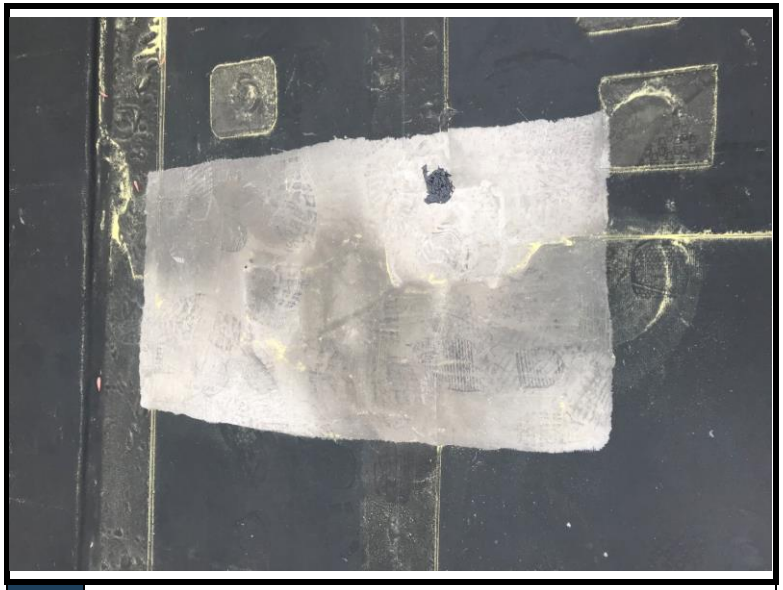
SCALE: AS SHOWN

DATE: 3-05-2018

PROJECT NUMBER 4261-18-024

FIGURE NO. 1

1 Typical exterior view of the Science and Technology Building on the USCB Bluffton Campus.



2 Asbestos results were negative for all roof patching material.

3 Asbestos results were negative for the white and black sealants.

4 Asbestos results were negative for the flashing material covered by the metal panels.

Site Photographs – Science and Technology Building USCB – 1 University Avenue Bluffton, South Carolina	S&ME Project 4261-18-024	
	Taken by: J. McMillan	Date: February 28, 2018

Appendix III – Copy of Inspector's SCDHEC License

South Carolina
Department of Health and Environmental Control

Asbestos License

James McMillan

Air Sampler AS-00539
Building Inspector BI-01643

Appendix IV – Laboratory Analysis Sheets and Chain of Custody Records

9771D Southern Pine Boulevard
Charlotte, NC 28273
704-940-1830 Fax 704-565-4929
NVLAP Lab Code 102075-0

POLARIZED LIGHT MICROSCOPY
Performed by EPA 600/R-93/116 Method

Asbestos Analysis Summary

Client Name Columbia Branch
Client Job USC Bluffton Science/Tech Bldg

134 Suber Rd.
Columbia SC 29210

Date Received 3/1/2018
Date Analyzed 3/2/2018

Job Number 4261-18-024

Lab ID:	*Sample #:*	*Appearance*	*Comments*	*Asbestos %/Type*	*Non-Asbestos Fibrous %/Type*	*Non-Fibrous %/Type*
18-1417	024-WRP-01	WHITE/BLACK RUBBERY		ND		100 OTHER
18-1418	024-WRP-02	WHITE/BLACK RUBBERY		ND		100 OTHER
18-1420	024-GJ-01	GREY PLIABLE		ND		100 OTHER
18-1421	024-GJ-02	GREY PLIABLE		ND		100 OTHER

Analyzed by: Jane Wasilewski
Additional Comments:

Jane Wasilewski
Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present In Representative Sample). RCF= (Refractory Ceramic Fiber) The results relate only to the items tested.
The sample may not be fully representative of the larger material in question. This sheet may not be reproduced except with permission from SME, Inc. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM/Dispersion Staining) (Method EPA 600/R-93/116) is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

Job Number 4261-18-024

Lab ID:	*Sample #:*	*Appearance*	*Comments*	*Asbestos %/Type*	*Non-Asbestos Fibrous %/Type*	*Non-Fibrous %/Type*
18-1423	024-WS-01	WHITE PLIABLE		ND		100 OTHER
18-1424	024-WS-02	WHITE PLIABLE		ND		100 OTHER
18-1426	024-BS-01	BLACK PLIABLE		ND		100 OTHER
18-1427	024-BS-02	BLACK PLIABLE		ND		100 OTHER
18-1429	024-BFM-01	BLACK FIBROUS		ND	3 CELLULOSE 2 GLASS	95 OTHER
18-1430	024-BFM-02	BLACK FIBROUS		ND	3 CELLULOSE 2 GLASS	95 OTHER

Analyzed by: Jane Wasilewski

Additional Comments:

Jane Wasilewski
Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present In Representative Sample). RCF= (Refractory Ceramic Fiber) The results relate only to the items tested.
The sample may not be fully representative of the larger material in question. This sheet may not be reproduced except with permission from SME, Inc. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM/Dispersion Staining) (Method EPA 600/R-93/116) is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

Job Number 4261-18-024

Lab ID:	*Sample #:*	*Appearance*	*Comments*	*Asbestos %/Type*	*Non-Asbestos Fibrous %/Type*	*Non-Fibrous %/Type*
18-1432	024-EX-01	BEIGE RUBBERY		ND		100 OTHER
18-1433	024-EX-02	BEIGE RUBBERY		ND		100 OTHER

Analyzed by: Jane Wasilewski

Additional Comments:

Jane Wasilewski
Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present In Representative Sample). RCF= (Refractory Ceramic Fiber) The results relate only to the items tested.
The sample may not be fully representative of the larger material in question. This sheet may not be reproduced except with permission from SME, Inc. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM/Dispersion Staining) (Method EPA 600/R-93/116) is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

BULK SAMPLE
CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
4261-18-024	USC BLUFFTON		2/28	1700	9:47 AM 3/1/18
FACILITY		RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
SCIENCE & TECHNOLOGY BLDG					
SAMPLER(S) J. McMillan	**DATE TAKEN** 2/28	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:

SAMPLE #	HOMOGENEOUS AREA	MATERIAL TYPE	LAB NUMBER	DATE ANALYZED	ANALYSTS INITIALS	ASBESTOS +	ASBESTOS -	ASBESTOS N/D	ARCHIVE NUMBER	DATE ARCH	ARCHIVERS INITIALS	SPECIAL INSTRUCTIONS
024-WRP-01	1	ROOF PATCH	18-1417									
02	1	↓	18									
03	1	↓	19									TEM
024-GJ-01	2	CAULK	20									
02	1	↓	21									
03	1	↓	22									TEM
024-WS-01	3	SEALANT	23									
02	1	↓	24									
03	1	↓	25									TEM
024-BS-01	4	SEALANT	26									
02	1	↓	27									
03	1	↓	28									TEM
024-BFM-01	5	FLASHING	29									
02	1	MATERIAL	30									
03	1	↓	1431									TEM

ALL SAMPLES WILL BE DISPOSED OF NINETY DAYS AFTER ANALYSIS UNLESS OTHERWISE REQUESTED

MATERIAL TYPES

A - 1-4" Pipe Fitting
B - 4-8" Pipe Fitting
C - 8-14" Pipe Fitting
D - >14" Pipe Fitting
E - <4" Pipe
F - >4" Pipe
G - 9-14" Pipe
H - >14" Pipe
I - Spray-On/Trowel
J - Floor Tile
K - Tanks/Boiler
L - Asbestos Insul
M - Asbestos Equip
N - Ceiling/Wall Tile
O - Roofing
P - Other

PLM TAT - 5 Days Hours Same Day

TEM TAT - 2 Days Hours Same Day

Do not run TEM if both PLMs are positive

BULK SAMPLE
CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
4261-18-024	USC BLUFFTON	[signature]	2/28	1700	[signature] 3/1/18
FACILITY: SCIENCE & TECHNOLOGY BLDG		RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
SAMPLER(S): J. McMillan	DATE TAKEN: 2/28	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:

SAMPLE #	HOMOGENEOUS AREA	MATERIAL TYPE	LAB NUMBER	DATE ANALYZED	ANALYSTS INITIALS	ASBESTOS +	I	N/D	ARCHIVE NUMBER	DATE ARCH	ARCHIVERS INITIALS	SPECIAL INSTRUCTIONS
024-EX-01	~~EXPANSION~~	EXPANSION	18-1432									
02	~~JOINT~~ 6	JOINT	33									
03	↓	↓	34									TEM

ALL SAMPLES WILL BE DISPOSED OF NINETY DAYS AFTER ANALYSIS UNLESS OTHERWISE REQUESTED

MATERIAL TYPES

A – <4" Pipe Fitting
B – 4-8" Pipe Fitting
C – 9-14 Pipe Fitting
D – >14" Pipe Fitting
E – <4" Pipe
F – 4-8 Pipe
G – 9-14" Pipe
H – >14" Pipe
I – Spray-On/Trowel
J – Floor Tile
K – Tanks/Boiler
L – Air/Heat Insul.
M – A.H.U. Exp. Jt.
N – Ceiling/Wall Tile
O – Fiberboard
P – Other (See notes-Front of page)

PLM TAT - 5 Days (circled) Hours Same Day
TEM TAT - 3 Days (circled) Hours Same Day
Do not run TEM if both PLMs are positive

S&ME SFI-002 (REV. 5/95) This document was prepared pursuant to a specific agreement to address the unique requirements of an S&ME client. Prior to further use, an S&ME professional should be contacted for a complete explanation of its preparation and contents.

EMSL Analytical, Inc.
10801 Southern Loop Blvd Pineville, NC 28134
Tel/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com / charlottelab@emsl.com

EMSL Order: 411801649
Customer ID: SMEI54
Customer PO:
Project ID:

Attention: Jane Wasilewski
S&ME, Inc.
9771D Southern Pine Blvd.
Charlotte, NC 28273

Project: 4261-18-024

Phone: (704) 940-1830
Fax: (704) 565-4929
Received Date: 03/02/2018 11:20 AM
Analysis Date: 03/03/2018
Collected Date:

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
024-WRP-03 *411801649-0001*	Roof Patch	Gray/Black Non-Fibrous Homogeneous	96.5	3.5 Fibrous_Other	No Asbestos Detected
024-GJ-03 *411801649-0002*	Caulk	Gray Non-Fibrous Homogeneous	100	None	No Asbestos Detected
024-WS-03 *411801649-0003*	Sealant	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
024-BS-03 *411801649-0004*	Sealant	Black Non-Fibrous Homogeneous	96.0	4.0 Fibrous_Other	No Asbestos Detected
024-BFM-03 *411801649-0005*	Flashing	Black Fibrous Homogeneous	100	None	No Asbestos Detected
024-EX-03 *411801649-0006*	Exp. Joint	Gray Fibrous Homogeneous	100	None	No Asbestos Detected

Analyst(s)

Aaron Hartley (6)

Lee Plumley, Laboratory Manager
or other approved signatory

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 03/05/2018 10:20:23

OrderID: 411801649

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*: 411801649

EMSL ANALYTICAL, INC.
10801 SOUTHERN LOOP BLVD
PINEVILLE, NC 28134
PHONE: 704-525-2205
FAX: 704-525-2382

Company : S&ME Inc.	**EMSL-Bill to:** ☐ Same ☒ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 9771D Southern Pine Blvd.	
City: Charlotte **State/Province: NC**	**Zip/Postal Code: 28273** **Country:**
Report To (Name): Jane Wasilewski	**Telephone #: 704-940-1830**
Email Address: jwasilewski@smeinc.com	**Fax #:** **Purchase Order:**
Project Name/Number:	**Please Provide Results:** ☐ Fax ☒ Email
U.S. State Samples Taken:	**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: **Samplers Signature:**

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
024-WRP-03	Roof Patch		
024-GJ-03	caulk		
024-WS-03	Sealant		
024-BS-03	↓		
024-BFM-03	Flashing		
024-Ex-03	Exp Joint		

Client Sample # (s): - **Total # of Samples:** 6

Relinquished (Client): Kyle Nelson **Date:** 3/2/18 **Time:**

Received (Lab): **Date:** 3/2/18 **Time:** 11:20AM W/in

Comments/Special Instructions: Bill to S&ME, Inc., 9751 Southern Pine Blvd., Charlotte NC 28273
****EMAIL INVOICE TO JANE WASILEWSKI****

4261-18-024

Appendix V – Summary of XRF Readings

Summary of XRF Lead Spectrum Analyzer Readings
University of South Carolina - Bluffton
Science and Technology Building
Bluffton, South Carolina

S&ME Project No. 4261-18-024
Date of Testing: February 28, 2018

XLN No.	Site	Floor	Side	Room	Structure	Component	Color	Substrate	Condition	Results	Action Level	Lead	Units
1									Shutter Calibrate			1.84	mg/cm^2
2	USCB Sci & Tech	2	A	Exterior Roof					Calibrate			1	mg/cm^2
3	USCB Sci & Tech	2	A	Exterior Roof					Calibrate			1.4	mg/cm^2
4	USCB Sci & Tech	2	A	Exterior Roof					Calibrate			1	mg/cm^2
5	USCB Sci & Tech	2	A	Exterior Roof					Calibrate			1.2	mg/cm^2
6	USCB Sci & Tech	3	A	Exterior Roof	Roof		Black	EPDM	Non-Deteriorated	Negative	0.7	0	mg/cm^2
7	USCB Sci & Tech	3	A	Exterior Roof	Vent		Black	Metal	Non-Deteriorated	Negative	0.7	0	mg/cm^2
8	USCB Sci & Tech	3	A	Exterior Roof	Door		Grey	Metal	Non-Deteriorated	Negative	0.7	0.01	mg/cm^2
9	USCB Sci & Tech	3	A	Exterior Roof	Roof		Grey	Metal	Non-Deteriorated	Negative	0.7	0	mg/cm^2
10	USCB Sci & Tech	3	A	Exterior Roof	Roof		Black	EPDM	Non-Deteriorated	Negative	0.7	0	mg/cm^2
11	USCB Sci & Tech	3	A	Exterior Roof	Roof		Black	EPDM	Non-Deteriorated	Negative	0.7	0	mg/cm^2
12	USCB Sci & Tech	3	A	Exterior Roof	Pipe		Black	Metal	Non-Deteriorated	Negative	0.7	0	mg/cm^2
13	USCB Sci & Tech	3	A	Exterior Roof	Pipe		Black	Metal	Non-Deteriorated	Negative	0.7	0	mg/cm^2

mg/cm^2 = milligram per square centimeter

SCDHEC requires special disposal for paint containing lead >0.7 mg/cm^2

OSHA does not recognize a concentration of lead for definition purposes, only the airborne concentration a worker is exposed.

Bold = Paint Readings meeting or exceeding SCDHEC disposal level of 0.7 mg/cm^2

UNIVERSITY OF SOUTH CAROLINA
Contractor Requirements for Disturbance of Lead Containing Materials

The following contractor requirements exist to ensure that work disturbing lead containing materials at the University of South Carolina occurs in a safe and compliant manner, while minimizing risk to University personnel, property and the environment. You are encouraged to read and understand the OSHA standard for lead in the construction industry, 29CFR 1926.62.

SUBMITTALS

The following information must be provided to and approved by the University before any disturbance of lead materials may begin.

1. Description of each activity where lead materials will be disturbed.

2. Description of controls that will be used to minimize the generation of lead dust (i.e. wet methods, ventilation).

3. Demonstration that disturbance will not result in airborne concentrations of lead in excess of the OSHA Action Level of 30 $\mu g/m^3$ (i.e. a negative exposure assessment or NEA). Air monitoring data from previous, similar jobs conducted within the past 12 months are acceptable. If you do not have an NEA for the work described, then all work must be maintained under negative pressure and comply with OSHA 1926(e).

4. Description of decontamination procedures for personnel, equipment/tools and PPE to prevent the migration of lead materials from the work area.

5. Documentation that all personnel that will be involved in lead disturbance are trained in accordance with CFR 1926.62(l).

6. Description of process for collection, containerization and on-site management of lead containing waste material.

MINIMUM REQUIREMENTS

The University may conduct a safety inspection of your work site at any time. At a minimum, the following items will be inspected. Failure to comply may result in a work stoppage until items are corrected.

1. Access to work area must be clearly demarcated and restricted. OSHA-compliant lead work signage must be posted in conspicuous locations.

2. When vacuums are used for dust collection, HEPA vacuums must be used. Dry sweeping is prohibited.

3. Lead materials that have been removed from structures must be captured so as to prevent contamination of other building materials or the environment. For outdoor work, lead materials may not come in contact with the ground.

4. Lead materials that have been removed must be cleaned up promptly (at least daily and before leaving the worksite at any time).

5. No lead materials may leave work area outside of impermeable containers. Workers must be adequately decontaminated prior to leaving work area.

6. The University will manage the disposal of all hazardous lead waste through its existing Hazardous Waste Management program. The disposal of lead waste not meeting the definition of Hazardous Waste must be coordinated through the University. Minimum requirements for on-site management of lead waste:

    a. The contractor is responsible for providing containers for the storage of waste/disposal. Containers must be impermeable and capable of being closed.
    b. Waste container must remain closed at all times unless adding or removing waste.
    c. Waste container must be labeled with words that describe its contents (i.e. – lead paint waste).
    d. No more than fifty-five (55) gallons of hazardous waste may be accumulated on-site at any one time.

University of South Carolina
Non Mandatory Pre Bid Sign In Sheet
Bluffton, SC

Project Name: USCB Science and Technology Building Roof Repairs (SEALANT)
Project Number: H36-9515
Pre Bid Date & Time: March 13, 2019 11:00AM 1 University Blvd Hargray Building Business Office

SWMBE Contractor Indicate Below	Name	Company Name	Address	Phone #	Email
S W M B E	DAVID SMITH	MINT HILL WATERPROOFING LLC	9923 MARKUS DR MINTHILL NC 28227	803 804 7055	DASMITHSR@LIVE.COM
S W M B E	Pat Lauro	Watertight Systems, Inc	P.O. Box 1625 Lexington, SC. 29071	803 603 5639	plauro@watertightsystems.com
S W M B E	Andrew DeBrosse - Midwest Maintenance, Inc. 4013 Enterprise Court, Augusta, GA 30907 (706) 855-8888 office / (706) 726-5888 cell Andy@midwestmaintenance.com				
S W M B E					
S W M B E	Dwight Jones	USCB			
S W M B E	MIKE PARROTT	USCB			
S W M B E	GENE BELL	UTS			
S W M B E	VIA PHONE: AIMEE RISH/USC &		HURT THATCHER/USC		
S W M B E					

****By signing this sheet you agree to receive information electronically.