TENNESSEE DEPARTMENT OF TRANSPORTATION
ASBESTOS SURVEY REPORT

Federal Bridge Number: 45I00400019
I-40 Bridge over French Broad River and
Roundhouse Road (0A983), LM 14.68
PIN: 106301.03, Project Number: 55022-4213-04,
Jefferson County, Tennessee

PREPARED BY
ENSAFE

30 JANUARY 2024

Rich Heinzenberger
Tennessee Asbestos Inspector Accreditation No:
A-I-71679-133070

TABLE OF CONTENTS

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. (EnSafe) 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: 45I00400019
Route/Crossing: I-40 over French Broad River and Roundhouse Road LM 14.68
County: Jefferson
TDOT Project Number: 55022-4213-04
TDOT PIN: 106301.03
Project Route/Termini: I-40 over French Broad River and Roundhouse Road LM 14.68

1.2 General Description

Bridge Number 45I00400019 I-40 over French Broad River and Roundhouse Road at LM 14.68 (45-I00400-14.68) is located in Jefferson County. The bridge is a 2,416-foot, four-lane, two-span bridge with eight approach spans constructed of steel trusts and steel I-beams with a concrete deck and asphalt wearing surface. The bridge was constructed in 1960, widened in 1986, and rehabilitated in 2014. The bridge was previously surveyed in 2012 prior to the rehabilitation project. 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 HA 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 HA are identified, bulk samples of suspect materials were obtained from the HA 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 January 9, 2024, by Accredited State of Tennessee Asbestos Inspectors Rich Heinzenberger and Justin Teague. Copies of the inspectors' 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 HAs identified during EnSafe's visual survey.

2.3 Bridge Components

Bridge components identified and sampled as HAs are detailed below. Photographs of each HA are provided in Appendix A. The planned repair project driving this scope of work will concentrate on deck and topside components; therefore, no survey of piers or other components beneath the deck were surveyed.

2.3.1 Top of Bridge Deck — Homogeneous Area 03, 07, 09 and 10

The bridge was observed to have a concrete topside deck. The concrete top of the bridge deck was observed to have multiple cores filled with concrete, cracks that were filled with an epoxy repair filler, and there was a black/gray pliable expansion joint filler on the north end of the northwest bound side of the bridge. Four samples labeled HA03-1, HA03-2, and HA03-3 were collected from the concrete bridge deck; three samples labeled HA07-1, HA07-2, and HA07-3 were collected from the concrete core filler material; three samples labeled HA09-1, HA09-2, and HA09-3 were collected from the deck repair epoxy material; and two samples labeled HA10-1 and HA10-2 were collected from the black/gray pliable expansion joint filler material.

2.3.2 Bridge Side Walls (Rails) — Homogeneous Areas 01, 02, 04, 06, and 08

The bridge had concrete rails that were observed to have a skim coating of surfacing material. Four samples labeled HA02-1, HA02-2, HA02-3, and HA02-4, were collected from the concrete bridge rails; six samples labeled HA01-1, HA01-2, HA01-3, HA01-4, HA01-5, and HA01-6 were collected from the skim coat surfacing material; and three samples labeled HA06-1, HA06-2, and HA06-3 were collected from the white adhesive used for the reflectors positioned on top of the side rails. Four samples labeled HA04-1, HA04-2, HA04-3, and HA04-4 were collected from a black fibrous material associated with expansion joints in the rails; and two samples labeled HA08-1 and HA08-2 were collected from the tan adhesive associated with the black fibrous expansion joint material. Samples were obtained using a hammer and chisel.

2.3.3 Bridge Drainage - Homogeneous Area 05

The bridge had drains on both sides of the southeast and northwest deck. Some of the drains were observed to have a flexible, fibrous liner between the metal drain and the concrete deck. Three samples labeled HA05-1 and HA05-2 were collected from the deck drains. Samples were obtained using a hammer and chisel.

2.3.4 Utilities

No utilities were observed on the bridge deck.

2.3.5 Other Environmental Concerns

Debris such as a tire, bungee cords, tools, and trash were observed on the bridge deck and adjacent to the north and south ends of the bridge. Plastic and aluminum cans and bottles were observed to be littered at the approach to the north and south ends of the bridge in both directions.

3.0 ANALYTICAL PROCEDURES

The bulk samples are analyzed in the laboratory using 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., National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program 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 regulations (40 Code of Federal Regulations [CFR] 61, Subpart M) requires that all regulated asbestos-containing materials be properly removed prior to any renovation or demolition activities that will disturb them. These regulations define regulated asbestos-containing materials as:

1. Friable asbestos material,

2. Category I non-friable ACM that has become friable,

3. Category I non-friable ACM that will be or has been subject to sanding, grinding, cutting, or abrading, or

4. 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 National Emission Standards for Hazardous Air Pollutants 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 36 samples were obtained from the bridge. Multiple samples of each HA were collected in accordance with State of TDOT 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 HA 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 Site visit(s) 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 TDOT. 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	Off-white skim coat over concrete side wall	HA01-1, -2, -3, -4, -5, -6
02	Gray side wall concrete	HA02-1, -2, -3, -4
03	Gray bridge deck concrete	HA03-1, -2, -3, -4
04	Black fibrous expansion joint board	HA04-1, -2, -3, -4
05	Black fibrous drain liner	HA05-1, -2
06	White adhesive for side wall reflectors	HA06-1, -2, -3
07	Gray concrete bridge deck core filler	HA07-1, -2, -3
08	Tan adhesive associated with HA04	HA08-1, -2
09	Clear / Tan bridge deck repair epoxy	HA09-1, -2, -3
10	Black / Gray pliable expansion joint filler	HA10-1, -2

Figures

Figure 1 Bridge location map

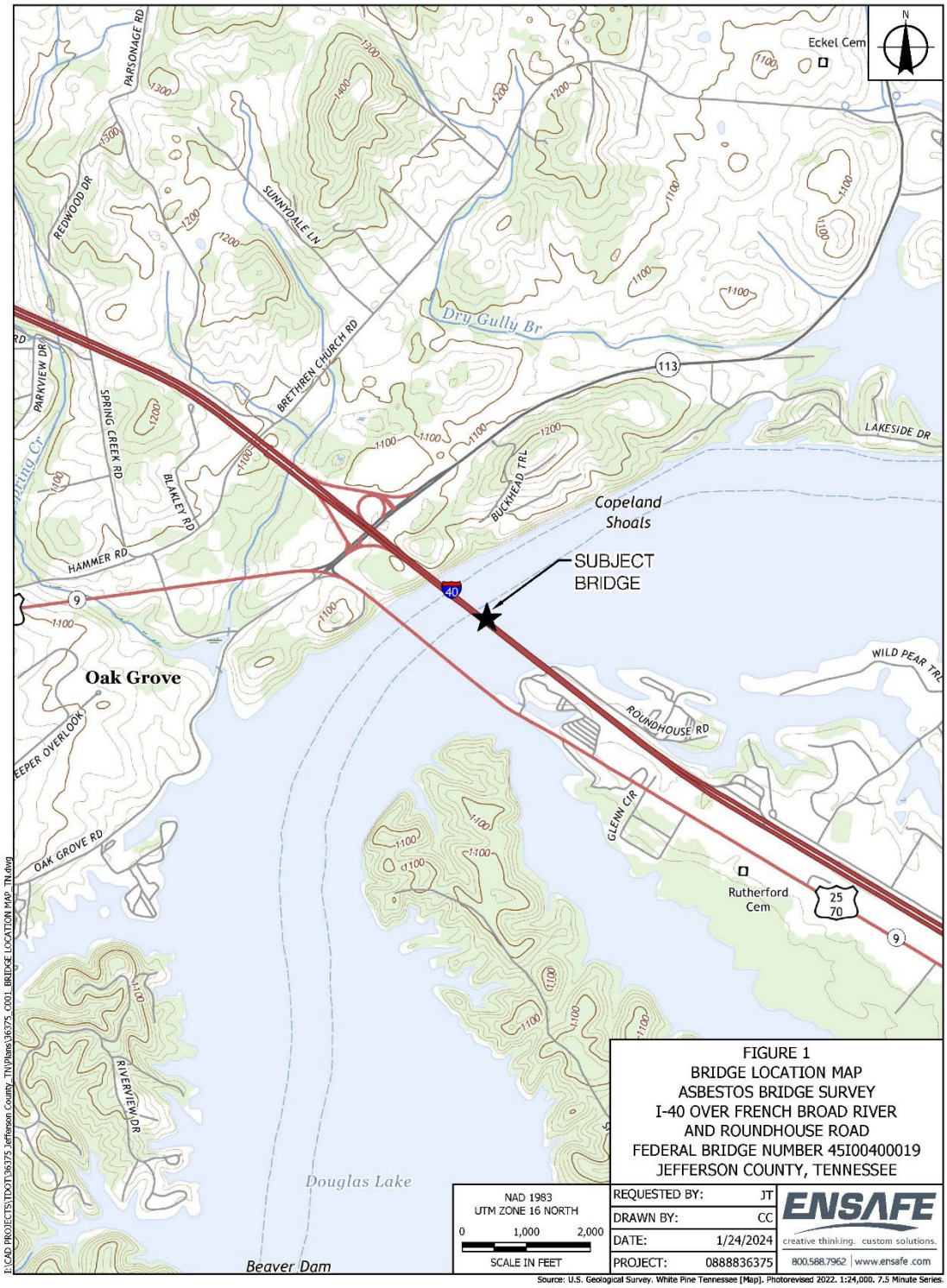
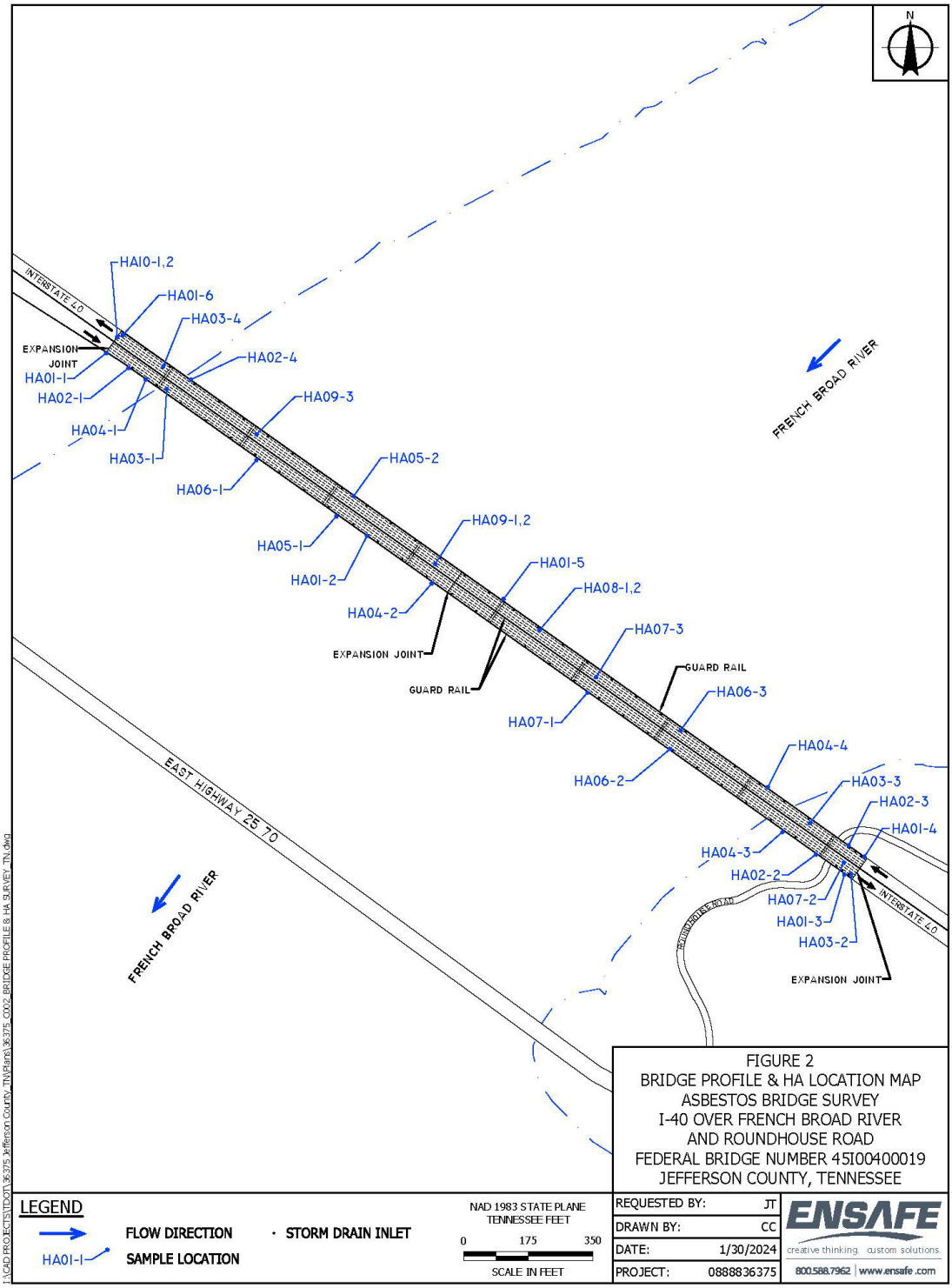


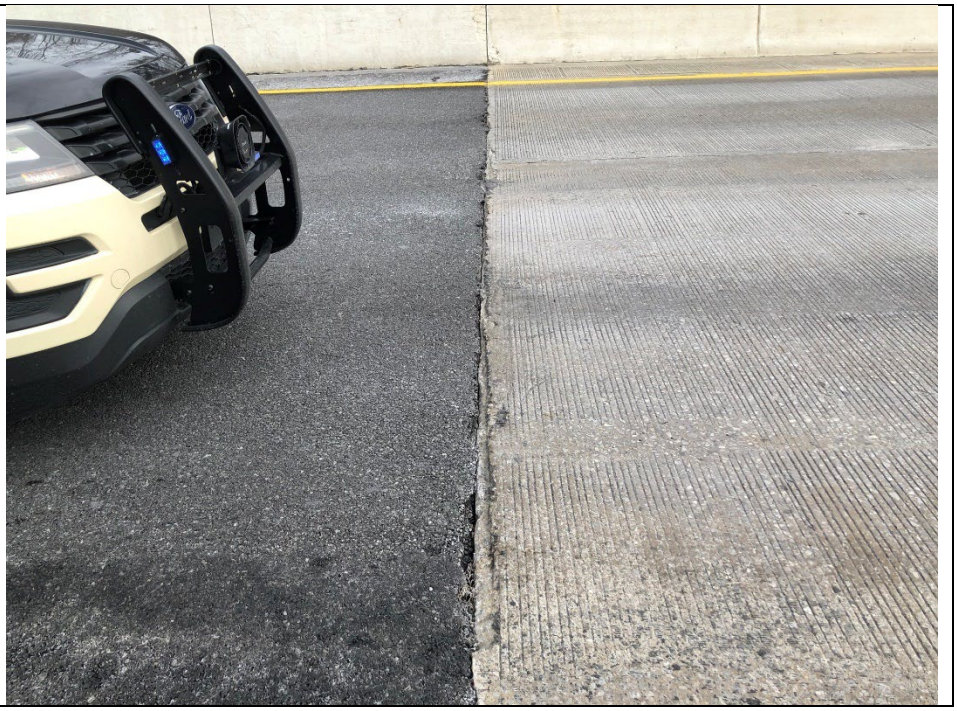
FIGURE 2 Profile view with HA labeled



Appendix A
Photographs

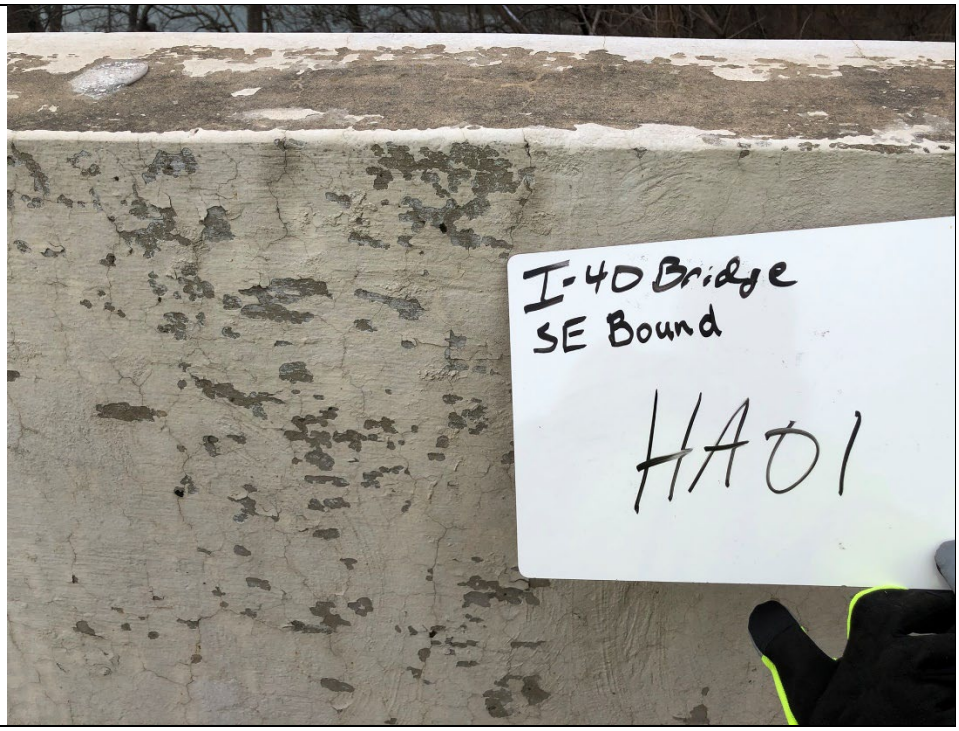
Photographer: Justin Teague **Date:** 1/23/2024 **Description:** Photograph 1 – Approach Southeast Bound	

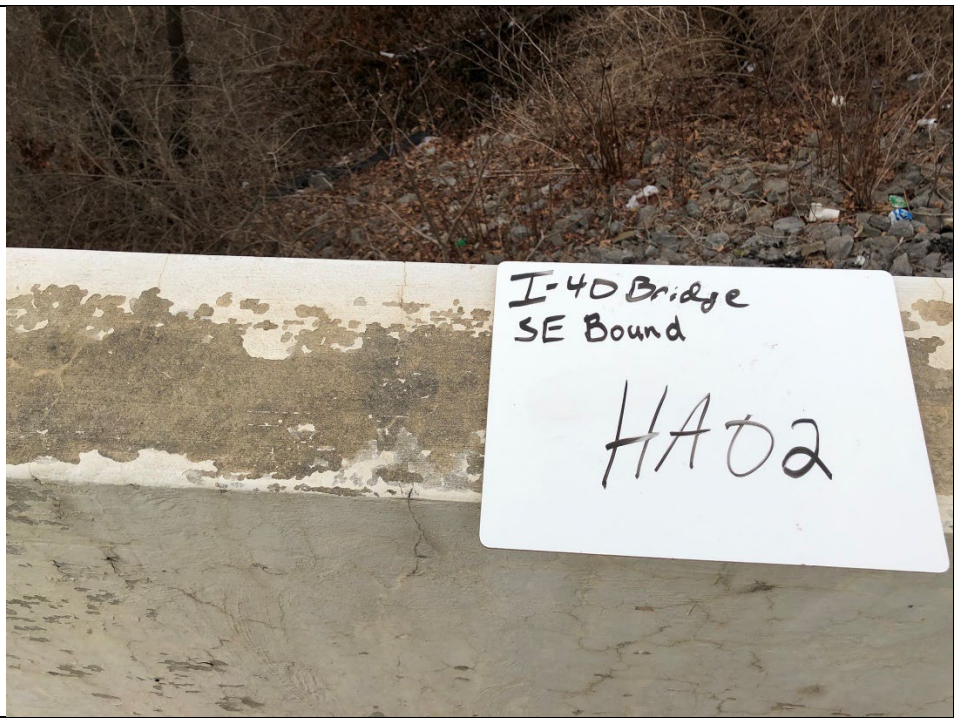
Photographer: Justin Teague **Date:** 1/23/2024 **Description:** Photograph 2 – View of Bridge Sign	

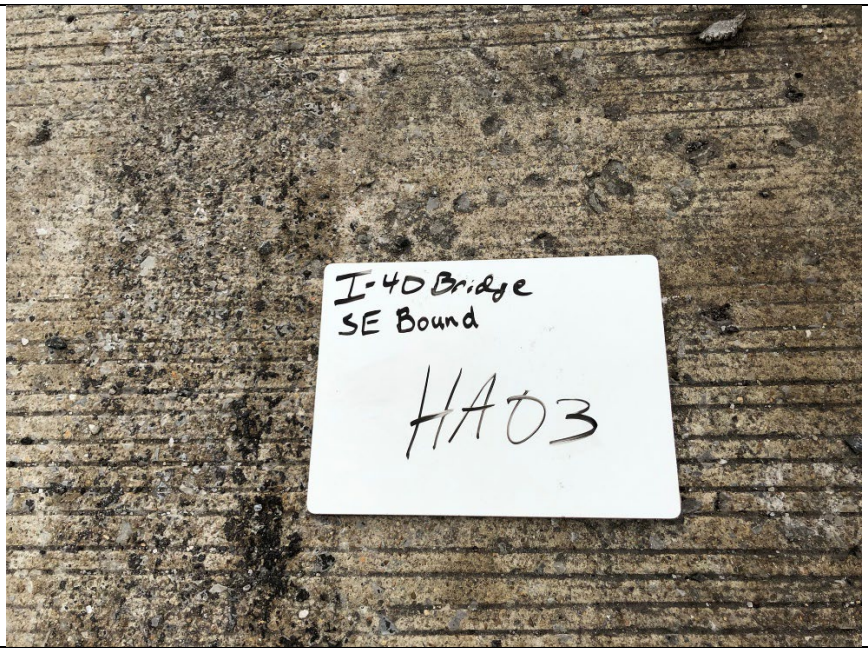
Photographer: Justin Teague	
Date: 1/23/2024	
Description: Photograph 3 – View of Concrete Bridge Deck and Asphalt Road	

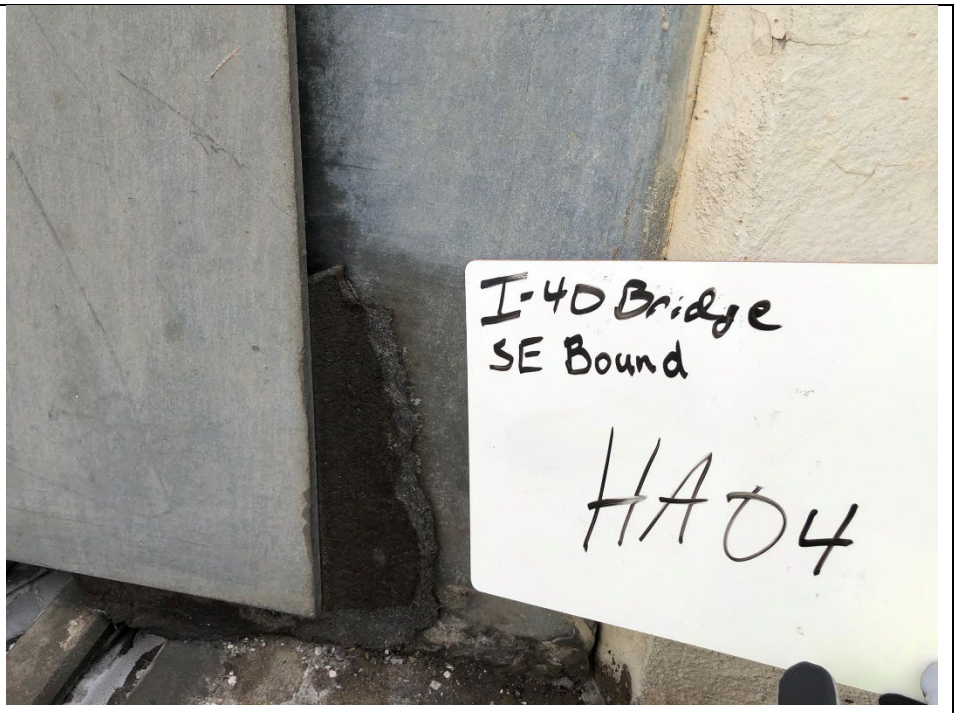
Photographer: Justin Teague	
Date: 1/23/2024	
Description: Photograph 4 – View of Expansion Joint	

Photographer: Justin Teague **Date:** 1/23/2024 **Description:** Photograph 5 – View of Expansion Joint in Side Rail	

Photographer: Justin Teague **Date:** 1/23/2024 **Description:** Photograph 6 – Homogeneous Area 1 Off-white Skim Coat Sample Locations HA01-1, -2, -3, -4, -5, -6	

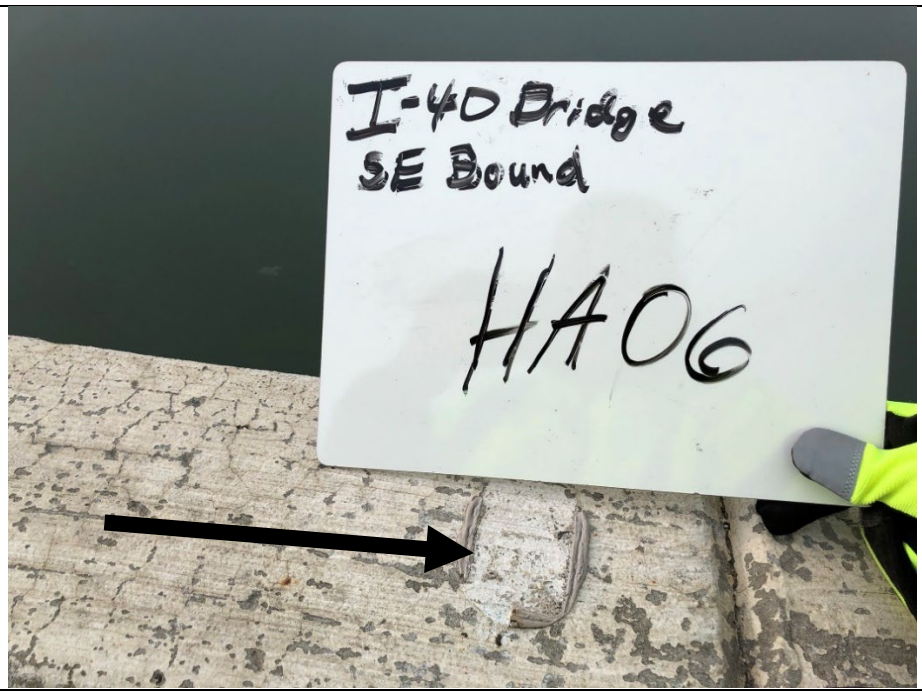
Photographer: Justin Teague	
Date: 1/23/2024	
Description: Photograph 7 – Homogeneous Area 2 Beams Sample Locations HA02-1, -2, -3, -4	

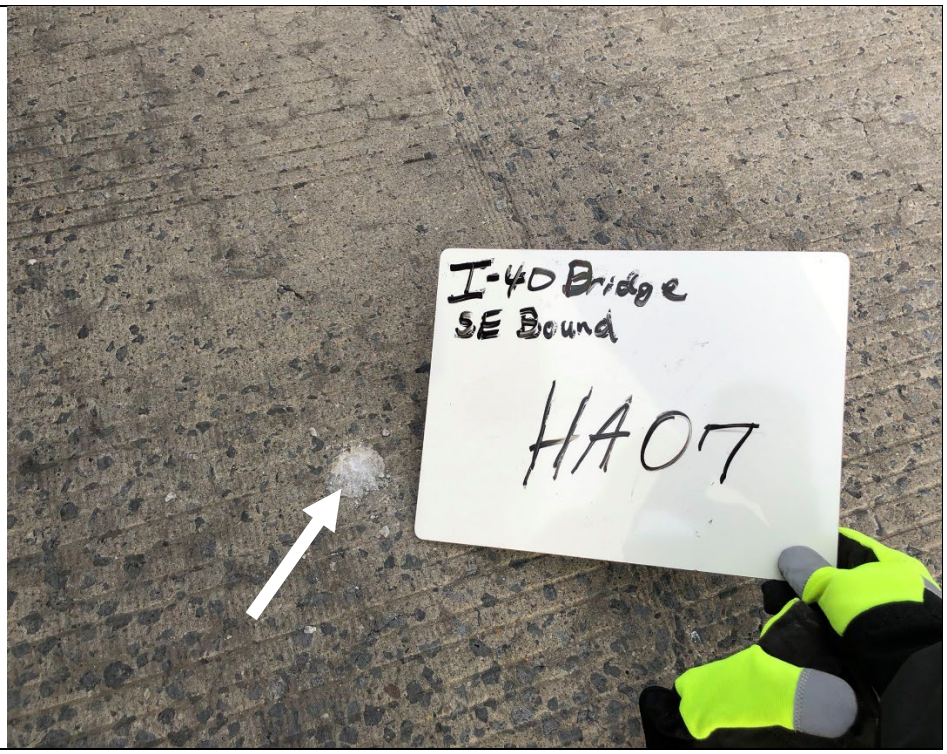
Photographer: Justin Teague	
Date: 1/23/2024	
Description: Photograph 8 – Homogeneous Area 3 Concrete Bridge Deck Sample Locations HA03-1, -2, -3, -4	

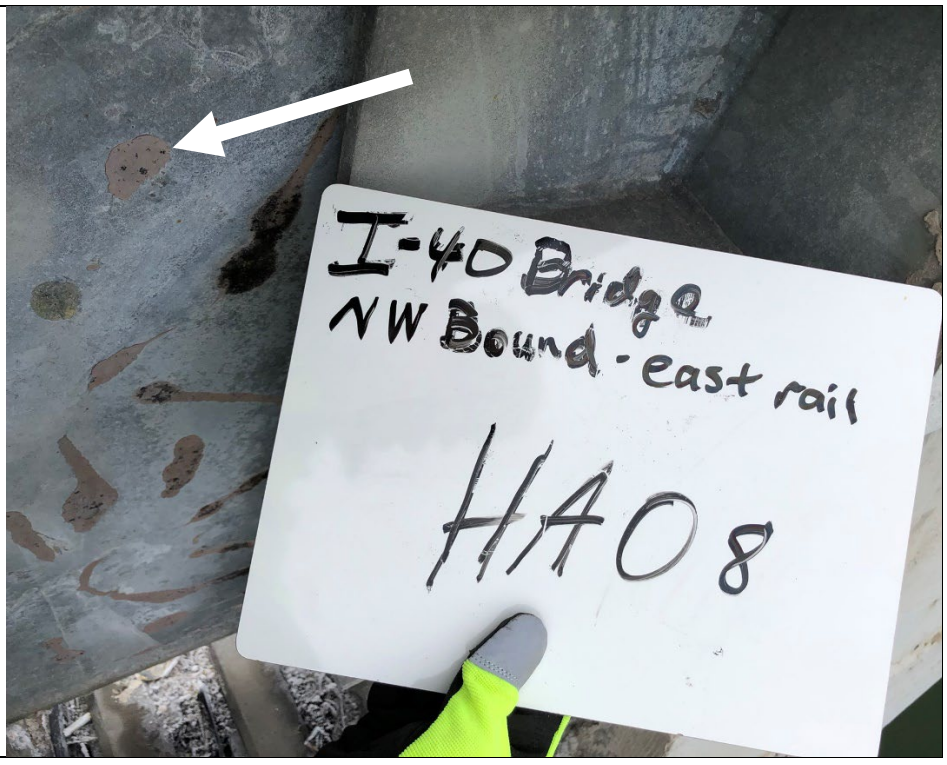
Photographer: Justin Teague	
Date: 1/23/2024	
Description: Photograph 9 – Black Fibrous Expansion Joint Material Sample Locations HA04-1, -2, -3, -4	

Photographer: Justin Teague	
Date: 1/23/2024	
Description: Photograph 10 – View of Drain in Bridge Deck	

Photographer: Justin Teague	
Date: 1/23/2024	
Description: Photograph 11 – Homogeneous Area 5 Bridge Drain Liner Sample Locations HA05-1, -2	

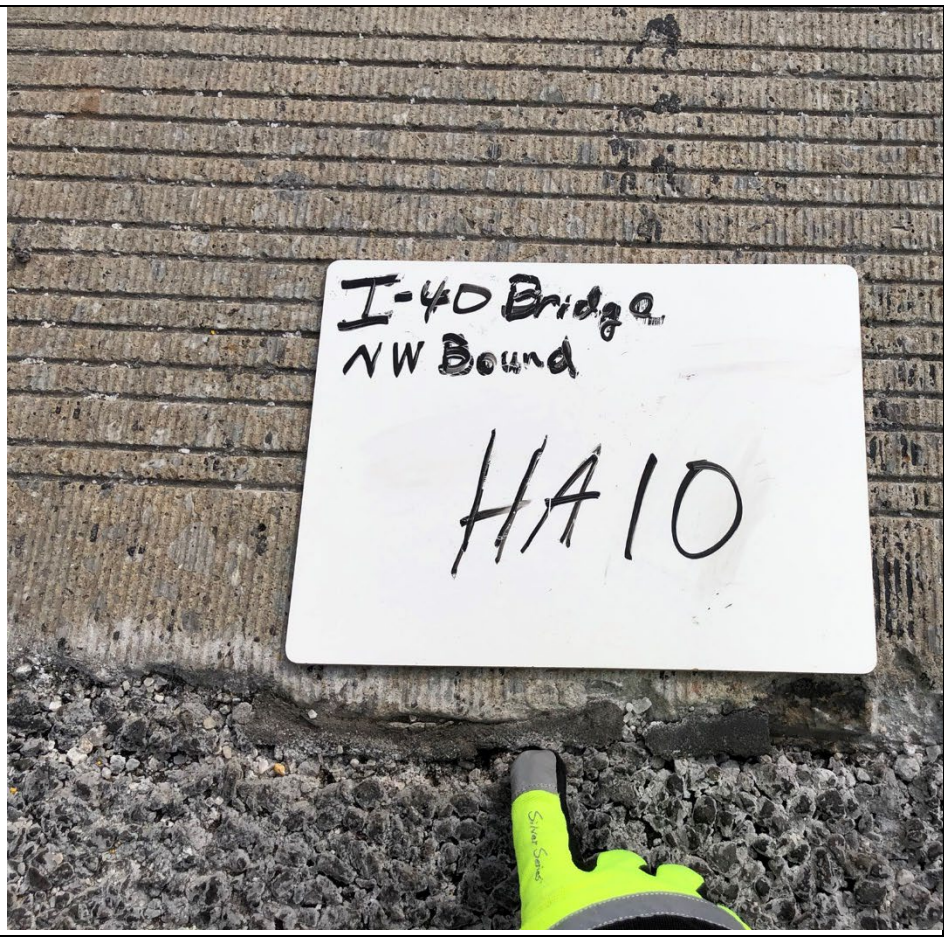
Photographer: Justin Teague	
Date: 1/23/2024	
Description: Photograph 12 – Homogeneous Area 6 Reflector Adhesive Sample Locations HA06-1, -2, -3	

Photographer: Justin Teague	
Date: 1/23/2024	
Description: Photograph 13 – Homogeneous Area 7 Concrete Core Filler Sample Locations HA07-1, -2, -3	

Photographer: Justin Teague	
Date: 1/23/2024	
Description: Photograph 14 – Homogeneous Area 8 Concrete Core Filler Sample Locations HA08-1, -2	

Photographer: **Justin Teague**	
Date: **1/23/2024**	
Description: **Photograph 15 –** Homogeneous Area 09 Bridge Deck Repair Epoxy Sample Locations HA09-1, -2, -3	

Photographer: **Justin Teague**	
Date: **1/23/2024**	
Description: **Photograph 16 –** Additional View of Homogeneous Area 09	

Photographer: **Justin Teague**	
Date: **1/23/2024**	
Description: **Photograph 17 –** Homogeneous Area 10 Black / Gray Pliable Expansion Joint Material Sample Locations HA10-1, -2	

Appendix B
Asbestos Sample Laboratory Analysis Data

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report prepared for EnSafe Inc.

Report Date: 1/25/2024

Project Name: TDOT I-40 Jefferson Co.

Project #: 0888836375

SanAir ID#: 24004025

NVLAP TESTING

NVLAP LAB CODE 200870-0

10501 Trade Court | North Chesterfield, Virginia 23236
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com

SanAir ID Number
24004025
FINAL REPORT
1/25/2024 10:54:10 AM

Name: EnSafe Inc.
Address: 5724 Summer Trees Drive
Memphis, TN 38134
Phone: 901-372-7962

Project Number: 0888836375
P.O. Number:
Project Name: TDOT I-40 Jefferson Co.
Collected Date: 1/23/2024
Received Date: 1/24/2024 10:40:00 AM

Dear Rich Heinzenberger,

We at SanAir would like to thank you for the work you recently submitted. The 33 sample(s) were received on Wednesday, January 24, 2024 via UPS. The final report(s) is enclosed for the following sample(s): HA01-1, HA01-2, HA01-3, HA01-4, HA01-5, HA01-6, HA02-1, HA02-2, HA02-3, HA02-4, HA03-1, HA03-2, HA03-3, HA04-1, HA04-2, HA04-3, HA04-4, HA05-1, HA05-2, HA06-1, HA06-2, HA06-3, HA07-1, HA07-2, HA07-3, HA08-1, HA08-2, HA09-1, HA09-2, HA09-3, HA10-1, HA10-2, HA03-4.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 33 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
24004025
FINAL REPORT
1/25/2024 10:54:10 AM

Name: EnSafe Inc.
Address: 5724 Summer Trees Drive
Memphis, TN 38134
Phone: 901-372-7962

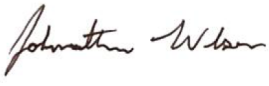
Project Number: 0888836375
P.O. Number:
Project Name: TDOT I-40 Jefferson Co.
Collected Date: 1/23/2024
Received Date: 1/24/2024 10:40:00 AM

Analyst: Hogrefe, Sarah

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non-fibrous	Asbestos Fibers
HA01-1 / 24004025-001 Skimcoat Over Concrete Side Wall SE Bound, N. End, W. Wall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
HA01-2 / 24004025-002 Skimcoat Over Concrete Side Wall SE Bound, Center W. Wall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
HA01-3 / 24004025-003 Skimcoat Over Concrete Side Wall SE Bound, S. End, W. Wall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
HA01-4 / 24004025-004 Skimcoat Over Concrete Side Wall NW Bound, S. End, E. Wall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
HA01-5 / 24004025-005 Skimcoat Over Concrete Side Wall NW Bound, Center, E. Wall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
HA01-6 / 24004025-006 Skimcoat Over Concrete Side Wall NW Bound, N. End, E. Wall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
HA02-1 / 24004025-007 Side Wall Concrete SE Bound, N. End, W. Wall	Gray Non-Fibrous Heterogeneous		100% Other	None Detected
HA02-2 / 24004025-008 Side Wall Concrete SE Bound, S. End, W. Wall	Gray Non-Fibrous Heterogeneous		100% Other	None Detected
HA02-3 / 24004025-009 Side Wall Concrete NW Bound, S. End, E. Wall	Gray Non-Fibrous Heterogeneous		100% Other	None Detected
HA02-4 / 24004025-010 Side Wall Concrete NW Bound, N. End, E. Wall	Gray Non-Fibrous Heterogeneous		100% Other	None Detected

Analyst: 
Analysis Date: 1/25/2024

Approved Signatory: 
Date: 1/25/2024

SanAir Technologies Laboratory

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24004025
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1/25/2024 10:54:10 AM

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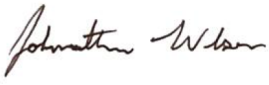
Project Number: 0888836375
P.O. Number:
Project Name: TDOT I-40 Jefferson Co.
Collected Date: 1/23/2024
Received Date: 1/24/2024 10:40:00 AM

Analyst: Hogrefe, Sarah

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non-fibrous	Asbestos Fibers
HA03-1 / 24004025-011 Road Deck Concrete SE Bound, N. End	Gray Non-Fibrous Heterogeneous		100% Other	None Detected
HA03-2 / 24004025-012 Road Deck Concrete SE Bound, S. End	Gray Non-Fibrous Heterogeneous		100% Other	None Detected
HA03-3 / 24004025-013 Road Deck Concrete NW Bound, S. End	Gray Non-Fibrous Heterogeneous		100% Other	None Detected
HA04-1 / 24004025-014 Fibrous Expansion Joint Board SE Bound, N. End	Black Fibrous Homogeneous	90% Cellulose	10% Other	None Detected
HA04-2 / 24004025-015 Fibrous Expansion Joint Board SE Bound, Center, W. Wall	Black Fibrous Homogeneous	90% Cellulose	10% Other	None Detected
HA04-3 / 24004025-016 Fibrous Expansion Joint Board SE Bound, S. End, W. Wall	Black Fibrous Homogeneous	90% Cellulose	10% Other	None Detected
HA04-4 / 24004025-017 Fibrous Expansion Joint Board NW Bound, S. End, E. Wall	Black Fibrous Homogeneous	90% Cellulose	10% Other	None Detected
HA05-1 / 24004025-018 Fibrous Drain Liner SE Bound, Center	Black Non-Fibrous Heterogeneous	10% Synthetic	90% Other	None Detected
HA05-2 / 24004025-019 Fibrous Drain Liner NW Bound, Center	Black Non-Fibrous Heterogeneous	30% Synthetic	70% Other	None Detected
HA06-1 / 24004025-020 Adhesive For Wall Reflectors SE Bound, N. Central	White Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: 
Analysis Date: 1/25/2024

Approved Signatory: 
Date: 1/25/2024

SanAir Technologies Laboratory

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Memphis, TN 38134
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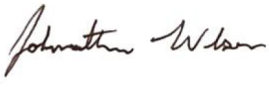
Project Number: 0888836375
P.O. Number:
Project Name: TDOT I-40 Jefferson Co.
Collected Date: 1/23/2024
Received Date: 1/24/2024 10:40:00 AM

Analyst: Hogrefe, Sarah

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non-fibrous	Asbestos Fibers
HA06-2 / 24004025-021 Adhesive For Wall Reflectors SE Bound, S. End, W. Wall	White Non-Fibrous Homogeneous		100% Other	None Detected
HA06-3 / 24004025-022 Adhesive For Wall Reflectors NW Bound, S. End, E. Wall	White Non-Fibrous Homogeneous		100% Other	None Detected
HA07-1 / 24004025-023 Concrete Bridge Deck Core Filler SE Bound, Center Deck	Gray Non-Fibrous Heterogeneous		100% Other	None Detected
HA07-2 / 24004025-024 Concrete Bridge Deck Core Filler SE Bound, S. End	Gray Non-Fibrous Heterogeneous		100% Other	None Detected
HA07-3 / 24004025-025 Concrete Bridge Deck Core Filler NW Bound, E. Deck	Gray Non-Fibrous Heterogeneous		100% Other	None Detected
HA08-1 / 24004025-026 Adhesive Used With HA04 NW Bound, Center, E. Wall	Tan Non-Fibrous Homogeneous		100% Other	None Detected
HA08-2 / 24004025-027 Adhesive Used With HA04 NW Bound, Center, E. Wall	Tan Non-Fibrous Homogeneous		100% Other	None Detected
HA09-1 / 24004025-028 Bridge Deck Repair Epoxy NW Bound, Center	Clear Non-Fibrous Homogeneous		100% Other	None Detected
HA09-2 / 24004025-029 Bridge Deck Repair Epoxy NW Bound, Center	Clear Non-Fibrous Homogeneous		100% Other	None Detected
HA09-3 / 24004025-030 Bridge Deck Repair Epoxy NW Bound, N. End	Clear Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: 
Analysis Date: 1/25/2024

Approved Signatory: 
Date: 1/25/2024

SanAir Technologies Laboratory

SanAir ID Number
24004025
FINAL REPORT
1/25/2024 10:54:10 AM

Name: EnSafe Inc.
Address: 5724 Summer Trees Drive
Memphis, TN 38134
Phone: 901-372-7962

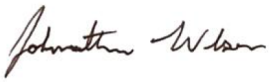
Project Number: 0888836375
P.O. Number:
Project Name: TDOT I-40 Jefferson Co.
Collected Date: 1/23/2024
Received Date: 1/24/2024 10:40:00 AM

Analyst: Hogrefe, Sarah

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non-fibrous	Asbestos Fibers
HA10-1 / 24004025-031 Pliable Expansion Joint Filler NW Bound, N. End	Black Non-Fibrous Homogeneous		100% Other	None Detected
HA10-2 / 24004025-032 Pliable Expansion Joint Filler NW Bound, N. End	Black Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: 
Analysis Date: 1/25/2024

Approved Signatory: 
Date: 1/25/2024

Disclaimer

This report is the sole property of the client named on the SanAir Technologies Laboratory chain-of-custody (COC). Results in the report are confidential information intended only for the use by the customer listed on the COC. Neither results nor reports will be discussed with or released to any third party without our client's written permission. The final report shall not be reproduced except in full without written approval of the laboratory to assure that parts of the report are not taken out of context. This report and any information contained within shall not be edited, altered, or modified in any way by any persons or agencies receiving, viewing, distributing, or otherwise possessing a copy of this final report. The laboratory reserves the right to perform amendments to any finalized report, of which shall supersede and make obsolete any previous editions. Such changes, modifications, additions, or deletions shall be effective immediately upon notice thereof, which may be given by means including but not limited to posting on the SanAir client portal website, electronic or conventional mail, or by any other means. The information provided in this report applies only to the samples submitted and is relevant only for the date, time, and location of sampling. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client on the COC. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample(s) in the condition in which they arrived at the laboratory and information provided by the client on the COC, such as: project number, project name, collection dates, po number, special instructions, samples collected by, sample numbers, sample identifications, sample type, selected analysis type, flow rate, total volume or area, and start stop times that may affect the validity of the results in this report. Samples were received in good condition unless otherwise noted on the report. SanAir assumes no responsibility or liability for the manner in which the results are used or interpreted. This report does not constitute nor shall not be used by the client to claim product, process, system, or person certification, approval, or endorsement by NVLAP, NIST, NELAC, AIHA LAP, LLC or any other U.S. governmental agencies and may not be accredited by every local, state, and federal regulatory agencies. Samples are held for a period of 60 days. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. For NY state samples, method EPA 600/M4-82-020 is performed.

NYELAP Disclaimer:
Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Accreditations
National Voluntary Laboratory Accreditation Program (NVLAP) Lab Code 200870-0
City of Philadelphia Department of Public Health Air Management Services, Certification#ALL-460
Commonwealth of Pennsylvania Department of Environmental Protection Number 68-05397
California State Environmental Laboratory Accreditation Program Certificate Number 2915
Colorado Department of Public Health and Environment Registration Number AL-23143
Connecticut Department of Public Health Environmental Laboratory Registration Number PH-0105
Massachusetts Department of Labor Standards Asbestos Analytical Services License Number: AA000222
State of Maine Department of Environmental Protection License Number: LB-0075, LA-0084
New York State Department of Health Laboratory ID: 11983
State of Rhode Island Department of Health Certification No.: PCM00126, PLM00126, TEM00126
Texas Department of State Health Services License Number: 300440
Commonwealth of Virginia Department of Professional and Occupational Regulation Number: 3333000323
State of Washington Department of Ecology Laboratory ID: C989
State of West Virginia Bureau for Public Health Analytical Laboratory Number: LT000616
Vermont Department of Health License Number: Asb-Co-An-000006
Louisiana Department of Environmental Quality AI Number 212253, Certificate #05088

SanAir Technologies Laboratory

10501 Trade Ct., Suite 100
N. Chesterfield, VA 23236
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Asbestos Chain of Custody

Form 140, Rev 7, 10/20/2022

SanAir ID Number: 24004025

Company: EnSafe Inc. | Project #: 0888836375 | Collected by: Rich Heinzenberger

Address: 308 N. Peters Rd., Ste. 200 | Project Name: TDOT I-40 Jefferson Co. | Phone #:

City, St., Zip: Knoxville, TN 37922 | Date Collected: 1/23/24 | Fax #:

State of Collection: TN | Account#: 2304 | P.O. Number: | Email: rheinzenberger@ensafe.com

Bulk

ABB	PLM EPA 600/R-93/116	☑
	Positive Stop	☐
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB**	☐
ABBCH	TEM Chatfield**	☐
ABBTM	TEM EPA NOB**	☐
ABQ	PLM Qualitative	☐

** Available on 24-hr. to 5-day TAT

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐
Other:		☐

New York ELAP

ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐
	Positive Stop	☐

Soil

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐

Vermiculite

ABB	PLM EPA 600/R-93/116	☐
ABEPA3	PLM EPA 400 Point Count	☐
ABCM	Cincinnati Method	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Matrix	Other	
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	1 Day ☑
	☐ 2 Days	☐ 3 Days	☐ 4 Days	☐ 5 Days

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Sample Location
HA01-1	Off white skimcoat over concrete		1/23/24	SE Bound, N. End, W. wall
-2	side wall			SE Bound, Center, W. wall
-3				SE Bound, S. End, W. wall
-4				NW Bound, S. End, E. wall
-5				NW Bound, Center, E. wall
-6				NW Bound, N. End, E. wall
HA02-1	Gray sidewall concrete			SE Bound, N. End, W. Wall
2				SE Bound, S. End, W. wall
3				NW Bound, S. End, E. wall
4				NW Bound, N. End, E. wall
HA03-1	Gray road deck concrete			SE Bound, N. End
-2				SE Bound, S. End

Relinquished by	Date	Time	Received by	Date	Time
RHeinzenberger	1/23/24	1600	EDR	1/24/24	10:40 a.m.

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST will be logged in the next business day. Weekend or holiday work must be scheduled ahead of time and is charged at 150% of the 3hr TAT or a minimum charge of $150. A courier charge will be applied for same day and one-day turnaround times for offsite work. SanAir covers Ground and Next Day Air shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

24004025

Form 140, Revision 1, 1/20/2017

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Sample Location
HA03-3	Gray road deck concrete		1/23/24	NW Bound, S. End
HA04-1	Black fibrous expansion joint board			SE Bound, N. End
-2	↓			SE Bound, Center, W. wa
-3				SE Bound, S. End, W. wal
-4				NW Bound, S. End, E wal
HA05-1	Black fibrous drain liner			SE Bound, Center
-2	↓			NW Bound, Center
HA06-1	White adhesive for wall reflectors			SE Bound, N. Central
-2	↓			SE Bound, S. End, W. w
-3				NW Bound, S. End, E. wa
HA07-1	Gray concrete bridge deck core filler			SE Bound, Center deck
-2	↓			SE Bound, S. End
-3				NW Bound, E. Deck
HA08-1	Tan adhesive used with HA04			NW Bound, Center, E. wa
-2	↓			NW Bound, Center, E. wa
HA09-1	Clear tan bridge deck repair epoxy			NW Bound, Center
-2	↓			NW. Bound, Center
-3				NW. Bound, N. end
HA10-1	Black/Gray pliable expansion joint filler			NW Bound, N. End
-2	↓			NW. Bound, N. End
HA03-4	Gray road deck concrete		↓	NW Bound, N. End

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
RHeinzenberger	1/23/24	1600	CDR	1/24/24	10:40 a.m.

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST will be logged in the next business day. Weekend or holiday work must be scheduled ahead of time and is charged at 150% of the 3hr TAT or a minimum charge of $150. A courier charge will be applied for same day and one-day turnaround times for offsite work. SanAir covers Ground and Next Day Air shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges. Page 2 of 2

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 accreditted 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
Toxic Substances Program

135416-74646

Re-Accreditation

Justin M Teague

DOB	Sex	HGT	WGT
17-Feb-1975	M	6'0"	185

Discipline	Accreditation	Expiration
Inspector	A-I-184976-136752	Jun-30-2024

Asbestos Accreditation

Is hereby Accredited pursuant to Rule 1200-01-20 Asbestos Accreditation Requirements to perform Asbestos Activities associated with the Discipline(s) listed on the front of this card.

A false statement pertaining to accreditation(s) is subject to the penalties of perjury.

Date Issued: 7/28/2023

Note: In order for this Tennessee issued accreditation to remain valid through the expiration date, the individual must maintain current applicable accredited asbestos refresher training course(s)

THIS CARD IS NOT TO BE USED FOR ANY OTHER IDENTIFICATION PURPOSES. IF FOUND, RETURN TO:

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

CN-1324 **(Rev 6/13)** **RDA-3078**

THE STATE OF TENNESSEE

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

75790-78187

Date Issued: 5/16/2023

Re-Accreditation

Richard A Heinzenberger

DOB	Sex	HGT	WGT
20-Dec-1976	M	6' 0"	190

Discipline	Accreditation	Expiration
Inspector	A-I-71679-133070	Feb-29-2024
Management Planner	A-MP-71679-136599	Jun-30-2024
Project Designer	A-PD-71679-133071	Feb-29-2024

Asbestos Accreditation

Is hereby Accredited pursuant to Rule 1200-01-20 Asbestos Accreditation Requirements to perform Asbestos Activities associated with the Discipline(s) listed on the front of this card.

A false statement pertaining to accreditation(s) is subject to the penalties of perjury.

Date Issued: 5/16/2023

Note: In order for this Tennessee issued accreditation to remain valid through the expiration date, the individual must maintain current applicable accredited asbestos refresher training course(s)

THIS CARD IS NOT TO BE USED FOR ANY OTHER IDENTIFICATION PURPOSES. IF FOUND, RETURN TO:
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

CN-1324 **(Rev 6/13)** **RDA-3020**

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.

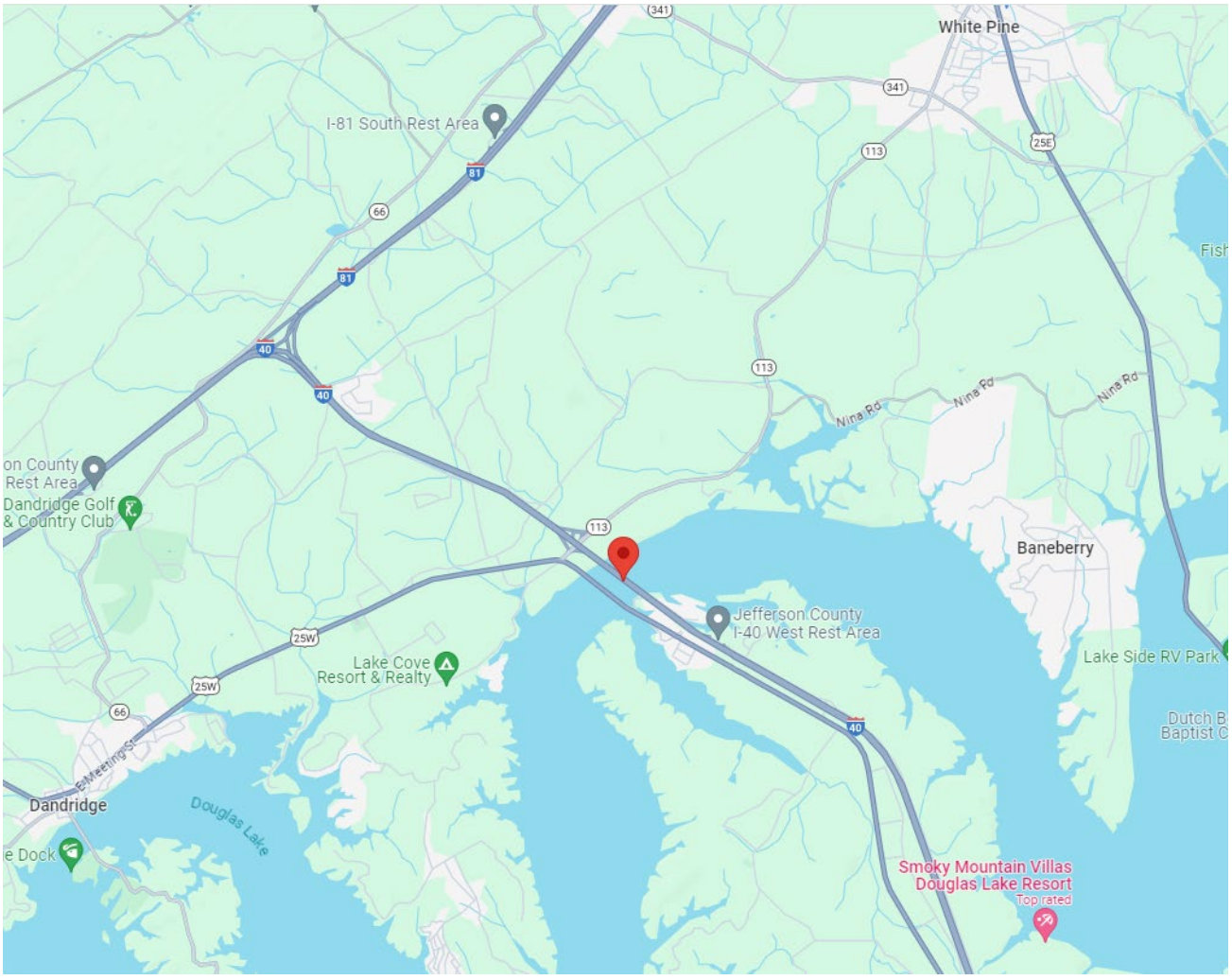
SITE-SPECIFIC INFORMATION

Client/Business Name: Tennessee Department of Transportation (TDOT) Environmental Division

Site Address: I-40 Bridge over French Broad River, Jefferson County, Tennessee

36°02'29.0"N 83°20'10.0"W

36.041389, -83.336111



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.

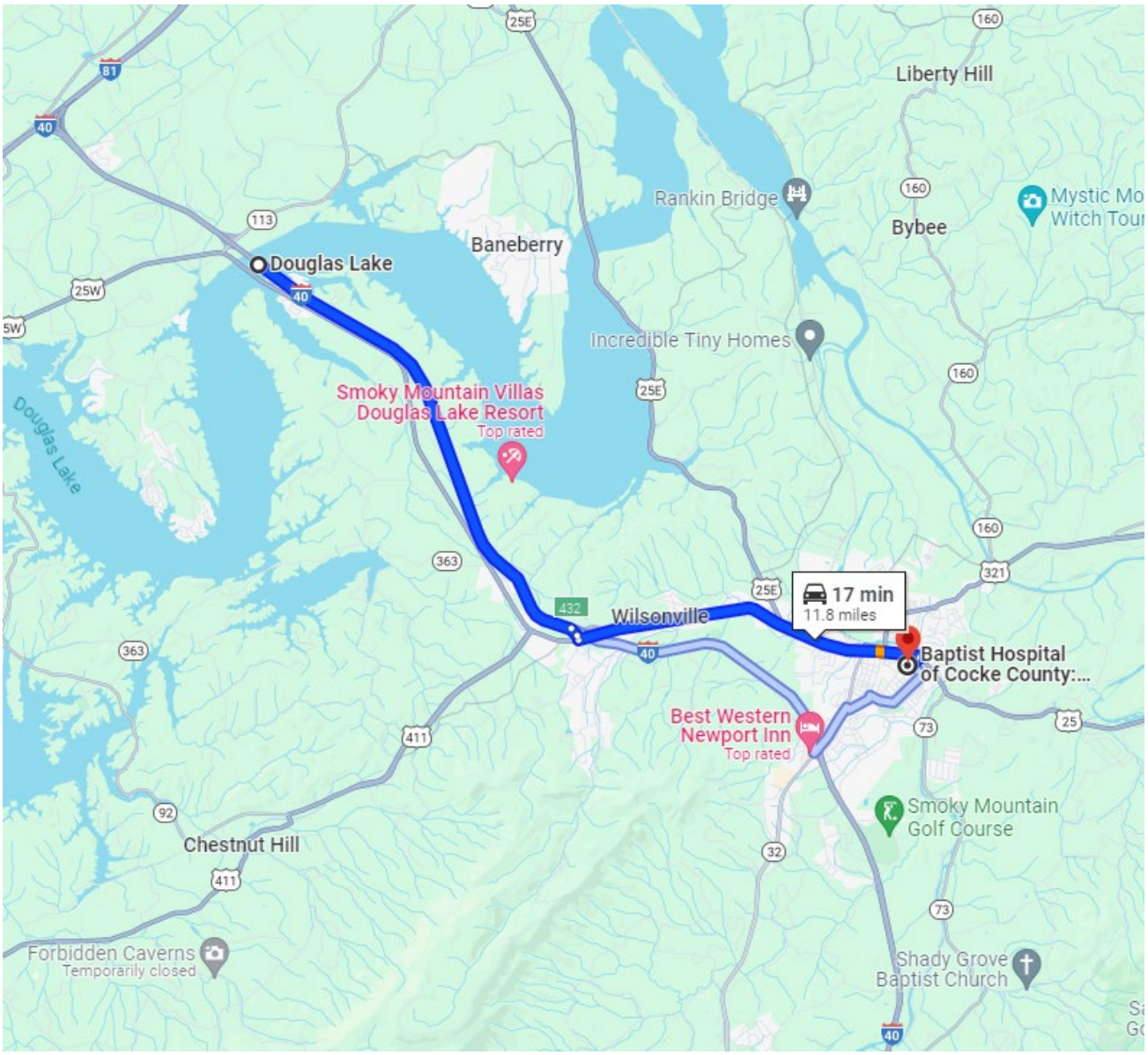
2. Depending on the nature of the medical emergency, follow the instructions of the 911 dispatcher.

3. Monitor the condition of the victim until emergency medical services arrive.

Emergency Contacts		
IN CASE OF EMERGENCY DIAL 911		
Event	**Contact**	**Phone**
Medical	Newport Medical Center 435 Second Street, Newport, Tennessee 37821	423-625-2200
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	United States Environmental Protection Agency 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
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 / Health and Safety / Field Team Leader	Name	Rich Heinzenberger rheinzenberger@ensafe.com
	Work	865-219-2675
	Mobile	865-255-6500
EnSafe Project Manager	Name	Troy Estes testes@ensafe.com
	Work	615-252-2813
	Mobile	615-483-5117
EnSafe Corporate Health and Safety Manager	Name	Scott Campbell scampbell@ensafe.com
	Work	901-937-4255
	Mobile	724-470-4481
Tennessee Department of Transportation Environmental Division Contract Manager	Name	Kyle Kirschenmann kyle.kirschenmann@tn.gov
	Work / Mobile	615-598-1522

For Eastbound Lanes
Directions to Newport Medical Center at 435 Second Street, Newport, Tennessee 37821



I-40 Bridge over French Broad River
Jefferson County, Tennessee

Head southeast on I-40
6.7 miles

Take exit 432 for US-25W/US-70/US-411 S toward Newport/Sevierville
0.1 miles

Keep left at the fork to continue toward US-25W S/US-411 N/US-70 E/Hwy 411 N
253 feet

Turn left onto US-25W S/US-411 N/US-70 E/Hwy 411 N
Continue to follow US-70 E

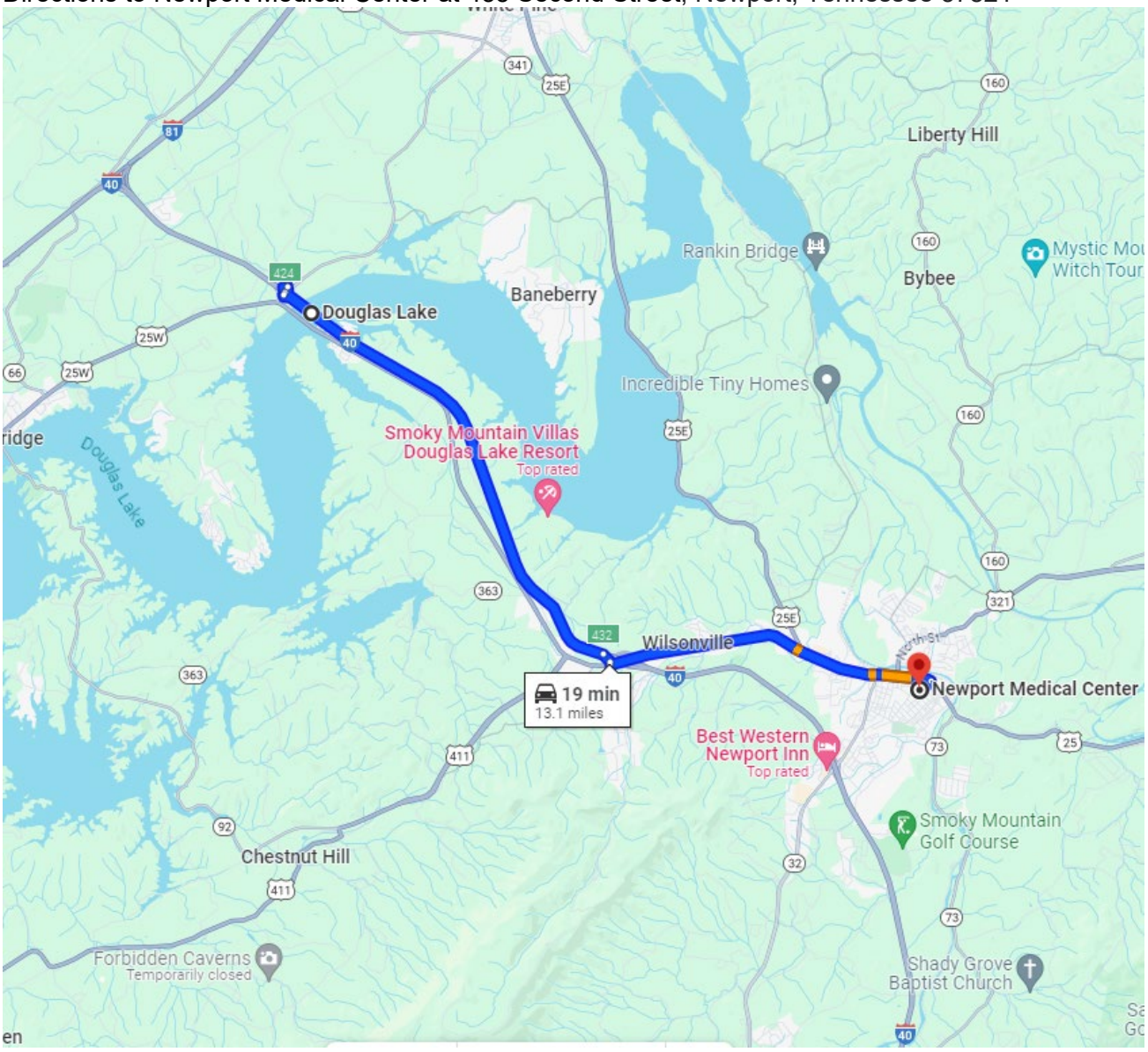
4.7 miles

Turn right onto Iris Place
0.2 miles

Turn right at Lauren Aly
Destination will be on the right.
285 feet

Newport Medical Center
435 Second Street, Newport, Tennessee 37821

<u>For Westbound Lanes</u>
Directions to Newport Medical Center at 435 Second Street, Newport, Tennessee 37821



I-40 Bridge over French Broad River
Jefferson County, Tennessee
Head northwest on I-40

0.5 miles

Take exit 424 for TN-113 toward Dandridge/White Pine
0.1 miles

Turn right onto TN-113 S (signs for Dandridge)
0.2 miles

Turn left to merge onto I-40 E
7.2 miles

Take exit 432 for US-25W/US-70/US-411 S toward Newport/Sevierville
0.1 miles

Keep left at the fork to continue toward US-25W S/US-411 N/US-70 E/Hwy 411 N
253 feet

Turn left onto US-25W S/US-411 N/US-70 E/Hwy 411 N
Continue to follow US-70 E
4.7 miles

Turn right onto Iris Place
0.2 miles

Turn right at Lauren Aly
Destination will be on the right.
243 feet

Newport Medical Center
435 Second Street, Newport, Tennessee 37821

TRAFFIC HAZARDS AND CONSIDERATIONS

Based on a review of the TDOT-supplied road information and review of Google maps, it is anticipated that the sampling activities cannot be accomplished without TDOT traffic control and possibly lane closures. TDOT will be contacted to coordinate traffic control assistance.

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	Rich Heinzenberger — Site Safety and Health Officer	Daily
Ladders	N/A	Daily
Snoop Truck Manlift	N/A	Daily
Manlift	N/A	Daily