



ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

US 301/15 TRAIL BRIDGE OVER LAKE MARION OVERFLOW
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

PREPARED FOR:

TRANSYSTEMS

C/O Mr. Peter Strub
Sr. Vice President/Principal
1859 Summerville Avenue, Suite 600
Charleston, SC 29405

PREPARED BY:

F&ME Consultants, Inc.
211 Business Park Blvd.
Columbia, South Carolina 29203

August 18, 2023

Yes, asbestos was found.
 No, asbestos was not found.

F&ME Project No.: G6744.000

TABLE OF CONTENTS

- 1. Executive Summary.....1
- 2. Introduction.....2
- 3. Existing Bridge Structures3
- 4. Field Assessments4
- 5. Assessment Results.....4
- 6. Recommendations..... Error! Bookmark not defined.
- Appendices Error! Bookmark not defined.

Appendix A – Site Vicinity Map

Appendix B – Sample Bridge Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

Appendix F – Site Photographs

Appendix G – Personnel Certifications



1 EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project. This investigation report is one of seven (7) completed for the project. The investigations included the existing north and southbound I-95 bridge structures, the former US 301/15 Trail Bridges, and the older remnants of the US 301 bridge. The below Bridge numbering system utilized for the investigations and referenced in this report reflects the numbering system developed by F&ME Consultants, Inc. (FME) field personnel during the field investigation and does not reflect any Bridge numbering system used by The South Carolina Department of Transportation (SCDOT). This report is specifically for the US 301/15 Trail Bridge over Lake Marion Overflow only. Refer to other reports prepared by FME for the other bridges.

F&ME Consultants, Inc. (FME) has completed an Asbestos Containing Material (ACM) Investigation on the existing US 301/15 Trail Bridge (Bridges #5) over Lake Marion Overflow in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The field investigations were performed on July 19th through 21st, 2023, in anticipation of the potential demolition of the US 301/15 Trail Bridge over Lake Marion Overflow. This investigation was conducted pursuant to South Carolina Department of Health and Environmental Control (SCDHEC), United States Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) regulations requiring an ACM investigation prior to any demolition activities.

Per an agreed upon scope of work, FME performed this investigation to identify any ACM that might be encountered during the demolition of the existing Bridges, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the subject Bridges identified multiple suspect materials: expansion joint sealer, and bond break bearing pads (Repair). During the field investigation, FME collected samples of the suspect materials and assessed the physical condition of each material. **Laboratory results indicate that the materials sampled during this investigation were negative for asbestos.** During the demolition activities, previously concealed ACM may be discovered. If hidden suspect ACM is encountered not addressed in this report, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/FME for an appropriate response action.



We appreciate the opportunity to assist you in this matter. If you have any questions or require additional information, please feel free to contact our office at (803) 254-4540.

Sincerely,

F&ME CONSULTANTS



Michael S. Mincey
Environmental Professional
Asbestos Consultant/Management Planner
SCDHEC License No: MP-00161
Expiration Date 01/23/2024



Glynn M. Ellen
Environmental Department Manager
Asbestos Consultant/Management Planner
SCDHEC License No: ASB-22641
Expiration Date 01/23/2024



2 INTRODUCTION

FME has completed an ACM investigation on the US 301/15 Trail Bridge over Lake Marion Overflow in Clarendon and Orangeburg Counties in South Carolina. The investigation was performed on July 19th through July 21st, 2023. This investigation was conducted pursuant to SCDHEC, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition activities. Refer to Appendix A, Site Vicinity Map for the location of the Bridge.

It is our understanding that the existing Bridge which may undergo a planned demolition at some time in the future. The scope of this investigation was to determine if asbestos was present on this Bridge by identifying and sampling suspect ACM, obtaining analytical results, quantifying any confirmed ACM, and assessing the physical condition of the ACM, where possible.

This report has been prepared exclusively for the Client and shall not be disseminated in whole or part to other parties without prior consent from the Client or FME. No other environmental issues were addressed as part of this report.

3 EXISTING BRIDGE STRUCTURES

The US 301 Pedestrian Bridge (Bridge #5) was constructed in the late 1940's based on the Bridge renovation drawings dated March 2021 that were obtained from the Client.

The Overflow portion of the US 15/ 301 Trail Bridge (Bridge #5) (~350.0' L x 31.0' W, inside curb to inside curb) is a two (2) lane, concrete and steel bridge structures with poured-in-place concrete bridge decking and concrete curbing with metal scuppers, with an asphalt overlay. The Bridges are constructed with poured-in-place (PIP) concrete beams, bent caps, decking, curb/gutter system, and concrete piers. Metal guardrails run along each side of the Bridge and are attached to the concrete curbs. Multiple structural repairs to stabilize and to provide new supports for the concrete beams were noted along the underside of both of these Bridges, along with railing repairs on each side of the Bridge. The repairs consisted of steel I-Beams supporting multiple horizontal PIP concrete beams at the tops of several PIP concrete bent caps., with multiple steel bearing plates inserted at the location of each repair to stabilize and level the bridge supports. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge. Appendix B, Sample Location Plan, for a layout of the samples taken from the Bridge.

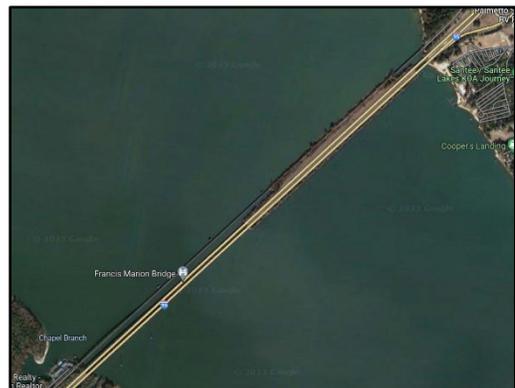


Photo 1 – I-95 over Lake Marion Bridges in Clarendon & Orangeburg Counties, SC.

4 FIELD ASSESSMENT

During the inspection, all bridge components (i.e., concrete bent caps, piers, scuppers, and expansion joints) were visually inspected for suspect ACM. Examples of possible suspect materials include bent cap bearing materials, expansion joint materials and scuppers. The bridge deck rested directly on concrete bent beams which are supported by concrete bent caps with bond break bearing pads and bearing plates between them. The PIP concrete bent caps were supported by driven hexagonal concrete pipes. Bent cap bearing pads, expansion joint materials, and expansion joint sealers were noted during the investigation as suspect materials. Refer to Appendix B, Sample Location Plan, for detailed sample locations. Also, see Appendix F, Site Photographs, for more details.

5 RECOMMENDATIONS

The results, conclusions, and recommendations of this Investigation are representative of the conditions observed at the site on the date of the field investigation. FME does not assume responsibility for any changes in conditions or circumstances that may have occurred after this investigation.

It is our understanding that the existing Bridge may undergo a planned demolition at some future time. **Laboratory results indicate that the materials sampled during this investigation were negative for asbestos.** Therefore, there are no foreseen special handling or disposal requirements, regarding asbestos, that will be required for the demolition of this bridge.

If any concealed and/or inaccessible suspect ACM are encountered during the demolition activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/Asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any suspect ACM is discovered.

This report has been prepared exclusively for the Client and FME and shall not be disseminated in whole or in part to other parties without prior consent from the Client. Use of this document for bidding purposes is not recommended without prior consultation with FME.

We sincerely appreciate the opportunity to be of service to Transystems in this matter. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.



APPENDICES

Appendix A – Site Vicinity Map

Appendix B – Sample Bridge Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain-of-Custody Form

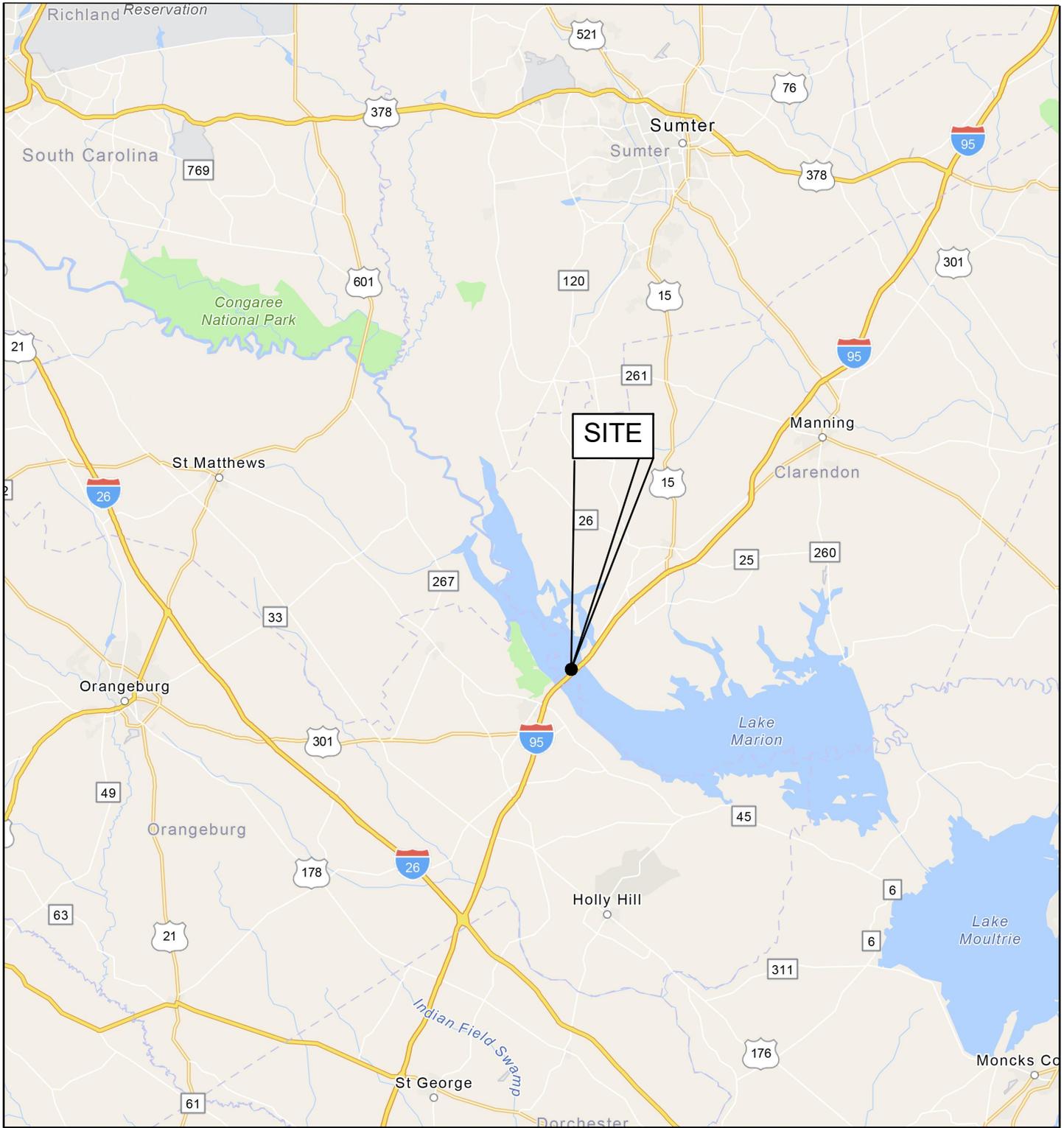
Appendix F – Site Photographs

Appendix G – Personnel Certifications



Appendix A

Site Vicinity Map



1:577,791

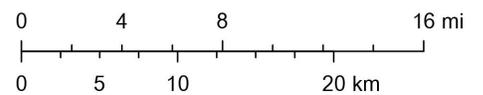


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

ASBESTOS CONTAINING MATERIALS INVESTIGATION
US 301/15 Trail Bridge over Lake Marion Overflow
Clarendon & Orangeburg Counties, South Carolina

SITE VICINITY MAP

Prepared for:
Transystems
1859 Summerville Ave., Suite 600
Charleston, SC 29405



211 BUSINESS PARK BLVD.
COLUMBIA, SC 29203

ORIGINAL:
August 11, 2023

REVISIONS:

- 1 _____
- 2 _____
- 3 _____

SCALE:
Shown

DRWN. BY: MSM
CHKD. BY: GME
APPR. BY: GME

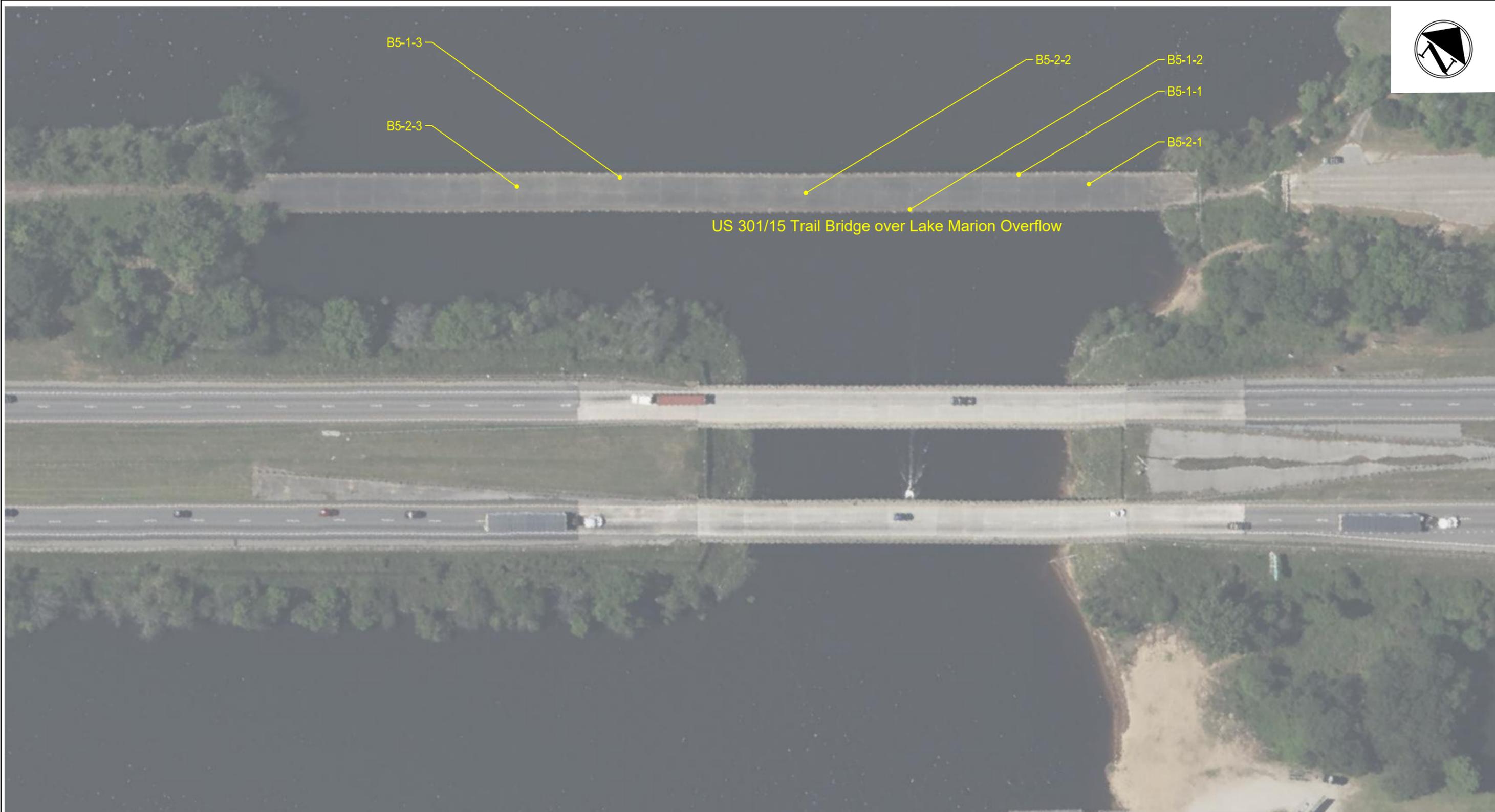
NOTES:

Appendix B

Sample Location Plan



US 301/15 Trail Bridge over Lake Marion Overflow



F&ME CONSULTANTS, INC.
COLUMBIA, SC
CONSULTANTS

US 301/15 TRAIL BRIDGE OVER LAKE MARION OVERFLOW
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 2

4			
3			
2			
1			
REV.	BY	DATE	DESCRIPTION OF REVISION
TOPO.		DATE	
DWG.	MSM	DATE 08/11/2023	GROUP - -
R/W		DATE	

Appendix C

Summary of Samples

Appendix C: Summary of Samples

Sample ID	Description
Bridge #5 (US 301 Overflow Pedestrian Bridge over Lake Marion)	
B5-1-1	Expansion Joint Sealer
B5-1-2	Expansion Joint Sealer
B5-1-3	Expansion Joint Sealer
B5-2-1	Repair Bond Break Pad
B5-2-2	Repair Bond Break Pad
B5-2-3	Repair Bond Break Pad



Appendix D

Laboratory Analysis Reports



EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284

Tel/Fax: (336) 992-1025 / (336) 992-4175

<http://www.EMSL.com> / kernersvillelab@emsl.com

EMSL Order: 022304973
Customer ID: FMEC62
Customer PO: G6744.000
Project ID:

Attention: Glynn M. Ellen F & ME Consultants 211 Business Park Blvd Columbia, SC 29203	Phone: (803) 254-4540 Fax: (803) 254-4542 Received Date: 07/25/2023 10:15 AM Analysis Date: 07/27/2023 Collected Date:
Project: 1-95 over Lake Marion (Bridge #5)	

**Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E
Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B5 1-1 <small>022304973-0001</small>	Expansion Joint Sealer	Brown/Black Fibrous Heterogeneous	<1% Cellulose	5% Mica 95% Non-fibrous (Other)	None Detected
B5 1-2 <small>022304973-0002</small>	Expansion Joint Sealer	Black Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
B5 2-1 <small>022304973-0003</small>	Bond Break Pad (Repair)	Brown/Black Fibrous Heterogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
B5 2-2 <small>022304973-0004</small>	Bond Break Pad (Repair)	Brown/Black Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected

Analyst(s)

 Jurnee West (2)
 Scott Combs (2)



 Stephen Bennett, Laboratory Manager
 or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. 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. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 07/28/2023 08:15:26



EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284
Tel/Fax: (336) 992-1025 / (336) 992-4175
<http://www.EMSL.com> / kernersvillelab@emsl.com

EMSL Order: 022304973
Customer ID: FMEC62
Customer PO: G6744.000
Project ID:

Attention: Glynn M. Ellen
F & ME Consultants
211 Business Park Blvd
Columbia, SC 29203

Phone: (803) 254-4540
Fax: (803) 254-4542
Received Date: 07/25/2023 10:15 AM
Analysis Date: 07/28/2023
Collected Date:

Project: 1-95 over Lake Marion (Bridge #5)

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
B5 1-3 022304973-0005	Expansion Joint Sealer	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
B5 2-3 022304973-0006	Bond Break Pad (Repair)	Gray/Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Stephen Bennett (2)

Stephen Bennett, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. 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. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or < 1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Initial report from: 07/28/2023 16:42:28

Appendix E

Chain-of-Custody Forms



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only)

022304973

X
706 GRALIN ST.
KERNERSVILLE, NC 27284
PHONE: (336) 992-1025
FAX: (336) 992-4175

Company Name : F&ME Consultants		EMSL Customer ID: FMEC62	
Street: 211 Business Park Boulevard		City: Columbia	State/Province: SC
Zip/Postal Code: 29203	Country: USA	Telephone #: 803-254-4540	Fax #: 803-254-4542
Report To (Name): Glynn Ellen		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
Email Address: gellen@fmeconsultants.com, and mmincey@fmeconsultants.com,		Purchase Order: G6744.000	
Project Name/Number: I-95 over Lake Marion (Bridge #5)		EMSL Project ID (Internal Use Only):	
U.S. State Samples Taken: SC		CT Samples: <input checked="" type="checkbox"/> Commercial/Taxable <input type="checkbox"/> 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

<p>PCM - Air <input type="checkbox"/> Check if samples are from NY</p> <p><input type="checkbox"/> NIOSH 7400</p> <p><input type="checkbox"/> w/ OSHA 8hr. TWA</p> <p>PLM - Bulk (reporting limit)</p> <p><input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%)</p> <p><input type="checkbox"/> PLM EPA NOB (<1%)</p> <p>Point Count</p> <p><input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)</p> <p>Point Count w/Gravimetric</p> <p><input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)</p> <p><input type="checkbox"/> NYS 198 1 (friable in NY)</p> <p><input type="checkbox"/> NYS 198.6 NOB (non-friable-NY)</p> <p><input type="checkbox"/> NYS 198 8 SOF-V</p> <p><input type="checkbox"/> NIOSH 9002 (<1%)</p>	<p>TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only)</p> <p><input type="checkbox"/> AHERA 40 CFR, Part 763</p> <p><input type="checkbox"/> NIOSH 7402</p> <p><input type="checkbox"/> EPA Level II</p> <p><input type="checkbox"/> ISO 10312</p> <p>TEM - Bulk</p> <p><input checked="" type="checkbox"/> TEM EPA NOB</p> <p><input type="checkbox"/> NYS NOB 198 4 (non-friable-NY)</p> <p><input type="checkbox"/> Chatfield SOP</p> <p><input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5</p> <p>TEM - Water: EPA 100.2</p> <p>Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking</p> <p>All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking</p>	<p>TEM - Dust</p> <p><input type="checkbox"/> Microvac - ASTM D 5755</p> <p><input type="checkbox"/> Wipe - ASTM D6480</p> <p><input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167)</p> <p>Soil/Rock/Vermiculite</p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<1%)</p> <p><input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%)</p> <p><input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%)</p> <p><input type="checkbox"/> TEM Qualitative via Filtration Prep</p> <p><input type="checkbox"/> TEM Qualitative via Drop Mount Prep</p> <p><input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM (BC only)</p> <p>Other:</p> <p><input type="checkbox"/></p>
---	---	---

Check For Positive Stop - Clearly Identify Homogenous Group Filter Pore Size (Air Samples): 0.9µm 0.45µm

Samplers Name: Glynn M. Ellen Samplers Signature:

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
*B5-1-1 thru B5-1-3	Expansion Joint Sealer		
*B5-2-1 thru B5-2-3	Bond Break Pad (Repair)		

Client Sample # (s): B5-1-1 - B5-2-3 Total # of Samples: 6

Relinquished (Client): Date: 07/24/2023 Time: 1700

Received (Lab): Date: 7-25-23 Time: 10:15

Comments/Special Instructions: *TEM 3rd NOB.

EMSL FAX FILE 7469 10522
Page 1 Of 1

3

Appendix F

Site Photographs

APPENDIX F - SITE PHOTOGRAPHS



Photo 1. Top Side View of Bridges.



Photo 2. Southwest View of US 301/15 Trail Bridge over Lake Marion Overflow.



Photo 3. Underside View of US 301/15 Trail Bridge over Lake Marion Overflow.



Photo 4. Top View of Bridge Deck of Bridge #5.



Photo 5. Non-ACM Bond Break Bearing Pad.



Photo 6. West View of the Southwest Side of Bridge #5.



Appendix G

Personnel Certifications

SCDHEC ISSUED

Asbestos ID Card

Glynn M Ellen



**AIRSAMPLER
CONSULTMP
CONSULTPD
SUPERAHERA**

**AS-00079
ASB-22641
PD-00098
SA-00455**

Expiration Date:

**01/22/24
01/23/24
07/12/23
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.

For information of corrections contact: SCDHEC - Asbestos Section
2600 Bull Street
Columbia, SC 29201
(803) 898-4289

SCDHEC ISSUED

Asbestos ID Card

Michael Mincey



**AIRSAMPLER
CONSULTMP
SUPERAHERA**

**AS-00272
MP-00161
SA-01424**

Expiration Date:

**01/22/24
01/23/24
01/22/24**

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.

For information of corrections contact: SCDHEC - Asbestos Section
2600 Bull Street
Columbia, SC 29201
(803) 898-4289