



TENNESSEE DEPARTMENT OF TRANSPORTATION ASBESTOS SURVEY REPORT

Federal Bridge Number: 57SR1380007
SR-138 Bridge over Overflow LM 4.69
PIN: 134864.00, Project Number: 99109-0138-04
Madison County, Tennessee



PREPARED BY

ENSAFE

10 May 2024

A handwritten signature in black ink that reads "Corey Coleman".

Corey Coleman (Signature)

Tennessee Asbestos Inspector Accreditation No: A-I-48788-160686

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Bridge Identification	1
1.2	General Description	1
2.0	SURVEY	1
2.1	Personnel and Date(s) of Inspection.....	2
2.2	Visual Survey	2
2.3	Bridge Components	2
2.3.1	<i>Top of Bridge Deck (Homogeneous Area 01)</i>	2
2.3.2	<i>Underside of Bridge Deck</i>	2
2.3.3	<i>Bridge Beams (Homogeneous Area 02)</i>	2
2.3.4	<i>Bridge Piers/Bents and Support</i>	2
2.3.5	<i>Bridge Rails</i>	3
2.3.6	<i>Abutments</i>	3
2.3.7	<i>Bridge Drainage</i>	3
2.3.8	<i>Utilities</i>	3
2.3.9	<i>Other Environmental Concerns</i>	3
3.0	ANALYTICAL PROCEDURES.....	3
4.0	REGULATORY OVERVIEW.....	4
4.1	National Emission Standards for Hazardous Air Pollutants.....	4
4.2	Definitions	4
5.0	RESULTS OF ASBESTOS BULK SAMPLE ANALYSIS	5
6.0	QUALIFICATIONS	5

TABLES

Table 1	Bridge Component Descriptions.....	7
---------	------------------------------------	---

FIGURES

Figure 1	Bridge Location Map.....	9
Figure 2	Bridge Profile and Sample Locations	10

APPENDICES

Appendix A	Photographs	11
Appendix B	Asbestos Sample Laboratory Analysis Data	14
Appendix C	Asbestos Survey Personnel Credentials	17
Appendix D	Health and Safety Plan	20

1.0 INTRODUCTION

This report presents the findings of a survey for asbestos-containing materials (ACM) completed on the bridge identified in Section 1.1. The inspection was completed by EnSafe Inc. in accordance with the State of Tennessee, Department of Transportation Environmental Division, Social and Cultural Resources Office, Hazardous Materials Section requirements.

1.1 Bridge Identification

The bridge is identified in the Tennessee Department of Transportation (TDOT) Bridge Management System as:

Bridge Number: 57SR1380007

Route/Crossing: SR-138 Bridge over Overflow

County: Madison

TDOT Project Number: 99109-0138-04

TDOT PIN: 134864.00

Project Route/Termini: SR-138 Bridge over Overflow LM 4.69

1.2 General Description

Bridge Number 57SR1380007 SR-138 over Overflow at LM 4.69 (57-SR138-04.69) is located in Madison County, Tennessee. The bridge is a 51-foot, 2-lane, 3-span bridge constructed of concrete channel beams with a concrete deck and asphalt wearing surface. The bridge was constructed in 1949 and rehabilitated in 1990. The bridge location is shown on Figure 1. Photographs of the bridge are presented in Appendix A. The analytical results and chain-of-custody records are included in Appendix B.

2.0 SURVEY

The identification of ACM is performed by laboratory analysis of the bulk samples of suspect materials. ACM are those materials found to contain greater than 1% asbestos by calibrated visual area estimation by Polarized Light Microscopy (PLM).

Bulk sampling is a procedure in which representative homogeneous sampling areas (HA) in a structure are identified and then sampled. A homogeneous sampling area is defined as an area that contains material of the same type (uniform in color and texture) and was applied during the same general time. Once the homogeneous sampling areas are identified, bulk samples of suspect materials were obtained from the homogeneous areas at the discretion of our inspectors, based on Site conditions and experience.

2.1 Personnel and Date(s) of Inspection

The sampling and field activities were performed on 28 March 2024 by Mr. Corey Coleman, Accredited State of Tennessee Asbestos Inspector. Copies of the inspector's and EnSafe's current accreditation from the State of Tennessee are included in Appendix C. Field activities were conducted under EnSafe's Programmatic Health and Safety Plan for Bridge Sampling with only the site-specific section included in Appendix D.

2.2 Visual Survey

The survey began with a walk-through and visual survey of the structure; procedures include the following:

- Sketching the structure and/or verifying the plans provided
- Locating and identifying HA of suspect materials that may contain asbestos minerals
- Determining applicable sampling locations

Table 1 lists the homogeneous areas identified during EnSafe's visual survey.

2.3 Bridge Components

Bridge components identified and sampled as homogenous areas are detailed below. Photographs of each HA are provided in Appendix A.

2.3.1 Top of Bridge Deck (Homogeneous Area 01)

The bridge had a concrete deck covered with asphalt. The concrete top of the bridge deck was the same pour/homogeneous area as the underside of the bridge deck discussed below in Section 2.3.2. There was a concrete curb associated with the top deck. Samples HA01-01, HA01-02, and HA01-03 were taken using hammers and chisels.

2.3.2 Underside of Bridge Deck

The bridge had a concrete deck. The underside revealed concrete channel beams that made up the underside of the bridge as one continuous pour. The channel beams are discussed in Section 2.3.3.

2.3.3 Bridge Beams (Homogeneous Area 02)

The bridge had concrete channeled beams. These beams were sampled and labeled HA02-01, HA02-02, and HA02-03. Samples were obtained using hammers and chisels.

2.3.4 Bridge Piers/Bents and Support

The bridge piers were constructed of wood and were not sampled.

2.3.5 Bridge Rails

The bridge had metal rails and were not sampled.

2.3.6 Abutments

The abutments were constructed of wood and were not sampled.

2.3.7 Bridge Drainage

There were no drain features associated with the bridge.

2.3.8 Utilities

No utilities were observed on the bridge.

2.3.9 Other Environmental Concerns

No other environmental concerns were observed.

3.0 ANALYTICAL PROCEDURES

The bulk samples are analyzed in the laboratory using polarized light microscopy (PLM) coupled with dispersion staining (United States Environmental Protection Agency [U.S. EPA] Method 600/R-93/116). PLM is an analytical method for asbestos identification, which identifies the specific asbestos minerals by their unique optical properties. The optical properties are a result of the mineral's chemical composition, physical atomic structure, and visual morphology. PLM is the U.S. EPA recommended method of analysis for asbestos identification in bulk samples.

When samples similar in appearance have different results, it is beneficial to analyze the remainder of the samples to clarify the results and explore the possibility of different materials. In addition, samples which contain multiple layers, or that have associated mastic or adhesive backing, are analyzed as two or more separate samples. Samples that are identified to contain 1% or less asbestos minerals are generally recommended to be point counted by the laboratory for confirmation.

The samples collected for this survey were analyzed by Scientific Analytics Inc. (SAI), National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP Number 200644). This lab has received accreditation from the National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program.

4.0 REGULATORY OVERVIEW

4.1 National Emission Standards for Hazardous Air Pollutants

The U.S. EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations (40 Code of Federal Regulations [CFR] 61, Subpart M) requires that all regulated asbestos-containing materials (RACM) be properly removed prior to any renovation or demolition activities that will disturb them. These regulations define RACM as:

- a. Friable asbestos material
- b. Category I non-friable ACM that has become friable
- c. Category I non-friable ACM that will be or has been subject to sanding, grinding, cutting, or abrading
- d. Category II non-friable ACM that has a high probability of becoming, or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

4.2 Definitions

Significant definitions related to regulation of asbestos under NESHAPS regulations (40 CFR Part 61, Subpart M, Section 61.141) include:

Friable ACM means any material containing more than 1% asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure.

Non-friable ACM means any material containing more than 1% asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. U.S. EPA also defines two categories of non-friable ACM, Category I and Category II non-friable ACM, which are described as follows:

Category I non-friable ACM is any asbestos-containing packing, gasket, resilient floor covering or asphalt roofing product which contains more than 1% asbestos as determined using polarized light microscopy according to the method specified in Appendix E, Subpart E, 40 CFR Part 763.

Category II non-friable ACM is any material, excluding Category I non-friable ACM, containing more than 1% asbestos as determined using polarized light microscopy according to the methods specified in Appendix E, Subpart E, 40 CFR Part 763 that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated Asbestos-Containing Material is (a) friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations by this subpart.

5.0 RESULTS OF ASBESTOS BULK SAMPLE ANALYSIS

A total of six samples were obtained from the bridge. Multiple samples of each homogeneous area were collected in accordance with State of Tennessee, Department of Transportation Environmental Division, Social and Cultural Resources Office, Hazardous Materials Section requirements and delivered to the laboratory for visual observation and microscopic analysis. The samples were selected based on homogeneous areas of suspect materials, as described in Section 2.3.

A list of bridge components sampled is provided in Table 1. Laboratory results indicate that no asbestos was detected in samples collected from the bridge. Analytical results of all samples collected from the bridge, and the chain-of-custody records, are included in Appendix B.

6.0 QUALIFICATIONS

The information presented herein is based on information obtained during the 28 March 2024 site visit and from previous experience. If additional information becomes available, which might impact EnSafe's conclusions or recommendations, EnSafe requests the opportunity to review the information, reassess the potential concerns, and modify opinions, if warranted.

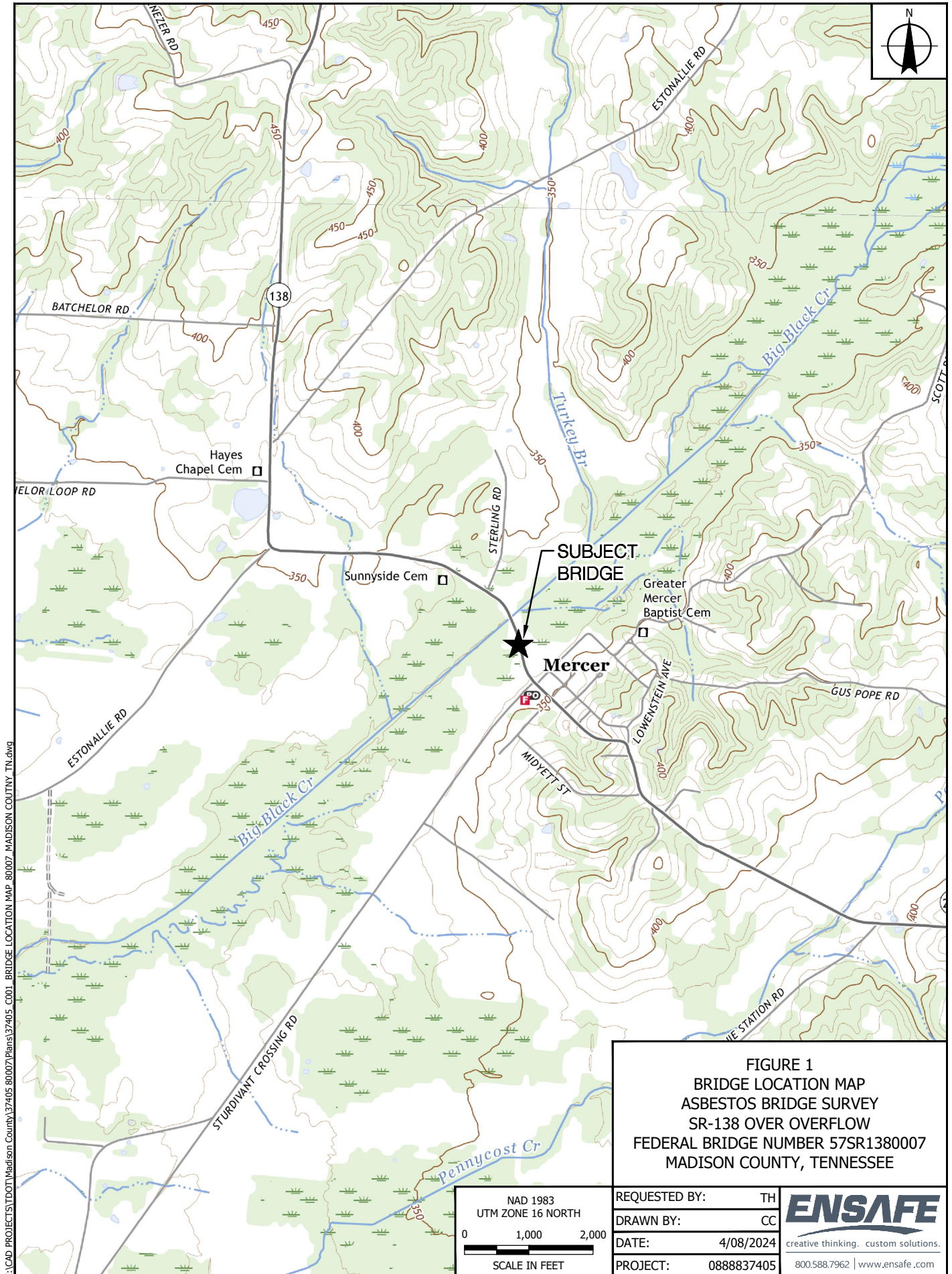
This report has been prepared on behalf of the Tennessee Department of Transportation. This document is not a Bid Document or a Contract Document. Use of this report or reliance upon information contained in this report by any other party implies an agreement by that party to the same terms and conditions under which service was provided. Furthermore, any party, other than EnSafe's Client, relying on this document is cautioned that all conclusions made, or decisions arrived at based on their review of this document are those solely of the third party, without warranty, guarantee or promise by the author. These findings are relevant to the dates of EnSafe's services and should not be relied upon to represent conditions at substantially earlier or later dates.

Tables

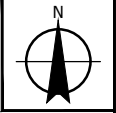
Table 1
Bridge Component Descriptions

Homogeneous Area	Description	Sample Numbers
01	Concrete Curb	HA01-01, HA01-02, HA01-03
02	Concrete Channel Beams	HA02-01, HA02-02, HA02-03

Figures



I:\CAD PROJECTS\TDOT\Madison County\37405 80007\Plans\37405 C001 BRIDGE LOCATION MAP 80007 MADISON COUNTY TN.dwg



METAL
GUARDRAIL

HA01-02

HA02-01

CONCRETE BEAM
(TYP. 4)

HA02-02

OVERFLOW
←

HA02-03

CONCRETE
CURB

CONCRETE PIER

OVERFLOW
←

HA01-01

CONCRETE
CURB

SR-138

METAL
GUARDRAIL

HA01-03

54-138-4.69

FIGURE 2
BRIDGE PROFILE & HA LOCATION MAP
ASBESTOS BRIDGE SURVEY
SR-138 OVER OVERFLOW
FEDERAL BRIDGE NUMBER 57SR1380007
MADISON COUNTY, TENNESSEE

LEGEND



FLOW DIRECTION

HA01-1

SAMPLE LOCATION

NAD 1983 STATE PLANE
TENNESSEE FEET

0 5 10

SCALE IN FEET

REQUESTED BY: TH
DRAWN BY: CC
DATE: 4/08/2024
PROJECT: 0888837405

ENSAFE
creative thinking. custom solutions.
800.588.7962 | www.ensafe.com

Appendix A: Photographs

Photographer: Frank O'Connell	
Date: 03/28/2024	
Description: Photograph 1 — Bridge Identification Number	

Photographer: Frank O'Connell	
Date: 03/28/2024	
Description: Photograph 2 — Bridge approach	

Photographer: Frank O'Connell	
Date: 03/28/2024	
Description: Photograph 3 — Homogeneous Area 01 — Concrete Curb Sample Locations HA01-01 HA01-02 HA01-03	
Photographer: Frank O'Connell	
Date: 03/28/2024	
Description: Photograph 4 — Homogeneous Area 02 — Concrete channel beams Sample Locations HA02-01 HA02-02 HA02-03	

Appendix B:

Asbestos Sample Laboratory Analysis Data



Bulk Asbestos Analysis

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



Customer: EnSafe Inc.
5724 Summer Trees Drive
Memphis, TN 38134

Attn: Corey Coleman

Lab Order ID: 10047337

Analysis: PLM

Date Received: 03/29/2024

Date Reported: 04/02/2024

Project: Madison Co. 57SR1380007 4.69/134864
0888837405

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
HA01-01	Concrete curb	None Detected		100% Other	Gray Non-Fibrous Homogeneous
10047337_0001					Crushed
HA01-02	Concrete curb	None Detected		100% Other	Gray Non-Fibrous Homogeneous
10047337_0002					Crushed
HA01-03	Concrete curb	None Detected		100% Other	Gray Non-Fibrous Homogeneous
10047337_0003					Crushed
HA02-01	Concrete channel beam	None Detected		100% Other	Gray Non-Fibrous Homogeneous
10047337_0004					Crushed
HA02-02	Concrete channel beam	None Detected		100% Other	Gray Non-Fibrous Homogeneous
10047337_0005					Crushed
HA02-03	Concrete channel beam	None Detected		100% Other	Gray Non-Fibrous Homogeneous
10047337_0006					Crushed

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogenous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 0.1%.

Byron Stroble (6)

Analyst

Approved Signatory



Scientific Analytical Institute
4604 Dundas Dr. Greensboro, NC 27407
Phone: 336.292.3888 Fax: 336.292.3313
www.sailab.com lab@sailab.com

Lab Use Only
Lab Order ID: 10047337
Client Code: _____

Company Contact Information	
Company: <u>ENSAFÉ</u>	Contact: <u>Mary Coleman</u>
Address: <u>5724 SUMMER TREES DRIVE</u>	Phone ☒ : <u>701-372-7962</u>
<u>MEMPHIS, TN 38134</u>	Fax ☐ :
	Email ☒ : <u>CCO@MILK-ENSAFÉ.COM</u>

Billing/Invoice Information	Turn Around Times	
Company: <u>ENSAFÉ</u>	90 Min. ☐	48 Hours ☒
Contact: <u>Accounts Payable</u>	3 Hours ☐	72 Hours ☐
Address: <u>5724 SUMMER TREES DRIVE</u>	6 Hours ☐	96 Hours ☐
<u>MEMPHIS, TN 38134</u>	12 Hours ☐	120 Hours ☐
	24 Hours ☐	144+ Hours ☐

PO Number:
Project Name/Number: <u>Memison Co 57SR1380007/134864</u>
<u>4.6A 0888837405</u>

Asbestos Test Types	
PLM EPA 600/R-93/116 (PLM)	☒
Positive stop	☐
PLM Point Count 400 (PT4)	☐
PLM Point Count 1000 (PTM)	☐
PCM NIOSH 7400-A Rules (PCM)	☐
B Rules (PCB) ☐ TWA (PTA) ☐	
TEM AHERA (AHE)	☐
TEM Level II (LII)	☐
TEM NIOSH 7402 (TNI)	☐
TEM Bulk Qualitative (TBL)	☐
TEM Bulk Chatfield (TBS)	☐
TEM Bulk Quantitative (TBQ)	☐
TEM Wipe ASTM D6480-05	☐
TEM Microvac ASTM D5755-02	☐
TEM Water EPA 100.2 (TW1)	☐
Other: _____	☐

Sample ID #		Volume/Area	Comments
HA01-01	Concrete Curb		
HA01-02	Concrete Curb		
HA01-03	Concrete Curb		
HA02-01	Concrete Channel beam		
HA02-02	Concrete Channel beam		
HA02-03	Concrete Channel beam		
~~_____~~			
~~_____~~			
~~_____~~			
~~_____~~			
~~_____~~			
~~_____~~			

Total # of Samples 6

Relinquished by	Date/Time	Received by	Date/Time
<u>Frank Dean</u>	<u>3/20/04/1630</u>	<u>CS</u>	<u>3/29</u>
			<u>10:30AM</u>

Accepted ☒
Rejected ☐

Page 1 of 1
A-P-017 EXP: 12-1-13

Appendix C:

Asbestos Survey Personnel Credentials



THE STATE OF TENNESSEE

Department of Environment and Conservation Division of Solid Waste Management
Toxic Substances Program

William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 14th Floor Nashville TN 37243

By virtue of the authority vested by the Division of Solid Waste Management, the Company named below is hereby accredited to offer and/or conduct Asbestos activities pursuant to Rule 1200-01-20:

EnSafe

5724 Summer Trees Dr. Memphis TN, 38134

to conduct ASBESTOS ACTIVITIES in schools or public and commercial buildings in Tennessee. This firm is responsible for compliance with the applicable requirements of Rule 1200-01-20.

Discipline	Type	Accreditation Number	Effective Date	Expiration Date
Accreditation	Re-Accreditation	A-F-214-139096	August 01, 2023	August 31, 2024

Given under the Seal of the State of Tennessee in Nashville.

This **8th** Day of **September 2023**

Division of Solid Waste Management
Toxic Substance Program

CN-1324 (Rev 6/13)

RDA-3020

THE STATE OF TENNESSEE

Department of Environment and Conservation
Division of Solid Waste Management

55301-84736

Toxic Substances Program

Corey A. Coleman



Date Issued: 4/10/2024
Re-Accreditation

DOB	Sex	HGT	WGT
30-Nov-1976	M	5' 11"	275
Discipline	Accreditation	Expiration	
Inspector	A4-48788-160686	May-31-2025	

Asbestos Accreditation

Appendix D:

Health and Safety Plan

HEALTH AND SAFETY PLAN

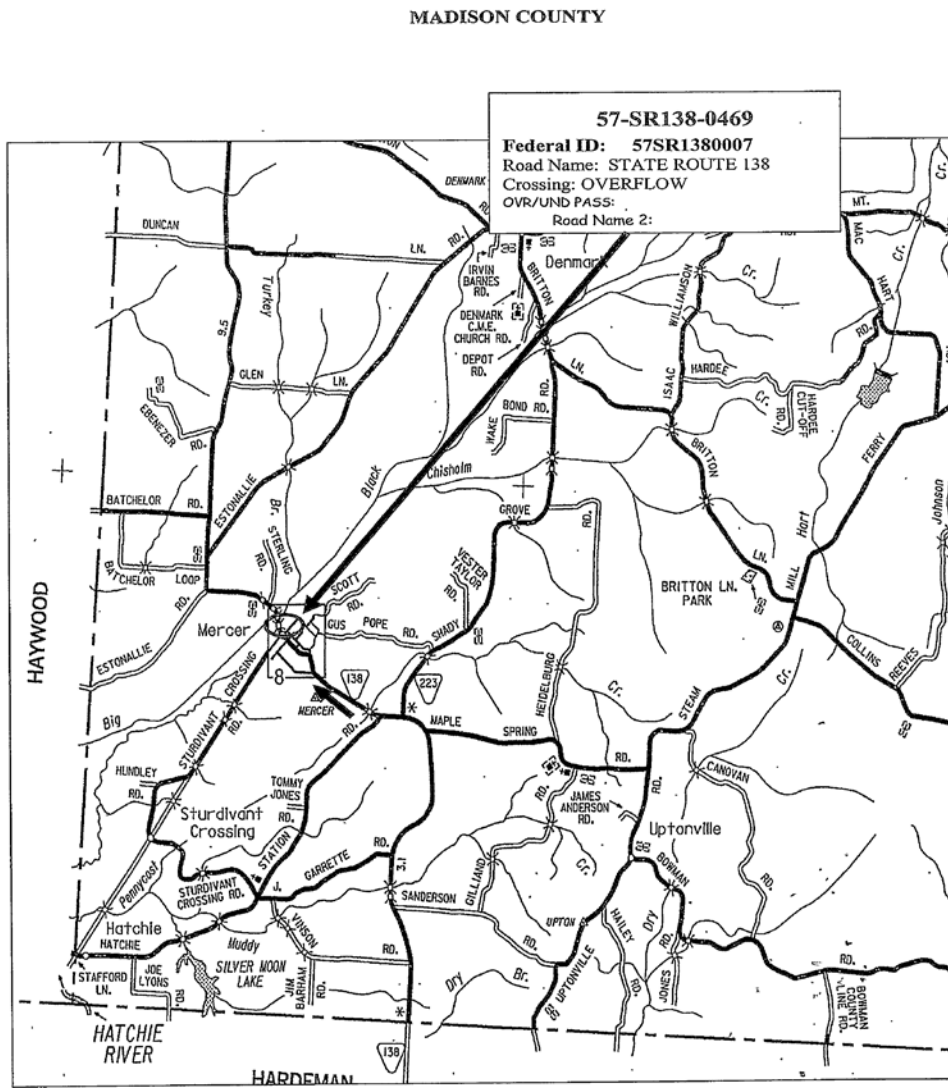
Appendix D — Site Specific Information

Refer to the main body of the Health and Safety Plan for general biological and chemical hazards, forms, reporting, and responses to injuries.

Site Specific Information

Client/Business Name: TDOT Environmental Division

Site Address: SR-138 Bridge over Overflow, Log mile 4.69/ Madison County



Emergency and Contact Information:

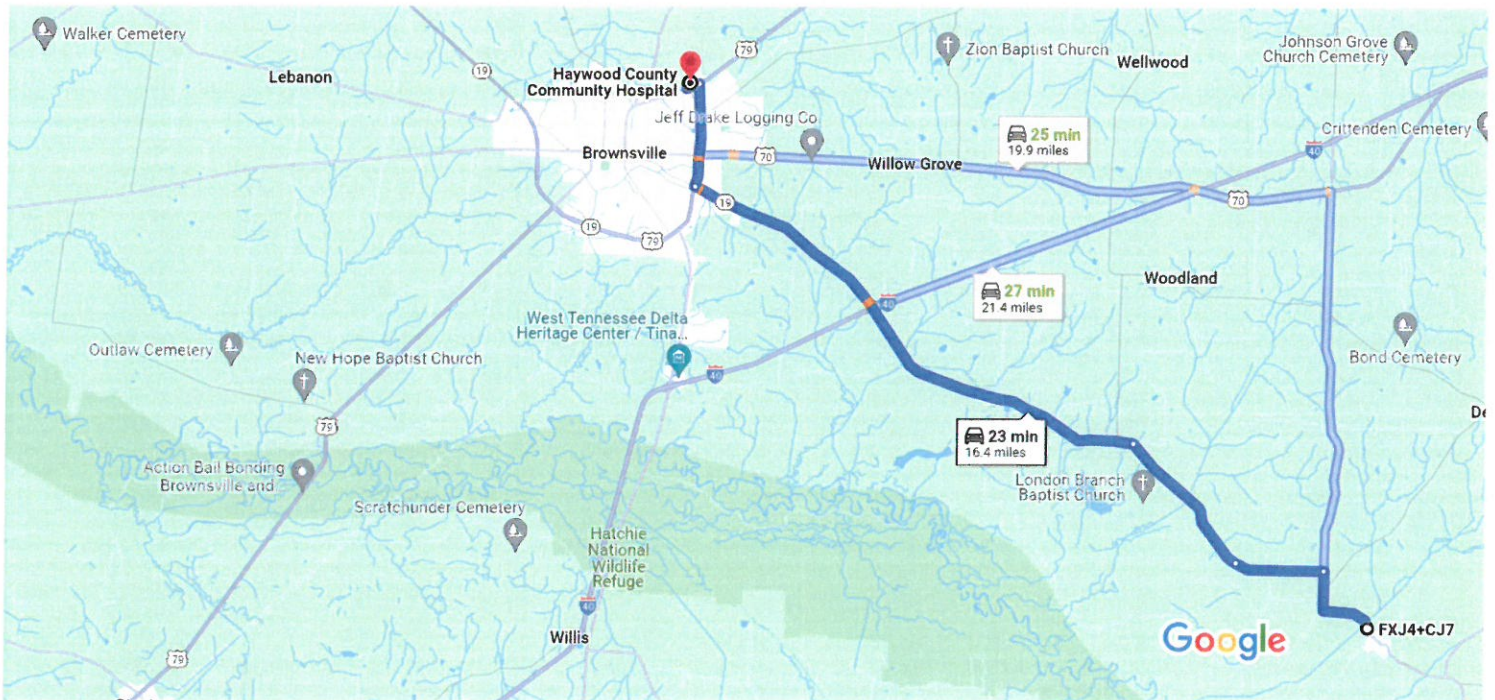
Site Telephone Number (business hours): Work is performed outside at statewide bridge locations and no site telephone number is available. Employee mobile phones will be utilized for each project.

In the event of a **medical emergency**:

1. Call 911 to report the medical emergency.
2. Depending on the nature of the medical emergency, follow the instructions of the 911 dispatcher.
3. Monitor the condition of the victim until emergency medical services arrive.

Emergency Contacts		
IN CASE OF EMERGENCY DIAL 911		
Event	Contact	Phone
Medical	Haywood County Community Hospital Ambulance Non-Emergency Contact and address: 2545 N Washington Ave, Brownsville, Tennessee 38012	731-307-3777
Police	Police Non-Emergency Contact	911
Fire	Fire Non- Emergency Contact	911
Threatened release of a hazardous contaminant offsite	EnSafe Project Manager — Troy Estes	615-483-5117
Release of a hazardous contaminant offsite	Tennessee Department of Environment and Conservation – Release Reporting	833-247-7745
Petroleum spill to waterway or drain		
Hazardous substance spill exceeding reportable quantity	EPA National Response Center — https://www.epa.gov/emergency-response/national-response-center	1-800-424-8802
US Poison Control Center	https://www.poison.org/	1-800-222-1222
Utility Company — Electric	Jackson Energy Authority	731-422-7500
Utility Company — Water	Jackson Energy Authority	731-422-7500
Utility Company — Gas	Jackson Energy Authority	731-422-7500
Underground Utility Information	https://call811.com/ https://call811.com/811-In-Your-State	811

Key Personnel/Site Contacts Telephone Numbers		
Title	Category	Data
EnSafe Site Supervisor/H&S/Field Team Leader	Name	Corey Coleman ccoleman@ensafe.com
	Work	901-372-7962
	Mobile	901-482-3742
EnSafe Project Manager	Name	Troy Estes testes@ensafe.com
	Work	615-483-5117
	Mobile	615-252-2813
EnSafe Corporate Health and Safety Manager	Name	John Knopf jknopf@ensafe.com
	Work	901-372-7962
	Mobile	901-451-1464
TDOT Environmental Division Contract Manager	Name	Kyle Kirschenmann kyle.kirschenmann@tn.gov
	Work / Mobile	615-598-1522



FXJ4+CJ7

Mercer, TN 38392

- ↑ 1. Head north on TN-138 W toward Sterling Rd
1.5 mi
 - ↩ 2. Turn left onto Batchelor Rd
1.5 mi
 - ↑ 3. Continue onto Batchelor Levee Rd
2.7 mi
 - ↩ 4. Turn left onto Mercer Rd
8.7 mi
 - ↪ 5. Turn right onto S Dupree St
1.7 mi
 - ↩ 6. Turn left onto N Washington Ave
0.2 mi
 - ↪ 7. Turn right
0.1 mi
- i** Destination will be on the left

Traffic Hazards and Considerations

Based on a review of the TDOT-supplied road information, review of google maps, it is anticipated that the sampling activities can be accomplished outside of the roadway or with less than a minute at a time on top of the bridge when no traffic is visible. Lane closures are not anticipated. The survey crew signs should be utilized as a caution.

Safety Audits

Audits of work sites are conducted for the purpose of health, safety, and hazard identification. During these surveys, assessments are made for compliance to applicable procedures, systems, work practices and the detection of unsafe hazards. Jobsite safety Audits will be conducted on an as needed basis by the Corporate Health and Safety Manager, or designee, depending on the length, duration, or complexity of the project.

For this project, the designated jobsite inspections will be conducted by personnel listed in the following table:

Jobsite Inspections/Audits		
Name	Inspections Performed	Frequency
Jobsite Safety Inspection	Corey Coleman	Daily
Ladders	Frank O'Connell	Daily
Snoop Truck Manlift	N/A	N/A
Manlift	N/A	N/A