



ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

NORTHBOUND I-95 BRIDGE OVER LAKE MARION
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

PREPARED FOR:



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.....2
- 2. Introduction.....3
- 3. Existing Bridge Structures4
- 4. Field Assessments5
- 5. Assessment Results.....6
- 6. Recommendations7
- Appendices9

- Appendix A – Site Vicinity Map
- Appendix B – Sample Location Plans
- Appendix C – Homogeneous Area Plans
- Appendix D – Summary of Samples
- Appendix E – Summary of Asbestos Containing Materials
- Appendix F – Summary of Inspection
- Appendix G – Physical Assessment Data Sheets
- Appendix H – Laboratory Analysis Reports
- Appendix I – Chain of Custody Forms
- Appendix J – Site Photographs
- Appendix K – Personnel Certifications
- Appendix L – Regulatory Summary
- Appendix M – Abatement Project Forms



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 northbound I-95 bridge only. Refer to other reports prepared by FME for the other bridges.

FME has completed the Asbestos Containing Material (ACM) Investigations of the existing northbound I-95 Bridge over Lake Marion (Bridge #2) in Clarendon and Orangeburg Counties in South Carolina, at the request of Transystems (Client). The field investigations were performed between July 19, 2023 and July 21, 2023, in anticipation of the off-alignment replacement of the existing I-95 bridges. 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 Bridge, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the subject Bridge identified multiple suspect materials: expansion joint materials, bond break bearing pads, and expansion joint sealers. During the field investigation, FME collected samples of the suspect materials and assessed the physical condition of each material. **Laboratory results indicate that the bond break bearing pads associated with the north side of bent cap #28 only were ACM.** 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 northbound I-95 over Lake Marion Bridge 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 will to be demolished, in anticipation of the off-alignment replacement of the existing I-95 Bridge. 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 existing Bridge is located along I-95 and crosses over Lake Marion in Clarendon and Orangeburg Counties in South Carolina. The date of construction for the existing northbound I-95 Bridge (Bridge #2) over Lake Marion were constructed in the late 1960's to early 1970's based on the original construction drawings.

The northbound I-95 Bridge over Lake Marion (Bridge #2) (~4,500' L x 31.0' W inside curb to inside curb) is a two (2) lane, concrete and steel bridge structure with poured-in-place concrete bridge decking, concrete curb/gutter, and concrete guardrails along with metal scuppers.

The Bridge is constructed with a combination of poured-in-place (PIP) concrete beams, pre-cast prestressed beams, structural steel girders, steel diaphragms, steel crossbracing, steel bearing plates and steel rocker bearing supports. The bentcaps were PIP concrete supported by a combination of driven hexagonal concrete piles, and PIP concrete piers. 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.

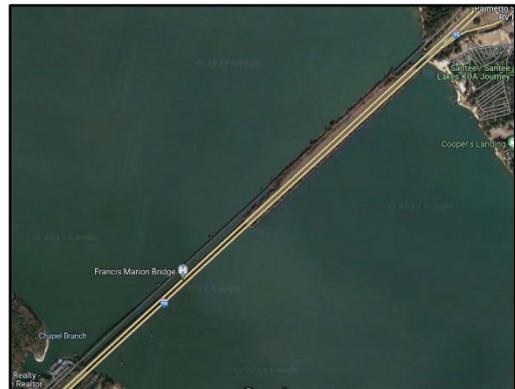


Photo 1 – Northbound I-95 over Lake Marion Bridge in Clarendon & Orangeburg Counties, SC.



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 caps with either a bond break bearing pad or steel bearing plates and steel bearing rockers between them. The PIP concrete bent caps were supported by either driven hexagonal concrete pipes or PIP concrete piers. 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 J, Site Photographs, for more details.

4.1 Suspect Materials

The purpose of this investigation was to locate, sample and record the physical characteristics of suspect ACM on the subject Bridge. Therefore, the quantities and physical condition of suspect materials were assessed, and bulk samples of these materials were submitted for laboratory analysis. The following suspect materials and approximate quantities for each Bridge were identified during this ACM Investigation:

Bridge #2 (I-95 NBL over Lake Marion)

- Black Expansion Joint Material (>5,000 SF)
- Bond Break Bearing Pad (>5,000 SF)
- Expansion Joint Sealer (>5,000 SF)
- Bond Break Bearing Pad #2 (>5,000 SF)
- Bond Break Bearing Pad #3 (Northeast Side of Bent #28) (~50 SF)

Random samples of the suspect materials were collected for laboratory analysis, and their physical characteristics were recorded. Building materials such as concrete, metal, wood, brick, etc., were not considered suspect ACM. Bulk samples of suspect materials were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA 600/R-93/116. Confirmation Transmission Electron Microscopy (TEM) was also performed on any non-friable organically bound materials that tested negative for asbestos content as per SCDHEC regulations effective May 27, 2011. Refer to Appendix D, Summary of Samples, for complete list of all samples taken. Appendix L, SCDHEC Regulation Summary. Proper sampling and chain-of-custody protocols were followed to ensure appropriate handling and delivery of samples to the analytical laboratory. Refer to Appendix K, Personnel



Certifications, for SCDHEC qualifications of Investigation personnel, and Appendix I, Chain of Custody Forms, for documentation of proper handling and delivery of samples.

5 ASSESSMENT RESULTS

During the investigation, multiple bond break bearing pads, expansion joint materials, and expansion joint sealers were the only suspect materials found associated with the existing Bridges. Three (3) random samples of the each of the materials totaling fifteen (15) samples, were collected for laboratory analysis, and their physical characteristics were recorded. The remaining structural materials (i.e., concrete, steel, etc.) were not considered suspect and were not sampled.

The samples of the suspect material were analyzed by polarized light microscopy (PLM) in accordance with EPA 600/R-93/116. A *“first positive stop”* protocol was utilized for this investigation. This protocol establishes that if the first sample of a material tested positive for asbestos content, subsequent samples were not to be analyzed, and would be considered positive as well. A total of forty-four (44) samples were analyzed by PLM and twenty-one (21) were TEM confirmed. **Laboratory results indicate that the bond break bearing pads associated with northeast/northwest sides of bent cap #28 only on the existing northbound I-95 Bridge (Bridge#2) are ACM.** Results of laboratory analysis are summarized in Appendix D, Summary of Sample Results and Appendix E, Summary of Asbestos Containing Materials.

Appropriate sampling and chain-of-custody protocols were followed to ensure proper handling and delivery of samples to the analytical laboratory. Refer to Appendix H and I were provided to show laboratory documentation for the analytical results. Appendix K, Personnel Certification, shows the official qualifications of the South Carolina Asbestos Inspectors.

5.1 Homogeneous Area Locations Where ACM Was Identified

The following are photographs, descriptions, and approximate quantities of the ACM identified during the Investigation. Guidance is also provided for the proper handling and disposition if the materials in these areas are to be removed. See Appendix C, Homogeneous Area Plan, for homogeneous sampling area for the ACM identified below.



HA-1 – Bond Break Bearing Pads Associated with Bent Cap #28 only on the Existing Northbound I-95 Bridge over Lake Marion (~50 SF).

ACM bond break bearing pads associated with bent cap #28, were found on the tops of bent #28 on the northeast side of the bent cap only. FME field personnel looked for additional locations for this material. However, it was only found at Bent #28 on the northbound I-95 Bridge. Overall, this material was in an intact, but friable condition, with some signs of deterioration due to age and exposure to the elements. Removal of this material will likely render it friable depending on the means and methods utilized. During the demolition, this material must be removed, handled, and disposed of as ACM. This material will need to be abated as a function of demolition activities by a licensed abatement contractor.



6 RECOMMENDATIONS

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

It is our understanding that an off-alignment replacement of the existing northbound I-95 Bridge is planned. As a function of demolition activities, the bond break bearing pads associated with the northeast side of bent cap #28 must be removed, handled, and disposed of as ACM per SCDHEC regulations pertaining to asbestos waste. Removal of this type of bridge component prior to the start of demolition activities is not practical. Therefore, the demolition contractor will be required to coordinate with a licensed abatement contractor to be onsite during the demolition activities to ensure that the ACM is properly handled and disposed of. Based on the quantities and type of ACM identified, a written abatement project design will not be required.

If any concealed and/or inaccessible ACM (i.e., bond break bearing pad materials) 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.



All asbestos waste must be deposited in a landfill permitted by the SCDHEC for receiving ACM. If any concealed and/or inaccessible ACM is encountered during asbestos abatement or renovation activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/ Abatement Contractor/ Asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any additional ACM is discovered, as well as changes in the condition of identified ACM.

The SCDHEC's Standards of Performance for Asbestos Projects (R 61-86.1) includes requirements for abatement projects regarding notifications, project design, air sampling and analysis, etc. For informational purposes, some of these requirements are summarized below:

Notifications. Written notification (SCDHEC Form 3430) must be submitted to SCDHEC at least two (2) calendar weeks prior to initiation of abatement activities for renovation/demolition projects. A copy of this inspection report and applicable fee payment must be attached to the notification. Additional fees may be required. Copies of all notifications and documents pertinent to the abatement operations must be posted on the job site during abatement work. The Owner/Operators must notify all parties involved with this project of the nature of the work as well as the locations and quantities of asbestos materials to be disturbed or those located near demolition/removal work areas. This notification requirement is also extended to any persons/employees who work near the demolition/removal work areas.

Project Design. Furthermore, abatement projects that will remove more than 3,000 square, 1,500 linear or 656 cubic feet of asbestos-containing materials are required to have a licensed and certified Abatement Project Designer develop a project design prior to the commencement of any abatement activities. The Abatement Contractor is required to adhere to the design, which must address all information as directed by the regulations.

Air Monitoring. The Abatement Contractor is responsible for daily personal air sampling for Abatement Workers in compliance with current OSHA standard 29 CFR 1926.1101. All remaining air monitoring services required for a renovation project (i.e., backgrounds, areas, and clearances) will be provided by the Owner or the Owner's Representative, as required by SCDHEC.

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 Location Plan

Appendix C – Homogeneous Area Plan

Appendix D – Summary of Samples

Appendix E – Summary of Asbestos Containing Materials

Appendix F – Summary of Inspection

Appendix G – Physical Assessment Data Sheet

Appendix H – Laboratory Analysis Reports

Appendix I – Chain of Custody Forms

Appendix J – Site Photographs

Appendix K – Personnel Certifications

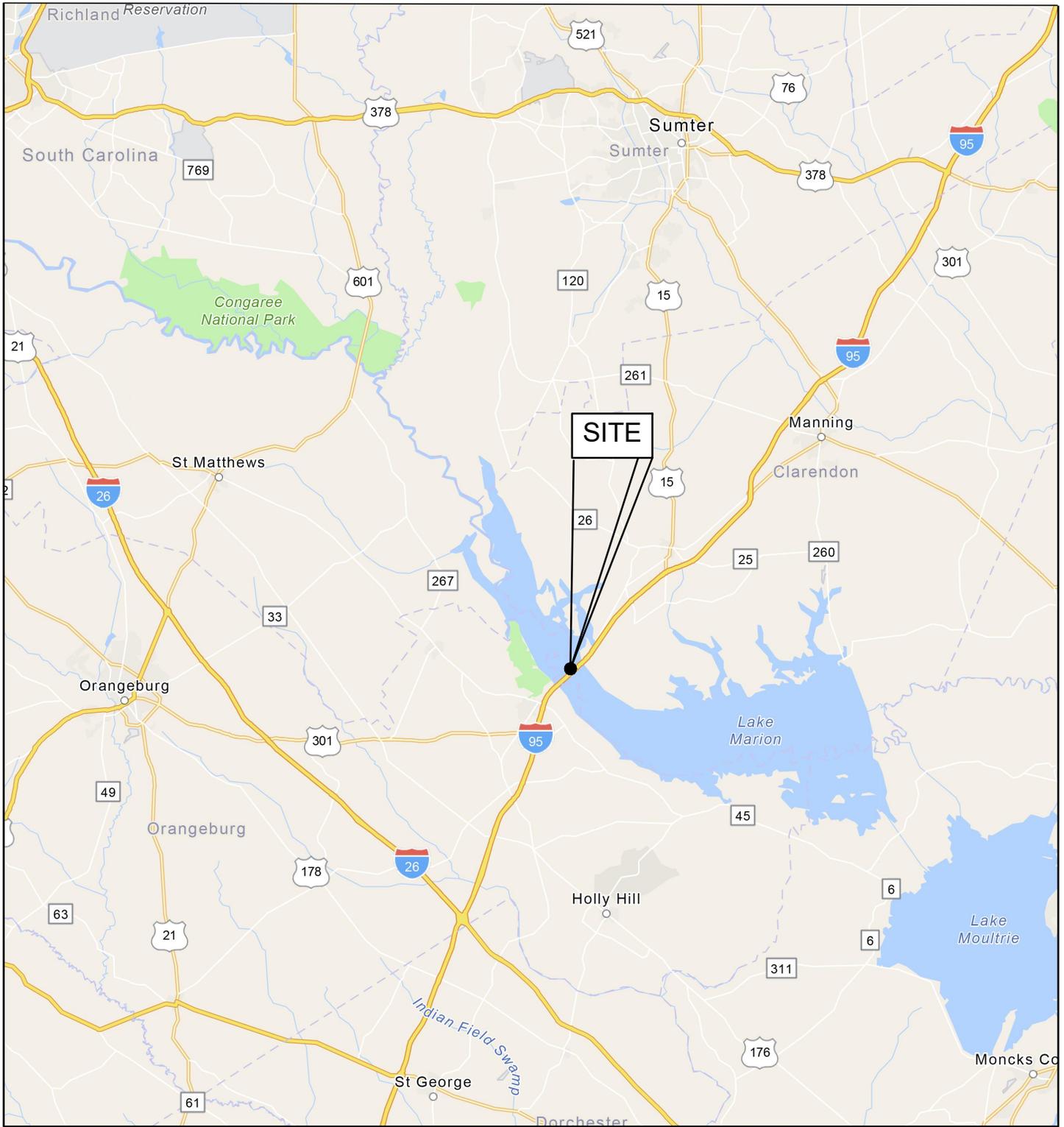
Appendix L – Regulatory Summary

Appendix M – Abatement Project Forms



Appendix A

Site Vicinity Map



1:577,791

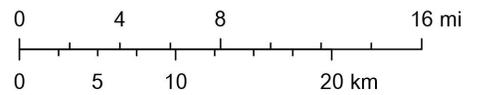


FIGURE NUMBER:

1

F&ME CONSULTANTS PROJECT NUMBER:

G6744.000

ASBESTOS CONTAINING MATERIALS INVESTIGATION
NB I-95 over Lake Marion Bridge Replacement
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



B2-4-3

I-95 (NBL) over Lake Marion (Bridge #2)

B2-4-2

B2-4-1

Match Line



F&ME CONSULTANTS, INC.
COLUMBIA, SC

NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

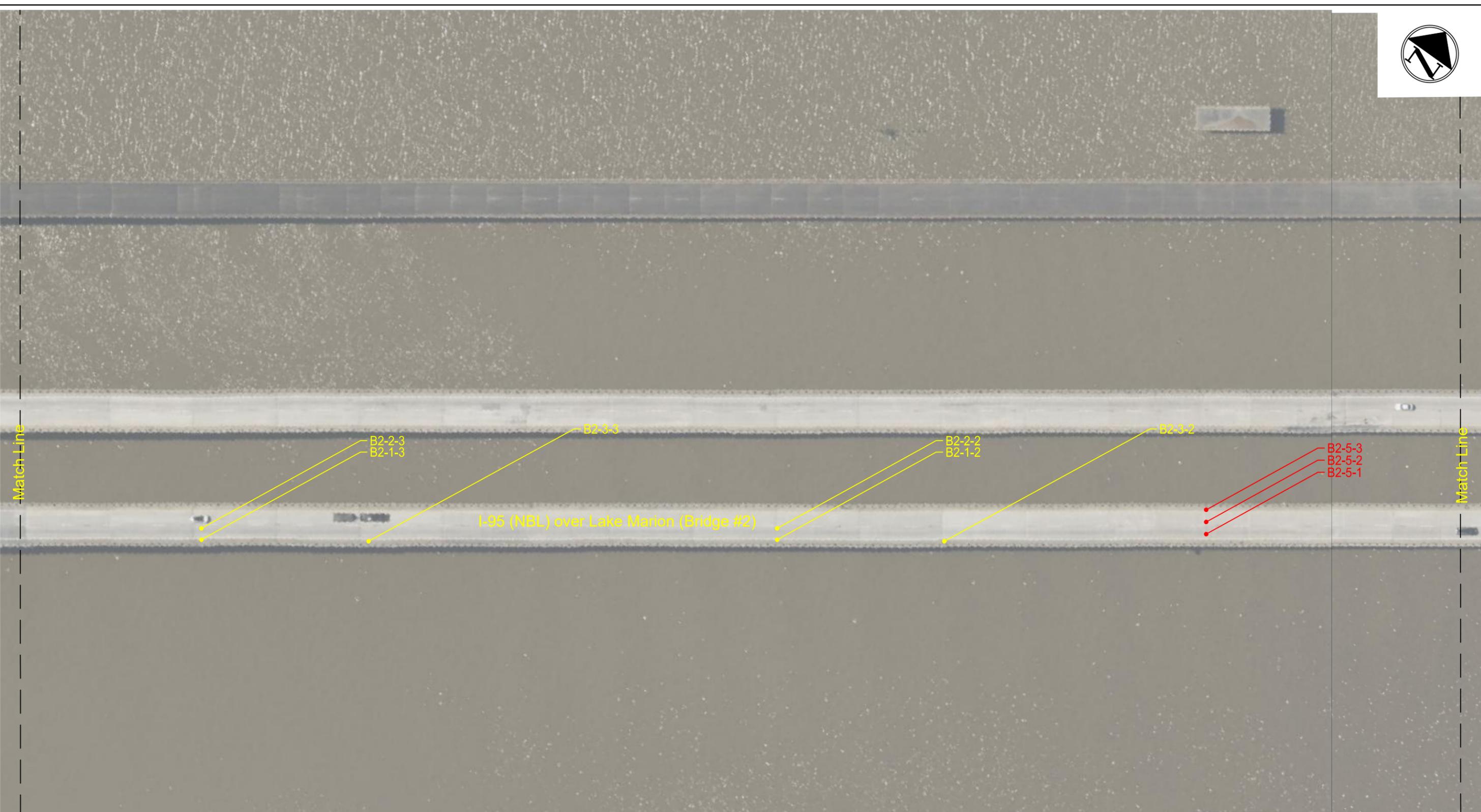
SAMPLE LOCATION PLAN

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 | |



Match Line

Match Line

B2-2-3
B2-1-3

B2-3-3

B2-2-2
B2-1-2

B2-3-2

B2-5-3
B2-5-2
B2-5-1

I-95 (NBL) over Lake Marion (Bridge #2)



NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 3

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



Match Line

Match Line

I-95 (NBL) over Lake Marion (Bridge #2)

B2-2-2
B2-1-2

B2-3-2



F&ME CONSULTANTS, INC.
COLUMBIA, SC

NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 4

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



Match Line

Match Line



I-95 (NBL) over Lake Marion (Bridge #2)

- B2-3-1
- B2-2-1
- B2-1-1
- B2-4-1

F&ME CONSULTANTS, INC.
COLUMBIA, SC
CONSULTANTS

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

NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

SAMPLE LOCATION PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S. FIGURE 5

Appendix C

Homogeneous Area Plan



HA-1 ACM Bond Break Pad #3 (Bent #28)

I-95 (NBL) over Lake Marion (Bridge #2)



F&ME CONSULTANTS, INC.
COLUMBIA, SC

NB I-95 OVER LAKE MARION BRIDGE REPLACEMENT
CLARENDON & ORANGEBURG COUNTIES, SOUTH CAROLINA

HOMOGENOUS AREA PLAN

F&ME JOB NO. G6744.000

SCALE: N.T.S.

FIGURE 6

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

Appendix D

Summary of Samples

Appendix D: Summary of Samples

| Sample ID | Description |
|---|--------------------------------|
| Bridge #2 (NBL I-95 Bridge over Lake Marion) | |
| B2-1-1 | Black Expansion Joint Material |
| B2-1-2 | Black Expansion Joint Material |
| B2-1-3 | Black Expansion Joint Material |
| B2-2-1 | Bond Break Bearing Pad |
| B2-2-2 | Bond Break Bearing Pad |
| B2-2-3 | Bond Break Bearing Pad |
| B2-3-1 | Expansion Joint Sealer |
| B2-3-2 | Expansion Joint Sealer |
| B2-3-3 | Expansion Joint Sealer |
| B2-4-1 | Bond Break Pad #2 |
| B2-4-2 | Bond Break Pad #2 |
| B2-4-3 | Bond Break Pad #2 |
| B2-5-1 | Bond Break Pad #3 (Bent #28) |
| B2-5-2 | Bond Break Pad #3 (Bent #28) |
| B2-5-3 | Bond Break Pad #3 (Bent #28) |



Appendix E

Summary of Asbestos Containing Materials

APPENDIX E: SUMMARY OF ASBESTOS CONTAINING MATERIALS

| Sample ID | Sample Description | Layer | % Asbestos |
|-----------|--------------------------------------|-------|---------------------|
| B2-5-1 | Bond Break Bearing Pad #3 (Bent #28) | - | 70% Chrysotile |
| B2-5-2 | Bond Break Bearing Pad #3 (Bent #28) | - | First Stop Positive |
| B2-5-3 | Bond Break Bearing Pad #3 (Bent #28) | - | First Stop Positive |



Appendix F

Summary of Inspection

SUMMARY OF INSPECTION

SUMMARY OF INSPECTION

The following table summarizes the physical assessment data, sampling and assessment results.

As exhibited on this table, coding is used to abbreviate the asbestos containing material's (ACM) locations, characteristics and results. This code is as follows:

TYPES OF ACM:

Misc. = Miscellaneous

Sur. = Surfacing

TSI = Thermal System Insulation

ACM LOCATIONS:

Homogeneous areas = Indicated by Roman Numerals, Room Number or Area Designation

| <u>Functional Space No.:</u> | <u>Functional Space Type:</u> | |
|------------------------------|-------------------------------|--------------|
| 1. | UB | Under Bridge |

ACM CHARACTERISTICS:

F = Friable

NF = Non-Friable

ASSESSMENT RESULTS:

(Refer to Physical Assessment Data)

POTENTIAL FOR DISTURBANCE:

(Refer to Physical Assessment Data)

SUMMARY OF INSPECTION

PHYSICAL ASSESSMENT CATEGORIES:

1. Damaged or significantly damaged friable thermal system insulation ACM.
2. Damaged friable surfacing ACM.
3. Significantly damaged friable surfacing ACM.
4. Damaged or significantly damaged friable miscellaneous ACM.
5. ACM with potential for significant damage.
6. ACM with potential for damage.
7. Any remaining friable ACM or friable suspect ACM.
8. Non-friable ACM.

CLASSIFICATION FOR HAZARD POTENTIAL:

(Tabular Display)

| <u>Hazard Rank</u> | <u>ACM Condition</u> | <u>ACM Disturbance Potential</u> |
|--------------------|-----------------------|----------------------------------|
| 7 | Significantly Damaged | Any |
| 6 | Damaged | Potential for Significant Damage |
| 5 | Damaged | Potential for Damage |
| 4 | Damaged | Low |
| 3 | Good | Potential for Significant Damage |
| 2 | Good | Potential for Damage |
| 1 | Good | Low |

Appendix G

Summary of Physical Assessment Sheet

PHYSICAL ASSESSMENT DATA SHEET

Building: NB I-95 over Lake Marion Bridge Replacement

Functional Space No: 12 **Type:** UB **Location:** (See Homogeneous Area Plan)

Type of Suspect Material: TSI **Surfacing** X **Misc.** _____

Description: HA-1, Bond Break Bearing Pads Associated with NB I-95 Bridge over Lake Marion

Approximate Amount of Material (SF or LF): ~50 SF

Condition:

Percent Damage: _____ >0% X <10% _____ >10% _____ <25% _____ >25%

Extent of Damage: _____ X Localized _____ Distributed

Type of Damage: _____ X Deterioration _____ X Water _____ Physical

Description:

ACM bond break bearing pads, bent #28 only, was found on the tops of bent #28 only on the existing I-95 Bridges (NBL) over Lake Marion. Overall, this material was intact, but friable condition, with some signs of deterioration due to age and exposure to the elements.

Overall Condition Rating: Sig. Damaged _____ Damaged _____ Good _____ X

Potential for Disturbance:

| | High | Moderate | Low | Friable ACM |
|---------------------------------|-------|----------|----------------------|----------------------|
| Frequency of Potential Contact: | _____ | _____ | _____ <u>X</u> _____ | _____ <u>X</u> _____ |
| Influence of Vibration | _____ | _____ | _____ <u>X</u> _____ | _____ <u>X</u> _____ |
| Frequency of Air Erosion | _____ | _____ | _____ <u>X</u> _____ | _____ <u>X</u> _____ |
| Potential of Water Erosion | _____ | _____ | _____ <u>X</u> _____ | _____ <u>X</u> _____ |

Overall Potential Disturbance Rating:

| | | |
|---------------------------|----------------------|--------------------------|
| Potential for Sig. Damage | Potential for Damage | Low Potential for Damage |
| _____ | _____ | _____ <u>7</u> _____ |

Overall Hazard Rank #:

| | | | |
|--------------|------------------|------------------|----------------------|
| Sig. Damaged | Pot. Sig. Damage | Potential Damage | Low Pot. Damage |
| _____ | _____ | _____ | _____ <u>1</u> _____ |

Comments: Potential for Disturbance and Hazard Ranking assessed is based on current usage of the facility.

Signed:  **Date:** 08/09/23

Appendix H

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: 022304976
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 - 07/28/2023
Collected Date:

Project: 1-95 over Lake Marion (Bridge #2)

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 |
| B2 1-1 <small>022304976-0001</small> | Black Expansion Joint Material | Black Non-Fibrous Homogeneous | 3% Cellulose | 97% Non-fibrous (Other) | None Detected |
| B2 1-2 <small>022304976-0002</small> | Black Expansion Joint Material | Brown/Black Non-Fibrous Heterogeneous | 1% Cellulose | 99% Non-fibrous (Other) | None Detected |
| B2 2-1 <small>022304976-0003</small> | Bond Break Pad | Gray Non-Fibrous Heterogeneous | | 25% Quartz 10% Ca Carbonate 65% Non-fibrous (Other) | None Detected |
| B2 2-2 <small>022304976-0004</small> | Bond Break Pad | Brown/Gray/Black Non-Fibrous Heterogeneous | 1% Cellulose | 20% Quartz 10% Ca Carbonate 69% Non-fibrous (Other) | None Detected |
| B2 3-1 <small>022304976-0005</small> | Expansion Joint Sealer | Black Non-Fibrous Homogeneous | <1% Cellulose | 100% Non-fibrous (Other) | None Detected |
| B2 3-2 <small>022304976-0006</small> | Expansion Joint Sealer | Brown/Black Non-Fibrous Homogeneous | 1% Cellulose | 99% Non-fibrous (Other) | None Detected |
| B2 4-1 <small>022304976-0007</small> | Bond Break Pad #2 | Black/Silver Non-Fibrous Homogeneous | <1% Cellulose | 100% Non-fibrous (Other) | None Detected |
| B2 4-2 <small>022304976-0008</small> | Bond Break Pad #2 | Black/Silver Non-Fibrous Heterogeneous | <1% Cellulose | 100% Non-fibrous (Other) | None Detected |
| B2 5-1 <small>022304976-0009</small> | Bond Break Pad #3 (Bent 28) | Gray Fibrous Homogeneous | | 30% Non-fibrous (Other) | 70% Chrysotile |
| B2 5-2 <small>022304976-0010</small> | Bond Break Pad #3 (Bent 28) | | | | Positive Stop (Not Analyzed) |

Analyst(s)
Cameron Evans (5)
Scott Combs (4)


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 08:26:09



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: 022304976
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 #2)

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 |
|--------------------------|--------------------------------|---|-------------------|-----------------------|----------------------|
| B2 1-3 022304976-0011 | Black Expansion Joint Material | Black Non-Fibrous Homogeneous | 100.0 Other | None | No Asbestos Detected |
| B2 2-3 022304976-0012 | Bond Break Pad | Gray Non-Fibrous Homogeneous | 100.0 Other | None | No Asbestos Detected |
| B2 3-3 022304976-0013 | Expansion Joint Sealer | Black Non-Fibrous Homogeneous | 100.0 Other | None | No Asbestos Detected |
| B2 4-3 022304976-0014 | Bond Break Pad #2 | Gray/Silver Non-Fibrous Homogeneous | 100.0 Other | None | No Asbestos Detected |

Analyst(s)

Stephen Bennett (4)

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 16:40:22

Appendix I

Chain of Custody Forms



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Chain of Custody
EMSL Order Number (Lab Use Only)

022304976

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 #2) | | 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: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different - If Bill to is Different note instructions in Comments** <i>Third Party Billing requires written authorization from third party</i> | | | |
| Turnaround Time (TAT) Options* - Please Check | | | |
| <input type="checkbox"/> 3 Hour | <input type="checkbox"/> 6 Hour | <input type="checkbox"/> 24 Hour | <input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input checked="" type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 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 <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NYS 198.8 SOF-V <input type="checkbox"/> NIOSH 9002 (<1%) | TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input checked="" type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2 5 TEM - Water: EPA 100 2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking | TEM- Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) Soil/Rock/Vermiculite <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<1%) <input type="checkbox"/> PLM EPA 600/R-93/116 with milling prep (<0.25%) <input type="checkbox"/> TEM EPA 600/R-93/116 with milling prep (<0.1%) <input type="checkbox"/> TEM Qualitative via Filtration Prep <input type="checkbox"/> TEM Qualitative via Drop Mount Prep <input type="checkbox"/> Cincinnati Method EPA 600/R-04/004 - PLM/TEM (BC only) Other: <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group | | Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm | |
| Samplers Name: Glynn M. Ellen | | Samplers Signature: | |
| Sample # | Sample Description | Volume/Area (Air) HA # (Bulk) | Date/Time Sampled |
| *B2-1-1 thru B2-1-3 | Black Expansion Joint Material | | |
| *B2-2-1 thru B2-2-3 | Bond Break Pad | | |
| *B2-3-1 thru B2-3-3 | Expansion Joint Sealer | | |
| *B2-4-1 thru B2-4-3 | Bond Break Pad #2 | | |
| *B2-5-1 thru B2-5-3 | Bond Break Pad #3 (Bent 28) | | |
| Client Sample # (s): B2-1-1 - B2-5-3 | | Total # of Samples: 15 | |
| Relinquished (Client): | | Date: 07/24/2023 | Time: 1700 |
| Received (Lab): | | Date: 7-25-23 | Time: 10:15 |
| Comments/Special Instructions: *TEM 3 rd NOB. | | | |

6

① EMSL FAX 7466 7469 10522
Page 1 of 1

Appendix J

Site Photographs

APPENDIX J - SITE PHOTOGRAPHS



Photo 1. Top Side View of Bridges.



Photo 2. Northeast View of I-95 NBL Bridge #2.

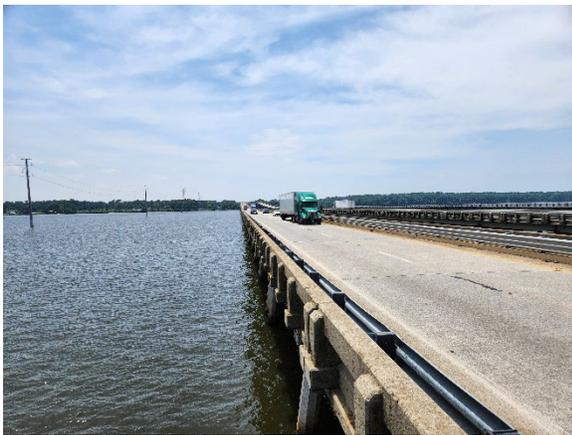


Photo 3. Top View of Bridge #2 Deck.



Photo 4. ACM Bond Break Bearing Pad Associated with Bent #28 of I-95 NBL Bridge #2.

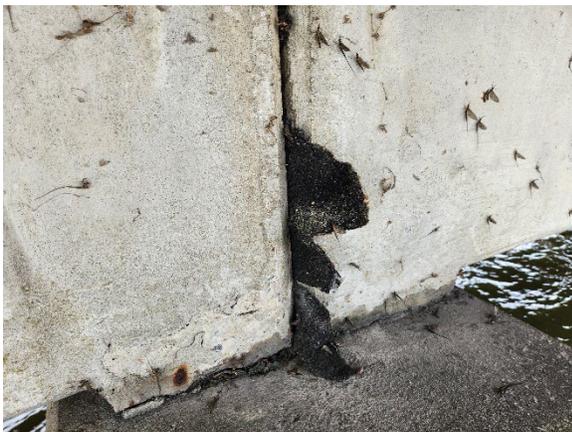


Photo 5. Non-ACM Expansion Joint Material.



Photo 6. Underside View of I-95 NBL Bridge #2.



Appendix K

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

Appendix L

Regulatory Summary

Asbestos Regulatory Information

Renovations & Demolitions

Definitions

Renovation means altering a facility or one or more facility components in any way, including the stripping or removal of regulated asbestos-containing materials (RACM) from a facility component. "Remodeling" is considered renovation.

Demolition is wrecking or taking out any load-supporting structural member of a facility together and any related handling operations. Structural burns are prohibited by State Open Burning Regulations.

Applicability

Renovation and demolition of most facilities (including buildings, structures, and other installations), are subject to State and Federal asbestos regulations. Certain residential buildings may be exempt. Contact the SCDHEC Asbestos Section for additional information.

All asbestos-containing materials must be removed from a facility prior to demolition. Only the following asbestos-containing materials (ACM) may be left in place during demolition:

- ACM on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition
- RACM that was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, cannot be safely removed. If not removed for safety reasons, all exposed RACM and any asbestos-contaminated debris must be treated as regulated asbestos-containing waste material. Category I and Category II non-friable mastic, glue, and adhesive ACM that is not friable or in poor condition, and where the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition operations.
- Category I and Category II non-friable mastic, glue, and adhesive ACM that is not friable or in poor condition, and where the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition operations.

The facility owner and the renovation or demolition contractor are both responsible for ensuring compliance with these regulations.

Building Inspections

Before a facility or a portion of a facility is renovated or demolished, the owner/operator of the facility or renovation or demolition activity must ensure that the facility or portion of the facility being renovated or demolished has been thoroughly inspected for the presence of asbestos. The inspection must be performed by a person who has been trained and licensed as an Asbestos

Building Inspector or management planner in accordance with State training and licensing requirements.

The inspector must identify, quantify, and assess the condition of all suspect asbestos-containing material, either friable or non-friable, on interior and exterior portions of the facility. The inspector must also comply with the procedures specified in Regulation 61-86.1 VI D. In addition, the inspector is required to prepare a written report detailing the findings of the inspection. At a minimum, the report must include information required in Regulation 61-86.1 VI C. A legible copy of the building inspection report must be provided to the Department prior to each demolition, and upon request for renovations. **(Note: " BUILDING INSPECTIONS "can be consulted for a detailed explanation of the aforementioned sampling and reporting protocols.)**

A building inspection will only be acceptable if performed **within three years** prior to the demolition or renovation. If an inspection report is more than three years old, then it must be confirmed and verified by a licensed Asbestos Building Inspector or Management Planner.

Friable Asbestos Containing Materials

If friable asbestos-containing materials (e.g., pipe insulation) are present, they must be removed prior to being disturbed during renovation or demolition activities. Removal (abatement) must be performed by trained, licensed persons using procedures detailed in State and Federal regulations.

A project design must be prepared for each asbestos abatement project involving the abatement of greater than 3,000 square feet, 1,500 linear feet and/or 656 cubic feet of RACM in a facility to be reoccupied. Such designs must be prepared by a person licensed by DHEC as an Asbestos Project Designer.

Non-Friable Asbestos Containing Materials

Please note that when it can reasonably be expected that non-friable materials will become friable during removal, that these materials must be considered friable from the beginning. If non-friable Asbestos Containing Materials (ACM) becomes friable during an abatement project, the removal becomes subject to the same requirements as friable materials, including training, licensing, notification, and work practices.

- Material should always be lowered to the ground carefully. Throwing or dropping non-friable ACM to the ground or into a truck will cause the material to become friable.
- Materials should be kept wet or misted with water during removal to minimize potential fiber release. **NOTE: The use of water is only a control measure and by no means prevents a material from becoming friable.**
- Once removed, materials may be placed in 6-mil polyethylene bags or drums or wrapped with 6-mil polyethylene sheeting. Additional water may be added to ensure thorough wetting, but do not add so much that the bag or wrapping breaks when lifted.

- Debris already on the ground should be wet and either collected manually or gathered with a shovel and bagged for disposal. These materials can be potential sources of airborne asbestos fiber releases.
- South Carolina Regulation 61-86.1 requires that containers (bags, drums, wrapped components) holding asbestos waste must be labeled with the following: **DANGER - CONTAINS ASBESTOS FIBERS - AVOID CREATING DUST - CANCER AND LUNG DISEASE HAZARD.**
- Materials should be taken to a landfill as soon as possible but may be stored temporarily in a secure area subject to Departmental approval. Transport the materials so as to prevent them from leaking, spilling, or blowing off the vehicle.
- You should contact the landfill directly to make sure it will accept the material. You must obtain written approval from DHEC in advance for the disposal. You can get this approval by writing to the following address:

**South Carolina Department of Health and Environmental Control
Attn: Bureau of Air Quality/Asbestos Section
2600 Bull Street Columbia, SC 29201**

Be sure to include the following:

1. the address where the material is to be removed;
2. a brief description of the content (cement-like tiles, asphaltic shingles, etc.);
3. the volume of waste in cubic yards or the area in square feet of material removed, and;
4. the name and location of the landfill which has agreed to accept the waste.

Please remember to include your name, return address, and phone number.

- **DO NOT BURN OR RECYCLE** any asbestos-containing or asbestos-contaminated materials.

The Occupational Safety and Health Administration (OSHA) has rules for workers affected by asbestos-containing materials. These rules must be complied with by all contractors and facility owners and include specific work practices, respiratory protection, and asbestos training requirements, **even for activities involving only non-friable asbestos-containing materials.** Contact the Department of Labor at (803) 896-7665 for details.

Notification of Renovations & Demolitions

Prior to removing regulated asbestos-containing materials, [written notification](#) must be submitted to DHEC (up to 10 working days in advance, depending on the amount of asbestos to be removed). The notification must include certain required items of information about the owner, the contractor, the facility, and the asbestos removal project. Required fees must be submitted along with the notification. You must obtain a permit from the Department prior to the renovation activity.

Prior to the demolition of any regulated facility, [written notification](#) must be submitted to DHEC *at least 10 working days* in advance **even if a building inspector determines that asbestos is not present at the facility**. The notification must include certain required items of information about the owner, the contractor, the facility, and the demolition project. Required fees and a copy of the building inspector's report must be submitted along with the notification of demolition. You must obtain a permit from the Department prior to the demolition activity.

Disposal

Never burn any asbestos-containing waste material.

Non-asbestos-containing demolition debris and debris which contains only non-regulated roofing or flooring may be disposed of at a DHEC-approved disposal site for cellulosic or inert waste. Waste consolidation activities involving grinding, cutting, or compacting of non-friable asbestos-containing materials will subject these materials to more stringent State and Federal asbestos disposal regulations.

Regulated asbestos waste must be handled by properly licensed asbestos abatement personnel and disposed of at a landfill permitted to accept regulated asbestos waste. A list of approved landfills may be obtained from the Asbestos Section.

Building Inspection Report Directions

As required by the National Emission Standard for Hazardous Air Pollutants (NESHAP) and Regulation 61-86.1, an owner/operator shall ensure that a building inspection, to detect the presence of asbestos-containing material (ACM), has been performed prior to any renovation or demolition activity at a regulated facility.

Under Regulation 61-86.1, Section VI.A.6., an inspection cannot have been performed more than three years prior to a renovation or demolition activity. If more than three years have elapsed since the most recent inspection, the previous inspection shall be confirmed and verified by a licensed building inspector and/or management planner.

Regulation 61-86.1 requires that all inspections be performed by persons trained and licensed as either a building inspector and/or management planner. In order to be licensed in these disciplines, persons must have successfully completed a DHEC approved initial training course specific to inspecting for ACM in a building and/or a course specific to management planning for ACM in a building. Persons must also have taken and passed an examination at the end of the course with a score of 70 percent or above.

In performing inspections, Regulation 61-86.1 requires that a building inspector and/or management planner comply with the requirements of Section VI, Asbestos Building Inspection Requirements. An inspection shall include samples from suspect friable and non-friable ACM on interior and exterior portions of a facility or its facility components.

In performing inspections, Regulation 61-86.1 requires that a building inspector and/or management planner follow specific sampling procedures. According to Section IV.B.3.a of the regulation, a building inspector and/or management planner shall comply with the procedures specified in **40 CFR 763.86** in determining sampling locations and the number of representative samples to be collected. An inspection shall include samples from suspect friable and non-friable ACM on interior and exterior portions of a facility or its facility components.

Under 40 CFR Part 763.86, suspect ACM are divided into three categories: surfacing materials, thermal system insulation (commonly referred to as TSI), and miscellaneous materials. Regulation 61-86.1, Section VI contains sampling procedures specific to each category of material.

Surfacing material includes, but is not limited to, joint compound, plaster, and painted, troweled on, or spray-applied textured material. To remain in compliance with Regulation 61-86.1, surfacing materials on exterior and interior portions of a facility shall be sampled according to procedures outlined in Regulation 61-86.1, Section VI.D.1. (a)-(c):

- A licensed asbestos inspector shall collect, in a statistically random manner, a minimum of three bulk samples from each homogeneous area of any surfacing that is not assumed to be ACM, and shall collect the samples as follows:
 - At least three bulk samples shall be collected from each homogeneous area that is 1,000 or fewer square feet (sf) or linear feet (Lf) in size.
 - At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 but fewer than or equal to 5,000 sf or Lf.
 - At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 sf or Lf.

Thermal System Insulation (TSI) is any material that is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other facility components for the purpose of preventing heat loss or gain, water condensation, or for other purposes. **Miscellaneous Material** is any material that is not considered a surfacing material or thermal system insulation and includes, but is not limited to, flooring, roofing, mastics, gaskets, cementitious materials, caulking, ceiling tiles, fire doors, wall boards, and flexible duct connections. To remain in compliance with Regulation 61-86.1, TSI and miscellaneous materials on exterior and interior portions of a facility shall be sampled in accordance with procedures outlined in Regulation 61-86.1, Section VI.D.2:

- A licensed asbestos inspector shall collect, in a statistically random manner, at least three bulk samples from each homogeneous area of TSI and any miscellaneous material that is not assumed to be ACM.
- In accordance with ASTM E2356, and any subsequent amendments and editions, negative results for non-friable organically bound material (NOB) shall be verified with at least one TEM analysis.
- NOBs include flooring, roofing, mastics, adhesives, caulks, and glazing.
- If an accredited inspector has determined the thermal system insulation to be fiberglass, foam glass, rubber, or other non-suspect material, then bulk samples are not required.

Regulation 61-86.1, Section VI.C requires that a building inspector and/or management planner prepare a written asbestos building inspection report to include the following:

- A title page denoting:
 1. The client's name, company, address, and telephone number, and the name and exact location of the facility inspected;
 2. the date the inspection was performed;
 3. the date the inspection report was written; and
 4. the printed name and telephone number of the inspector(s), and his or her affiliated company name, address, and telephone number.
- A cover letter to the building owner or owner's representative that describes the purpose of the inspection; a general synopsis of the inspection and results; and the name, title, and signature of the inspector(s) and report writer, if different.
- A detailed narrative of the physical description of the building or part of the building affected by the renovation or demolition operation that includes:
 1. The square footage of the building or part of the building affected by the renovation or demolition operation;
 2. The building materials used in the construction of the exterior, roof, interior, and basement or crawlspace of the building affected by the demolition or affected by the renovation materials operation;
 3. An estimated or exact quantity (square or linear feet) for all suspect materials whether sampled for or assumed to be asbestos that may be affected by the renovation or demolition operation;
 4. Also include a description of non-suspect materials excluding: glass, metals, kiln brick, cement, fiberglass, concrete, pressed wood, cinder block, and rubber.
- An executive summary that details:
 1. The type of suspect ACM (e.g., TSI, floor tile, mastic), total square or linear footage, and the total number of samples collected for each separate homogenous area affected by the renovation or demolition operation;
 2. The date of the inspection, type, condition, quantity, sample results, and exact location of ACM positively identified or assumed to be ACM in the part of the building affected by the renovation or demolition operation;
 3. A list of the homogeneous areas identified;
 4. Whether the material is accessible for the building or part of the building affected by the renovation or demolition operation; and (5) The material's potential for disturbance for the building or part of the building affected by the renovation or demolition operation.
- For renovation and demolition operations, the inspector's determination that ACM is friable or non-friable.
- Except when suspect ACM materials are assumed to be asbestos, include a complete, clear, legible copy of all laboratory bulk sample results.
- Clear, legible drawings and/or photographs to clarify the scope of the renovation or demolition operation. Illustrate the exact location of each sample collected. For facilities

that involve a trade secret or confidential component or an affected area process, a request for a variance may be submitted.

- The printed name and signature of each accredited inspector who collected the samples, and a clear legible copy of his or her DHEC issued asbestos building inspector or management planner license.

Things to Note:

- At no time will negative assumptions about a suspect material's content be acceptable. There are only two acceptable options:
 1. Positive assumptions of suspect materials or
 2. Sampling of suspect materials per the procedures specified in 40 CFR 763.86
- A homogenous area is considered not to contain ACM only if the results of all samples required to be collected from the area are one percent or less.
- Bulk samples shall not be composited for analysis.
- In a multi-unit building, each separate room in each part of the building or areas affected by the renovation or demolition operation shall be inspected to confirm and quantify ACM homogeneous areas for sampling purposes.
- DHEC will not accept an asbestos building inspection or written report for any structure from an employee of an abatement company also involved in the removal of asbestos-containing materials from that structure, unless the licensed inspector is an employee of an entity regulated under Regulation 61-86.1, Section XX, Industrial Manufacturing and Electrical Generation Facilities.
- An asbestos building inspector shall not participate in the analysis of the bulk samples he or she has collected.
- Destructive sampling techniques shall be utilized.
- Material Safety Data Sheets (MSDS), statements from the manufacturer, and architecture signoff will not be accepted as proof that a building product contains no asbestos, except in cases where the owner can verify the direct correlation of the building product to the MSDS, statements from the manufacturer, and/or architecture signoff documents. DHEC reserves the right to reject documentation that it deems unacceptable.

Appendix M

Abatement Project Forms



ASBESTOS ABATEMENT PROJECT LICENSE APPLICATION
 BUREAU OF AIR QUALITY • ASBESTOS SECTION • 2600 BULL STREET • COLUMBIA • SC • 29201

TYPE OF OPERATION: Standard Removal Emergency Removal Enclosure Encapsulation Cleanup Disposal

| | | |
|--|--|---|
| FOR OFFICE USE Postmark/Received: _____ | Original <input type="checkbox"/> / Revised <input type="checkbox"/> / Cancellation <input type="checkbox"/> (check one) | Project License I.D. (For Revisions/Cancellations): _____ |
|--|--|---|

I. FACILITY OWNER: _____
 MAILING ADDRESS: _____
 CITY: _____ STATE: _____ ZIP: _____
 CONTACT PERSON: _____ PHONE: (____) _____

II. REMOVAL CONTRACTOR: _____
 MAILING ADDRESS: _____
 CITY: _____ STATE: _____ ZIP: _____
 CONTACT PERSON: _____ PHONE: (____) _____
 E-MAIL ADDRESS: _____ E-MAIL PERMIT OR MAIL PERMIT
 FEDERAL I.D. NUMBER: _____
 DHEC CONTRACTOR LICENSE NO. (If applicable): _____ EXPIRATION DATE: _____

III. FACILITY NAME: _____
 STREET ADDRESS: _____
 CITY: _____ STATE: _____ COUNTY: _____
 SITE (ROOM, FLOOR, WING, UNIT, MACHINE, ETC.): _____
 BUILDING SIZE: _____ NO. OF FLOORS: _____ AGE IN YEARS: _____
 PRESENT USE: _____ PRIOR USE: _____ FUTURE USE: _____

IV. PROCEDURES, INCLUDING ANALYTICAL METHOD IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:
 FACILITY OR FACILITY COMPONENT SURVEYED BY (INSPECTOR NAME): _____
 COMPANY: _____ PHONE: (____) _____
 DHEC LICENSE NUMBER: _____ EXPIRATION DATE: _____

V. PROJECT DESIGN PERFORMED BY (IF APPLICABLE): _____
 COMPANY: _____ PHONE: (____) _____
 DHEC LICENSE NUMBER: _____ EXPIRATION DATE: _____

VI. ASBESTOS-CONTAINING MATERIALS (ACM) **TO BE REMOVED ONLY:**

| TYPE (TSI, SURFACING, FLOORING, ROOFING, ETC.) | AMOUNT (SQUARE FEET, LINEAR FEET, CUBIC FEET) | CONDITION (CIRCLE ONE) |
|--|---|---|
| | | <input type="checkbox"/> FRIABLE <input type="checkbox"/> NON-FRIABLE |
| | | <input type="checkbox"/> FRIABLE <input type="checkbox"/> NON-FRIABLE |
| | | <input type="checkbox"/> FRIABLE <input type="checkbox"/> NON-FRIABLE |
| | | <input type="checkbox"/> FRIABLE <input type="checkbox"/> NON-FRIABLE |

VII. SCHEDULED DATES OF REMOVAL: START DATE: _____ COMPLETION DATE: _____
 WORK DAYS: _____ WORK HOURS: _____

| | |
|--|--|
| <p>APPLICATIONS MUST BE SUBMITTED WITH FEES PRIOR TO THE SCHEDULED START DATE AS FOLLOWS: NESHAP PROJECTS: 10 WORKING DAYS SMALL PROJECTS: 4 WORKING DAYS MINOR PROJECTS: 2 WORKING DAYS</p> <p>Non-Friable (NESAP-sized) Projects: 4 working days. No fee for non-friable ACM. For additional information concerning regulatory requirements call or visit our Web site at http://www.scdhec.gov/environment/baq/asbestos.aspx</p> | <p>FEE SCHEDULE FOR FRIABLE ASBESTOS-CONTAINING MATERIALS: 10 CENTS PER SQUARE FOOT OR LINEAR FOOT MINIMUM FEE OF \$25.00 MAXIMUM FEE OF \$1000.00</p> |
|--|--|

VIII. DESCRIPTION OF PLANNED ABATEMENT WORK & METHOD(S) TO BE USED:

IX. DESCRIPTION OF WORK PRACTICES & ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE RENOVATION SITE:

X. WASTE TRANSPORTER #1: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

WASTE TRANSPORTER #2: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

XI. WASTE DISPOSAL SITE: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

TEMPORARY ASBESTOS STORAGE CONTAINMENT AREA LICENSE NUMBER (IF APPLICABLE): _____

XII. DESCRIPTION OF EMERGENCY REMOVAL (PLEASE ATTACH A LETTER FROM THE FACILITY OWNER EXPLAINING THE NATURE OF THE EMERGENCY)

DATE & HOUR OF EMERGENCY (MM/DD/YY): _____

DESCRIPTION OF SUDDEN, UNEXPECTED EVENT:

EXPLANATION OF HOW THE EVENT CAUSED UNSAFE CONDITIONS AND/OR WOULD CAUSE EQUIPMENT DAMAGE AND/OR AN UNREASONABLE FINANCIAL BURDEN:

XIII. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NON-FRIABLE ASBESTOS MATERIAL BECOMES CRUMBLD, PULVERIZED OR REDUCED TO POWDER:

XIV. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS.

(SIGNATURE OF OWNER/OPERATOR)

(DATE)

XIV. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.

(SIGNATURE OF OWNER/OPERATOR)

(DATE)



DEMOLITION LICENSE APPLICATION

BUREAU OF AIR QUALITY • ASBESTOS SECTION • 2600 BULL STREET • COLUMBIA • SC • 29201

TYPE OF OPERATION: Total Demolition Partial Demolition Ordered Demolition

FOR OFFICE USE

Postmark/Received: _____

Original/Revised/Cancellation (circle one)

Project License I.D. (For Revisions/Cancellations): _____

I. FACILITY OWNER: _____
 MAILING ADDRESS: _____
 CITY: _____ STATE: _____ ZIP: _____
 CONTACT PERSON: _____ PHONE: (____) _____

II. IS ASBESTOS PRESENT IN THE FACILITY?: YES / NO (check one)

III. DEMOLITION CONTRACTOR: _____ FEDERAL ID NO.: _____
 MAILING ADDRESS: _____
 CITY: _____ STATE: _____ ZIP: _____
 CONTACT PERSON: _____ PHONE: (____) _____
 E-MAIL ADDRESS: _____ E-MAIL PERMIT OR MAIL PERMIT
 FEDERAL I.D. NUMBER: _____
 ASBESTOS REMOVAL CONTRACTOR (If applicable): _____
 MAILING ADDRESS: _____
 CITY: _____ STATE: _____ ZIP: _____
 CONTACT PERSON: _____ PHONE: (____) _____

IV. FACILITY NAME: _____
 STREET ADDRESS: _____
 CITY: _____ STATE: _____ COUNTY: _____
 SITE (ROOM, FLOOR, WING, UNIT, MACHINE, ETC.): _____
 BUILDING SIZE: _____ NO. OF FLOORS: _____ AGE IN YEARS: _____
 PRESENT USE: _____ PRIOR USE: _____ FUTURE USE: _____

V. PROCEDURES, INCLUDING ANALYTICAL METHOD IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:
 FACILITY OR FACILITY COMPONENT SURVEYED BY (INSPECTOR NAME): _____
 COMPANY: _____ PHONE: (____) _____
 DHEC LICENSE NUMBER: _____ EXPIRATION DATE: _____

VI. NON-FRIABLE MASTIC, GLUE, AND ADHESIVE ASBESTOS-CONTAINING MATERIALS **REMAINING IN PLACE DURING DEMOLITION** (IF APPLICABLE):

| TYPE (MASTIC, GLUE, AND ADHESIVE) | AMOUNT (SQUARE FEET) |
|-----------------------------------|----------------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |

VII. SCHEDULED DATES OF DEMOLITION (YOU MUST SPECIFY DATES):
 START DATE: _____ COMPLETION DATE: _____
 WORK DAYS: _____ WORK HOURS: _____

- **Applications must be mailed along with a \$50.00 fee (payable to SCDHEC) at least 10 working days prior to the scheduled start date. Faxes will not be accepted.**
- **A copy of an asbestos survey report (no older than 3 years) must accompany the application.**

For additional information concerning regulatory requirements call or visit our Web site at <http://www.scdhec.gov/environment/baq/asbestos.aspx>

VIII. DESCRIPTION OF PLANNED DEMOLITION METHOD(S) TO BE USED:

BULLDOZER LOADER WRECKING BALL MANUAL BURNING IMPLOSION/EXPLOSION

IF OTHER PLEASE DESCRIBE:

IX. DESCRIPTION OF WORK PRACTICES & ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE DEMOLITION SITE:

X. WASTE TRANSPORTER #1: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

WASTE TRANSPORTER #2: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

XI. WASTE DISPOSAL SITE: _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

CONTACT PERSON: _____ PHONE: (_____) _____

XII. IF DEMOLITION ORDERED BY GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW: (PLEASE ATTACH A COPY OF THE ORDER)

NAME: _____ TITLE: _____

AUTHORITY: _____

DATE OF ORDER (MM/DD/YY): _____ DATE ORDERED TO BEGIN(MM/DD/YY): _____

XIII. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER:

XIV. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION INVOLVING RACM AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS.

(SIGNATURE OF OWNER/OPERATOR)

(DATE)

XV. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.

(SIGNATURE OF OWNER/OPERATOR)

(DATE)

- **Applications must be mailed along with a \$50.00 fee (payable to SCDHEC) at least 10 working days prior to the scheduled start date. Faxes will not be accepted.**
- **A copy of an asbestos survey report (no older than 3 years) must accompany the application.**

For additional information concerning regulatory requirements call or visit our Web site at <http://www.scdhec.gov/environment/baq/asbestos.aspx>

