

GEOTECHNICAL DATA REPORT

I-40 BRIDGE REPLACEMENT / REST AREA TRUCK
PARKING
SMITH - PUTNAM COUNTY, TENNESSEE

FEDERAL AID PROJECT NO. NH-I-40-5 (161)
TDOT PROJECT NO. 80I040-S1-009
TDOT PIN 131552.01
TDOT GES NO. 8001625

Prepared for:

HMB PROFESSIONAL ENGINEERS, LLC FRANKFORT, KENTUCKY

Prepared by:

UES PROFESSIONAL SOLUTIONS 25, LLC MEMPHIS, TENNESSEE

Date:

OCTOBER 29, 2025

UES Project No.: **A24138.00136.001**

SAFETY TEAMWORK RESPONSIVENESS INTEGRITY VALUE EXCELLENCE





October 29, 2025

Alex Carpenter, P.E. HMB Professional Engineers, LLC 3 HMB Circle Frankfort, Kentucky 40601

Re: Geotechnical Data Report

I-40 Bridge Replacement / Rest Area Truck Parking

Smith - Putnam County, Tennessee UES Project No. A24138.00136.001 Federal Aid Project No. NH-I-40-5 (161) TDOT Project No. 80I040-S1-009

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Dear Mr. Carpenter:

Presented in this report are the results of the geotechnical exploration performed by UES Professional Solutions 25, LLC (UES) for the referenced project. The report includes our understanding of the project, observed site conditions, and data as listed in the Table of Contents.

We appreciate the opportunity to provide geotechnical services for this project. If you have any questions regarding this report, or if we can be of any additional service to you, please do not hesitate to contact us.

Respectfully submitted,

Chula heada

UES

Amber Meadows Project Manager

ABM/ASE:jtm

Copies submitted: Client (email) Ashraf S. Elsayed, Ph.D., P.E., BC.GE Chief Engineer – South Region



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Geotechnical Data Report I-40 Bridge Replacement / Rest Area Truck Parking Smith - Putnam County, Tennessee

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1.0 SCOPE OF SERVICES

Presented in this report are the results of the geotechnical exploration for design and construction of the proposed Interstate 40 (I-40) Welcome Center improvements and bridge replacement in Smith and Putnam County, Tennessee. The referenced project includes upgrades to the existing Welcome Center ramps, truck parking spaces to be added to the TDOT-owned property within the Welcome Center, and the replacement of the existing adjacent bridge structure of I-40 over the eastbound entrance and exit ramps and Caney Fork River. The project location is shown on Figure 1 included in Appendix B.

Data presented in this report are based on the geology, provided plans and project information, and the results of the geotechnical exploration. Results of borings, in-situ testing, sampling, and laboratory testing are included in the report. A total of 39 borings were performed in the vicinity of the site as shown on Figure 2 in Appendix B. Results of borings, in-situ testing, sampling, and laboratory testing are included in the report. The general site conditions are discussed. Unless noted otherwise, all dimensions, measurements, depths, and locations in this report should be considered approximate. Important information prepared by the Geotechnical Business Council (GBC) of the Geoprofessional Business Association for studies of this type is presented in Appendix A for your review.

2.0 GENERAL INFORMATION

Planned Modifications

The proposed I-40 Welcome Center (MM267) and interchange improvements project include replacement of the twin bridges for eastbound (EB) and westbound (WB) I-40 with a single bridge, ramp and access drive modifications, and addition of new parking and drive areas to the adjacent Welcome Center in Smith & Putnam County. The project length is approximately 0.86 miles. The I-40 corridor is a full access-controlled facility with an interchange to access the Welcome Center. Based on provided plans¹, the project will utilize two conceptual typical sections for I-40: four-lane

¹ Drawings titled, *Preliminary Function Design Plans*, developed by State of Tennessee – Department of Transportation – Bureau of Engineering, and dated 2025.



freeway with a depressed median and six-lane freeway with median barrier for the proposed bridge. The planned modifications are discussed in the following paragraphs.

Bridge 80I00400036: I-40 EB & WB over the Caney Fork River and EB access ramps

The existing twin bridges are two 320-foot-long, 44-foot-wide, four-span, pre-stressed, concrete bridges with 14 feet and 11 inches of vertical clearance at their intersection with EB I-40 entrance and exit ramps, and 45 to 48 feet of vertical clearance at the Caney Fork River bottom. Each bridge consists of two, 12-foot-wide travel lanes and outside/inside shoulders. A retaining wall is located at the east abutment.

The existing twin bridges will be replaced with either a 325-foot long, 135-foot-wide, two-span, steel bridge or a 322-foot long, 135-foot-wide, three-span, steel bridge. Sides slopes are anticipated to range from two horizontal units for every vertical unit (2H:1V) to (10H:1V). Abutment slopes are anticipated to match existing. Up to 2 feet of cut and 12 feet of fill will be required to achieve design grades.

Ancillary Modifications

Additional improvements will be made to the I-40 Welcome Center interchange including modifying the existing alignment and side slopes of I-40 WB entrance ramp (Ramp A), I-40 EB exit ramp (Ramp B), I-40 EB entrance ramp (Ramp C), and I-40 WB exit ramp (Ramp D) in accordance with current design standards. Up to 30 feet of cut and 12 feet of fill will be required to achieve design grades. Sides slopes are anticipated to range from 2H:1V to 10H:1V.

Welcome Center Modifications

The existing wooded areas to the west of the Welcome Center will be clear cut for the construction of a 125-bay truck parking lot expansion with associated drive areas. Grading information for the proposed parking and drive areas was not provided.

Topography and Drainage

Based on the provided plans, the existing topography at the site ranges from approximately El² 480 to El 580 across the project area, with the exception of the Caney Fork River which has a mudline elevation of El 455 at the bridge crossing. The site is within the floodplain of Caney Fork River, which drains west into the Cumberland River.

Geology

The site is located in the eastern Highland Rim physiographic province of central Tennessee, within Smith and Putnam Counties. The region is underlain by Middle Ordovician carbonate bedrock, specifically the Bigby–Cannon Limestone, which dominates the local stratigraphy. This formation, as mapped by the Tennessee Division of Geology, consists primarily of the Cannon facies—medium-dark gray to brownish-black, microcrystalline to medium-grained, thin- to

² Elevations are referenced in units of feet to North American Vertical datum (NAVD 88).



medium-bedded limestone with common chert and occasional silty mottling. The Dove facies is present only as relatively thin zones and is characterized by medium-light gray to medium gray, cryptocrystalline limestone with conchoidal fracture and scattered calcite stringers. The formation typically ranges from 50 to 125 feet thick in this region.

Overlying the bedrock is a mantle of unconsolidated surficial materials that include residual soils, colluvium, and alluvium. These deposits vary in composition and thickness depending on topographic position.

On uplands and hillslopes, the surficial cover consists of residual soils formed in place by the weathering of the underlying limestone, often accompanied by colluvium on slopes and benches. These deposits typically include clayey and silty materials with varying amounts of chert fragments. Depth to bedrock in these areas commonly ranges from approximately 3 to more than 5 feet, depending on slope position and degree of weathering. In some locations—particularly on footslopes or benches—residual and colluvial soils may exceed 60 inches in thickness above the limestone.

In the lower-lying floodplain areas adjacent to streams and drainageways, Holocene alluvium is present. These deposits consist primarily of silt, silty clay loam, and minor sand or gravel layers, reflecting modern fluvial processes. According to USDA NRCS mapping, soils in these environments commonly exhibit clay-rich subsoils and moderate to poor drainage, with depths to bedrock typically exceeding 40 to 50 inches.

3.0 GEOTECHNICAL EXPLORATION

The geotechnical exploration consisted of 39 borings in the locations of the proposed structures as described in Table 1. The borings were located in the field by a UES representative. The boring locations shown on Figure 2 in Table 1 are approximate; if elevations or more precise locations are required, the client should retain a registered surveyor to establish boring locations and elevations.

Table 1. Boring Location Summary.

Boring(s)	Proposed Improvement
BR-1 through BR-5	Bridge
WB-1, WB-2, EB-1, and EB-2	Approaches
W-1 through W-11 and E-1 through E-9	Entrance and Exit Ramps
P-1 through P-10	Parking and Drive Areas

The borings were drilled on March 27 through May 14, 2025, with ATV- and track-mounted rotary drill rigs (Geoprobe 7822DT, CME 550X, and CME 750X) using hollow stem augers and rotary wash drilling methods. Borings BR-3 and BR-4 were drilled through the bridge deck of the WB and EB driving lanes, respectively. Auger refusal occurred in Borings BR-1 through BR-5, E-1 through E-3, E-8 through E-9, EB-1, EB-2, W-1, W-2, W-4 through W-11, and WB-2 during drilling at



approximate depths of 4 to 57 feet (El 459 to El 527). Borings BR-1 through BR-5 were advanced into rock by NQ coring to total depths of 32 to 67 feet (El 433 to El 487). Rock core samples were obtained in 2- to 5-foot-long segments.

Soil sampling procedures included Standard Penetration Test (SPT) and thin-walled (Shelby) tube methods. SPT's were conducted at 2.5- and 5-foot depth intervals using an automatic hammer to obtain the standard penetration resistance, or N-values³, of the sampled material. Composite bulk sample of auger cuttings/spoils were collected at Borings W-1, W-7, W-11, E-6, P-2, P-5, and P-8 and placed in buckets. Groundwater observations were made during drilling operations. Pavement core samples were collected in Borings EB-1, EB-2, WB-1, and WB-2 during drilling.

Samples collected by UES were visually examined by a geologist and transported to our laboratory for further evaluation and testing. The samples were examined in the laboratory by a geotechnical professional who prepared descriptive logs of the materials encountered. Descriptions of the rock cores are provided on the boring logs. Boring logs and rock core photographs are presented in Appendix C. An explanation of the terms and symbols used on the boring logs, and an explanation of rock core descriptions, are also provided in Appendix C. Included on each boring log are surveyed location and surface elevation data. Included in Table 2 are in situ tests and measurements made as part of the fieldwork and recorded on the boring logs.

Table 2. Field Tests and Measurements.

Item	Test Method
Soil Classification	ASTM D 2488/ D 3282
Standard Penetration Test (SPT)	ASTM D 1586/ AASHTO T206
Thin-Walled (Shelby) Tube Sampling	ASTM D 1587/ AASHTO T207
Phreatic Surface Level Measurement in Boring	ASTM D 4750
Rock Core Drilling and Sampling of Rock	ASTM D 2113 / AASHTO T 225
Rock Quality Designation (RQD4) of Rock Core	ASTM D 6032

The boring logs and related information depict subsurface conditions only at the specific locations and times where sampling was conducted. The passage of time could result in changes in conditions, interpreted to exist, at or between the locations where sampling was conducted.

The standard penetration resistance, or N-value, is defined as the number of blows required to drive the split-spoon sampler 12 inches with a 140-pound hammer falling 30 inches. Since the split spoon sampler is driven 18 inches or until refusal, the blows for the first 6 inches are for seating the sampler, and the number of blows for the final 12 inches is the N-value. Additionally, "refusal" of the split-spoon sampler

occurs when the sampler is driven less than 6 inches with 50 blows of the hammer.

4 Rock quality designation is the ratio of the sum of the pieces of core measuring 4 inches or larger to the total length of the cored interval, expressed as a percentage.



4.0 LABORATORY REVIEW AND TESTING

Laboratory testing was performed on soil and rock samples to assess engineering and index properties. Moisture contents, grain size (sieve analyses), Atterberg limits, unconsolidated-undrained triaxial compression (UU), and compressive strength of rock core test results are presented on the boring logs in Appendix C.

Laboratory test results for grain size distributions, Atterberg, UU, consolidated-drained direct shear (CD), standard Proctor, and rock core compressive strength results are presented in Appendix D. Laboratory tests and corresponding test method standards are listed in Table 3.

Table 3. Summary of Laboratory Tests and Methods.

Laboratory Test	ASTM	AASHTO
Moisture Content	D 2216	T 265
Grain Size Analysis by Sieving	D 6913	T 88
Grain Size Analysis by Hydrometer	D 7928	T 88
Atterberg Limits	D 4318	T 98
Unconsolidated-Undrained Triaxial Compression (UU)	D 2850	T 296
Consolidated-Drained Direct Shear (CD)	D 3080	T 236
Moisture-Density Relationship (Standard Effort)	D 698	T 99
California Bearing Ratio (CBR)	D 1883	T 193
Compressive Strength of Rock Core Specimens	D 7012	T 226

The boring logs were prepared from field logs, visual classification of the soil samples, and laboratory test results. Terms and symbols used on the boring logs are presented on the Boring Log: Terms and Symbols in Appendix C. Stratification lines on the boring logs indicate approximate changes in strata. The transition between materials could be gradual or could occur between recovered samples. The stratification given on the boring logs, or described herein, is for use by UES in its analyses and should not be used as the basis of design or construction cost estimates without realizing that there can be variation from that shown or described.

5.0 SUBSURFACE CONDITIONS

Existing Pavement and Ground Surface Conditions

The ground surface at the locations of the borings was covered with 3 to 15 inches of topsoil in landscaped areas and 4 to 25 inches of asphalt underlain by up to 38 inches of base materials in paved areas. The designation, location, and ground surface conditions encountered at the borings are presented in Table 4. It should be noted that due to the sample intervals and space between boring locations, the actual depth of base materials may vary between samples and borings.



Table 4. Ground Surface Conditions Summary.

Boring or Pavement Core	Station Offset ¹ (feet)	Material	Thickness (inches)
BR-1	546+25.5 17.5 RT	Asphalt	20
BR-2	546+95.5 6.5 RT	Asphalt	14
	·	Asphalt	4
		Concrete	14
BR-3 ²	548+28.0 15.5 LT	Void Space	32
		Concrete	7.5
		Asphalt	4.25
BR-4 ²	540+00 5 17 5 DT	Concrete	13.75
DK-4-	549+09.5 17.5 RT		
		Void Space	24
BR-5	550+20.0 9.0 RT	Asphalt	5
DK-3	550 + 20.0 9.0 KT	Base Materials: crushed limestone and sand	13
		Asphalt	7
E-1	519+98.0 67.0 RT	Base Materials: crushed limestone and sand	12
		Asphalt	7.5
E-2	523+87.5 60.0 RT	Base Materials: crushed limestone and sand Asphalt	10.5
E-3	527+81.5 101.5 RT	5	
		crushed limestone and sand	11 7
E-4	533+96.5 44.0 RT	Asphalt Base Materials: crushed limestone and sand	35
E-5	534+17.0 116.5 RT	Topsoil	3
E-6	538+18.0 52.0 RT	Asphalt Base Materials: crushed limestone	4 38
F 7	507.00 0 L440 44 DT	and sand	
E-7	537+89.0 112.11 RT	Topsoil Asphalt	3 8
E-8	542+58.0 52.0 RT	Base Materials: crushed limestone and sand	34
E-9	542+48.5 152.0 RT	Topsoil	2
EB-1	545.07.0 L 47.0 DT	Asphalt Base Materials: crushed limestone	13 29
EB-1 (lane) ³	545+07.0 47.0 RT	and sand Asphalt	21.5
EB-1 (shoulder) ³		Asphalt	16.75
·		Asphalt	5
EB-2	EE4.07 E 20 0 DT	Base Materials: crushed limestone	37
EB-2 (lane) ³	551+07.5 39.0 RT	and sand Asphalt	21.25
EB-2 (shoulder) ³		Asphalt	8.5
P-1	509+87.5 375.0 LT	Topsoil	3
P-2	511+55.5 551.0 LT	Topsoil	3
P-3	519+12.5 277.5 LT	Topsoil	12
P-4	519+86.5 553.0 LT	Topsoil	7



Table 4. Ground Surface Conditions Summary (continued).

Geotechnical Data Report

Boring or Pavement Core	Station Offset ¹ (feet)	Material	Thickness (inches)
P-5	525+56.0 204.0 LT	Topsoil	10
P-6	526+17.5 489.0 LT	Topsoil	4
P-7	527+89.0 395.0 LT	Topsoil	4
P-8	531+12.5 322.5 LT	Topsoil	3
	·	Asphalt	4
P-9	535+03.5 528.0 LT	Base Materials: crushed limestone and sand	8
P-10	538+69.0 681.0 LT	Topsoil	3
W-1	510+98.5 123.5 LT	Topsoil	3
	·	Asphalt	10
W-2	511+50.5 70.0 LT	Base Materials: crushed limestone and sand	32
W-3	514+61.0 105.5 LT	Topsoil	3
		Asphalt	12
W-4	514+81.5 46.5 LT	Base Materials: crushed limestone and sand	30
W-5	518+43.0 98.5 LT	Topsoil	6
W-6	521+73.0 103.0 LT	Topsoil	3
		Asphalt	10
W-7	521+88.5 35.0 LT	Base Materials: crushed limestone and sand	10
W-8	524+76.0 104.5 LT	Topsoil	15
		Asphalt	16
W-9	525+06.07 36.0 LT	Base Materials: crushed limestone and sand	9
W-10	528+81.0 126.0 LT	Topsoil	3
		Asphalt	9
W-11	529+05.5 51.5 LT	Base Materials: crushed limestone and sand	33
		Asphalt	12
WB-1	541+01.5 14.5 LT	Base Materials: crushed limestone and sand	30
WB-1 (lane) ³		Asphalt	24.5
WB-1 (shoulder) ³		Asphalt	9.5
WB-2	552+41.5 13.5 LT	Asphalt Base Materials: crushed limestone and sand	7 35
WB-2 (lane) ³	002TT1.0 10.0 L1	Asphalt	18.75
WB-2 (shoulder) ³		Asphalt	5.25

¹ Offset to the right and left of the centerline is notated as RT and LT, respectively.

Pavement cores were obtained near Borings WB-1, WB-2, EB-1, and EB-2 with a coring machine equipped with a 4-inch diameter core barrel. Pavement material thicknesses presented in Table 4 were measured from recovered core samples at core locations and boring locations during

² Borings drilled through the bridge deck; thicknesses shown are in reference to the bridge deck.

³ Pavement core



drilling. Pavement thicknesses presented in this report might not reflect the maximum thicknesses encountered during construction. The recovered pavement core samples were marked and labeled in the field for identification then returned to our laboratory. Photographs of the recovered pavement cores are included in Appendix E.

General Stratigraphy

Beneath the pavement materials and topsoil shown in Table 4 and from the creek bottom in Borings BR-3 and BR-4, the stratigraphy generally consisted of interlayered fine- and coarse-grained soils underlain by limestone and shale bedrock. More specific descriptions of the stratigraphy encountered are provided below and on the boring logs in Appendix C.

Fine-Grained Soils

The fine-grained soils were generally classified as low plasticity, lean clay (CL), silt (ML), and silty clay (CL-ML) and high plasticity fat clay (CH) and elastic silt (MH) with varying amounts of sand and gravel by the Unified Soil Classification System (USCS) and A-2-6, A-4, A-6, A-7-5, and A-7-6 by the AASHTO method. Moisture contents of tested samples ranged from 1 to 54 percent. Liquid limits (LL) and plasticity indices (PI) of the tested samples ranged from 30 to 98 percent and 5 to 58 percent, respectively. SPT N-values ranged from 0 to 40 blows per foot (bpf). The UU tests performed on relatively undisturbed Shelby Tube samples yielded an undrained shear strength range of 1,840 to 2,850 pounds per square foot (psf). The results of field and laboratory testing were indicative of very soft to hard consistencies in this upper fine-grained stratum.

Coarse-Grained Soils

The coarse-grained soils were generally classified as clayey sand (SC, SC-SM), silty sand (SM), clayey gravel (GC), intermixed sand (SP, SP-SC, SP-SM), and intermixed gravel (GP, GW, GP-GC) by USCS and A-1-b, A-2-4, A-2-6, A-2-7, A-4, A-6, and A-7-6 by the AASHTO method. SPT N-values measured in the coarse-grained soils ranged from 0 to greater than 50 bpf, indicative of very loose to very dense conditions.

Bedrock

Auger refusal on apparent bedrock occurred in Borings BR-1 through BR-5, E-1 through E-3, E-8 through E-9, EB-1, EB-2, W-1, W-2, W-4 through W-11, and WB-2 at depths of 3.9 to 56.5 feet (EI 459 to EI 527). Borings BR-1 through BR-5 were advanced into rock by NQ coring to total depths of 32 to 67 feet (EI 433 to EI 487).

Split spoons obtained in the upper foot of bedrock in Borings BR-4, BR-5, E-1 through E-3, EB-2, W-7, W-8, and EB-2 yielded highly weathered limestone. SPT N-values measured in the weathered rock ranged from 40 to greater than 50 bpf, indicative of dense to very dense conditions.

Rock cores recovered in the bedrock consisted of medium strong to very strong, gray, very finely to coarsely crystalline, thin to medium bedded, moderately weathered to unweathered limestone and/or gray to black, aphanitic to medium crystalline, thin to medium bedded, slightly weathered



to highly weathered calcareous shale with mudstone (encountered in Borings BR-2 through BR-4). Uniaxial compressive strength tests on rock core samples generally ranged from 5,037 to 17,877 pounds per square inch (psi), indicative of medium strong to very strong rock. Photos of rock cores and the uniaxial compressive strength testing results are presented in Appendix C and Table 5, respectively. RQD values measured from the rock cores ranged from 39 to 100 percent, indicative of poor to excellent quality rock. Rock core recovery and RQD generally increased with depth in the limestone, except within and around the observed shale where RQD generally decreased.

Table 5. Unconfined Compressive Strength of Rock Core Samples.

DATE	BORING	CORE	DEPTH	DIAMETER	LENGTH	DENSITY	LOAD	STRENGTH
TESTED	NO.	NO.	FT	IN	IN	LBS/FT ³	LBS	PSI
5/30/2025	BR-1	1	57.50	1.98	4.00	169.1	34,887	11,290
5/30/2025	DK-I	3	64.50	1.99	4.19	167.3	48,549	15,664
5/30/2025		1	41.25	1.99	4.01	168.3	33,694	10,882
5/30/2025	BR-2	2	46.70	1.99	4.20	167.0	44,881	14,496
5/30/2025		3	51.10	1.99	4.16	166.2	44,435	14,366
5/30/2025		1	8.25	1.99	4.04	168.3	45,541	14,709
5/30/2025	BR-3	2	16.60	1.99	4.08	169.0	24,154	7,801
5/30/2025	DK-3	3	21.30	1.99	4.07	166.0	42,549	13,756
5/30/2025		5	29.30	1.99	4.02	168.1	46,290	14,951
5/30/2025		1	10.20	1.99	4.16	168.9	23,319	7,539
5/30/2025		2	15.80	1.99	4.11	170.3	15,579	5,037
5/30/2025	BR-4	3	17.30	1.99	4.06	170.1	23,968	7,741
5/30/2025		4	22.00	1.99	4.03	169.7	55,294	17,877
5/30/2025		5	77.00	1.98	4.01	168.8	39,855	12,898
5/30/2025		1	6.25	1.99	4.10	167.3	17,163	5,543
5/30/2025		2	13.20	1.99	4.06	169.1	48,536	15,692
5/30/2025	BR-5	3	15.40	1.99	4.12	169.8	41,974	13,557
5/30/2025		4	27.70	1.99	4.09	168.7	41,850	13,517
5/30/2025		5	29.40	1.99	4.14	169.1	43,677	14,107

Groundwater

Groundwater was encountered during drilling at depths of 15 to 43.5 feet (El 469.5 to El 493.8) in Borings BR-1, BR-2, E-5, E-7, and E-9. Borings BR-3 and BR-4 were drilled in the Caney Fork River where mudline elevations were El 467.4 and El 473.2, respectively. Groundwater was not encountered in the remaining borings. Groundwater levels vary over time due to the effects of seasonal variation in precipitation, stage of and proximity to Caney Fork River, or other factors not evident at the time of exploration.

6.0 LIMITATIONS

This report has been prepared on behalf of, and for the exclusive use of, the client for specific application to the named project as described herein. If this report is provided to other parties, it should be provided in its entirety with all supplementary information. In addition, the client should



make it clear the information is provided for factual data only, and not as a warranty of subsurface conditions presented in this report.

UES has attempted to conduct the services reported herein in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality and under similar conditions. The recommendations and conclusions contained in this report are professional opinions. The report is not a bidding document and should not be used for that purpose.

Our scope for this phase of the project did not include any environmental assessment or investigation for the presence or absence of wetlands or hazardous or toxic materials in the soil, surface water, groundwater, or air, on or below or around this site. Any statements in this report or on the boring logs regarding odors noted or unusual or suspicious items or conditions observed are strictly for the information of our client. Our scope did not include an assessment of the effects of flooding and erosion of creeks or rivers adjacent to or on the project site.

Our scope did not include: any services to investigate or detect the presence of mold or any other biological contaminants (such as spores, fungus, bacteria, viruses, and the by-products of such organisms) on and around the site; or any services, designed or intended, to prevent or lower the risk of the occurrence of an infestation of mold or other biological contaminants.

The analyses, conclusions, and recommendations contained in this report are based on the data obtained from the geotechnical exploration. The field exploration methods used indicate subsurface conditions only at the specific locations where samples were obtained, only at the time they were obtained, and only to the depths penetrated. Consequently, subsurface conditions could vary gradually, abruptly, and/or nonlinearly between sample locations and/or intervals.

The conclusions or recommendations presented in this report should not be used without UES's review and assessment if the nature, design, or location of the facilities is changed, if there is a lapse in time between the submittal of this report and the start of work at the site, or if there is a substantial interruption or delay during work at the site. If changes are contemplated or delays occur, UES must be allowed to review them to assess their impact on the findings, conclusions, and/or design recommendations given in this report. UES will not be responsible for any claims, damages, or liability associated with any other party's interpretations of the subsurface data or with reuse of the subsurface data or engineering analyses in this report.

The recommendations included in this report have been based in part on assumptions about variations in site stratigraphy that can be evaluated further during earthwork and foundation construction. UES should be retained to perform construction observation and continue its geotechnical engineering service using observational methods. UES cannot assume liability for the adequacy of its recommendations when they are used in the field without UES being retained to observe construction.



Appendix A IMPORTANT INFORMATION ABOUT THIS GEOTECHNICAL-ENGINEERING REPORT

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you - assumedly a client representative - interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will <u>not</u> likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do <u>not</u> rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it;
 e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do <u>not</u> rely on an executive summary. Do <u>not</u> read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- · the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- · the composition of the design team; or
- · project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are <u>not</u> final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnicalengineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- · confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note*

conspicuously that you've included the material for information purposes only. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, only from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and be sure to allow enough time to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. Geotechnical engineers are not building-envelope or mold specialists.



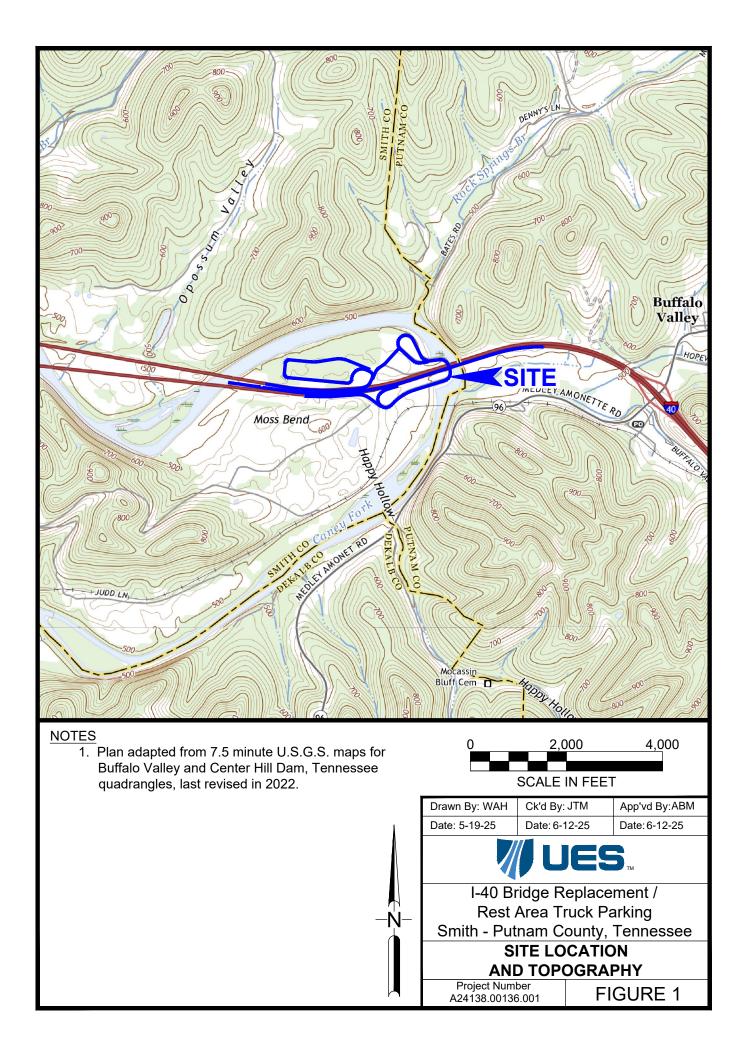
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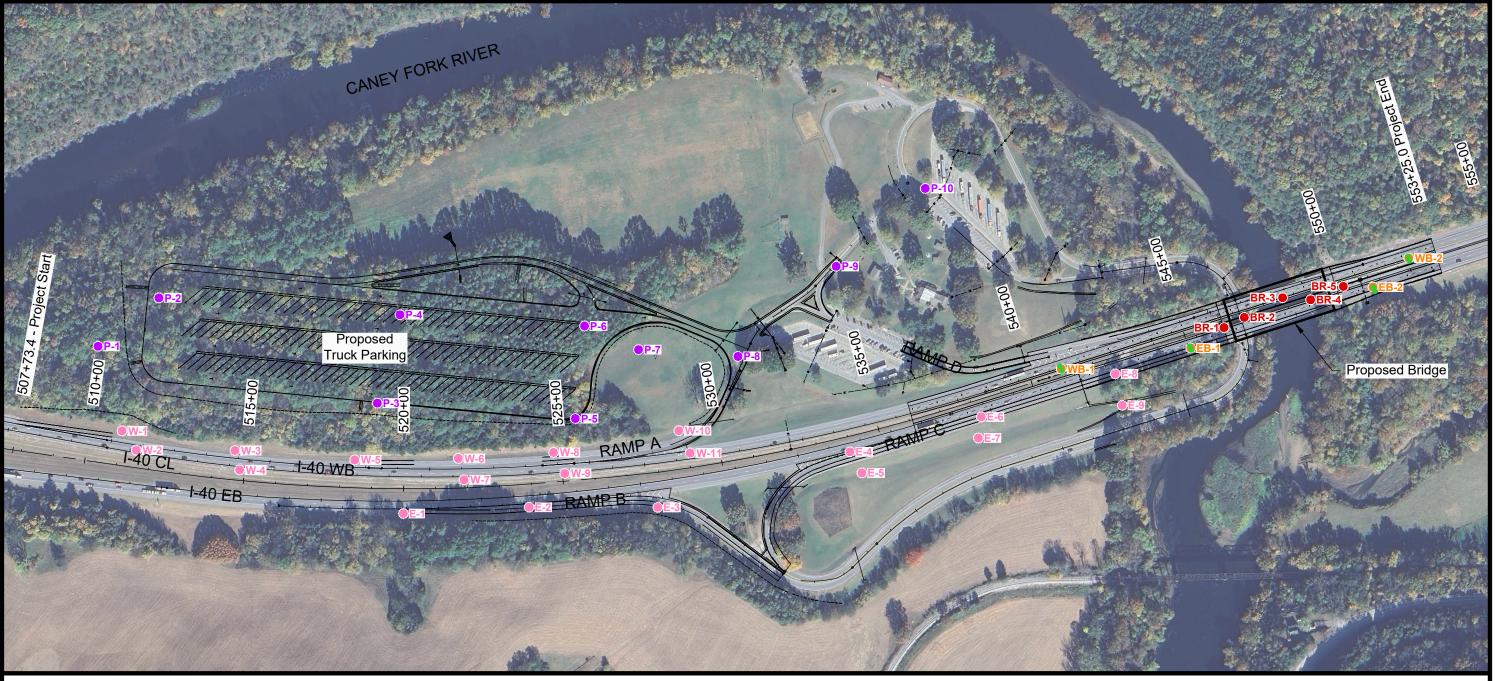
e-mail: info@geoprofessional.org www.geoprofessional.org

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Appendix B FIGURES





NOTES

- 1. Plan adapted from a October 24, 2024 aerial photograph courtesy of Google Earth and a drawing set printed on May 8, 2025, titled "Smith Putnam I-40 Bridge Replacement/Rest Area Truck Parking (L.M. 16.316/L.M.0.078)", prepared by State of Tennessee Department of Transportation Bureau of Engineering.
- 2. Boring locations were surveyed by the project surveyor.

LEGEND

- Boring Location Bridge
- Boring Location Approaches
- Boring Location Acceleration/Deceleration Lanes
- Boring Location Parking and Drives
- Pavement Core Location



Date: 5-29-25	Date: 6-12-25	Date: 6-12-25
Drawn By: WAH	Ck'd By:JTM	App'vd By: ABM



I-40 Bridge Replacement /
Rest Area Truck Parking
Smith - Putnam County, Tennessee

AERIAL PHOTOGRAPH OF SITE AND BORING LOCATIONS

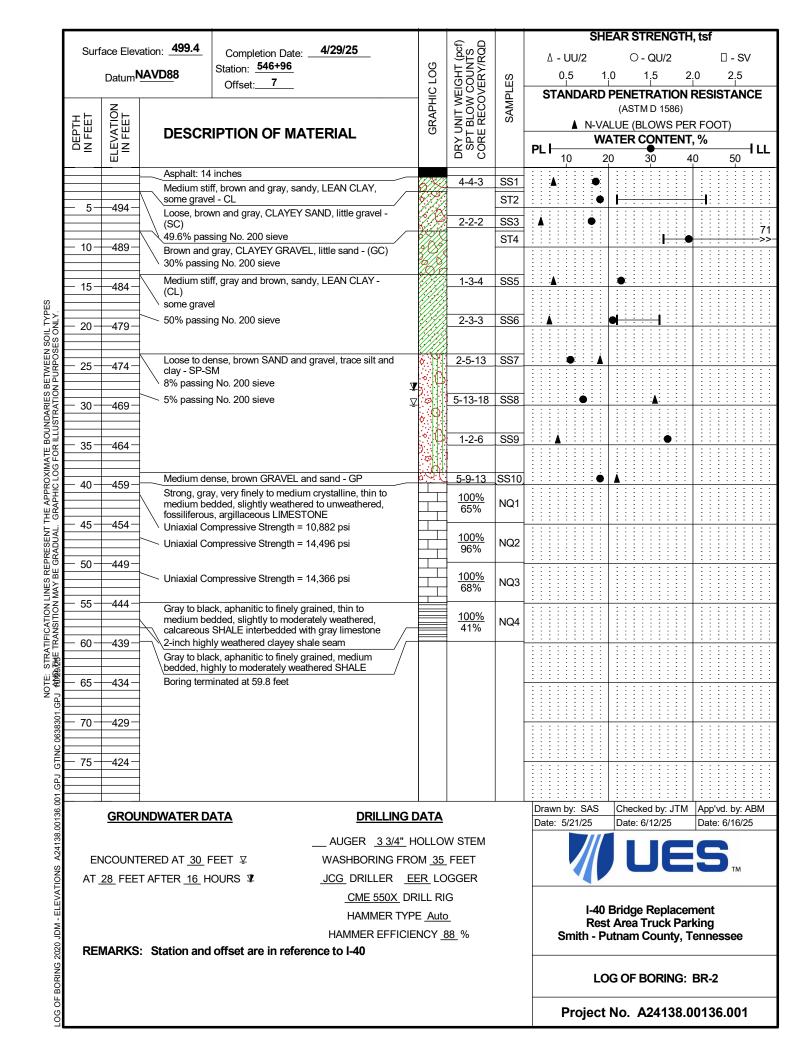
Project Number A24138.00136.001

FIGURE 2



Appendix C **BORING INFORMATION**

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		\limestone a	and sand		4-5-5	331						
- 5-	517 <i></i>	CLAY, trace	ff to hard, brown and gray, sandy, LEAN e gravel - (CL)		1-9-31	SS2		•	♦ : : : : : : : : : : :			
	317	1	y weathered LIMESTONE rong to very strong, gray, very finely to									
			ystalline, thin to medium bedded, weathered to unweathered, argillaceous		98% 70%	NQ1						
10-	512 <i></i>	\\\ LIMESTOŃ	NE .	H	1							
10	312	1-inch core Uniaxial Co	e loss ompressive Strength = 5,543 psi				1					
		\ 2-inch brov vuggy	vn clay seam	H	98% 92%	NQ2						
15		Uniaxial Co	ompressive Strength = 15,692 psi] 52,70							
15	5 07	1-inch core Uniaxial Co	e loss ompressive Strength = 13,557 psi									
			· · · · · · · · · · · · · · · · · · ·		100% 100%	NQ3						
00	500	vuggy			10070							
20	 502											
		calcite infill	ed vug		100% 100%	NQ4						
	407				10070							
25	497				-							
		Vuggy	ompressive Strength = 13,517 psi		100% 100%	NQ5						
		1	ompressive Strength = 14,107 psi		100%							
30	492	- Villaxiai CC	ompressive surengur – 14,107 psi									
					97% 97%	NQ6						
					9170							
35	—48 <i>7</i> —	1.5-inch co	ore loss									
		Boring term	ninated at 35.2 feet.									
-10	400											
40	482											
45												
45-	<u> </u>											
	GROU	JNDWATER D	ATA DRILLING	DATA	•	•	Drawn by: SAS	Checked by: JTM				
		REE WATER N			W STFM		Date: 5/22/25	Date: 6/12/25	Date: 6/16/25			
ENC		RED DURING I						JUE	5			
			JCG_DRILLER						ТМ			
			<u>CME 550X</u>	DRILL RI	G							
			HAMMER T				Res) Bridge Replace st Area Truck Pa	rking			
DE		o Chatlan	HAMMER EFFIC	CIENCY _	88_%			Putnam County,				
KEN	VIAKKS	: Station and	offset are in reference to I-40				LO	OG OF BORING:	BR-5			
							Project	t No. A24138.	JU136.001			

Surf		ration: <u>537.8</u>	Completion Date: <u>4/16/25</u> Station: <u>519+98</u> Offset: <u>67</u>	9070	IGHT (pcf) COUNTS /ERY/RQD	ES	Δ - UU/2 0,5 1	l, tsf □ - SV 2.0 2.5				
DEPTH IN FEET	LEVATION IN FEET	DESCR	IPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	▲ N-VA	STANDARD PENETRATION RESISTANCE (ASTM D 1586) N-VALUE (BLOWS PER FOOT) WATER CONTENT, %				
	=	Asphalt: 7 i	nches		۵ ٥		10 2	20 30 4	10 50			
			ial: 12 inches gray and white crushed		12-6-9	SS1						
			id brown, clayey, ELASTIC SILT, little sand,		12-0-3	001						
			ng No. 200 sieve	Ш	2-5-8	SS2	· · · · · · · · · · · · · · · · · · ·	· · · · · · · <u>· · ·</u>	6			
— 5—	533			Ш								
		Stiff, red an	d brown, LEAN CLAY, some sand and		2-4-7	SS3						
		gravel - CL			2 7 7	000						
		Medium sti	ff, brown, FAT CLAY, trace sand and		1-3-3	SS4						
— 10 <i>—</i>	528	organics - (JH		1-0-0	004						
		(CL)	gray, sandy, LEAN CLAY, little gravel -		97	ST5		: . • 				
— 15 —	523 <i>_</i> _	70% passir Gray LIMES	ng No. 200 sieve		50/1"	SS6			S-1"			
			ninated at 14.8 feet due to auger refusal.	´								
— 20 —	518 <i></i>											
		-										
— 25 —	513 —											
— 30 —	508											
		-										
								T	1			
	GROU	INDWATER D	ATA DRILLII	NG DATA			Drawn by: AG Date: 4/23/25	Checked by: JTM Date: 6/12/25	App'vd. by: ABM Date: 6/16/25			
ENC		REE WATER NO RED DURING D		FROM	FEET		WUES.					
REI	WARKS	: Station and	Geoprobe782: HAMMER HAMMER EFF offset are in reference to I-40	TYPE Auto	<u> </u>		Res	Bridge Replace of Area Truck Par outnam County, T	king			
							LC	OG OF BORING:	E- 1			
							Project	No. A24138.0	00136.001			

Surface	e Flev	ation: _538.5	Completion Date:	4/16/25		go gg			HEAR STRENGTH		
			Station: <u>523+87</u>		၂ ဗွ	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	O - QU/2	□ - SV	
Da	atum r	IAVD88	Offset: 60		SRAPHIC LOG		SAMPLES	0,5 1,0 1,5 2,0 2,5 STANDARD PENETRATION RESISTANCE			
	2				⊣ ₹	M 8 6	MP	SIANDAR	(ASTM D 1586)	RESISTANCE	
ᆂᇤᆝᄚ	ELEVATION IN FEET				RAF	BLC REC	S,	N-VALUE (BLOWS PER FOOT)			
DEPTH IN FEET	₹٣	DESCR	IPTION OF MA	TERIAL	٥	\ PT BR		1	WATER CONTENT	Γ, %	
	¦≤ 					R 80		PL 10	20 30	40 50	
	_	Asphalt: 7.5	5 inches								
		Base Mater	rial: 10.5 inches gray ar	nd white crushed		12-8-7	SS1				
			and gray, LEAN CLAY	some sand, trace		12-8-7	551				
		organics - 0	CL								
		Medium stil and gravel	ff, red and brown, FAT	CLAY, little sand		1-2-3	SS2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	• :::::::::::::::::::::::::::::::::::::		
- 5	534 —	and graver	011								
		Red and br	own, sandy, FAT CLAY	'. trace gravel - (CH)							
			ng No. 200 sieve	, ado grave. (c)		102	ST3			 	
						1-2-2	SS4				
- 10	529 —					1-2-2	334	. •			
		Soft red an	nd brown, ELASTIC SIL	T_little sand - (MH)							
45	504		ng No. 200 sieve	()	Ш	1-1-1	SS5	A : : : : : : :	. •		
- 15	524 —				Ш						
		3-inches lin	nestone fragments		Ш	5-17-15	SS6				
		2-inches lin	nestone fragments		Ш	5-17-15	330		: : : : : : • : : :		
						1-2-50/3"	SS7				
		Gray LIMES	own, sandy, FAT CLAY	Y - CH		1-2-30/3	337			9"	
- 20	519 —		ninated at 19.3 feet due	to auger refusal							
- 25	514 —										
- 30	509 —										
_ 30	509 —										
								Drawn by: AG	Checked by: JTM	App'vd. by: ABM	
<u>G</u>	iROU	INDWATER DA	<u>AIA</u>	DRILLING	DATA			Date: 4/23/25	Date: 6/12/25	Date: 6/16/25	
		REE WATER NO		AUGER <u>3 1/4"</u>	HOLLO'	W STEM					
ENCO	UNTE	RED DURING D	DRILLING	WASHBORING FF	ROM	FEET			/ UE		
				JJA DRILLER S						TM	
				Geoprobe7822D							
				HAMMER TY				I-4	0 Bridge Replace	ment	
				HAMMER EFFICI				Re	est Area Truck Pa	rking Tannasas	
DEMA	DKC	· Station and	offset are in refere		ENCY 1	70 70		Smith -	Putnam County,	i ennessee	
INEIVIA		. Glation and	onset are in refere	5110 5 to 1 -40					LOG OF BORING:	E- 2	
									-4 N - 404400	20402 224	
								Projec	ct No. A24138.	UU136.001	

					<u> </u>		SH	EAR STRENGTH	l, tsf
Surf	ace Eleva	tion: 534.8	Completion Date: 4/16/25		DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	○ - QU/2	□ - SV
	Datum N	AVD88	Station: <u>527+82</u>	8	H Z Z	S	0,5 1	.0 1.5 2	2,0 2,5
			Offset: 101.6	GRAPHIC LOG		SAMPLES	STANDARD	PENETRATION	
	S_			APH	¥00 00 00 00 00 00 00 00	AM		(ASTM D 1586)	
DEPTH IN FEET		DESCR	RIPTION OF MATERIAL	GR/		l o		ALUE (BLOWS PE	
A N	ELEVATION IN FEET	DECON	III HOIT OF MATERIAL		SP.		PI	ATER CONTENT	
	Ш	A amb alt. F i	nahaa.		О		10 2	20 30 4	10 50
		Asphalt: 5 i	rial: 11 inches gray and white crushed						
		limestone a	and sand		13-7-3	SS1	111141101		
		Soft to stiff, trace grave	red and brown, FAT CLAY, some sand, I - (CH)						
			ng No. 200 sieve		2-3-5	SS2	: : : 🛕 : : : : :		
- 5-	530								
					0-0-2	SS3	 	•	
	-	Gray LIME	STONE		50/3"	√SS4			
		Boring term	ninated at 8.3 feet due to auger refusal.						
- 10-	 525								
– 15 <i>–</i>	-520 -								
_ 20_	515								
- 20 <i>-</i>	313								
- 25-	510								
- 30-	-505 -								
50	303								
	GROUI	NDWATER D	ATA DRILLIN	NG DATA			Drawn by: AG	Checked by: JTM	1
		EE WATER N			W STEM		Date: 4/23/25	Date: 6/12/25	Date: 6/16/25
ENC		RED DURING [JUE	S
			JJA DRILLER						
			Geoprobe7822				1.40	Bridge Replace	mont
			HAMMER				Res	t Area Truck Par	rking
REM	MARKS:	Station and	HAMMER EFF offset are in reference to I-40	ICIENCY _	98_%		Smith - P	utnam County, 1	Tennessee
							L	OG OF BORING:	E- 3

		525.6	4/45/05		£ 5		SH	EAR STRENGTH	l, tsf		
		ration: 525.6	Completion Date: <u>4/15/25</u> Station: <u>533+96</u>	(7)	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	○ - QU/2	□ - SV		
	Datum I	NAVD88	Offset:44	GRAPHIC LOG	유민	S	0.5 1.0 1.5 2.0 2.5				
		T	Oliset		N C C C C C C C C C C C C C C C C C C C	SAMPLES	STANDARD PENETRATION RESISTANCE				
_ _	NO L			AP		SAN	(ASTM D 1586)				
DEPTH IN FEET	E H	DESCR	RIPTION OF MATERIAL	GR	N E E	0,	M-VALUE (BLOWS PER FOOT) WATER CONTENT, %				
	ELEVATION IN FEET				\ S S S S S		PL				
	Ш	A I I4. 7	Sanda an				10 2	20 30 4	40 50		
		Asphalt: 7 i	rial: 35 inches of gray and white crushed								
		limestone a			19-36-29	SS1	• : : : : : : : : :				
		Medium sti	iff to stiff, red and brown, sandy, LEAN		7.4.5	000					
- 5	 521	CLAY - (CL	•		7-4-5	SS2	▲ ♥ .				
		5/% passii	ng No. 200 sieve			ST3					
- 10-	E16-				6-5-7	SS4	▲ . ● .		<u> </u>		
	 516	some grave	el								
											
		trace grave	el		2-3-4	SS5	I I X I I I I I I	• :::::::			
- 15 -	 511	1									
		†									
		000	adharana arada Oli TVOI (NY (OLINI)								
			nd brown, sandy, SILTY CLAY - (CL-ML) ng No. 200 sieve		2-3-6	SS6	.	 			
- 20	 506		<u> </u>								
		Soft to med CLAY - CL	dium stiff, red and brown, sandy, LEAN		2-2-4	SS7	::4:::::				
- 25 -	 501				 			1			
					}						
		-			2-0-3	SS8					
- 30 	 496	trace sideri	ite concretions	<i>/////</i>	200	550					
			ninated at 30 feet.								
		-									
							· · · · · · · · · · · · · · · · · · ·		A		
	GROL	JNDWATER D	ATA DRILLIN	IG DATA			Drawn by: AG Date: 4/23/25	Checked by: JTM Date: 6/12/25	App'vd. by: ABN Date: 6/16/25		
	ΧF	REE WATER N	OT AUGER <u>3 1/</u> -	1" HOLLO	W STEM		DGIO. 4/20/20				
ENC		RED DURING						JUE	5		
									ТМ		
			JJA DRILLER								
			Geoprobe7822				1-40	Bridge Replace	ment		
			HAMMER				Res	t Area Truck Par	rking		
		. 0	HAMMER EFF	ICIENCY _	<u>98</u> %		Smith - P	utnam County, 1	Tennessee		
KEN	NAKKS	: Station and	I offset are in reference to I-40								
							1.0	OG OF BORING:	F- 4		
							_				

SHEAR STR								H, tsf
Surfa	ace Elev	ation: 518.8 Completion Date: 3/28/25		DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	○ - QU/2	□ - SV
	Datum	Station: <u>534+17</u>	8	H H	S	0,5	1,0 1,5 2	2,0 2,5
	2 414	Offset: 117	SRAPHIC LOG		SAMPLES		PENETRATION	
.	NO.		PH	\$ 800	AM A		(ASTM D 1586)	
DEPTH IN FEET	ELEVATION IN FEET	DESCRIPTION OF MATERIAL	38/		Ŋ		ALUE (BLOWS PE	
	EV/	DESCRIPTION OF MATERIAL		SPT SPT		PL I	ATER CONTENT	Γ, %
_=				5 5		10 2	20 30	40 50
		Topsoil and grass: 3 inches						
		Medium stiff to stiff, brown, silty, LEAN CLAY, little sand - (CL)		2-5-5	SS1			
		(- /						
_				2-2-3	SS2			
- 5-	 514							
				2-3-3	SS3			
				2-3-3	333	•		
		Brown and tan, CLAYEY SAND - (SC)						
		49.8% passing No. 200 sieve			ST4		• · · · · · · · · · · · · · · · · · · ·	
- 10	 509							
				1				
		M. P						
		Medium dense, red SAND, trace clay and organics - SP-SC		4-7-7	SS5	:::::: .		
- 15	 504							
			//					
		Medium dense, brown and gray, CLAYEY SAND and gravel - SC	d ///	6-8-6	SS6	: : : : : .		
- 20	 499	-						
			1911					
				5-4-7	SS7	: : : : : : : : : :	•::::::::::::::::::::::::::::::::::::::	
- 25	 494		∇					
		18% passing No. 200 sieve		5-5-6	SS8	: : : : : :	↓ ::::::::::::::::::::::::::::::::::::	
- 30	 489	Boring terminated at 30 feet.		1	+			
		3						
				<u> </u>		Drawn by: SAS	Checked by: JTM	App'vd. by: ABI
	GROU	NDWATER DATA DRIL	LING DATA			Date: 4/1/25	Date: 6/12/25	Date: 6/16/25
		AUGER 3	<u>3/4"</u> HOLLO	W STEM				
EN	COUNT	$\overline{}$ $\phantom{$					JUE	
			R SAS LO					TM
			0X DRILL RI					
			R TYPE Auto			I-40	Bridge Replace	ment
			FFICIENCY_			Res	st Area Truck Par Putnam County,	rking Tennessee
REN	MARKS	: Station and offset are in reference to I-40		/0		Simul - F	dalam County,	
 -						L	OG OF BORING:	E- 5
						Droine	No A24420	00136 001
						Project	No. A24138.	UU136.UU1

▲ N-VA	PENETRATION (ASTM D 1586) LUE (BLOWS PEI	R FOOT)
STANDARD A N-VA PI I	PENETRATION (ASTM D 1586) LUE (BLOWS PEI	RESISTANCE
STANDARD A N-VA PI I	PENETRATION (ASTM D 1586) LUE (BLOWS PEI	RESISTANCE
A N-VA	(ASTM D 1586) LUE (BLOWS PEI ATER CONTENT	R FOOT) ; %
PI I	ATER CONTENT	',% ——∣⊔
PL I		
10 2		50
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A		
A		
A		
		
	•	
: : : : : : : :		
: : : : : : : :		
▲ ♥		
: : : : : : : :		
Drawn by: REP	Checked by: JTM	App'vd. by: ABM Date: 6/16/25
Date. 4/20/20	10-10	
		TM
	Bridge Replacer	nent
I-40 l	: Area Truck Par	king
Rest		ennessee
Rest	utnam County, T	
Rest	utnam County, T	
Rest Smith - Pu	utnam County, T	E- 6
Rest Smith - Pu		E- 6
	Date: 4/28/25	

SHEAR STRENGTH, tsf							l, tsf		
Surfa	ace Elev	vation: 510.8	Completion Date: 3/28/25		DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	○ - QU/2	□ - SV
	Datum	NAVD88	Station: <u>537+89</u>	8	F N	ဟ	0,5	1,0 1,5 2	2,0 2,5
	Datam		Offset: 112	SRAPHIC LOG	음양필	SAMPLES		PENETRATION	
	z				₹ <u>8</u> 88	₽	STANDARL	(ASTM D 1586)	RESISTANCE
Ш	일다			RA	<u>F</u> S S	S	▲ N-V	ALUE (BLOWS PE	R FOOT)
DEP IN	₹ !!	DESCRI	PTION OF MATERIAL	٥			V	ATER CONTENT	
2 Z	ELEVATION IN FEET				S		PI		40 50 LI
		Topsoil and	grass: 3 inches	77,1,,,	,		10	20 30 '	+0 30
			to stiff, brown, silty, LEAN CLAY, son	ne /////					
		sand - CL	•		3-3-4	SS1	 		
			YEY SAND - (SC)			ST2			
_		· 30 // passing	g No. 200 sieve			312		"	
- 5	 506								
		Medium den	nse, red to tan SAND, trace clay - SP-S	sc 🦪	400	000			
		+			4-6-9	SS3			
		-							
			, gray and red, sandy, LEAN CLAY - ((CL)	2-3-4	SS4		<u> </u>	
- 10	501 —	> 59% passino	g No. 200 sieve		2-0-4	554	=	Ţ 	
-									
	L				1				
					}		: : : : : : : : :		
		NA15:	and CAND former also OD		1		: : : : : : : : :		
		. Medium den	nse, red SAND, trace clay - SP		2-5-7	SS5	I I I I I A ⊛ I		
- 15	 496							+	<u> </u>
		<u> </u>			:				
					}				
		Very dense.	red and brown, CLAYEY SAND and	6/2/		<u> </u>			
	404	gravel - SC	, -		11-15-17	SS6	•		
20	20491								
				[P][]					
		-		∇					
		Criff harries	and block condu FAT CLAV little		4-6-3	SS7	i i i i i i i i i i i i i i i i i i i		
- 25	 486	organics - C	and black, sandy, FAT CLAY, little H		4-0-5	007	· · · · · - · · · · ·		
-]							
								1::::::	
		1							
			ayey sand seam		6-23-5	SS8		: : : A : a : : :	::::::•:
- 30	 481		gray, sandy, CLAYEY GRAVEL - GC		1			1	1
		Boring termi	nated at 30 feet.						
		-					: : : : : : : :		
		1							
	CDO		TA DD			•	Drawn by: SAS	Checked by: JTM	App'vd. by: ABM
	GRUL	JNDWATER DA	<u>ua</u> <u>DR</u>	RILLING DATA			Date: 4/1/25	Date: 6/12/25	Date: 6/16/25
			AUGER	3 3/4" HOLLO	W STEM				
ENG	COUNTE	ERED AT <u>23.5</u> F	EET ♀ WASHBOF	RING FROM	FEET			JUE	
				ER SAS LO					ТМ
				750X DRILL RI			1-40) Bridge Replace	ment
				MER TYPE <u>Auto</u>			Res	st Area Truck Pa	rking
		_		REFFICIENCY _	<u>85</u> %			Putnam County, ⁻	
_	MADIZO	: Station and	offset are in reference to I-40						
REM	VIAKNO							OC OF BODING	
REM	WARNS							OG OF BORING:	

		tion: 514.7	Completion Date: Station: 542+58	4/15/25	רי)	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		SHEAR STRENGTH, tsf ∆ - UU/2			
	Datum N	AVD88	Offset: 52		GRAPHIC LOG	[SO F	ES			2.0 2.5	
	7				— કૂ	N WE	SAMPLES	STANDARD	PENETRATION	RESISTANCE	
ᆂᇤᆝ					RAF	BEO REC	SAI	▲ N-V/	(ASTM D 1586) ALUE (BLOWS PE	R FOOT)	
DEPTH IN FEET	-X-E	DESCR	RIPTION OF MA	TERIAL	Ō	> P D T H		W	ATER CONTEN	Γ, %	
	ELEVATION IN FEET					R S S		PI		40 50 L	
		Asphalt: 8									
		Base Mate limestone a	rial: 34 inches gray and and sand	white crushed		17-26-14	SS1				
		imostorio	and Sand			17-20-14	331			T : : : : : : :	
		- Gray LEAI	N CLAY and gravel - Cl			50/4"	SS2			: : : · A : : :	
_			ninated at 3.8 feet due t			30/4	<u> </u>			S-4"	
- 5-	510	· ·		J							
40	EOE										
- 10 -	505										
- 15-	-5 00 -										
13	300										
- 20 -	495										
20	493										
- 25 -	-490 -										
- 30 	-485 -										
								Drawn by: AG	Checked by: JTM	App'vd. by: ABM	
	GROUN	IDWATER D	<u>ATA</u>	DRILLING	<u>DATA</u>			Date: 4/23/25	Date: 6/12/25	Date: 6/16/25	
		EE WATER N		AUGER <u>3 1/4"</u>	HOLLO	W STEM					
_	COUNTER	ED DURING I	DRILLING	WASHBORING F	ROM	FEET			JUE	5	
ENC				JJA DRILLER	SAS LO	GGER				IM	
ENC				Geoprobe7822D	<u>)T</u> DRILL	RIG		_		_	
ENC					(DE A 1	2		I-40	Bridge Replace	ment	
ENC				HAMMER TY	YPE Auto	<u>, </u>		RV6	t Area Truck Pa	rkina	
				HAMMER EFFIC				Res Smith - P	t Area Truck Pa utnam County,	rking	
	MARKS:	Station and	d offset are in refere	HAMMER EFFIC				Smith - P	t Area Truck Pa utnam County,	rking	
	MARKS:	Station and	d offset are in refere	HAMMER EFFIC				Smith - P	of Area Truck Pa Putnam County, Tourney, Tourney	rking Tennessee	

Surf	ace Flevi	ation: 493.0	Completion Date: 3/28/25		වීරී		SHEAR STRENGTH, tsf					
			Station: <u>542+48</u>	ပ္ခ	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	○ - QU/2	□ - SV			
	Datum 1	IAVD88	Offset: 152	SRAPHIC LOG	후얼魠	SAMPLES	0,5 1,0 1,5 2,0 2,5					
	7			— ¥	W 80	MPI	STANDARD PENETRATION RESISTANCE (ASTM D 1586)					
ᆂᇤᆝ	ELEVATION IN FEET			RAF	PEC REC	SA	A N-V/	(ASTM D 1586) • N-VALUE (BLOWS PE				
DEPTH IN FEET	FE	DESCR	RIPTION OF MATERIAL	٥	> 고 도 교		W	ATER CONTENT				
	出목				R _S SS		PI		40 50 L			
		Topsoil and	d grass: 2 inches		,							
		Stiff, brown	, sandy, LEAN CLAY, some organics - CL		4-4-5	SS1	: : : : <u>.</u> :					
					4-4-5	331						
			(1) I I I I I I I I I I I I I I I I I I I									
		limestone g	ff to hard, brown, LEAN CLAY, some gravel - CL	Ø///	5-2-3	SS2	[[[[[[[[[[[
- 5-	 488	•	•	0/								
				<i>S///</i>	4 44 00	000						
					4-11-20	SS3	: : : : :					
				6//								
				68	1-3-3	SS4	[: ▲::: ♦::					
- 10 -	 483					1						
		Very dense clay - GP-0	e, gray and brown GRAVEL and sand, trace GC	0.(.)	5-11-19	SS5		1::::4::::				
- 15 -	 478		g No. 200 sieve	₹).	<u></u>							
				ģ								
				2. 18	\$							
				à O	4							
		Boring term	ninated at 18.7 feet due to auger refusal.	04182	50/2"	∖SS6			S-2"			
- 20 -	 473											
- 25	 468											
− 30 	 463											
							Drawn by: SAS	Checked by: JTM	App'vd. by: ABM			
	GROU	NDWATER D	<u>ATA</u> <u>DRILLII</u>	NG DATA			Date: 4/1/25	Date: 6/12/25	Date: 6/16/25			
			AUGER <u>3 3/</u>	4" HOLLO	W STEM							
EN	COUNT	ERED AT 15 F	FEET WASHBORING	FROM	FEET			JUE	5			
			<u>JT</u> DRILLER	SAS LO	GGER				IM			
			<u>CME750X</u>	DRILL RI	G							
			HAMMER				I-40	Bridge Replace	ment			
			HAMMER EFF				Smith - P	st Area Truck Par Putnam County, 1	rking Fennessee			
REM	//ARKS	: Station and	offset are in reference to I-40	_				--				
							L	OG OF BORING:	E- 9			
							_					
							Project	No. A24138.0	00136.001			

					0 0			SHI	EAR STRENGTH	l, tsf
Sur	face Elev	ration: <u>516.7</u>	Completion Date: 4/15/25		DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2		○ - QU/2	_
	Datum	NAVD88	Station: <u>545+07</u>	8	H Z Z Z	ις.	0,5	1	,0 1,5 2	2,0 2,5
			Offset: 47	_		ͳ	STAND	ARD	PENETRATION	
- ⊢	N ⊢			GRAPHIC LOG		SAMPLES			(ASTM D 1586)	
DEPTH IN FEET	ATI	DESCR	IPTION OF MATERIAL	R.		0	A		ALUE (BLOWS PE	
	ELEVATION IN FEET				Y S S S S S S S S S S S S S S S S S S S		PL I		ATER CONTENT	I LL
	Ш	Asphalt: 13	inches				10	2	20 30 4	40 50
		7 opridit. To	THORES							
			rial: 29 inches gray and white crushed		3					
		limestone a	and Sand							76
					26-41-35	SS1	•			
					}					
					3					
			rown, sandy, LEAN CLAY - (CL) ng No. 200 sieve							
					2 4 50/4"	SS2				
					3-4-50/4"	552	_			10"
- 5-	512-									
		Boring tern	ninated at 5.1 feet due to auger refusal.	7777						
_										
	GROL	INDWATER D	ATA DRILLIN	G DATA			Drawn by: // Date: 4/23/		Checked by: JTM Date: 6/12/25	App'vd. by: ABM Date: 6/16/25
	X FI	REE WATER N	OT AUGER <u>3 1/4</u>	" HOLLO	W STEM		Dato. 1/20/	7///		
EN		RED DURING I						$\prime\prime\prime$	UE	5
			JJA_DRILLER							ТМ
			Geoprobe7822							
			HAMMER T	YPE Aut	<u>o</u>			I-40	Bridge Replace t Area Truck Par	ment
			HAMMER EFFI	CIENCY _	<u>98</u> %		Smit	h - P	utnam County,	Tennessee
RE	MARKS	: Station and	offset are in reference to I-40							
								LC	OG OF BORING:	EB-1
							Pro	ject	No. A24138.0	00136.001

					<u> </u>		SH	EAR STRENGTH	l, tsf				
Surf	face Elev	ration: <u>522.5</u>	Completion Date: 4/15/25		DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	○ - QU/2	□ - SV				
	Datum	NAVD88	Station: <u>551+07</u>	90	±N. ₹N.	(0			2,0 2,5				
	Datum:	<u></u> 0	Offset: 39	CL	RSH	<u>S</u>							
	Z.			GRAPHIC LOG	₹ 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	SAMPLES	STANDARD PENETRATION RESISTANCE (ASTM D 1586)						
DEPTH IN FEET	ELEVATION IN FEET	DEGGE	UDTION OF MATERIAL	3RA	<u> </u>	\sqrt{S}	▲ N-VA	ALUE (BLOWS PE	R FOOT)				
	N N	DESCR	IPTION OF MATERIAL		SPT SPT		D. I. W.	ATER CONTENT	, %				
- E					F. S.		PL 10 2	20 30 4	10 50 LL				
		Asphalt: 5 i	nches										
		Base Mater	rial: 37 inches gray and white crushed	XXX	đ								
		limestone a			}								
					}								
					47-50/5"	SS1	•		<u>.</u> .				
									J				
					}								
					}								
					}								
					}								
				-									
			CLAY - (CH) ng No. 200 sieve										
	-	00 70 passii	ig 140. 200 slove						88				
					2-3-50/3"	SS2		•⊢	9"				
		Gray, highl	y weathered LIMESTONE										
			ninated at 4.8 feet due to auger refusal.										
- 5-	518-	Doming tom	mated at 1.0 lost due to dager rolded.										
		 			I	L	Drawn by: AG	Checked by: JTM	App'vd. by: ABM				
	<u>GROU</u>	INDWATER D	AIA DRILLING	DATA			Date: 4/23/25	Date: 6/12/25	Date: 6/16/25				
		REE WATER N		HOLLO	W STEM								
ENC	COUNTE	RED DURING I							5				
			<u>JJA</u> DRILLER						ТМ				
							<u>l</u> -40	Bridge Replacer	ment				
							Res	t Area Truck Par	king Tennessee				
RE	MARKS	: Station and			/0		Simul-P	—————					
							LC	OG OF BORING:	EB-2				
							Project	Νο. Δ24138 በ	00136 001				
	<u>X</u> FI	RED DURING [OT AUGER <u>3 1/4"</u> DRILLING WASHBORING FI	HOLLO ROM SAS_LC T_DRILL PE_Auto	FEET GGER RIG		I-40 Res Smith - P	Bridge Replacer t Area Truck Par utnam County, T	Date: 6/16/25 TM ment rking rennessee EB-2				

Surf	Datum	ation: <u>502.7</u>	Completion Date: 3/27/25 Station: 509+88 Offset: -375	SRAPHIC LOG	UNIT WEIGHT (pcf) T BLOW COUNTS E RECOVERY/RQD	SAMPLES	Δ - UU/2 0 _. 5 1	EAR STRENGTH O - QU/2 O 1,5 2 PENETRATION	□ - SV 2.0 2.5	
DEPTH IN FEET	ELEVATION IN FEET		RIPTION OF MATERIAL		DRY UNIT V SPT BLOV CORE RECO	SAM	PL I	(ASTM D 1586) LUE (BLOWS PE ATER CONTENT		
			d wood debris: 3 inches , silty, LEAN CLAY, some sand - CL	1,1 ½·.,1						
			, 5, , 22 , 55 55 52							
					1-3-6	SS1	.	•		
			, silty, sandy, LEAN CLAY, trace organic	:s -						
		CL			2-5-6	SS2	. •			
— 5 –	498 -									
					2-5-6	SS3				
			wn and red, CLAYEY SAND - (SC)							
		> 38% passir	ng No. 200 sieve		2-3-4	SS4		 		
— 10 <i>-</i>	 493									
		Soft, brown	, sandy, FAT CLAY - CH							
		•			0-2-1	SS5		•		
— 15 <i>-</i>	 488 -	Davina tau	singled at 15 feet							
		Boring term	ninated at 15 feet.							
		•								
	GROL	INDWATER D	ATA DRIL	LING DATA			Drawn by: SAS Date: 4/1/25	Checked by: JTM Date: 6/12/25	App'vd. by: ABM Date: 6/16/25	
	X FI	REE WATER NO	OT AUGER 3	3 3/4" HOLLO	N STEM		Dato. 4/1/20			
ENC		RED DURING [ADILLING	NG FROM				UE	5	
				R SAS LOC					ТМ	
				 50X_ DRILL RI						
				ER TYPE Auto			I-40	Bridge Replace t Area Truck Pa	ment rking	
			HAMMER E	EFFICIENCY 8	<u>35</u> %		Smith - P	utnam County,	Tennessee	
REI	MARKS	: Station and	offset are in reference to I-40							
							LOG OF BORING: P-1			

		400.4				<u> </u>			SHE	AR STRENGT	H, tsf
Surf	ace Elev	vation: <u>499.1</u>	Completion Date:	3/28/25	(D	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		∆ - UU/2		○ - QU/2	□ - SV
	Datum	NAVD88	Station: <u>511+55</u>		3RAPHIC LOG	F 등 등	ί	0,5	1,0) 1 _. 5	2,0 2,5
			Offset: -551		⊒		SAMPLES	STANDA	RD F	PENETRATION	RESISTANCE
	N.				I H	¥0.3 0.3 0.	AM			(ASTM D 1586)	
DEPTH IN FEET	ELEVATION IN FEET	DESCD	IPTION OF MAT	EDIAI	GR/		S	A 1		UE (BLOWS P	
	N N N N N N N N N N N N N N N N N N N	DESCR	IF HON OF WAT	LINAL		Y. S. P. S.		PL I		TER CONTEN	T, %
	П_							10	20	30	40 50
		<u> </u>	d wood debris: 3 inches		1////				. 👍		
			lium stiff, brown, sandy, L ng No. 200 sieve	EAN CLAY - (CL)							
		0170 passii	ig 140. 200 sieve								
						1-3-5	SS1	🛉	.•.		
		_									
		-				1-3-3	SS2				
						1-3-3	332	•]		
5-	494	_									
											.
		interbedded	d seams of clayey sand, to	race organics			<u> </u>				.
						1-2-3	SS3	A		•	.
		1					L		[
											.
						0-1-1	SS4				
10-	 489 -	_									
		_									
		†									.
											.
		Very loose, gravel - SC	brown and red, CLAYEY	SAND, trace							.
		trapped wat				0-0-0	SS5		•		.
15-	 484		ninated at 15 feet.		1///		-				
		boning term	mateu at 10 leet.								.
		+									.
		1									
											.
											.
		1									.
											.
								 	100	O	A A A A A T T T T T
	GROL	JNDWATER DA	<u>ATA</u>	DRILLING D	<u>ATA</u>			Drawn by: San Date: 4/1/25		Checked by: JTN Date: 6/12/25	App'vd. by: ABM Date: 6/16/25
	ΧF	REE WATER NO	ЭТ	AUGER <u>3 3/4"</u> H	IOLL O	₩ STEM					
ENC		ERED DURING D		WASHBORING FRO						UE	
				JT DRILLER SAS							ТМ
				CME750X DRI					-40 E	Bridge Replace	ement
				HAMMER EFFICIE					Rest	Area Truck Pa	arking
				HAMMER EFFICIE	INCY 6	<u>oo</u> %		Smith	- Pu	tnam County,	rennessee
DE	MADVO	2. Station and	Officat and in referen	co to 1 40				1			
REM Bull	MARKS k Samb	S: Station and ole collected from	offset are in referen om 0 to 5 feet.	ice to I-40							
REN Bull	MARKS k Samp	S: Station and ole collected from	offset are in referen om 0 to 5 feet.	ace to I-40					LO	G OF BORING	i: P-2
REN Bull	MARKS k Samp	S: Station and ole collected fro	offset are in referen om 0 to 5 feet.	ice to I-40						G OF BORING	

	Datum	NAVD88 Sta	Completion Date: 3/28/25 tion: 519+12 offset: -278	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	Δ - UU/2 0 _i 5 1	EAR STRENGTH	□ - SV 2,0 2,5
DEPTH IN FEET	ELEVATION IN FEET	DESCRIPT	ION OF MATERIAL	GRAPH	ORY UNIT V SPT BLOV SORE RECC	SAM	PI I	(ASTM D 1586) ALUE (BLOWS PE	·,%
	Ш	Topsoil and woo	od debris: 12 inches	7/1 /N . 7/1			10 2	20 30 4	10 50
		Soft to stiff, brow	vn, sandy, LEAN CLAY - (CL) organics	17:311	111	SS1			
					1-1-1	331			
					1-2-2	SS2			
— 5 -	—524 —				122	002			
		53% passing No	o. 200 sieve		1-2-2	SS3			
		some gravel			2-5-6	SS4	.		
— 10 —	5 19								
		trace gravel							
— 15 —	5 14	Boring terminate	ed at 15 feet.		2-4-4	SS5			
	GROL	JNDWATER DATA	<u>DRILLIN</u>	NG DATA			Drawn by: SAS Date: 4/1/25	Checked by: JTM Date: 6/12/25	App'vd. by: ABM Date: 6/16/25
ENC		REE WATER NOT ERED DURING DRIL	AUGER <u>3 3/4</u> LING WASHBORING _ <u>JT_</u> DRILLER	FROM	FEET			UE	S _{TM}
REM	MARKS	s: Station and offs	CME750X HAMMER HAMMER EFF set are in reference to I-40	TYPE Auto	<u>)</u>		Res	Bridge Replace t Area Truck Par utnam County, 1	king
							LC	OG OF BORING:	P- 3
							Project	No. A24138.0	00136.001

		vation: <u>526.3</u>	Completion Date: Station: 519+87 Offset: -553	3/28/25	SRAPHIC LOG	EIGHT (pcf) / COUNTS)VERY/RQD	SAMPLES	∆ - U 0,5 STAN	U/2 5 1	O - QU/2 0 1.5 PENETRAT	2.0	□ - SV
DEPTH IN FEET	ELEVATION IN FEET		RIPTION OF MA			DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAME		Å N-VÆ W	(ASTM D 15 ALUE (BLOWS ATER CONT 20 30	86) S PER	FOOT) %
			d wood debris: 7 inche		<u> </u>	1						
		Soft, brown organics - 0	ı, silty, LEAN CLAY, tra CL	ace sand and		1-1-1	SS1					
- 5-	521		ff to stiff, brown, sandy ng No. 200 sieve	, LEAN CLAY - (CL)		1-3-3	SS2		· · · · · · · · · · · · · · · · · · ·	• !		
						1-4-5	SS3					
5 — 5 — 10 —						1-4-5	SS4		- · · · · · · · · · · · · · · · · · · ·			
_ 10-	 516	-							- · · · · · · · · · · · · · · · · · · ·			
						2-3-4	SS5			•		
— 15 <i>—</i>	 511	Boring term	ninated at 15 feet.									
ENC	GROL	JNDWATER D	ATA	DRILLING	DATA			Drawn by		Checked by: Date: 6/12/25		App'vd. by: ABN Date: 6/16/25
ENC		REE WATER NO RED DURING I		AUGER <u>3 3/4"</u> WASHBORING FF _JT_DRILLER <u>S</u> _CME750X_D	ROM SAS_LOG RILL RIG	FEET GGER G			1-40	Bridge Repl		
200	HAMMER TO HAMMER EFFICE REMARKS: Station and offset are in reference to I-40							Sn	Res nith - P	t Area Truck utnam Coun	Park ty, Te	ing nnessee
REN PARTIES OF THE PARTIES OF THE PA								Pi		No. A241		

Surfa		vation: <u>537.7</u>	Completion Date: _ Station: <u>525+56</u>		ပ္	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	HEAR STREN	2	□ - SV	
	Datum	NAVD88	Offset: -204		3RAPHIC LOG	프 의 의 의	ES		1,0 1,5	2.0		
	Z				불	M 8 8	SAMPLES	STANDARI	D PENETRAT (ASTM D 1		RESISTANCE	
핕	ELEVATION IN FEET				RA	P.E.	SA	≜ N-V	ALUE (BLOW		FOOT)	
DEPTH IN FEET	EVA FE	DESCR	IPTION OF MAT	ERIAL C	9	3Y L SPT SRE		V	VATER CONT		%	
_=						F		PL I 10	20 30	40	50 LI	
		Topsoil and	wood debris: 10 inches		1/2: .\\ ::::::::::::::::::::::::::::::::::							
			ff to stiff, red and brown,		////							
		CLAY - (CL some organ				4-4-4	SS1	· · · · · · · · · · ·	.			
		-										
		54% nassin	ng No. 200 sieve									
		- 0470 passiii	ig 140. 200 Sieve			3-3-4	SS2		.		 I	
_	500					001	002	-	·		•	
- 5-	 533											
		-										
						3-4-6	SS3		. 📗			
		_				0 4 0			. T			
			: <i>l</i> 4 -									
		trace organi	ICS/FOOTS			2-4-4	SS4					
						Z -4-4	334					
- 10	 528	-										
		_										
		trace gravel				0.45	005					
						2-4-5	SS5					
- 15	 523	Boring term	ninated at 15 feet.	(27)	7777							
		-										
		-						<u> </u>	.			
									.			
	GROL	JNDWATER DA	ATA	DRILLING DAT	TA		ı	Drawn by: SAS Date: 4/1/25	Checked by: Date: 6/12/2		App'vd. by: ABM Date: 6/16/25	
		REE WATER NO		AUGER <u>3 3/4"</u> HOL	LOW	STEM						
ENC	COUNTE	RED DURING D	DRILLING	WASHBORING FROM	F	EET					S _{TM}	
				JT DRILLER SAS L	LOGO	GER					IN	
				CME750X DRILL				1.4	N Bridge Ben	lacom	ont	
				HAMMER TYPE <u>A</u>				Re	0 Bridge Rep st Area Truc	k Park	ting	
			offset are in refere	HAMMER EFFICIENC nce to I-40	CY <u>85</u>	<u>5</u> %		Smith -	Putnam Cour	nty, Te	ennessee	
Bull	k Samp	ole collected fro					L	OG OF BOR	LOG OF BORING: P- 5			

Surf		vation: 534.1 NAVD88	Completion Date: 3/27/25 Station: 526+18 Offset: -489	907 21	EIGHT (pcf) COUNTS	SJ-C	Δ - UU/2 0,5 1.	CAR STRENGTH O - QU/2 0 1,5 2 PENETRATION	□ - SV	
DEPTH IN FEET	ELEVATION IN FEET		EIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	A N-VA	(ASTM D 1586) LUE (BLOWS PE	R FOOT)	
			d wood debris: 4 inches ff to stiff, brown and red, silty, LEAN CLAY,	<u>'s' 1////</u>	<u> </u>					
			, trace gravel - CL		2-3-4	SS1		•		
					12-8-7	SS2				
_ 5-	-529-	Stiff rod or	nd brown, sandy, FAT CLAY, trace gravel							
		and organi	cs - CH		3-6-5	SS3		• • • • • • • • • • • • • • • • • • • •		
					4-6-8	SS4				
— 10 <i>—</i>	 524	_					· · · · · · · · · · · · ·			
		(MH)	rown and red, ELASTIC SILT, some sand -		2-8-8	SS5		• • • • • • • • • • • • • • • • • • •		
— 15 <i>—</i>	519	Boring tern	ninated at 15 feet.							
	GROL	JNDWATER D	ATA DRILL	ING DATA			Drawn by: SAS Date: 4/1/25	Checked by: JTM Date: 6/12/25	App'vd. by: ABN Date: 6/16/25	
ENC		REE WATER N ERED DURING I		G FROM	FEET			UE	S _{TM}	
RFI	MARKS	s: Station and		X DRILL RIGHT PRICE NO. 1 NO.	<u> </u>		Rest	Bridge Replace t Area Truck Par utnam County, 1	king	
KE		. Claudii ailu	Should by Hild Green Co. 1-40				LC	OG OF BORING:	P- 6	
							Project	No. A24138.0	.00136.001	

Surf		ation: <u>529.1</u>	Completion Date: 3/27/25 Station: 527+89 Offset: -395	IC LOG	EIGHT (pcf) COUNTS VERY/RQD	SES	Δ - UU/2 0,5 1.	CAR STRENGTH O - QU/2 0 1,5 2 PENETRATION	□ - SV
DEPTH IN FEET	ELEVATION IN FEET		RIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	▲ N-VA	(ASTM D 1586) LUE (BLOWS PE ATER CONTENT	R FOOT)
			d grass: 4 inches ff to stiff, brown, silty, LEAN CLAY, some	<u> </u>					
		sand - CL	, , ,		4-4-5	SS1			
					3-3-2	SS2			
— 5—	524								
			ense, tan and brown, CLAYEY SAND - (SC) ng No. 200 sieve		3-4-6	SS3			
10-	-519-	Medium sti some grave	ff, brown and red, sandy, LEAN CLAY, ଚା - CL		2-4-4	SS4		•	
_ 10_	319								
		Soft brown	and red, sandy, FAT CLAY, trace gravel						
— 15 <i>—</i>	514	and organi	cs - CH		1-1-2	SS5	A	•	
.0		Boring term	ninated at 15 feet.						
	GROU	INDWATER D	ATA DRILLIN	IG DATA			Drawn by: SAS	Checked by: JTM	
ENC	<u>X</u> FI	REE WATER NO RED DURING I	OT AUGER <u>3 3/</u> -	4"_ HOLLO	FEET		Date: 4/1/25	Date: 6/12/25	Date: 6/16/25
REM	MARKS	: Station and	CME750X HAMMER HAMMER EFF offset are in reference to I-40	TYPE Auto	<u>)</u>		Rest	Bridge Replace t Area Truck Par utnam County, T	king
							LC	OG OF BORING:	P- 7
							Project	No. A24138.0	0136.001

Surf	Datum l	ation: <u>528.0</u>	Completion Date:	3/28/25 BRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	Δ - UU/2 0.5	EAR STRENGT O - QU/2 1,0	□ - SV 2.0 2.5
DEPTH IN FEET	ELEVATION IN FEET	DESCR	IPTION OF MATE	GRAPH	RY UNIT W SPT BLOW ORE RECC	SAMI	A N-V	(ASTM D 1586) ALUE (BLOWS PE VATER CONTENT	R FOOT)
	П	Topsoil and	d grass: 3 inches				10	20 30 4	40 50
		Stiff, brown	and red, sandy, LEAN CL	7/7//				 	
		(CL) 55% passir	ng No. 200 sieve						
					4-5-9	SS1			
					5-5-4	SS2	🗚 🖭		
- 5-	 523								
						1			
					3-3-6	SS3	 	1	
					3-4-5	SS4		•	
- 10 <i>-</i>	 518								
			nse, brown and red, CLAY	EY SAND, trace					
		gravel - SC			2-4-7	SS5	 		
- 15-	 513	Davis a taus	instal at 15 feet						
		boning term	ninated at 15 feet.						
							Drover by CAC	Charling	Applied to APA
	GROU	NDWATER D	<u>ATA</u>	DRILLING DATA	<u> </u>		Drawn by: SAS Date: 4/1/25	Checked by: JTM Date: 6/12/25	App'vd. by: ABM Date: 6/16/25
ENC		REE WATER NO RED DURING [AUGER <u>3 3/4"</u> HOLLO WASHBORING FROM <u>JT</u> DRILLER <u>SAS</u> LO <u>CME750X</u> DRILL R	_ FEET GGER			JUE	S _{tM}
		offset are in reference	HAMMER TYPE <u>Aut</u> HAMMER EFFICIENCY e to I-40			Res	Diridge Replace of Area Truck Par Putnam County, T	rking	
	- 							OG OF BORING:	
							Project	t No. A24138.0	00136.001

Surf		vation: <u>527.7</u>	Completion Date:3/28/25 Station:535+04	92	HT (pcf) JNTS Y/RQD		Δ - UU/2	EAR STRENGTH ○ - QU/2 .0 1.5 2	l, tsf □ - SV
프뉴			Offset:528	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	STANDARD	PENETRATION (ASTM D 1586) LUE (BLOWS PEI	RESISTANCE
DEPTH IN FEET	ELEVATION IN FEET	DESCR	RIPTION OF MATERIAL	Ō	DRY U SPT CORE			ATER CONTENT	
		Asphalt: 4	inches	7/ 1 ^N · · ¹ /	 		.,9 2		
		Base Mate	rials: 8 inches gray and white crushed						
		Medium st	iff, brown, silty, LEAN CLAY, some sand,			004	<u>.</u> <u>.</u> .		
		trace grave	el - CL		3-4-4	SS1	♠ ₹ .		
		-							
		-							
					2-4-4	SS2	♠ •		
- 5-	- 523 -	_							
			ense, brown and red, CLAYEY SAND - (SC)						
					4-5-5	SS3			
		33% passi	ng No. 200 sieve						
					3-6-9	SS4	•	 	
— 10 <i>—</i>	518 –								
.0									
		1							
		_							
		some grav	el		0.44.40	005			
		30ilic glav	G		8-11-12	SS5		<u>.</u>	
− 15 <i>−</i>	513-	Boring terr	ninated at 15 feet.	1/1/20					
		<u> </u>							
		+							
	GROL	JNDWATER D	ATA DRILLIN	<u>G DATA</u>			Drawn by: SAS Date: 4/1/25	Checked by: JTM Date: 6/12/25	App'vd. by: ABM Date: 6/16/25
ENC		REE WATER N ERED DURING	DRILLING WASHBORING	FROM	FEET			UE	
			JT DRILLER						
			<u>CME750X</u> HAMMER 1				I-40	Bridge Replacer	ment
			HAMMER EFFI				Res	t Area Truck Par utnam County, T	king
RE	MARKS	S: Station and	I offset are in reference to I-40	J.L.1101 _	 //		Siliui - Pi	uulain Coulity, I	61 II IC33CC
- 							LC	OG OF BORING:	P- 9
							Duete 1	No. 404400.0	0420 004
							Project	No. A24138.0	700.001

Surf	ace Elev	vation: 511.7	Completion Date: 3/27/25 Station: 538+69	()	(pcf) NTS /RQD		SH Ι Δ - UU/2	EAR STRENGTH	l, tsf □ - SV
		NAVD88	Offset: -681	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES		0 1.5 2 PENETRATION (ASTM D 1586)	2.0 2.5 RESISTANCE
ΞË				RAF	BLC RE(S	SA	A N-VA	LUE (BLOWS PE	R FOOT)
DEPTH IN FEET	.¥.⊞	DESCR	RIPTION OF MATERIAL	٥	\ PT BR		W	ATER CONTENT	Γ, %
۵∠	ELEVATION IN FEET				R ₀ S		PL 10 2	20 30 4	40 50 L
			d grass: 3 inches	1,11/1/	ų d				
		Hard, brow sand - CL	n, silty, LEAN CLAY, some organics, trace						
		limestone f	ragmenta		40.00.40	004			
		, illilestone i	ragments		12-28-12	SS1			†
		Medium de	ense to dense, brown and red, CLAYEY						
		SAND - (So 39% passii	ng No. 200 sieve		6-12-12	SS2	• . .		
— 5 —	- 507 -								
					6-7-7	SS3	• • • • • • • • • • • • • • • • • • • •		
					5-5-8	SS4			
					3-3-6	334			
— 10 <i>—</i>	5 02								
		Loose, red	and tan SAND, little clay - SP-SC						
					1-3-4	SS5			
— 15 <i>-</i>	—497 —	D - vi 4	single of the AC for the						
		Boring tern	ninated at 15 feet.						
— 15 <i>—</i>									
		†							
ENC									
	CDO		ATA DD'' '	NO DATA	L	1	Drawn by: SAS	Checked by: JTM	App'vd. by: ABM
		JNDWATER D		NG DATA			Date: 4/1/25	Date: 6/12/25	Date: 6/16/25
EVIC		REE WATER N RED DURING I	ODILLING.					UE	
			WASHBURING						ТМ
			<u>JT</u> DRILLER						
				C DRILL RI			1_40	Bridge Replace	ment
				TYPE Aut			Res	t Area Truck Pa	rking
	MADIZO	· Ctation and	HAMMER EFF	-ICIENCY_	<u>85</u> %		Smith - P	utnam County,	Tennessee
KEN	VIARINO		l offset are in reference to I-40				LC	G OF BORING:	P-10
l							Project	No. A24138.0	00136.001

					<u> </u>			SHE	AR STRENGTH	l, tsf
Surfa	ace Elev	vation: <u>512.2</u>	Completion Date:		DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2		○ - QU/2	□ - SV
	Datum	NAVD88	Station: <u>510+98</u>	8	\fr	တ	0,5	1,	0 1,5 2	2,0 2,5
			Offset: -124	3RAPHIC LOG		SAMPLES	STANDA	RD I	PENETRATION	
	Z			H	\$ 800	₽			(ASTM D 1586)	
토田	ATI(DESCR	IPTION OF MATERIAL	38/		S	A 1		LUE (BLOWS PE	
DEPTH IN FEET	ELEVATION IN FEET	DESCR	IF HON OF WATERIAL		SP ORI		PL I		TER CONTENT	Г, % I L
	<u> </u>						10	2	0 30 4	40 50
			I grass: 3 inches							
			vn, CLAYEY SAND, trace gravel - (SC) ng No. 200 sieve		2-3-3	SS1				
			TY, CLAYEY SAND, trace gravel - (SC-SM)		110	СТО				
_	507	1 \ 40% passir	ng No. 200 sieve		112	ST2			7::::::::	
- 5-	 507	1								
		Soft, brown	, silty, LEAN CLAY, some sand - CL		2-2-2	SS3				
		cobble				000	. .			
		1								
		1			0-0-2	SS4	A : : : : : :	• :		
- 10	 502-	1								
		†								
		†						: :		
		Or:# 1	and I FANCIAY		1					
		Stiπ, brown clayey sand	, sandy, LEAN CLAY, some seams of d, trace gravel - CL		2-4-7	SS5	: : : : \	D		
- 15	497	1	-							
		†								
		†								
		Brown, san	dy, FAT CLAY - CH		1-50/5.5"	SS6			•	
- 20	 492	Boring term	ninated at 19.9 feet due to auger refusal.							5.5
		†								
		†								
		†						::		
		1						- :		
- 25	 487	-								
		+						::		
		+								
		1						::		
		+								
- 30	 482	-								
		1					: : : : : :			
		-					: : : : : :			
		1						- :		
		1						- :		
		Ĺ					Drews 1		Chooled by ITM	Applied to ADS
	GROL	JNDWATER DA	ATA DRILLIN	G DATA			Drawn by: S Date: 4/1/25		Checked by: JTM Date: 6/12/25	App'vd. by: ABN Date: 6/16/25
	ΧF	REE WATER NO	DT AUGER <u>3 3/4</u>	" HOLLO	W STEM			Ш		
ENC		RED DURING D							UE	
			JT DRILLER							ТМ
			<u>OME750X</u>					4		
			HAMMER T					I-40 I	Bridge Replace	ment
			HAMMER EFFI					Rest	Area Truck Par	rking
RFN	MARKS	S: Station and	offset are in reference to I-40	CILINOT _	<u> </u>		əmitr	ı - Pl	ıtnam County, 1	ennessee
Bull	k Samp	ole collected fr	om 0 to 5 feet.							
								LO	G OF BORING:	W- 1
							Proi	ect	No. A24138.0	10136 001

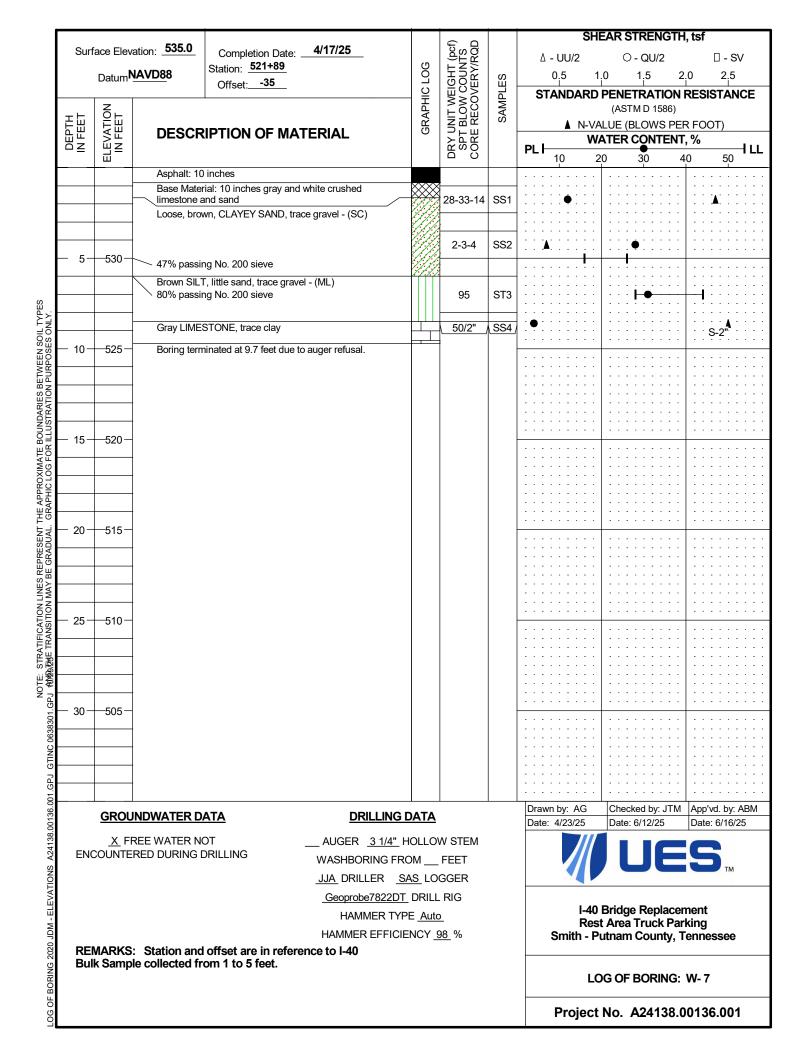
		500.0			€ □		SHE	EAR STRENGTH	l, tsf
Surfac	e Elev	ation: <u>523.3</u>	Completion Date: <u>4/22/25</u>	(D	/ UNIT WEIGHT (pcf) PT BLOW COUNTS RE RECOVERY/RQD		Δ - UU/2	○ - QU/2	□ - SV
D	atum	NAVD88	Station: <u>511+51</u> Offset: <u>-70</u>	0	F S S	ပ္သ	0,5 1,	0 1 _. 5 2	.0 2,5
			Offset: -70	♀		P.E.	STANDARD	PENETRATION	RESISTANCE
- ⊢ 7	NO L			GRAPHIC LOG		SAMPLES		(ASTM D 1586)	
DEPTH IN FEET	ATI FEE	DESCR	RIPTION OF MATERIAL	GR	N P P P P P P P P P P P P P P P P P P P	0,		LUE (BLOWS PE	
	ELEVATION IN FEET	D 2001			DRY UI SPT E CORE I		PI	ATER CONTENT	
L	Ш	Asphalt: 10) inches				10 2	0 30 4	50
			rial: 32 inches gray and white crushed		50/4"	√SS1			: : : : <u> </u> : : : :
		limestone a			30/4	<u> </u>			S-4"
									
		Stiff, brown	n, sandy, LEAN CLAY, trace gravel - (CL)		3-5-7	SS2			
- 5	518-				3-3-7	302	•		
		Loose grav	y, CLAYEY SAND - (SC)		4				
			ng No. 200 sieve			ST3		•	
					0.04	004			
- 10	513-				2-2-4	SS4	4		
.0	3.0				1				
		Medium de	ense to dense, brown, CLAYEY SAND,						
		√ some grave	el - SC		4-9-15	SS5		• • • • • • • • • • • • • • • • • • • •	
- 15	508 —	√ 31% passir	ng No. 200 sieve						
					5-6-8	SS6			
- 20	503 —								
		Medium de SC	ense, brown, CLAYEY SAND, trace gravel -		3-4-7	SS7			
- 25	498 —	66							
					36-8-0	SS8	: : : 🛦 : : : : :		
- 30	493 —	Boring term	ninated at 29.5 feet due to auger refusal.	7 7 7 7					
G	GROU	INDWATER D	ATA DRILLIN	IG DATA			Drawn by: REP Date: 4/28/25	Checked by: JTM Date: 6/12/25	App'vd. by: ABM Date: 6/16/25
_		REE WATER N			VV/ CTENA		Date: 4/20/20		
ENCO		RED DURING [DDILLING					JUE	G
			WASHBURING						тм
			JJA DRILLER						
			Geoprobe7822				1_40	Bridge Replace	ment
			HAMMER				Rest	Area Truck Par	king
		.	HAMMER EFF	ICIENCY _	<u>98</u> %		Smith - Pu	utnam County, 1	ennessee
REMA	AKKS	: Station and	l offset are in reference to I-40				LO	G OF BORING:	W- 2
							Project	No. A24138.0	JU136.001

		505.4			£ 0		SH	EAR STRENGTH	l, tsf				
Surfa	ace Elev	ration: <u>525.1</u>	Completion Date: 3/29/25		DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	○ - QU/2	□ - SV				
	Datum l	NAVD88	Station: <u>514+61</u>	SRAPHIC LOG	\fr	က္သ	0,5 1	,0 1,5 2	2,0 2,5				
			Offset: -106	⊆		SAMPLES	STANDARD	PENETRATION	RESISTANCE				
	NO			I H	₹ 0Ω	AM	(ASTM D 1586)						
DEPTH IN FEET	ELEVATION IN FEET	DESCE	RIPTION OF MATERIAL	B		S		▲ N-VALUE (BLOWS PER FOOT					
	EV N F	DESCR	AFTION OF WATERIAL		SP.		PL I	ATER CONTENT	「, % 				
_	ᆸ_				ā ŏ		10 2	20 30 4	40 50 °				
			d grass: 3 inches		2								
		Soft to med	dium stiff, brown, sandy, LEAN CLA	Y - (CL)	4-3-4	SS1							
					4-3-4	331							
					2-2-2	SS2	[A] [] [] [] [] [] [] [] [] [] [] [] [] []						
- 5+	 520												
		57% nassii	ng No. 200 sieve										
		07 70 passii	ng 140. 200 sieve			ST3							
		_											
		Very soft to	soft, brown, sandy, SILTY CLAY - (CL-ML)									
- 10 	 515	51% passii	ng No. 200 sieve		0-0-0	SS4		. . 9					
10	313	trapped wa	iter										
		-											
		trace organ	nics		1-1-2	SS5	X ::::::•						
- 15 -	 510	-											
		-											
00	505				0-1-2	SS6	A						
- 20	 505												
		1											
					0-0-2	SS7	A · · · · · · · ·						
- 25	 500												
		Medium sti	iff, gray and brown, sandy, FAT CLA	Y. little									
	405	organics - 0			2-3-3	SS8	11411101						
- 30 +	 495	Boring tern	ninated at 30 feet.										
		-											
							Drawn by: SAS	Checked by: JTM	App'vd. by: ABM				
	<u>GROL</u>	<u>JNDWATER D</u>	<u>ATA</u> !	DRILLING DATA	<u> </u>		Date: 4/1/25	Date: 6/12/25	Date: 6/16/25				
	ΧF	REE WATER N	OT AUGE	R <u>3 3/4"</u> HOLLC	W STEM								
		RED DURING I	DDILLING	BORING FROM				JUE					
ENC				ILLER SAS LO					ТМ				
ENC				<u>ME750X</u> DRILL R									
ENC			∩	VILIOUA DIXILL KI			1-40	Bridge Replace	mant.				
ENC							1-70	Di lago i topiaco	nent				
ENC			HA	MMER TYPE Aut			Res	t Area Truck Par	king				
	MADKS	: Station and	HAMM	MMER TYPE <u>Aut</u> ER EFFICIENCY			Res	t Area Truck Par utnam County, 1	king				
	MARKS	: Station and	HA	MMER TYPE <u>Aut</u> ER EFFICIENCY			Res Smith - P	t Area Truck Par	rking Fennessee				
	MARKS	: Station and	HAMM	MMER TYPE <u>Aut</u> ER EFFICIENCY			Res Smith - P	t Area Truck Par utnam County, 1	rking Fennessee				

0	<u></u>	-ti 528 A		AIATIOE		ଳ <u>ଅ</u>		SH	EAR STRENGTH	l, tsf			
		ation: 528.4	Completion Date: Station: 514+81	4/17/25	ניז	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	○ - QU/2	□ - SV			
D	oatum N	IAVD88	Offset: -47		SRAPHIC LOG	유인	ပ္သ	0,5 1	1,0 1,5 2	.0 2.5			
			Oliset		_ 우	N C C	1	STANDARD PENETRATION RESISTANCE					
;	LEVATION IN FEET				AP		SAMPLES	(ASTM D 1586)					
DEPTH IN FEET		DESCR	IPTION OF MA	TERIAI	GR		0,	N-VALUE (BLOWS PER FOOT)					
7 <u>2</u>	ZE					S S S S S S S S S S S S S S S S S S S		PL	ATER CONTENT				
	ᆸ=	A It - 14. 40	San alan a					10 2	20 30 4	0 50			
		Asphalt: 12											
		Base Mater limestone a	rial: 30 inches gray an and sand	d white crushed		26-50/5"	SS1	• : : : : : : : :		5"			
		Medium de	nse, red, CLAYEY SA	ND, trace gravel - SC		0.5.0	200						
- 5	-523 <i>-</i> -	> 33% passin	ng No. 200 sieve	-		2-5-6	SS2		•				
J	323												
		Stiff, red an - (CL)	id brown, sandy, LEA	N CLAY, some gravel		3-5-9	SS3	:::::: \ ::					
		()											
									1::::::::::::::::::::::::::::::::::::::				
- 10-	-510					3-7-8	SS4	. . .	•	 			
- 10	518—												
						1							
						3-5-8	SS5	 •					
- 15	-513 —												
			own, CLAYEY SAND,	trace gravel - (SC)									
		> 28% passin	ng No. 200 sieve			114	ST6		 				
- 20 —	-508 —												
		Boring term	ninated at 22.5 feet du	e to auger retusal.									
25	503												
-+													
- 30	-498 —												
+													
-													
								Drawn by: AG	Checked by: JTM	App'vd. by: ABM			
9	<u>GROU</u>	NDWATER DA	<u>ATA</u>	DRILLING	DATA			Date: 4/23/25	Date: 6/12/25	Date: 6/16/25			
	<u>X</u> FF	REE WATER NO	OT	AUGER <u>3 1/4"</u>	HOLLO	W STEM							
ENCC	DUNTE	RED DURING D	DRILLING	WASHBORING F					JUE				
				JJA DRILLER						TM			
				Geoprobe7822D									
				HAMMER TY				I-40	Bridge Replacer	nent			
				HAMMER EFFIC				Res	st Area Truck Par Putnam County, T	King			
REMA	ARKS:	Station and	offset are in refe			/0		Sillui - F					
		wild		.									
								LC	OG OF BORING:	W- 4			
								1					
									No. A24138.0				

					- O		SH	IEAR STRENGTH	H, tsf	
Surf	ace Elev	ration: <u>528.2</u>	Completion Date:3/29/25	(0	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	○ - QU/2	□ - SV	
	Datum	NAVD88	Station: <u>518+43</u>	8	표인장	က္က	0,5	1,0 1,5 2	2,0 2,5	
			Offset: -99	3RAPHIC LOG		SAMPLES	STANDARD	PENETRATION	RESISTANCE	
	ELEVATION IN FEET			₽		AM		(ASTM D 1586)		
트	Ĭ H H H	DESCB	IPTION OF MATERIAL	9. 8.		S		ALUE (BLOWS PE		
DEPTH IN FEET	N N	DESCIN	IF HON OF MATERIAL		SP.		PI	WATER CONTENT, %		
	ш				۵ ٥		10	20 30	40 50 LI	
			d grass: 6 inches ff to stiff, brown and red, sandy, LEAN	\(\frac{1}{2}\frac{1}{						
		CLAY, trace	e gravel - CL		3-4-5	SS1	::: ::::•			
_	500				3-3-5	SS2	: : : 4 : : : : :	•		
- 5-	 523									
		Medium stif	ff, red and brown, sandy, LEAN CLAY	6/%	3-3-5	SS3	::::			
		some grave	3 - GL			000	: : : - : : : : :			
		Soft to very	stiff, brown and gray, FAT CLAY, trace					: : : : <u>:</u> : : : :		
		sand - (CH)) ng No. 200 sieve		96	ST4	Δ			
- 10-	518-									
		trace organ	ics		2-3-13	SS5	:::::::.			
- 15 <i>-</i>	513									
		79% passir	ng No. 200 sieve, little sand		1-2-2	SS6		I : : H ⊙: : : : :		
- 20 -	508							1		
		trace organ	ics		0-1-1	SS7	 			
- 25-	503				<u> </u>	007	-			
		Boring term	ninated at 26.6 feet due to auger refusal.		İ					
- 30 <i>-</i>	 498									
	GROU	INDWATER DA	ATA DRILLING	G DATA			Drawn by: SAS Date: 4/1/25	Checked by: JTM Date: 6/12/25		
		REE WATER NO			A/ STERA		Date. 4/1/20		Date: 6/16/25	
ENC		RED DURING D	ADILL INC					JUE		
			WASHBORING						ТМ	
			JT DRILLER							
			<u>CME750X</u>				1_40) Bridge Replace	ment	
			HAMMER T				Res	st Area Truck Pa	rking	
D.	M A DIZO	. Ctatlan '	HAMMER EFFIC	JIENCY _	<u>35</u> %		Smith - F	Putnam County,	Tennessee	
KE	VIAKKS	: Station and	offset are in reference to I-40				Lo	OG OF BORING:	W- 5	
							Project	t No. A24138.	UU136.001	

Surfa		ration: 529.9	Completion Date: 3/29/29 Station: 521+73		T (pcf) INTS Y/RQD		Δ - UU/2	EAR STRENGTH	□ - SV		
± h.	ELEVATION IN FEET	NAVD88	Offset: -103	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	0,5 1,0 1,5 2,0 2,5 STANDARD PENETRATION RESISTANCE (ASTM D 1586) • N-VALUE (BLOWS PER FOOT)				
DEPTH IN FEET	/AT FEE	DESCR	IPTION OF MATERIAL	R. R.	N T B						
۵z	I.E.				F R R R R		PL WATER CONTENT, %				
	Ш	Topsoil and	d grass: 3 inches			-	10 2	20 30 4	40 50		
		Soft to med	lium stiff, brown, FAT CLAY, trace	sand and							
		organics - ((CH) ng No. 200 sieve								
		* 91 /6 passii	ig No. 200 sieve		1-1-3	SS1	A	 	> 6		
		trace grave	l								
					1-2-3	SS2					
- 5-	 525										
		Soft. brown	, ELASTIC SILT, trace gravel - (M	1)		+					
			ng No. 200 sieve	<i>'</i>	1-1-2	SS3			6		
					1-1-2	000	. 				
					0-0-2	SS4	A		•		
_ 10_	5 20										
- 10 -	320										
		Boring term	ninated at 13.5 feet due to auger re	iusal	1						
		Donnig ton	indica at 10.0 root ado to dagor re	dodi.							
— 15 —	 515										
						1	Drawn bur CAC	Chacked by: ITM	Applied by ADM		
	GROU	INDWATER D	<u>ATA</u>	DRILLING DATA			Drawn by: SAS Date: 4/1/25	Checked by: JTM Date: 6/12/25	App'vd. by: ABM Date: 6/16/25		
	X FI	REE WATER NO	TC ALIGI	R <u>3 3/4"</u> HOLLO	W STFM			10.00			
ENC		RED DURING [DILL INC	BORING FROM				JUE			
				RILLER <u>SAS</u> LO					тм		
				ME750X DRILL RI			1-40	Bridge Replace	ment		
				AMMER TYPE Auto			Res	t Area Truck Pa	rking		
		00.4		MER EFFICIENCY _	<u>85</u> %		Smith - P	utnam County, ⁻	Tennessee		
	VIARKS	: Station and	offset are in reference to I-	ŀŪ							
KEN							LC	G OF BORING:	W- 6		
KEN							LC	OG OF BORING:	W- 6		



		vation: <u>529.1</u>	Completion Date: <u>3/29/25</u> Station: <u>524+76</u>	90	HT (pcf) UNTS ?Y/RQD		Δ - UU/2	EAR STRENGTH ○ - QU/2 .0 1,5 2	l, tsf □ - SV 2,0 2,5
			Offset:105	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	STANDARD	PENETRATION (ASTM D 1586) ALUE (BLOWS PE	RESISTANCE
DEPTH IN FEET	ELEVATION IN FEET	DESCR	RIPTION OF MATERIAL		DRY L SPT CORE		PI I	PLI WATER CONTENT, %	
		Topsoil: 12		\(\frac{1}{2}\frac{1}{2}\frac{1}{2}\cdot\)					
		Stiff, browr (CH)	n, FAT CLAY, little sand, trace organics -		3-5-7	SS1		: : • · · · · · · · · · · · · · · · · ·	· · · · · · · · ·
			ng No. 200 sieve						
		-			3-17	SS2			
- 5-	 524	Gray LIME	STONE		-50/4.5"				10.
		Boring terr	ninated at 5.1 feet due to auger refusal.						
— 10 —	 519-	=							
		-							
		-							
— 15—	 514								
— 20 —	 509								
		<u> </u>							
- 25	 504	-							
- 30-		-							
	GROL	JNDWATER D	ATA DRILLIN	IG DATA	1		Drawn by: SAS	Checked by: JTM	
ENC	<u>X</u> F	REE WATER N	OT AUGER <u>3 3/</u>	<u>I"</u> HOLLO			Date: 4/1/25	Date: 6/12/25	Date: 6/16/25
			WASHBURING						тм
			<u>JT</u> DRILLER <u>CME750X</u>						
			HAMMER				I-40	Bridge Replace	ment
			HAMMER EFF				Res Smith - P	t Area Truck Pautnam County,	rking Fennessee
REM	MARKS	6: Station and	d offset are in reference to I-40	_	_				
							LC	OG OF BORING:	vv- 8
							Project	No. A24138.	00136.001

					İ	E 0			SHE	AR STRENGTI	H, tsf
Surfa	ace Eleva	ation: <u>534.7</u>	Completion Date:	4/17/25		DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		Δ - UU/2	2	○ - QU/2	□ - SV
	Datum	IAVD88	Station: <u>525+06</u>		8	푸	ဟ	0,5	1.	0 1,5	2,0 2,5
			Offset: -36		SRAPHIC LOG		SAMPLES	STANDA	٩RD	PENETRATION	
	Z_				H	≥	AM			(ASTM D 1586)	
F.E.		DESCR	RIPTION OF MA	TEDIAL	3R/		S	A		LUE (BLOWS PE	
DEPTH IN FEET	ELEVATION IN FEET	DESCR	APTION OF WIF	NI ENIAL		SP.		PL I		ATER CONTEN	T, %
	Щ_					۵ ٥		10	2	0 30	40 50
		Asphalt: 16	inches								
		Base Mater	rial: 9 inches gray and	white crushed		34-18-7	SS1		· .		
		\	ed and brown, sandy,	LEAN CLAY, some							
		gravel - (Cl	L)	_	6.00	8-15-14	SS2				
- 5-	 530-	\	ng No. 200 sieve ense to dense, brown a	nnd grav GRAVFI	0.100	0-13-14	332	🛡			
		∖ and sand, t	trace clay - GP-GC	g.u, c.u	o O						
		9% passing limestone fi	g No. 200 sieve raaments		0:(1)	4-4-5	SS3	• I I I A I I I			
					a O						
		Boring term	ninated at 8.3 feet due	to auger refusal.							
- 10	 525										
- 15	 520										
- 20	 515										
- 25	 510										
- 30	 505										
										: : : : : : : : :	
							<u> </u>	Drawn by: A		Checked by: JTM	App'vd. by: ABN
	<u>GROU</u>	NDWATER D	<u>ATA</u>	<u>DRILLING I</u>	<u>DATA</u>			Date: 4/23/2		Date: 6/12/25	Date: 6/16/25
		REE WATER NO		AUGER <u>3 1/4"</u> H	HOLLO'	W STEM			Ш		
ENC	COUNTE	RED DURING [DRILLING	WASHBORING FRO	ОМ	FEET				UE	
				JJA DRILLER S	AS LO	GGER					ТМ
				Geoprobe7822DT							
				HAMMER TYP					I-40	Bridge Replace	ment
				HAMMER EFFICIE				Smith	rest וe - ר	t Area Truck Pa utnam County,	rking Tennessee
REN	MARKS:	: Station and	l offset are in refe		_	_					
									LO	G OF BORING:	W- 9
									! = = 4	N- 40//00	00400 004
								Proj	ect	No. A24138.	UU136.001

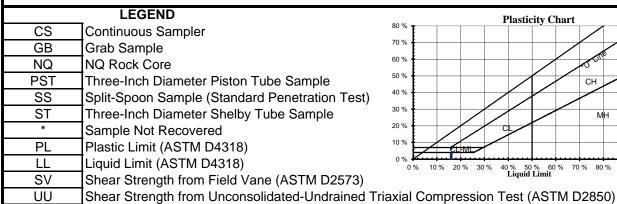
Surfa	ace Elev	ation: <u>526.8</u>		29/25	(D	(pcf) ITS IRQD		Δ - ι			TRENGTH - QU/2	l, tsf □ - SV	
	Datum l	NAVD88	Station: <u>528+81</u> Offset: <u>-126</u>		GRAPHIC LOG	' UNIT WEIGHT (pcf) 'T BLOW COUNTS RE RECOVERY/RQD	LES	0. STAI		1.0		2.0 2.5 RESISTANCE	
_⊢	NO -				APHI	IT W LOW ECO	SAMPLES	(ASTM D 1586)					
DEPTH IN FEET	ATI	DESCR	IPTION OF MATER	IAL	GR	UN PT BI	0)		▲ N-VALUE (BLOWS PER FOOT) WATER CONTENT, %				
	ELEVATION IN FEET					DRY UI SPT E CORE I		PL I		20	•	10 50 LL	
			d grass: 3 inches										
		Stiff, brown	, LEAN CLAY, trace gravel an	nd sand - CL		3-4-5	SS1						
		Stiff to very	stiff, brown and red, FAT CLA	AY, little sand,		3-4-6	SS2			: : <u>:</u>	· · · · · ·	66	
- 5	 522	87% passir	ng No. 200 sieve										
						4-7-9	SS3						
						170							
		80% passir	ng No. 200 sieve			99	ST4				Δ	· · · · · · · · 74	
10	 517												
		little gravel											
- 15	512 <i></i>	inta graver				3-6-3	SS5	.		1	•:::::		
		Boring term	ninated at 18.3 feet due to aug	ner refusal									
		Doning term	indica di 10.0 loci due le dag	ger rerudur.									
- 20 —	 507												
25	 502												
		•											
30	 497												
												A	
	GROU	INDWATER D	<u>ATA</u>	DRILLING D	<u>ATA</u>			Drawn b	•	_	ked by: JTM 6/12/25	App'vd. by: ABM Date: 6/16/25	
EN 10		REE WATER NO		AUGER <u>3 3/4"</u> HC	OLLO\	W STEM							
ENC	JUUNIE	RED DURING [VV	ASHBORING FRO						"		S	
			<u>J</u>	T DRILLER SAS									
				CME750X DRII HAMMER TYPE					I-40) Bridge	Replace	ment	
			н	HAMMER EFFICIEN				Sı	Re: nith - F	st Area Putnam	Truck Par County, 1	rking Fennessee	
REM	MARKS	: Station and	offset are in reference t	to I-40					L	OG OF	BORING:	W-10	
								F	rojec	t No.	A24138.0	00136.001	

0 (=	531.1	4/22/25		<u> </u>		,	SHE	AR STRENGTH	l, tsf	
	ation: 531.1 Completion Dat Station: 529+06		_ ს	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD		∆ - UU/2		○ - QU/2	□ - SV	
Datum	IAVD88 Offset: -51		GRAPHIC LOG	된 당 문	ËS	0,5	1,0		.0 2.5	
7			呈	W W	SAMPLES	STANDARD PENETRATION RESISTANCE				
두 다 흔 다			RAF	P S S	SAI	A N	(ASTM D 1586)			
DEPTH IN FEET EVATIO IN FEET	DESCRIPTION OF M	IATERIAL	Ō	Y-T TA		▲ N-VALUE (BLOWS PER FOOT) WATER CONTENT, %				
DEPTH IN FEET ELEVATION IN FEET				S O		PL 10			10 50 L	
	Asphalt: 9 inches						-			
	Base Material: 33 inches gray a limestone and sand	and white crushed	\bowtie	44-24-11	SS1	•				
			₩							
	Stiff, brown, FAT CLAY, trace s	and and organics -		0.40	000		:		: : : : : : <u> </u>	
- 5 -5 26-	(CH) 92% passing No. 200 sieve			3-4-6	SS2	4	-			
	Stiff, brown, sandy, FAT CLAY	(CH)					:			
	68% passing No. 200 sieve	- (CH)		1-4-7	SS3	: : : : X : : :		: : ◆ : : · · · ·	· · · · · · · 8 >	
	1 00 % passing No. 200 sieve									
	Stiff, brown, FAT CLAY, some (gravel - CH		2-4-6	SS4					
- 10 5 21-										
	Boring terminated at 12.3 feet of	due to auger refueel								
	Borning terminated at 12.3 feet t	lue to auger refusal.					:			
							:			
- 15 5 16-							-			
- 20 - 511 -										
_ 20511 _										
							:			
- 25 506-							-			
							:			
- 30 5 01-							-			
000:	AIDIAIATED DATA	DDII I ING TA	 T^		<u> </u>	Drawn by: RE	P P	Checked by: JTM	App'vd. by: ABM	
GROL	NDWATER DATA	DRILLING DA	<u>IA</u>			Date: 4/28/25		Date: 6/12/25	Date: 6/16/25	
	REE WATER NOT RED DURING DRILLING	AUGER <u>3 1/4"</u> HOL								
ENCOUNTE	INLU DOMINO DRILLING	WASHBORING FROM						UE	TM	
		JJA DRILLER REP								
		Geoprobe7822DT DF				L	40 F	Bridge Replacer	ment	
		HAMMER TYPE A				R	est	Area Truck Par	king	
DEMARKO	Ctation and affect are in	HAMMER EFFICIENC	CY <u>9</u>	<u>8</u> %		Smith	- Pu	tnam County, 1	ennessee	
	 Station and offset are in ref le collected from 1 to 7 feet. 	erence to 1-40								
•							LOC	OF BORING:	W-11	
						Proje	ct N	No. A24138.0	0136.001	

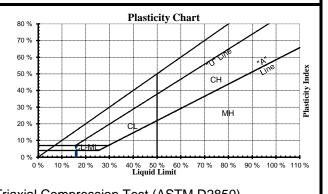
Surfac	ce Elevat	tion: 515.9	Completion Date: 4/17/25	GRAPHIC LOG DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERVIROD			SH I ∆ - UU/2	EAR STRENGTH	l, tsf □ - SV			
_	Datum N	AVD88	Station: <u>541+01</u>	90	FN F	(0			2.0 2.5			
	Jalum <u>-</u>		Offset:14	GRAPHIC LOG	88	SAMPLES	STANDARD PENETRATION RESISTANCE					
	Z.			표	₹800 \$800 \MF	(ASTM D 1586)						
DEPTH IN FEET	ELEVATION IN FEET	DECOD	NOTION OF MATERIAL	3RA	<u> </u>	S S	▲ N-VALUE (BLOWS PER FOOT)					
	N N	DESCR	RIPTION OF MATERIAL		SPT SPT ORE		PL I	WATER CONTENT, %				
=	ᆸ				5 5		10 2	0 30 4	40 50 L			
		Asphalt: 12	? inches									
		D M-t	into 00 in the common and table to small add	***								
		limestone a	rial: 30 inches gray and white crushed and sand		28-36-19	SS1						
					20-30-19	331						
		Stiff to very (CL)	stiff, red and brown, sandy, LEAN CLAY -									
		(OL)			2-7-11	SS2	• ♦					
− 5+	-511-											
	\rightarrow	√ 59% passir	ng No. 200 sieve									
					2-5-7	SS3	▲ ●	<u> </u>				
					3-4-7	SS4						
					3-4-7	004						
— 10 	-506 -											
			ense, red and tan SAND, trace clay - SP-									
		SC			4-5-5	SS5						
— 15 —	501	Poring torm	ninated at 15 feet.									
		boning tern	imated at 15 feet.									
		IDWATER R	ATA DOUL	NO DATA	1		Drawn by: AG	Checked by: JTM	App'vd. by: ABM			
	GRUUN	IDWATER DA	<u>DRILLI</u>	NG DATA			Date: 4/23/25	Date: 6/12/25	Date: 6/16/25			
ENIOC		EE WATER NO										
ENCC	JUNIER	RED DURING D	DRILLING WASHBORING	FROM	FEET			JUE	TM			
			<u>JJA</u> DRILLER	SAS LO	GGER							
			Geoprobe782	2DT DRILL	RIG			Duidae Danie	mant			
			HAMMER	TYPE Auto	<u>)</u>		I-40 Res	Bridge Replace t Area Truck Par	ment rkina			
			HAMMER EF	FICIENCY _	<u>98</u> %			utnam County, 1				
REM	ARKS:	Station and	offset are in reference to I-40									
							LO	G OF BORING:	WB- 1			

Surf		ation: <u>523.9</u>	Completion Date: <u>4/17/25</u> Station: <u>552+41</u>	90.	HT (pcf) UNTS RY/RQD	S	Δ - UU/2	EAR STRENGTH ○ - QU/2 .0 1.5 2	l, tsf □ - SV 2.0 2.5			
ᆂ뉴			Offset: -14	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	STANDARD PENETRATION RESISTANCE (ASTM D 1586)					
DEPTH IN FEET	ELEVATION IN FEET	DESCR	RIPTION OF MATERIAL	9	SPT E		WATER CONTENT, %					
	Ш	Asphalt: 7	inches		ПО		10 2	20 30 4	40 50			
			rial: 35 inches gray and white crushed									
		limestone s	sand and clay									
					23-32-12	SS1	•					
			STONE and clay ninated at 3.9 feet due to auger refusal.	+	50/5"	SS2			- · S-5"			
		Donnig ton	minated at 0.0 lost due to dager reliabal.									
— 5 <i>-</i>	519											
— 10—	 514											
_ 10_	314											
— 15 <i>-</i>	 509											
							Drawn by: AG	Checked by: JTM	App'vd. by: ABM			
		NDWATER D					Date: 4/23/25	Date: 6/12/25	Date: 6/16/25			
ENC		REE WATER N RED DURING I		ROM	FEET			UE	STM			
			HAMMER T				I-40	Bridge Replace t Area Truck Par	ment rkina			
		01-11	HAMMER EFFIC	CIENCY S	98_%		Smith - P	utnam County,	Tennessee			
REM	VIARKS:	Station and	l offset are in reference to I-40				LO	G OF BORING:	WB- 2			
							Project	No. A24138.0	00136.001			

BORING LOG: TERMS AND SYMBOLS



QU



SOIL GRAIN SIZE

Shear Strength from Unconfined Compression Test (ASTM D2166)

US STANDARD SIEVE

	12"	3"	3/4	." 4	4 10) 4	0 20	00	
BOULDERS	СОВВ	I ES	GRAV	/EL		SAND		SILT	CLAY
DOOLDLING	COBB		COARSE	FINE	COARSE	MEDIUM	FINE		CLC
	300	76.2	2 19.3		76 2.0	00.4	42 0.0	74 0.0	05

SOIL GRAIN SIZE IN MILLIMETERS

UNIFIED SOIL CLASSIFICATION SYSTEM

	Major Divisions			Description
00	Gravel	Clean Gravels	GW	Well-Graded Gravel, Gravel- Sand Mixture
ed 50% 200	and	Little or no Fines	GP	Poorly-Graded Gravel, Gravel-Sand Mixture
rain han No. ize)	Gravelly	Gravels with	GM	Silty Gravel, Gravel-Sand-Silt Mixture
Single	Soil	Appreciable Fines	GC	Clayey-Gravel, Gravel-Sand-Clay Mixture
oarse-G (More t jer than Sieve S	Cond and	Clean Sands	SW	Well-Graded Sand, Gravelly Sand
Coarse Is (Mo rger th Siev	Sand and Sandy	Little or no Fines	SP	Poorly-Graded Sand, Gravelly Sand
Coar Soils (M Larger	Soils	Sands with	SM	Silty Sand, Sand-Silt Mixture
So	Jolis	Appreciable Fines	SC	Clayey-Sand, Sand-Clay Mixture
Is o	Silts and	Liquid Limit	ML	Silt, Sandy Silt, Clayey Silt, Slight Plasticity
d Soils 50% n No. Size)	Clays	Less Than 50	CL	Lean Clay, Sandy Clay, Silty Clay, Low to Medium Plasticity
ined (stan 5) than the Si.	Clays	Less man so	OL	Organic Silts or Lean Clays, Low Plasticity
$\omega = -\omega$	Silts and	Liquid Limit	MH	Silt, High Plasticity
Grai re th aller	Clays	Liquid Limit Greater Than 50	CH	Fat Clay, High Plasticity
Fine-Gra (More t Smaller 200 Si	Ciays	Greater Than 50	ОН	Organic Clay, Medium to High Plasticity
正しのい	High	nly Organic Soils	PT	Peat, Humus, Swamp Soil

STRENGTH OF COHESIVE SOILS		DENSITY OF GRANULAR SOILS		
Consistency	Undrained Shear Strength (tsf)	Unconfined Comp. Strength (tsf)	Descriptive Term	Approximate N ₆₀ -Value Range
Very Soft	less than 0.125	less then 0.25	Very Loose	0 to 4
Soft	0.125 to 0.25	0.25 to 0.5	Loose	5 to 10
Medium Stiff	0.25 to 0.5	0.5 to 1.0	Medium Dense	11 to 30
Stiff	0.5 to 1.0	1.0 to 2.0	Dense	31 to 50
Very Stiff	1.0 to 2.0	2.0 to 3.0	Very Dense	>50
Hard	greater than 2.0	greater than 4.0		

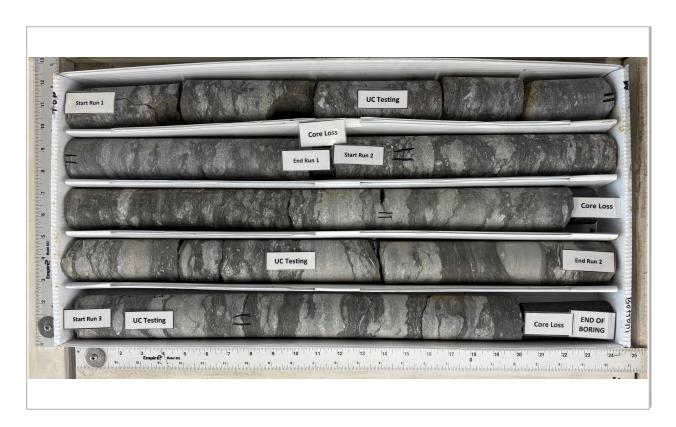
N-Value (Blow Count) is the last two, 6-inch drive increments (i.e. 4/7/9, N = 7 + 9 = 16). Values are shown as a summation on the grid plot and shown in the Unit Dry Weight/SPT column.

MPOSITION	OTHER TERMS
0 to 10%	Layer - Inclusion greater than 3 inches thick.
10 to 20%	Seam - Inclusion 1/8-inch to 3 inches thick
20 to 35%	Parting - Inclusion less than 1/8-inch thick
35 to 50%	Pocket - Inclusion of material that is smaller than sample diameter
	0 to 10% 10 to 20% 20 to 35%



Relative composition and Unified Soil Classification System (USCS) designations are based on visual descriptions and are approximate only. If laboratory tests were performed to classify the soil, the USCS designation is shown in parenthesis.

ROCK CORE DESCRIPTIONS			
TERM		REFERENCE	
Strength		STRENGTH	
Color	Description	Uniaxial Compressive Strength (psi)	
Crystallinity	Extremely Weak	less than 150	
Grain Size	Very Weak	150 to 700	
Mass Bedding	Weak	700 to 4,000	
Weathering	Medium Strong	4,000 to 7,000	
Voids	Strong	7,000 to 15,000	
Quality	Very Strong	15,000 to 36,000	
SEDIMENTARY ROCK TYPE	Extremely Strong	greater than 36,000	
Sandstone - Predominantly quartz grains	Extremely offorig	COLOR	
cemented by silica, iron, clay or carbonate	Common colors are are	ay, brown, black and white. Exotic colors such	
material. Color depends on cementing	_	maroon can be used when necessary.	
agent; porous and pervious; hard and	as green, blue,	CRYSTALLINITY	
generally thickly bedded.	Description	Criteria	
Siltstone - Composition similar to sandstone	Aphanitic	Crystals cannot be seen with the naked eye	
•		Crystals are barely visible with the naked eye	
but at least 50% grains 0.002 to 0.02 millimeters in size. Rarely forms thick beds,	Very Finely Crystalline Finely Crystalline	Crystals are easily visible with the naked eye	
•	Finely Crystalline	·	
but often hard. Shale - Predominant particles are less than	Medium Crystalline	Crystals are medium size; up to 1/8-inch diameter	
0.002 millimeters with a well defined fissile	Coorook, Crustollino		
	Coarsely Crystalline	Crystals are 1/8- to 1/4-inch in diameter	
fabric. Commonly interbedded with	Very Coarsely	Crystals are larger than 1/4-inch in diameter	
sandstone or limestone and relatively soft.	Crystalline	ODAIN OIZE	
Limestone - Contains more than 50%	Description	GRAIN SIZE	
calcium carbonate. The calcite can be	Description	Criteria	
precipitated chemically, organically, or it	Very Finely Grained	Grains cannot be seen with the naked eye	
may be detrital in origin. Reacts with dilute	Fine Grained	Grains are barely visible with the naked eye	
HCL.	Medium Grained	Grains up to 2 mm in diameter	
Dolomite - Harder and heavier than	Coarse Grained	Grains are larger than 2 mm in diameter	
limestone. Forms by alteration of limestone		BEDDING	
or by direct precipitation from sea water.	Description	Criteria	
Reacts with dilute HCL only when	Thin	less than 2 inches	
powdered.	Medium	2 to 24 inches	
Coal - Composed of highly altered plant	Thick	24 to 48 inches	
remains and varying amounts of clay,	Massive	greater than 48 inches	
generally black in color.		WEATHERING	
Chert - Formed by silica deposited from	Description	Criteria	
solution in water. May occur as nodules or	Unweathered	No visible alteration of rock mass	
relatively thick beds.	Slightly Weathered	Slight discoloration inward from fractures	
GEOLOGIC DEFINITIONS	Moderately Weathered	Discoloration throughout, slight loss of	
Stylolite - A term applied to parts of certain	, , , , , , , , , , , , , , , , , , ,	strength, texture intact	
limestones which have a column like	Highly Weathered	Entire rock mass appears discolored and dull,	
development that is grooved, sutured or		texture indistinct, fabric intact	
striated and irregular in cross-section.	Severely Weathered	Majority of rock mass reduced to soil-like state	
Fissility - A property of splitting along	,	with relic rock structure	
closely spaced parallel planes.	5 ' "	VOIDS	
Argillaceous - A term applied to rock or	Description	Criteria	
substances having a notable portion,	Dense	Usually not visible with the naked eye	
greater then 30%, clay in composition.	Pitted	Visible to 1/4-inch	
Oolitic - A spherical or ellipsoidal texture,	Vuggy	1/4-inch to diameter of the core	
0.25 to 2.0 mm in diameter, with concentric	Cavity	Larger than 6 inches in diameter	
or radial structure.	QUALITY		
Brecciated - A rock texture which is	Percent RQD	Description	
composed of angular fragments which	90 to 100	Excellent	
correspond in size to gravel and/or pebbles.	75 to 90	Good	
<u> </u>	50 to 75	Fair	
Slickenside - A polished or striated surface	25 to 50	Poor	
on or within a rock.	0 to 25	Very Poor	



<u>RUN</u>	DEPTH, FT	RECOVERY, %	<u>RQD, %</u>
1	56.5 - 59.5	97	65
2	59.5 - 64.5	98	95
3	64.5 - 66.5	83	83



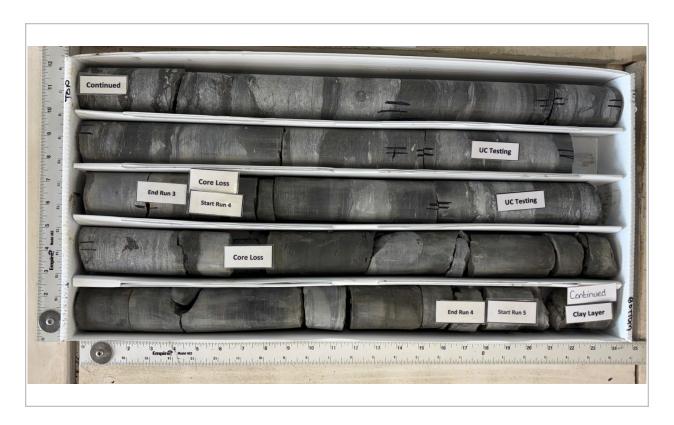
<u>RUN</u>	DEPTH, FT	RECOVERY, %	<u>RQD, %</u>
1	39.8 - 44.8	100	65
2	44.8 - 49.8	100	96



<u>RUN</u>	DEPTH, FT	RECOVERY, %	RQD, %
3	49.8 - 54.8	100	68
4	54.8 - 59.8	100	41



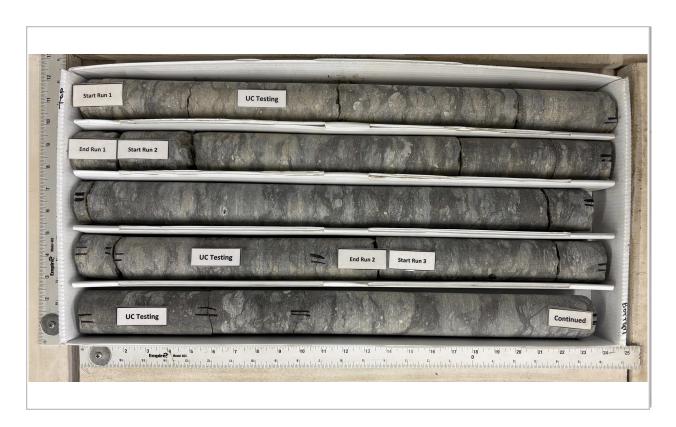
<u>RUN</u>	DEPTH, FT	RECOVERY, %	RQD, %
1	8.25 - 12.25	95	81
2	12.25 - 17.25	98	98
3	17.25 - Cont.	100	100



<u>RUN</u>	DEPTH, FT	RECOVERY, %	RQD, %
3	Cont 22.25	100	100
4	22.25 - 27.25	97	39
5	27.25 - Cont.	98	72



<u>RUN</u>	DEPTH, FT	RECOVERY, %	RQD, %
5	Cont 32.0	98	72



<u>RUN</u>	DEPTH, FT	RECOVERY, %	<u>RQD, %</u>
1	9.9 - 12.0	100	100
2	12.0 - 17.0	100	93
3	17.0 - Cont.	100	93



<u>RUN</u>	DEPTH, FT	RECOVERY, %	<u>RQD, %</u>
3	Cont 22.0	100	93
4	22.0 - 27.0	100	100
5	27.0 - Cont.	100	82



<u>RUN</u>	DEPTH, FT	RECOVERY, %	RQD, %
5	Cont 32.0	100	82
6	32.0 - 37.0	100	80
7	37.0 - 39.9	100	81



<u>RUN</u>	DEPTH, FT	RECOVERY, %	RQD, %
1	5.2 - 10.2	98	70
2	10.2 - 15.2	98	92



RUN	DEPTH, FT	RECOVERY, %	RQD, %
3	15.2 - 20.2	100	100
4	20.2 -25.2	100	100

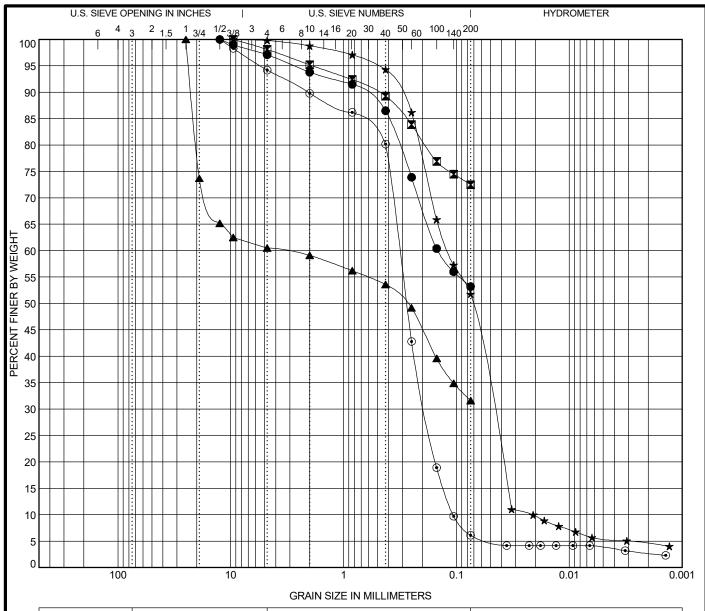


BORING BR-5

<u>RUN</u>	DEPTH, FT	RECOVERY, %	RQD, %
5	25.2 - 30.2	100	100
6	30.2 - 35.2	97	97



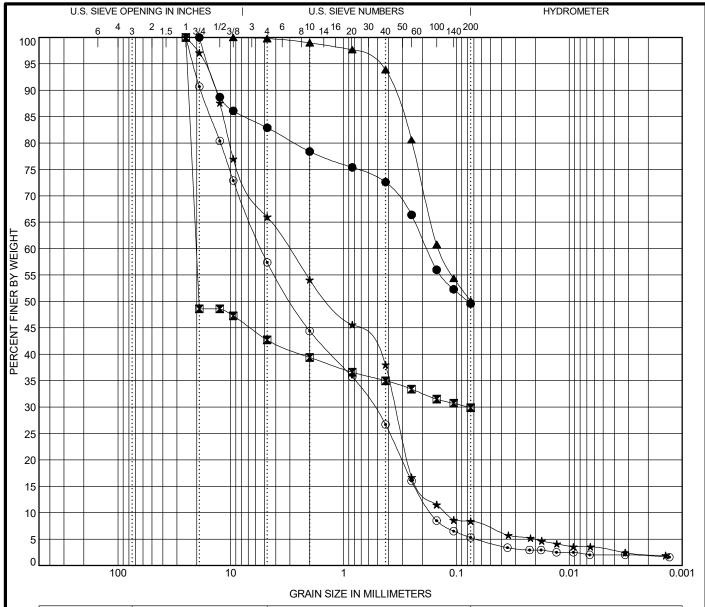
Appendix D
LABORATORY TEST DATA



CODDI ES	GRA	AVEL		SAND)	SILT OR CLAY
COBBLES	000000	fina	000500	ma a diu uma	fina	SILT OR CLAT

5	Specimen l	Identification		Cla	assification			LL	PL	PI	Сс	Cu
•	BR-1	8.5	SA	SANDY LEAN CLAY(CL), A-7-6 (11)				49	23	26		
	BR-1	28.5	FAT	FAT CLAY with SAND(CH), A-7-6 (25)				61	27	34		
4	BR-1	33.5	CLAY	CLAYEY GRAVEL with SAND(GC), A-2-4					19	9		
3	BR-1	38.5		SANDY	SILT(ML), A-	4					0.91	5.52
*	BR-1	43.5	POORLY G	RADED SAN	ND with CLA	Y(SP-SC), A	-2-4				1.06	2.98
5	Specimen	Identification	D100	D60	D30	D10	%Grave	I %	6Sand	%Si	It 9	6Clay
}	BR-1	Identification 8.5	12.5	0.145			2.9		43.9		53.2	
3	BR-1	28.5	9.5				1.9		25.6		72.5	
5	BR-1	33.5	25	3.488			39.5		28.9		31.6	
1	BR-1	38.5	9.5	0.118	0.048	0.021	0.2		48.0	46.3	3	5.5
	BR-1	43.5	12.5	0.319	0.19	0.107	5.8		88.1	2.3		3.8





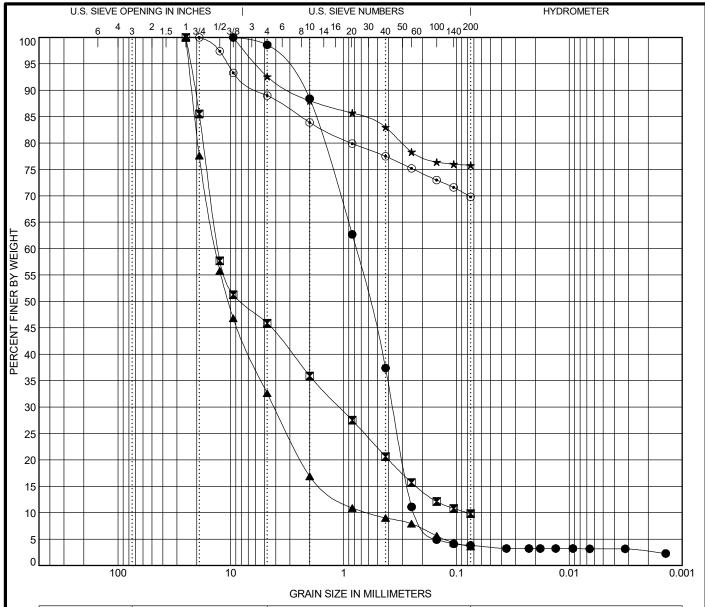
C	OBBLES	GRA	VEL	SAND			SILT OR CLAY
	OBBLES	coarse	fine	coarse	medium	fine	SILT OR CLAY

S	pecimen	Identification		Classification						PI	Сс	Cu
•	BR-2	3.0	CLAYE	CLAYEY SAND with GRAVEL(SC), A-7-6 (7)					22	21		
X	BR-2	8.0	С	CLAYEY GRAVEL(GC), A-2-7 (4)					33	38		
lack	BR-2	18.5	S	ANDY LEAN	CLAY(CL),	A-4 (2)		32	22	10		
*	BR-2	23.5	P. GRADED S	AND with SII	LT and GRA	VEL(SP-SM),	, A-2-4				0.31	24.50
0	BR-2	28.5	P. GRADED S	AND with SII	LT and GRA	VEL(SP-SM),	, A-2-4				0.34	32.12
S	pecimen	Identification	D100	D60	D30	D10	%Grav	′el ′	%Sand	%Sil	t %	6Clay
•	BR-2	3.0	19	0.183			17.1		33.3		49.6	
X	BR-2	8.0	25	20.192	0.078		57.3		12.8		29.9	
A	BR-2	18.5	9.5	0.144			0.2		49.7		50.1	
*	BR-2	23.5	25	3.071	0.348	0.125	34.0		57.6	5.3		3.1
•	BR-2	28.5	25	5.336	0.546	0.166	42.6		52.1	3.3		2.0



A24138.00136.001.GPJ US LAB.GDT 6/17/25

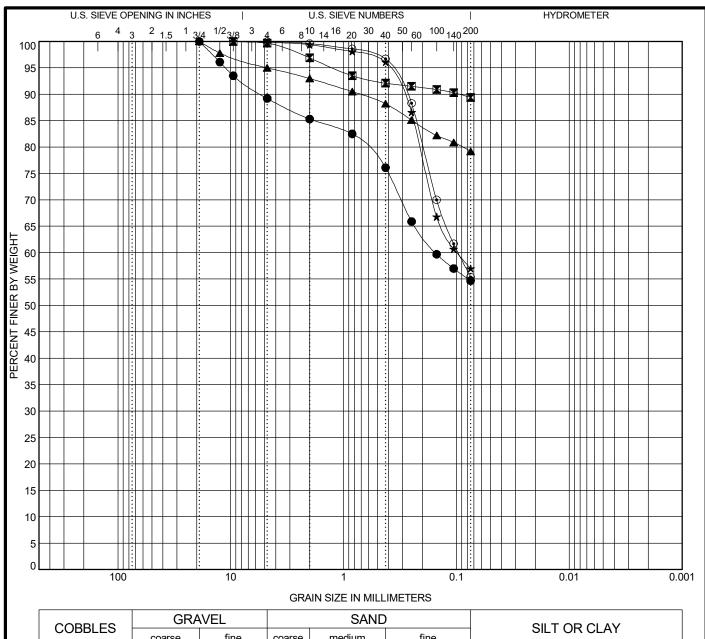
GRAIN SIZE DISTRIBUTION



COPPLES	GRA	VEL		SAND)	SILT OD CLAV
COBBLES	coarse	fine	coarse	medium	fine	SILT OR CLAY

I	Sp	ecimen	Identification		Cla	assification			LL	PL	PI	Сс	Cu
I	•	BR-3	0.0	POOF	POORLY GRADED SAND(SP), A-1-b (0)							0.75	3.42
I		BR-4	2.0	WELL GRADE	ELL GRADED GRAVEL with SILT and SAND(GW), A-2-							1.14	161.01
Ī	A	BR-4	7.0	WELL GR	WELL GRADED GRAVEL with SAND(GW), A-2-4							2.06	22.28
22	*	E- 1	3.5	ELAS1	ELASTIC SILT with SAND(MH), A-7-5 (27)						32		
//0	★ ⊙	E- 1	13.0	SAI	SANDY LEAN CLAY(CL), A-7-6 (16)					24	24		
- פפר	Sp	ecimen	Identification	D100	D60	D30	D10	%Grav	el '	%Sand	%Si	lt 9	6Clay
Ä.	•	BR-3	Identification 0.0	9.5	0.781	0.366	0.228	1.4		94.8	0.7		3.1
S		BR-4	2.0	25	12.941	1.087	0.08	54.1		36.1		9.8	
5	A	BR-4	7.0	25	13.55	4.116	0.608	67.4		29.0		3.6	
0.00	*	E- 1	3.5	9.5				7.4		16.8		75.8	
500	•	E- 1	13.0	19	19					19.2		69.8	

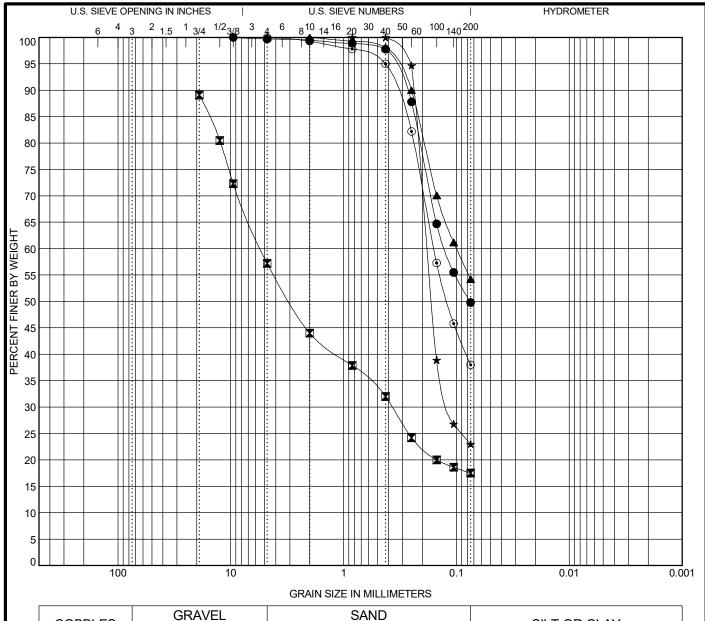




COPPLES	GRA	VEL	SAND			SILT OR CLAY
COBBLES	coarse	fine	coarse	medium	fine	SILT OR CLAT

I	Sp	ecimen	Identification		Cla	assification			LL	PL	PI	Сс	Cu
Ī	•	E- 2	6.0	SA	SANDY FAT CLAY(CH), A-7-6 (10)					26	24		
1	X	E- 2	13.5	!	ELASTIC SILT(MH), A-7-5 (28)					31	27		
Į	▲	E- 3	3.5	FAT	FAT CLAY with SAND(CH), A-7-6 (20)					28	24		
	*	E- 4	5.0	S	SANDY LEAN CLAY(CL), A-6 (6)					23	14		
6/17/25	•	E- 4	18.5	SAI	SANDY SILTY CLAY(CL-ML), A-4 (1)					25 20			
GDT	Sp	ecimen	Identification	D100	D60	D30	D10	%Grave	I %	Sand	%Sil	t	%Clay
LAB.GDT	•	E- 2	6.0	19	0.154			10.8		34.5		54.7	
S I	X	E- 2	13.5	9.5				0.3		10.3		89.4	
.GPJ	A	E- 3	3.5	19				5.0		15.8		79.2	
00136.001.GPJ	*	E- 4	5.0	9.5	0.099			0.2		42.8		57.0	
0013	9	E- 4	18.5	4.75	4.75 0.097 0.					44.6		55.4	





SAND)	SILT OD CLAV
	_	SIL I UK CLAT

fine

,	Sp	ecimen	Identification		Cla	assification			LL	PL	PI	Сс	Cu
k	•	E- 5	8.0		CLAYEY SAND(SC), A-6 (5)				36	20	16		
	X	E- 5	28.5	CLAY	CLAYEY SAND with GRAVEL(SC), A-2-6								
	A	E- 6	3.5	S	SANDY LEAN CLAY(CL), A-6 (6)					20	17		
52	*	E- 6	6.0		SILTY SAND(SM), A-2-4 (0)					24	6		
6/1//25	•	E- 7	3.0		CLAYEY SAND(SC), A-6 (1)					19	12		
<u> </u>	Sp	ecimen	Identification	D100	D60	D30	D10	%Grav	el 9	%Sand	%Sil	it c	%Clay
LAB.GDI	•	E- 5	8.0	9.5	0.126			0.3		49.9		49.8	
S	X	E- 5	28.5	19	5.401	0.371		31.9		39.7		17.5	
.00136.001.GPJ	A	E- 6	3.5	4.75	0.1			0.0		45.8		54.2	
9.00	*	E- 6	6.0	0.84	0.182	0.116		0.0		77.0		23.0	
0013	•	E- 7	3.0	4.75	4.75 0.159 0.0				62.0		38.0		

medium



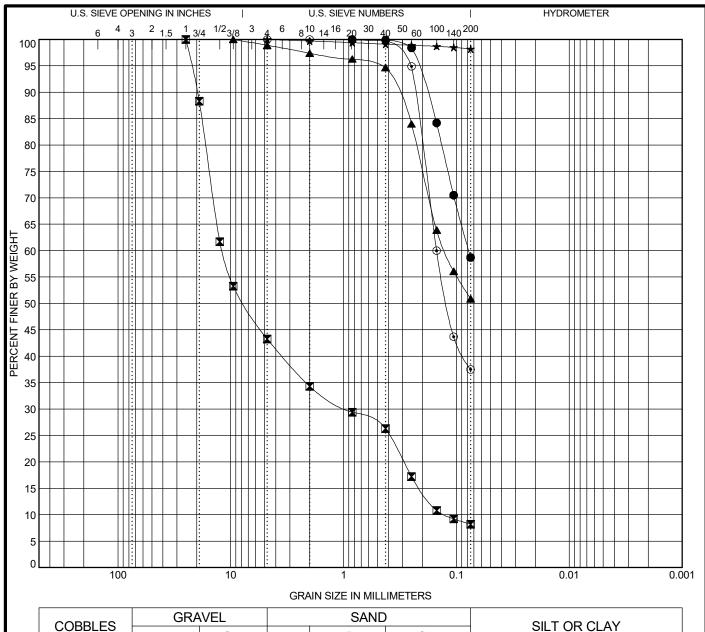
coarse

fine

coarse

COBBLES

GRAIN SIZE DISTRIBUTION



				T
١	VEL	SAND		
			<i>-</i> :	SILT OR CLAY

fine

I	Sp	ecimen	Identification		Cla	assification			LL	PL	PI	Сс	Cu
I	•	E- 7	8.5	5	SANDY LEAN	CLAY(CL),	A-6 (6)		30	15	15		
I	×	E- 9	13.5	P. GRADED G	RAVEL with	CLAY and S	AND(GP-GC	s), A-2-6				0.59	93.78
I	A	EB-1	3.5	5	SANDY LEAN	CLAY(CL),	A-6 (3)		30	17	13		
25	*	EB-2	3.5		FAT CLAY	(CH), A-7-5 ((63)		88	36	52		
6/17/25	lacksquare	P- 1	8.5		CLAYEY SA	AND(SC), A-		31	21	10			
GDT	Sp	ecimen	Identification	D100	D60	D30	D10	%Grave	el 9	6Sand	%Si	It 9	6Clay
LAB.GDT	•	E- 7	8.5	0.84	0.078			0.0		41.3		58.7	
NS N	X	E- 9	13.5	25	11.825	0.934	0.126	56.7		35.1		8.2	
.GPJ	•	EB-1	3.5	9.5	0.126			1.1		48.0		50.9	
6.001	▲ ★ ⊙	EB-2	3.5	4.75				0.0		1.8		98.2	
0013	•	P- 1	8.5	4.75	4.75 0.15 0.0 62.5								

medium

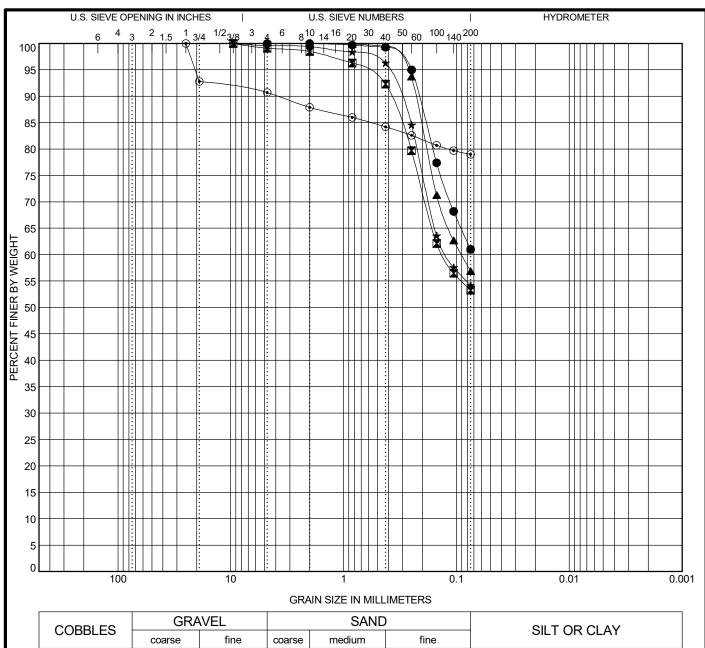


coarse

fine

coarse

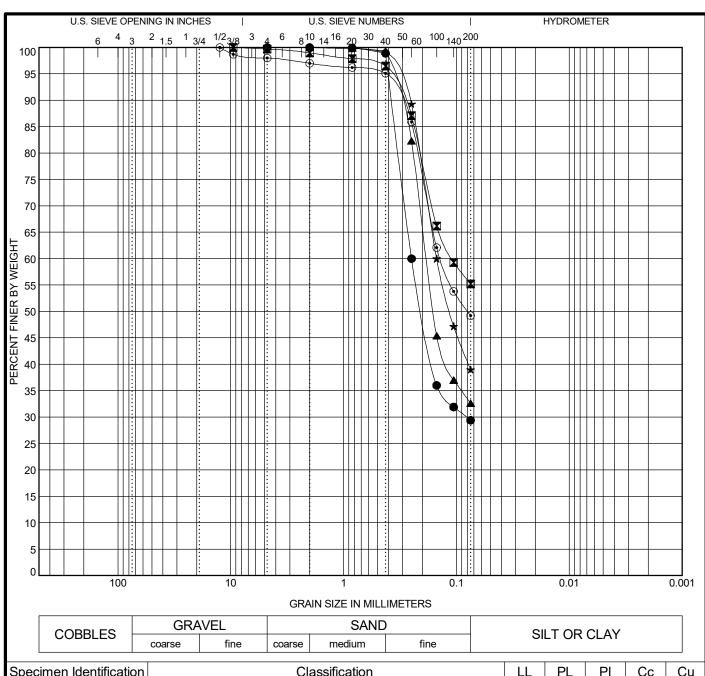
GRAIN SIZE DISTRIBUTION



CORRI ES	GRA	VEL		SAND)	SILT OR CLAY
COBBLES	coarse	fine	coarse	medium	fine	SILT OR CLAT

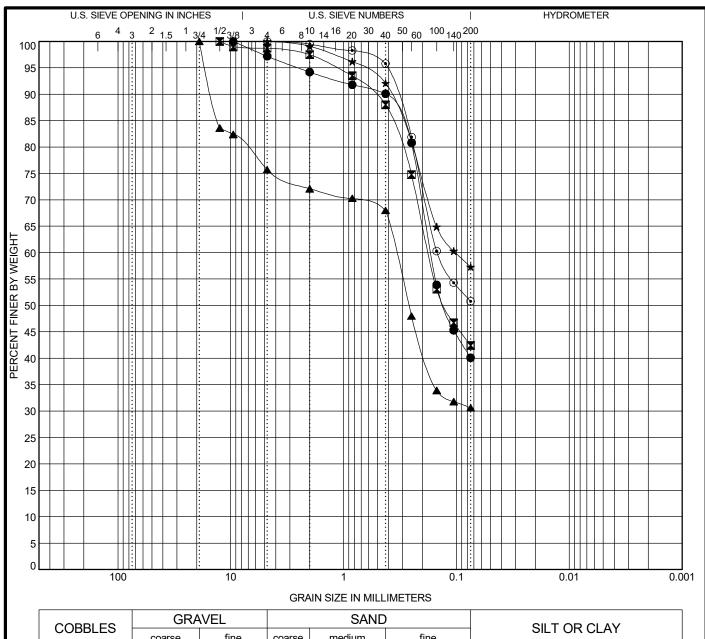
Ľ	Specimen l	dentification		Cla	assification			LL	PL	PI	Сс	Cu
	P- 2	0.5	S	ANDY LEAN	CLAY(CL),	A-6 (6)		32	18	14		
	P- 3	6.0	S	ANDY LEAN	CLAY(CL),		29	13	16			
4	P- 4	3.5	S	ANDY LEAN	CLAY(CL),		30	16	14			
7	P- 5	3.5		SANDY LI	EAN CLAY(C	L)		41	23	18		
6/17/25	P- 6	13.5		ELASTIC SIL	.T(MH), A-7-		81	38	43			
GDT S	Specimen l	dentification	D100	D60	D30	D10	%Grave	el 9	6Sand	%Sil	t 9	6Clay
YB.	P- 2	dentification 0.5	4.75				0.0		39.0		61.0	
S		6.0	9.5	0.132			0.9		45.8		53.3	
შე ⊿	P- 4	3.5	2	0.09			0.0		43.1	1 56.9		
00136.001.	P- 5	3.5	9.5	0.122	0.4	4 45.4			54.2			
0013	P- 6	13.5	25		9.3		11.7		79.0			





ı	Sp	ecimen Ide	entification		Cla	assification			LL	PL	PI	Сс	Cu
ŀ	•	P- 7	6.0		CLAYEY SA	ND(SC), A-2	-6 (1)		36	19	17		
	X	P- 8	0.5	S	ANDY LEAN	CLAY(CL),	A-6 (6)		32	16	16		
Į.	•	P- 9	8.5		CLAYEY SA	ND(SC), A-2	-6 (1)		38	23	15		
. 25	*	P-10	3.5		CLAYEY SA	AND(SC), A-		30	16	14			
6/17/25	•	W- 1	0.5		CLAYEY SA	AND(SC), A-		27	16	11			
GDT	Sp	ecimen Ide	entification	D100	D60	D30	D10	%Grav	el %	6Sand	%Sil	t %	6Clay
LAB.	•	P- 7	entification 6.0	4.75	0.25	0.081		0.0		70.6		29.4	
S)	\blacksquare	P- 8	0.5	9.5	0.11			0.3	44.5		55.2		
.GPJ	•	P- 9	8.5	2	0.184			0.0	67.4		7.4 32.6		
6.001	*	P-10	3.5	4.75	0.15	0.0	61.0			39.0			
.00136.001.GPJ	•	W- 1	0.5	12.5	0.137		2.0		48.8		49.2		

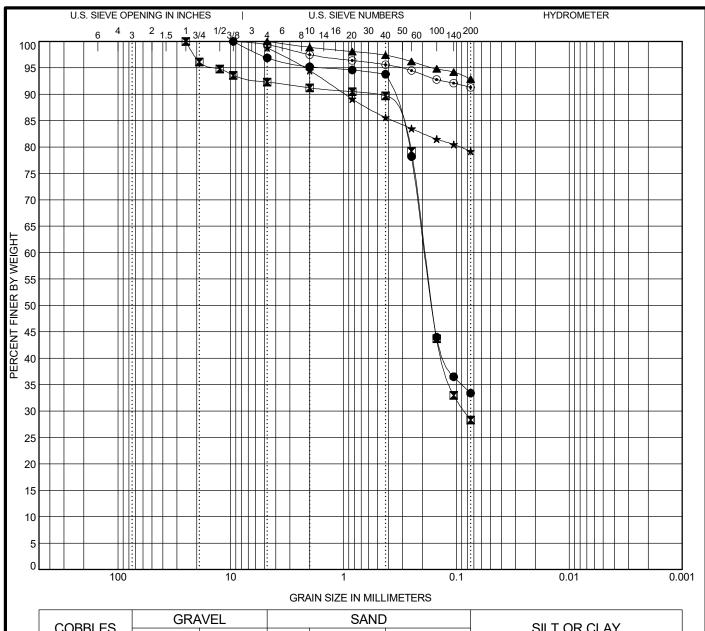




COPPLES	GRA	VEL		SAND)	SILT OR CLAY
COBBLES	coarse	fine	coarse	medium	fine	SILT OR CLAT

oecimen Ide	ntification		Cla	ssification			LL	PL	PI	Сс	Cu
W- 1	3.0	SIL7	TY, CLAYEY S	SAND(SC-SI	VI), A-4 (0)		22	15	7	·	
W- 2	6.0		CLAYEY SAI	ND(SC), A-7	-6 (6)		46	19	27		
W- 2	13.5	CLA	YEY SAND wi	th GRAVEL	(SC), A-2-7						
W- 3	6.0	5	SANDY LEAN	CLAY(CL),	A-4 (3)		29	20	9		
W- 3	8.5	SA	NDY SILTY C	LAY(CL-ML), A-4 (1)		24	17	7		
oecimen Ide	ntification	D100	D60	D30	D10	%Grav	∕el %	6Sand	%Sil	t 9	6Clay
W- 1	3.0	9.5	0.168			2.8		57.1		40.1	
W- 2	6.0	12.5	0.176			1.3		56.3		42.4	
W- 2	13.5	19	0.344			24.3		45.1		30.6	
W- 3	6.0	4.75	0.102			0.0		42.7		57.3	
W- 3	8.5	4.75	0.147			0.0		49.2		50.8	
										NC	
	W- 1 W- 2 W- 3 W- 3 Decimen Ide W- 1 W- 2 W- 2 W- 3	W- 2 6.0 W- 2 13.5 W- 3 6.0 W- 3 8.5 Decimen Identification W- 1 3.0 W- 2 6.0 W- 2 13.5 W- 3 6.0	W- 1 3.0 SILT W- 2 6.0 W- 2 13.5 CLAY W- 3 6.0 S W- 3 8.5 SA Decimen Identification D100 W- 1 3.0 9.5 W- 2 6.0 12.5 W- 2 13.5 19 W- 3 6.0 4.75	W- 1 3.0 SILTY, CLAYEY S W- 2 6.0 CLAYEY SAI W- 2 13.5 CLAYEY SAND wi W- 3 6.0 SANDY LEAN W- 3 8.5 SANDY SILTY C Decimen Identification D100 D60 W- 1 3.0 9.5 0.168 W- 2 6.0 12.5 0.176 W- 2 13.5 19 0.344 W- 3 6.0 4.75 0.102	W- 1 3.0 SILTY, CLAYEY SAND(SC-SI W- 2 6.0 CLAYEY SAND(SC), A-7 W- 2 13.5 CLAYEY SAND with GRAVEL W- 3 6.0 SANDY LEAN CLAY(CL), W- 3 8.5 SANDY SILTY CLAY(CL-ML Decimen Identification D100 D60 D30 W- 1 3.0 9.5 0.168 W- 2 6.0 12.5 0.176 W- 2 13.5 19 0.344 W- 3 6.0 4.75 0.102	W- 1 3.0 SILTY, CLAYEY SAND(SC-SM), A-4 (0) W- 2 6.0 CLAYEY SAND(SC), A-7-6 (6) W- 2 13.5 CLAYEY SAND with GRAVEL(SC), A-2-7 W- 3 6.0 SANDY LEAN CLAY(CL), A-4 (3) W- 3 8.5 SANDY SILTY CLAY(CL-ML), A-4 (1) Decimen Identification D100 D60 D30 D10 W- 1 3.0 9.5 0.168 W- 2 6.0 12.5 0.176 W- 2 13.5 19 0.344 W- 3 6.0 4.75 0.102 W- 3 8.5 4.75 0.147	W- 1 3.0 SILTY, CLAYEY SAND(SC-SM), A-4 (0) W- 2 6.0 CLAYEY SAND(SC), A-7-6 (6) W- 2 13.5 CLAYEY SAND with GRAVEL(SC), A-2-7 W- 3 6.0 SANDY LEAN CLAY(CL), A-4 (3) W- 3 8.5 SANDY SILTY CLAY(CL-ML), A-4 (1) Decimen Identification D100 D60 D30 D10 %Grav W- 1 3.0 9.5 0.168 2.8 W- 2 6.0 12.5 0.176 1.3 W- 2 13.5 19 0.344 24.3 W- 3 6.0 4.75 0.102 0.0 W- 3 8.5 4.75 0.147 GRAIN SIZ	W- 1 3.0 SILTY, CLAYEY SAND(SC-SM), A-4 (0) 22 W- 2 6.0 CLAYEY SAND (SC), A-7-6 (6) 46 W- 2 13.5 CLAYEY SAND with GRAVEL(SC), A-2-7 W- 3 6.0 SANDY LEAN CLAY(CL), A-4 (3) 29 W- 3 8.5 SANDY SILTY CLAY(CL-ML), A-4 (1) 24 Decimen Identification D100 D60 D30 D10 %Gravel % W- 1 3.0 9.5 0.168 2.8 2.8 W- 2 6.0 12.5 0.176 1.3 24.3 W- 2 13.5 19 0.344 24.3 W- 3 6.0 4.75 0.102 0.0 W- 3 8.5 4.75 0.147 0.0 GRAIN SIZE DISE	W- 1 3.0 SILTY, CLAYEY SAND(SC-SM), A-4 (0) 22 15 W- 2 6.0 CLAYEY SAND(SC), A-7-6 (6) 46 19 W- 2 13.5 CLAYEY SAND with GRAVEL(SC), A-2-7 29 20 W- 3 6.0 SANDY LEAN CLAY(CL), A-4 (3) 29 20 W- 3 8.5 SANDY SILTY CLAY(CL-ML), A-4 (1) 24 17 Decimen Identification D100 D60 D30 D10 %Gravel %Sand W- 1 3.0 9.5 0.168 2.8 57.1 W- 2 6.0 12.5 0.176 1.3 56.3 W- 2 13.5 19 0.344 24.3 45.1 W- 3 6.0 4.75 0.102 0.0 42.7 W- 3 8.5 4.75 0.147 0.0 49.2 GRAIN SIZE DISTRIE	W- 1 3.0 SILTY, CLAYEY SAND(SC-SM), A-4 (0) 22 15 7 W- 2 6.0 CLAYEY SAND(SC), A-7-6 (6) 46 19 27 W- 2 13.5 CLAYEY SAND with GRAVEL(SC), A-2-7 29 20 9 W- 3 6.0 SANDY LEAN CLAY(CL), A-4 (3) 29 20 9 W- 3 8.5 SANDY SILTY CLAY(CL-ML), A-4 (1) 24 17 7 Decimen Identification D100 D60 D30 D10 %Gravel %Sand %Sil W- 1 3.0 9.5 0.168 2.8 57.1 W- 2 6.0 12.5 0.176 1.3 56.3 W- 2 13.5 19 0.344 24.3 45.1 W- 3 6.0 4.75 0.102 0.0 42.7 W- 3 8.5 4.75 0.147 0.0 49.2 GRAIN SIZE DISTRIBUTION	W- 1 3.0 SILTY, CLAYEY SAND(SC-SM), A-4 (0) 22 15 7 W- 2 6.0 CLAYEY SAND(SC), A-7-6 (6) 46 19 27 W- 2 13.5 CLAYEY SAND with GRAVEL(SC), A-2-7 29 20 9 W- 3 6.0 SANDY SILTY CLAY(CL), A-4 (3) 29 20 9 W- 3 8.5 SANDY SILTY CLAY(CL-ML), A-4 (1) 24 17 7 Decimen Identification D100 D60 D30 D10 %Gravel %Sand %Silt 9 W- 1 3.0 9.5 0.168 2.8 57.1 40.1 W- 2 6.0 12.5 0.176 1.3 56.3 42.4 W- 2 13.5 19 0.344 24.3 45.1 30.6 W- 3 6.0 4.75 0.102 0.0 42.7 57.3

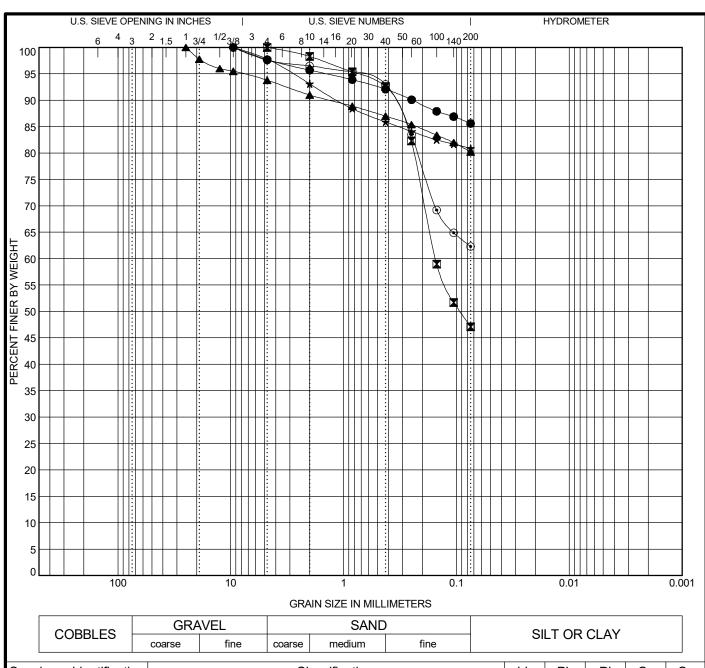




COPPLES	GRA	VEL		SAND)	SILT OD CLAV
COBBLES	coarse	fine	coarse	medium	fine	SILT OR CLAY

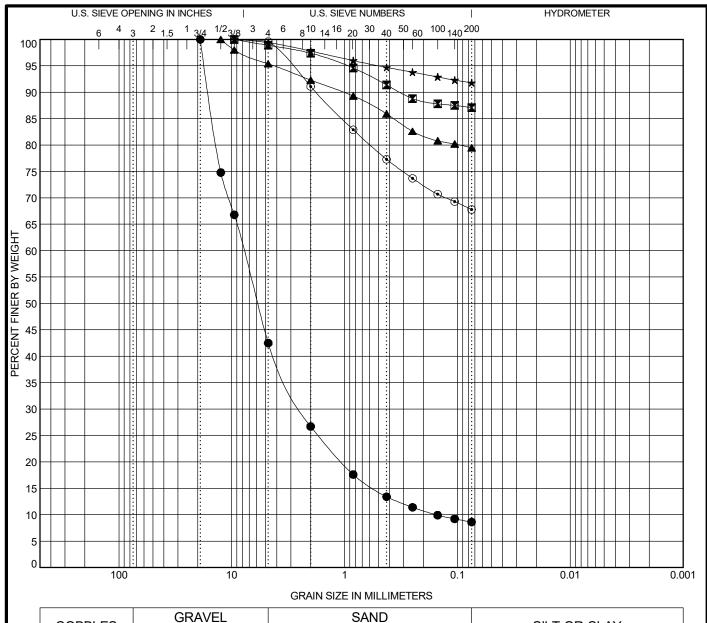
Ŀ	Sp	ecimen	Identification		Cla	assification		LL	PL	PI	Сс	Cu	
ŀ		W- 4	3.5		CLAYEY S	AND(SC), A	-2-4						
1		W- 4	18.0		CLAYEY SA	ND(SC), A-2		33	21	12			
L	•	W- 5	8.0		FAT CLAY	(CH), A-7-5 (98	40	58			
	k	W- 5	18.5	FAT	CLAY with	SAND(CH),		61	27	34			
6/17/25	•	W- 6	1.0		FAT CLAY		62	22	40				
GDT	Sp	ecimen	Identification	D100	D60	D30	D10	%Grave	9	6Sand	%Sil	t 9	%Clay
LAB		W- 4	Identification 3.5	9.5	0.19			3.1		63.5		33.4	
ns I		W- 4	18.0	25	0.19	0.085		7.7		64.0	28.3		
GP.	A	W- 5	8.0	4.75		0.0		7.1	92.9				
.00136.001.GPJ	k	W- 5	18.5	4.75		0.0	19.6			79.2			
0013	•	W- 6	1.0	9.5		0.6	8.1		1 91.3				





S	pecimen Ide	ntification		Cla	assification			LL	PL	PI	Сс	Cu
•	W- 6	6.0		ELASTIC SIL	.T(MH), A-7-	5 (32)		65	33	32		
X	W- 7	5.0		CLAYEY SA	AND(SC), A-4		26	16	10			
	W- 7	6.0	S	SILT with SA	ND(ML), A-7-	44	28	16				
★	W- 8	1.0	FAT	CLAY with	SAND(CH), A	N-7-6 (22)		52	26	26		
★	W- 9	2.0	SA	NDY LEAN (44	18	26					
S	pecimen Ide	ntification	D100	D60	D30	D10	%Grav	rel 9	6Sand	%Sil	t º	%Clay
9	pecimen Ide W- 6	6.0	9.5				2.3		12.1		85.6	
3 🗷	W- 7	5.0	4.75	0.153			0.0		52.9		47.1	
<u></u>	W- 7	6.0	25				6.2		13.6		80.2	
★	W- 8	1.0	9.5				2.2		16.9		80.9	
<u> </u>	W- 9	2.0	9.5		2.4		35.3		62.3			

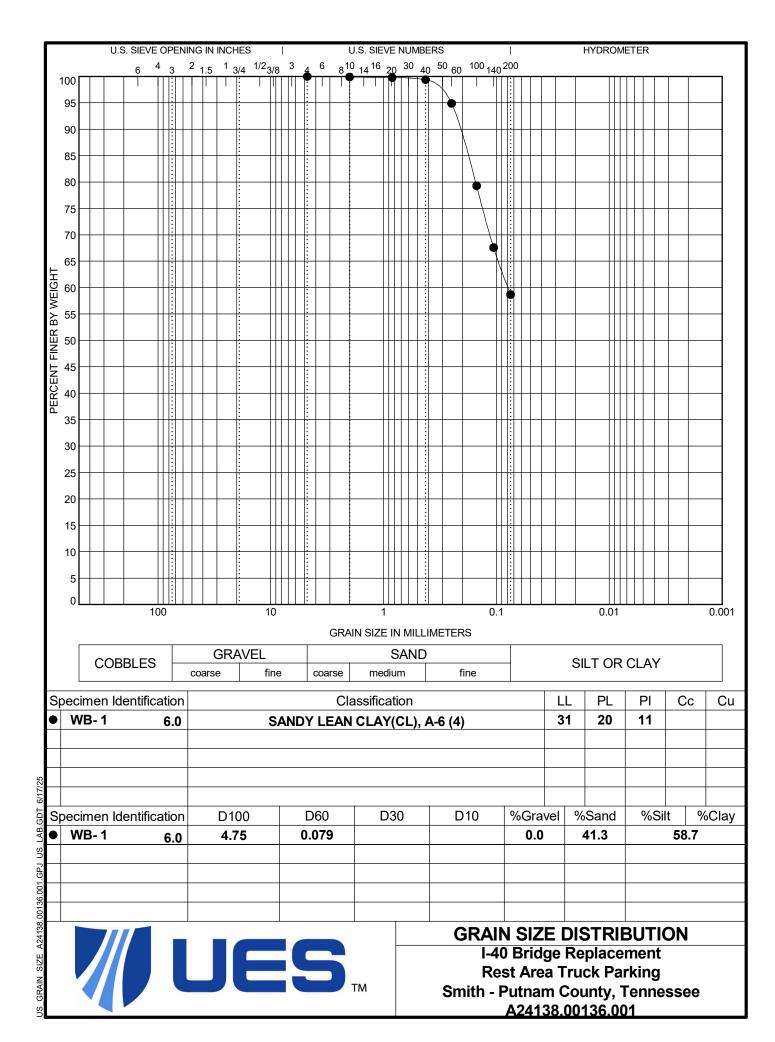


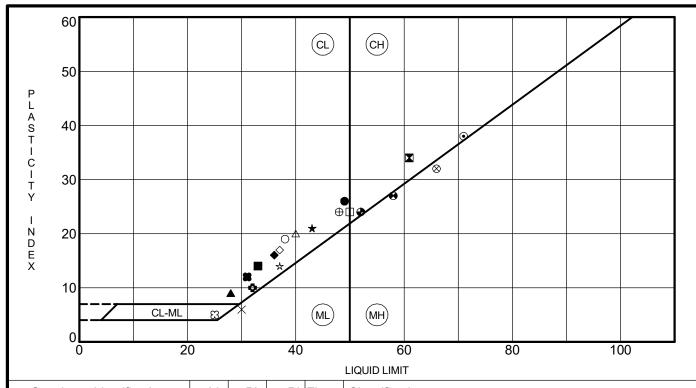


CORRI ES	GRA	VEL		SAND		SILT OR CLAY
COBBLES	coarse	fine	coarse	medium	fine	SILT OR CLAY

S	pecimen Iden	tification		Cla	assification			LL	PL	PI	Сс	Cu
•	W- 9	3.5	P. GRADED G	RAVEL with	CLAY and S	AND(GP-GC	;), A-2-7				4.73	50.42
X	W-10	3.5		FAT CLAY	(CH), A-7-6 (40)	,,	66	25	41		
A	W-10	8.0	FA1	CLAY with	SAND(CH), A	·-7-5 (38)		74	30	44		
*	W-11	3.5		FAT CLAY	(CH), A-7-6 (59)		85	29	56		
0	W-11	7.0	S	ANDY FAT C	LAY(CH), A-7	'-5 (34)		80	31	49		
S	pecimen Iden	tification	D100	D60	D30	D10	%Grav	∕el %	6Sand	%Si	It 9	6Clay
•	W- 9	3.5	19	7.825	2.396	0.155	57.5	5	33.9		8.6	
	W-10	3.5	9.5				1.1		11.8		87.1	
<u> </u>	W-10	8.0	12.5				4.6		15.9		79.5	
*	W-11	3.5	9.5				0.6		7.6		91.8	
0	W-11	7.0	9.5				0.4		31.8		67.8	
		1				GRAI	N SIZ	E DI	STRIE	BUTI	ON	
3						1.4	0 Bride	70 D	nlago	mont		



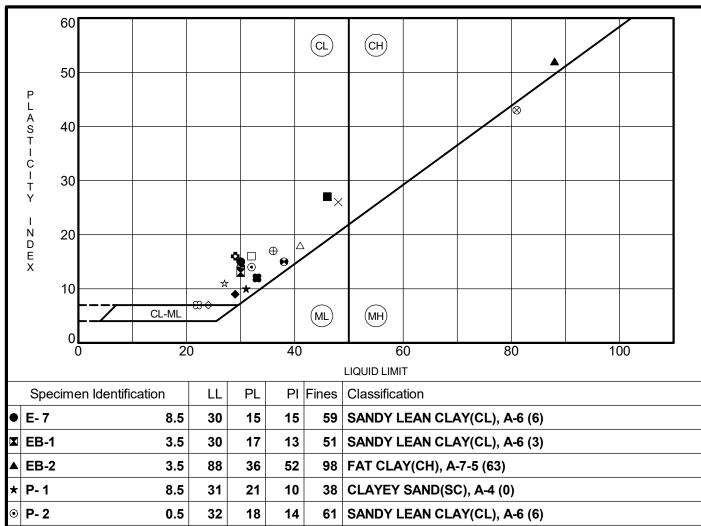




		Specimen Identific	ation	LL	PL	PI	Fines	Classification
•	•	BR-1	8.5	49	23	26	53	SANDY LEAN CLAY(CL), A-7-6 (11)
I	X	BR-1	28.5	61	27	34	73	FAT CLAY with SAND(CH), A-7-6 (25)
	•	BR-1	33.5	28	19	9	32	CLAYEY GRAVEL with SAND(GC), A-2-4
	*	BR-2	3.0	43	22	21	50	CLAYEY SAND with GRAVEL(SC), A-7-6 (7)
(◉	BR-2	8.0	71	33	38	30	CLAYEY GRAVEL(GC), A-2-7 (4)
ŀ	٥	BR-2	18.5	32	22	10	50	SANDY LEAN CLAY(CL), A-4 (2)
(0	BR-5	1.5	38	19	19		SANDY LEAN CLAY(CL), A-6
	Δ	BR-5	3.5	40	20	20		SANDY LEAN CLAY(CL), A-6
	⊗	E- 1	3.5	66	34	32	76	ELASTIC SILT with SAND(MH), A-7-5 (27)
•	⊕	E- 1	13.0	48	24	24	70	SANDY LEAN CLAY(CL), A-7-6 (16)
[E- 2	6.0	50	26	24	55	SANDY FAT CLAY(CH), A-7-6 (10)
•	8	E- 2	13.5	58	31	27	89	ELASTIC SILT(MH), A-7-5 (28)
25	Ð	E- 3	3.5	52	28	24	79	FAT CLAY with SAND(CH), A-7-6 (20)
_	☆	E- 4	5.0	37	23	14	57	SANDY LEAN CLAY(CL), A-6 (6)
B.GDT	3	E- 4	18.5	25	20	5	55	SANDY SILTY CLAY(CL-ML), A-4 (1)
US LAB		E- 5	6.0	33	19	14		LEAN CLAY(CL), A-2-6
.GPJ	•	E- 5	8.0	36	20	16	50	CLAYEY SAND(SC), A-6 (5)
36.001	\diamond	E- 6	3.5	37	20	17	54	SANDY LEAN CLAY(CL), A-6 (6)
38.00136	×	E- 6	6.0	30	24	6	23	SILTY SAND(SM), A-2-4 (0)
~	-	E- 7	3.0	31	19	12	38	CLAYEY SAND(SC), A-6 (1)
ATTERBERG LIMITS								ATTERBERG LIMITS RESULTS
ERG								I-40 Bridge Replacement
TERB							TM	Rest Area Truck Parking Smith - Putnam County, Tennessee
US AT								A24138.00136.001



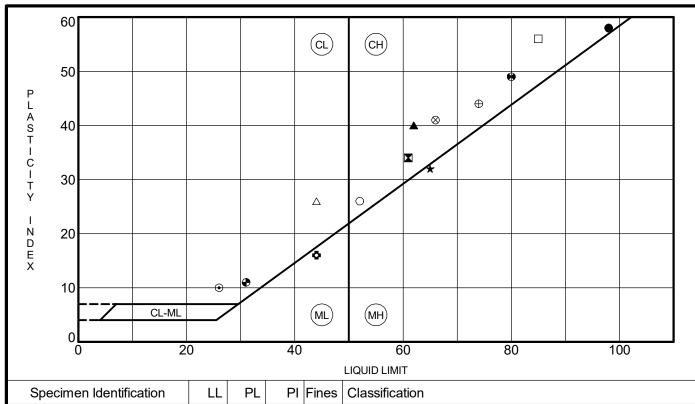
ATTERBERG LIMITS RESULTS



₽ P- 3 16 6.0 29 13 53 SANDY LEAN CLAY(CL), A-6 (5) O P- 4 3.5 30 16 14 SANDY LEAN CLAY(CL), A-6 (5) △ P- 5 3.5 41 23 18 54 SANDY LEAN CLAY(CL) ⊗ P- 6 13.5 81 38 43 79 **ELASTIC SILT(MH), A-7-5 (39)** ⊕ P- 7 6.0 36 19 17 29 CLAYEY SAND(SC), A-2-6 (1) □ P-8 0.5 32 16 16 55 SANDY LEAN CLAY(CL), A-6 (6) **⊕** P-9 8.5 23 15 CLAYEY SAND(SC), A-2-6 (1) 38 **₽** P-10 16 CLAYEY SAND(SC), A-6 (2) 3.5 30 14 39 **☆ W-1** 0.5 27 16 11 49 CLAYEY SAND(SC), A-6 (2) AB.GDT ଅ W- 1 3.0 22 15 7 40 SILTY, CLAYEY SAND(SC-SM), A-4 (0) ■ W- 2 6.0 46 19 27 42 | CLAYEY SAND(SC), A-7-6 (6) ♦ W-3 6.0 29 20 9 57 SANDY LEAN CLAY(CL), A-4 (3) A24138.00136.001 7 ♦ W- 3 17 8.5 24 SANDY SILTY CLAY(CL-ML), A-4 (1) 51 W-4 \times 8.5 48 22 26 SANDY LEAN CLAY(CL), A-7-6 ***** W- 4 18.0 33 21 12 28 CLAYEY SAND(SC), A-2-6 (0) ATTERBERG LIMITS



ATTERBERG LIMITS RESULTS



	EIQOID EIIVIT									
	Specimen Identification		PL	PI	Fines	Classification				
•	W- 5 8.0	98	40	58	93	FAT CLAY(CH), A-7-5 (66)				
X	W- 5 18.5	61	27	34	79	FAT CLAY with SAND(CH), A-7-6 (29)				
_	W- 6 1.0	62	22	40	91	FAT CLAY(CH), A-7-6 (40)				
*	W- 6 6.0	65	33	32	86	ELASTIC SILT(MH), A-7-5 (32)				
•	W- 7 5.0	26	16	10	47	CLAYEY SAND(SC), A-4 (2)				
٥	W- 7 6.0	44	28	16	80	SILT with SAND(ML), A-7-6 (14)				
0	W- 8 1.0	52	26	26	81	FAT CLAY with SAND(CH), A-7-6 (22)				
Δ	W- 9 2.0	44	18	26	62	SANDY LEAN CLAY(CL), A-7-6 (14)				
\otimes	W-10 3.5	66	25	41	87	FAT CLAY(CH), A-7-6 (40)				
\oplus	W-10 8.0	74	30	44	80	FAT CLAY with SAND(CH), A-7-5 (38)				
	W-11 3.5	85	29	56	92	FAT CLAY(CH), A-7-6 (59)				
8	W-11 7.0	80	31	49	68	SANDY FAT CLAY(CH), A-7-5 (34)				
•	WB- 1 6.0	31	20	11	59	SANDY LEAN CLAY(CL), A-6 (4)				
5										
9										
5										
9										



US_ATTERBERG_LIMITS_A24138.00136.001.GPJ_US_LAB.GDT_6/17/25

ATTERBERG LIMITS RESULTS



UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS ASTM D2850

CLIENT: HMB Professional Engineers, LLC DATE: 4/9/2025

PROJECT NO.: A24138.00136.001

PROJECT: PIN 131552.01 I-40 Truck Stop and Bridge Replacement over Carney Fork River

LOCATION: Smith County, TN

BORING NO.: W-5 SAMPLE NO.: ST-4 DEPTH (ft.): 8.0-10.0

SAMPLE OBTAINED BY: Shelby Tube CONDITION: Undisturbed

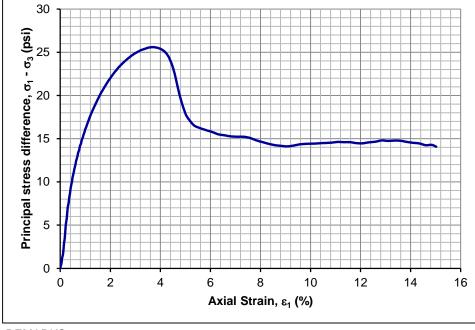
SAMPLE DESCRIPTION: Stiff, brown and orange, FAT CLAY - (CH)

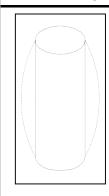
LIQUID LIMIT (%): 98 PLASTIC LIMIT (%): 40 PLASTICITY INDEX (%): 58 USCS: CH

SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed)

LOAD CELL NO.:

INITIAL SAMPLE DATA FAILURE DATA*** AVERAGE DIAMETER (in.): 2.85 MOISTURE CONTENT AFTER FAILURE (%)**: 30.0 HEIGHT (in.): AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.): 1.0 5.89 **HEIGHT TO DIAMETER RATIO:** AXIAL STRAIN AT FAILURE (%): 3.8 2.07 WET UNIT WEIGHT (pcf): 122.9 PRINCIPAL STRESS DIFFERENCE AT FAILURE, σ_1 - σ_3 (psi): 25.6 5.3 DRY UNIT WEIGHT (pcf): 96.0 MINOR PRINCIPAL STRESS AT FAILURE, σ₃ (psi): **VOID RATIO:** 0.79 MAJOR PRINCIPAL STRESS AT FAILURE, σ₁ (psi): 30.9 MOISTURE CONTENT (%)*: 28.0 UNDRAINED COMPRESSIVE STRENGTH, Uu (psf): 3,680 DEGREE OF SATURATION (%): 97.7 UNDRAINED SHEAR STRENGTH, s, (psf): 1,840 LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf): N/A





FAILURE SHAPES

REMARKS:

^{*} Initial moisture content determined from sample cuttings.

^{**} Final moisture content determined from entire sample.

^{***} Failure stress values have been corrected for membrane effects.



UNCONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST ON COHESIVE SOILS ASTM D2850

CLIENT: HMB Professional Engineers, LLC DATE: 4/9/2025

PROJECT NO.: A24138.00136.001

PROJECT: PIN 131552.01 I-40 Truck Stop and Bridge Replacement over Carney Fork River

LOCATION: Smith County, TN

BORING NO.: W-10 SAMPLE NO.: ST-4 DEPTH (ft.): 8.0-10.0

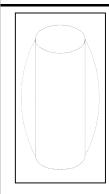
SAMPLE OBTAINED BY: Shelby Tube CONDITION: Undisturbed SAMPLE DESCRIPTION: Very stiff, brown and orange, FAT CLAY with SAND - (CH)

LIQUID LIMIT (%): 74 PLASTIC LIMIT (%): 30 PLASTICITY INDEX (%): 44 USCS: CH

SPECIFIC GRAVITY OF SOLIDS: 2.75 (Assumed) LOAD CELL NO.:

INITIAL SAMPLE DATA		FAILURE DATA***	
AVERAGE DIAMETER (in.):	2.86	MOISTURE CONTENT AFTER FAILURE (%)**:	23.6
HEIGHT (in.):	5.89	AVERAGE RATE OF AXIAL STRAIN TO FAILURE (%/min.):	1.0
HEIGHT TO DIAMETER RATIO:	2.06	AXIAL STRAIN AT FAILURE (%):	10.3
WET UNIT WEIGHT (pcf):	124.8	PRINCIPAL STRESS DIFFERENCE AT FAILURE, σ_1 - σ_3 (psi):	39.6
DRY UNIT WEIGHT (pcf):	99.0	MINOR PRINCIPAL STRESS AT FAILURE, σ_3 (psi):	5.3
VOID RATIO:	0.73	MAJOR PRINCIPAL STRESS AT FAILURE, σ_1 (psi):	44.9
MOISTURE CONTENT (%)*:	26.1	UNDRAINED COMPRESSIVE STRENGTH, Uu (psf):	5,700
DEGREE OF SATURATION (%):	97.6	UNDRAINED SHEAR STRENGTH, s _u (psf):	2,850
		LIMITING UNDRAINED COMP. STRESS @ 10% STRAIN (psf):	5,695
45		FAILURE SHAPES	

45 6° 35 15 10 0 0 2 4 4 6 8 10 12 14 16 Axial Strain, ε₁ (%)



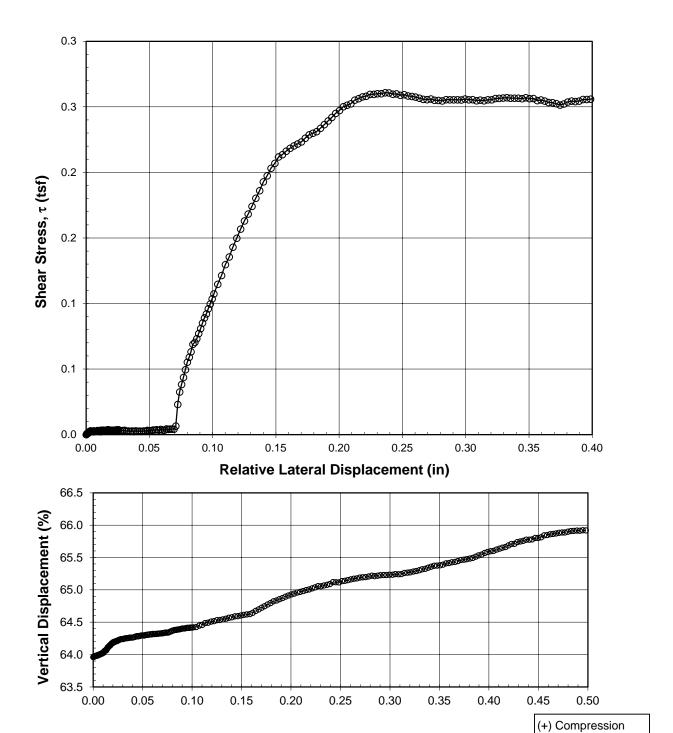
REMARKS:

^{*} Initial moisture content determined from sample cuttings.

^{**} Final moisture content determined from entire sample.

^{***} Failure stress values have been corrected for membrane effects.





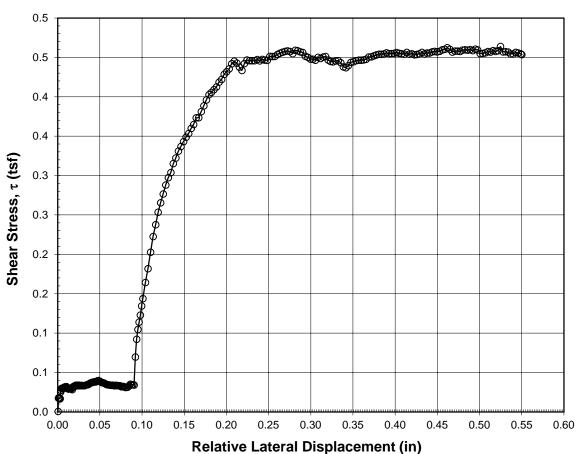
(-) Dilation

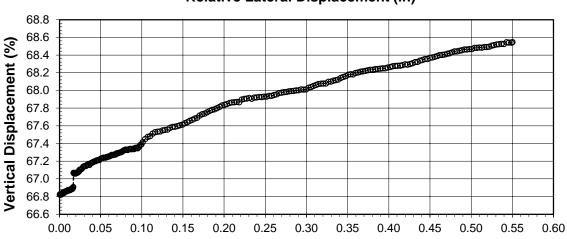
ASTM D 3080 Boring: W-3

Sample: ST-3 - Depth: 8 ft

 $\sigma'_{v,c} = 5.00$ PSI





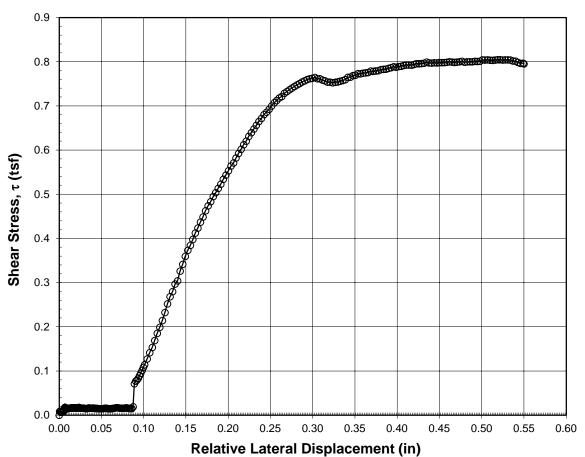


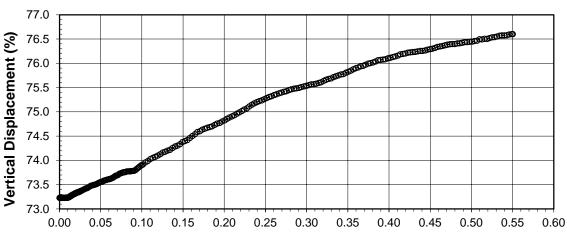
(+) Compression (-) Dilation

ASTM D 3080 Boring: W-3

Sample: ST-3 - Depth: 6 ft $\sigma'_{v,c} = 10.00$ PSI







(+) Compression (-) Dilation

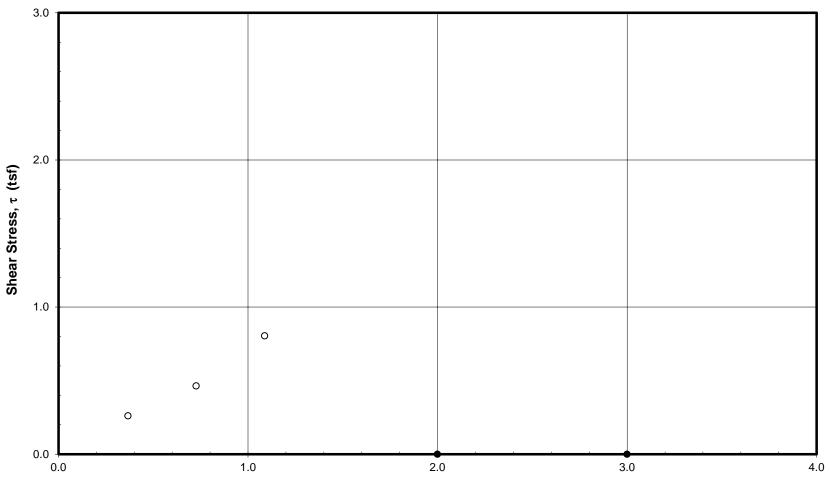
ASTM D 3080

Boring: W-3

Sample: ST-3 - Depth: 6 ft

 $\sigma'_{v,c} = 15.00 \text{ PSI}$





Effective Normal Stress, $\sigma'_n = \sigma'_{v,c}$ (tsf)

ASTM D 3080

Boring: W-3 Sample: ST-3 -Depth: 8ft



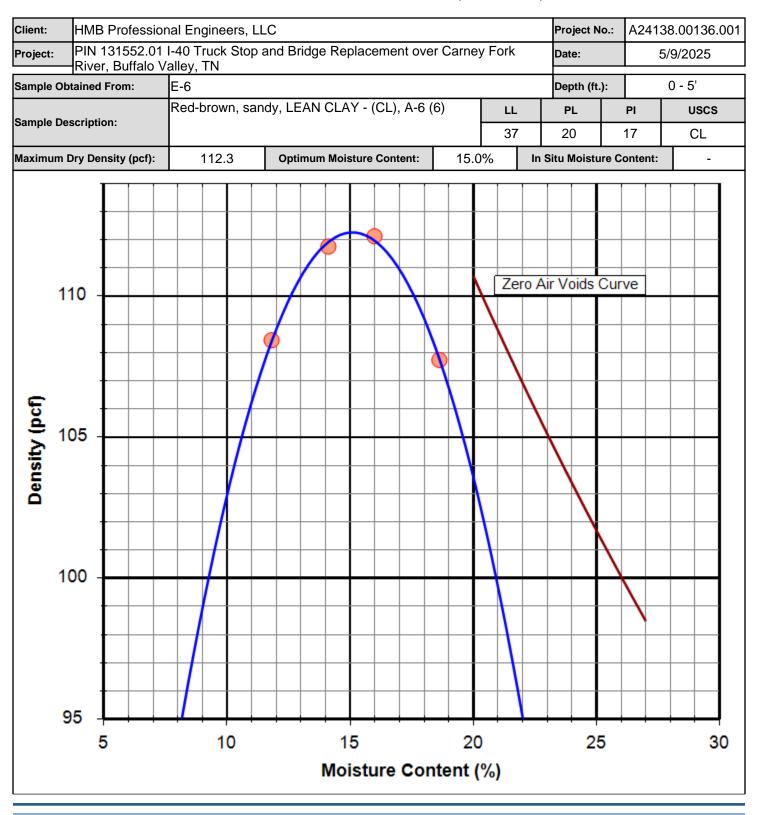
Appendix E
SUMMARY OF COMPACTION AND CBR TEST RESULTS



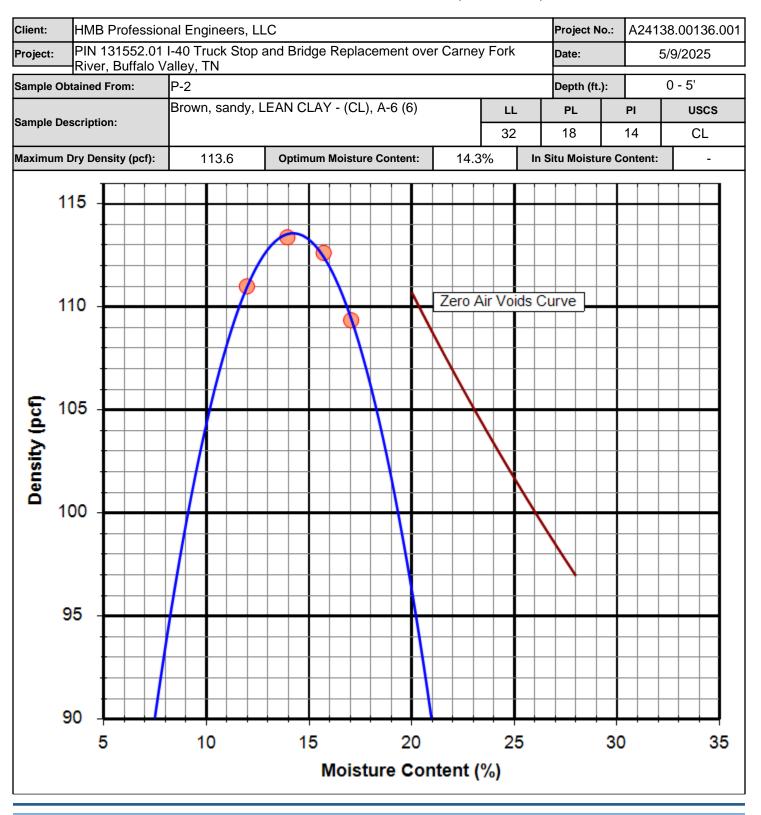
Summary of Compaction and CBR Test Results.

			Liquid Limit (%)	(%)	Proctor Results		CBR Results				* (%
Boring No.	Depth (ft.)	USCS/ AASHTO		Plastic Limit (%)	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	Blows per Layer	Dry Unit Weight (pcf)	Moisture Content (%) *	CBR	Percent Compaction (%) *
E-6	0 to 5	CL/ A-6 (7)	37	19	112.3	15.0	25 56	108.5 115.0	14.4 14.2	5.9 6.2	96.6 102.4
P-2	0 to 5	CL/ A-6 (6)	32	18	18 113.6	14.3	10 25	98.7 109.7	14.3 14.4	1.6 6.2	86.9 96.6
P-5	1 to 10	CL/	41	23	112.6	15.5	56 25	114.1 109.3	14.5 15.9	6.4 5.1	100.4 97.1
1 0	1 10 10	A-7-6 (7)	-	20	112.0	10.0	56 10	112.8 100.3	15.8 12.8	3.9 2.0	100.2 85.9
P-8	0 to 5	CL/ A-6 (6)	32	16	116.8	13.3	25 56	112.2 117.8	12.8 13.0	7.5 8.1	96.1 100.9
10/ 4	0.45 5	SC/ A-6 (2)	07	16	114.8	14.0	10	105.2	13.3	2.5	91.6
W-1	0 to 5		27				25 56	113.9 117.2	13.4 13.4	3.2 5.8	99.2 102.1
W-7	1 to 5	SC/ A-4 (2)	26	16	108.6	15.6	25 56	98.4 107.6	14.1 13.7	0.9 1.5	90.6 99.1
W-11	1 to 7	CH/ A-7-5 (34)	80	31	96.5	23.0	10 25	81.0 92.7	22.2	0.4	83.9 96.1
VV-11			60	31	90.0		56	93.4	21.8	3.4	96.8

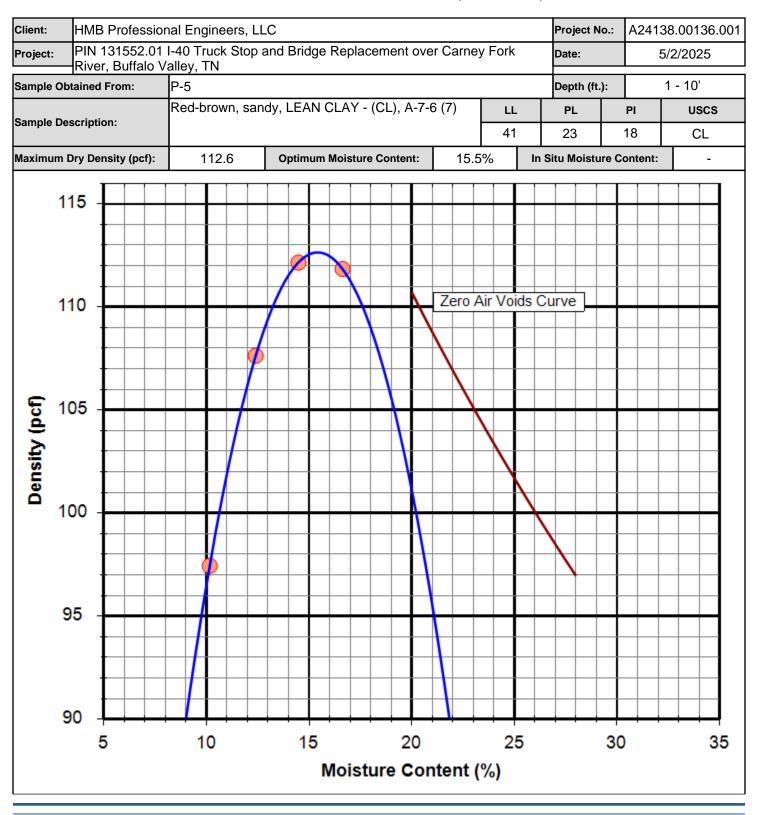




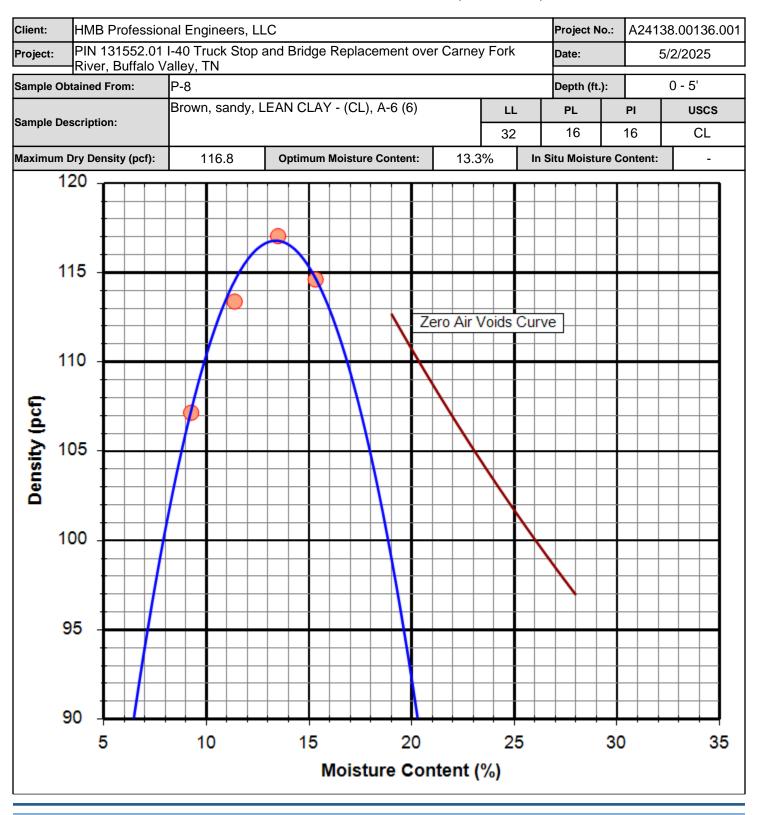




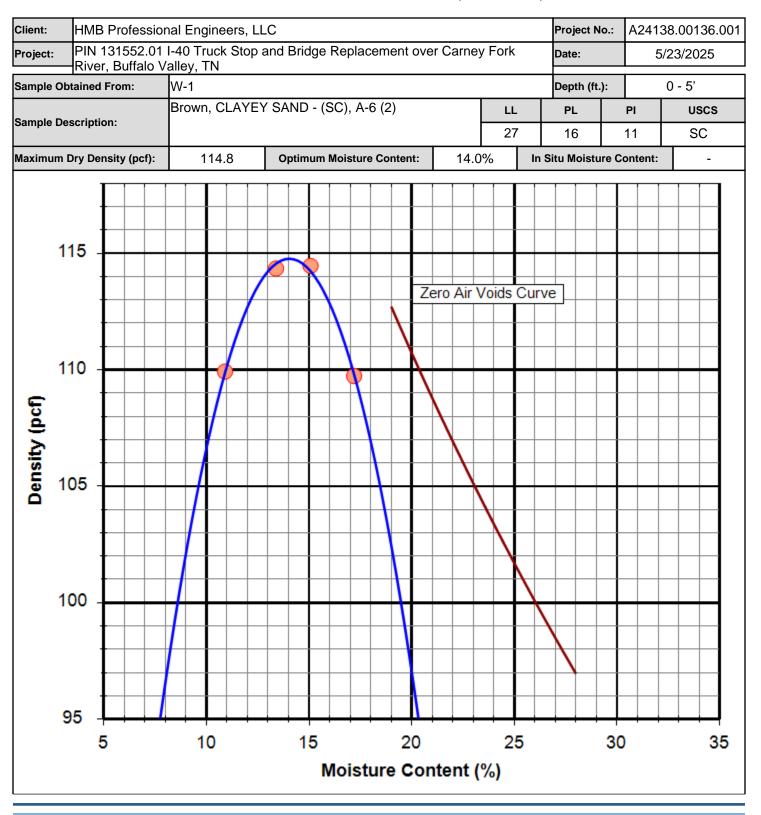








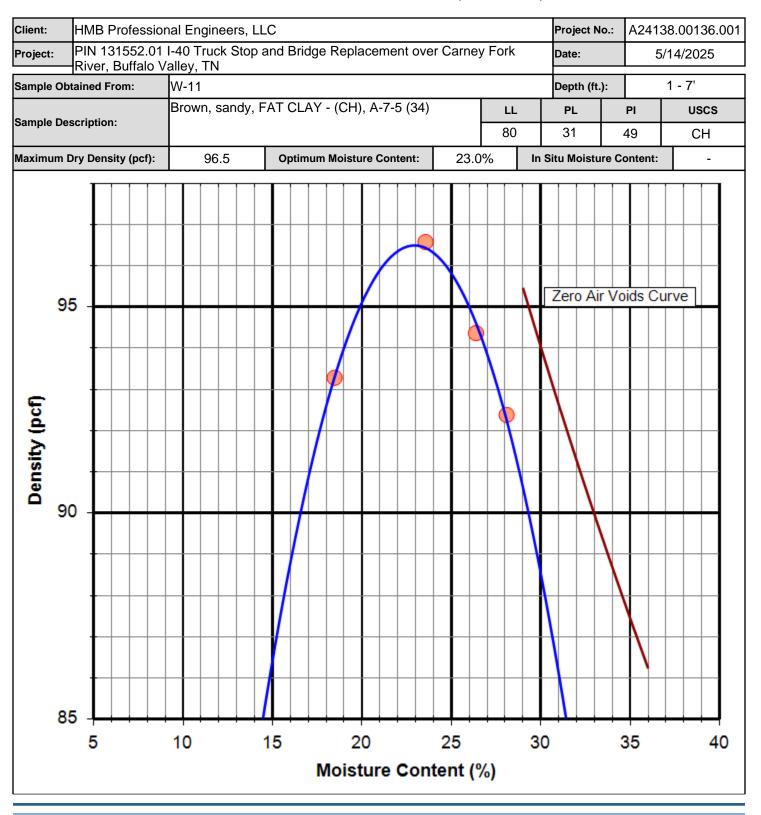






Client:	HMB Profess	ional Engineers, L	LC		Project No.: A241		138.00136.001		
Project	River, Buffalo Valley, TN								
Sample	Sample Obtained From: W-7 Depth (ft.): 1 - 5'								
Sample	Description:	Brown, CLAYE	LL	PL	PI	USCS			
			1	ntent: 15.6	26 16		10	SC	
Maximu	um Dry Density (pcf)	108.6	Optimum Moisture Co	Situ Moisture (Content:	-			
	110				Zero Air V	oids Curve			
			 <mark>7 </mark>	 	ZCIOAIIV	olus Oul VC			
(bcf)	105								
Density (pcf)	100								
	95								
	90 5	10	15 Moisture	20 e Content (25	30	0	35	
					•				







Appendix F
PAVEMENT CORE PHOTOGRAPHS



I-40 Bridge Replacement / Rest Area Truck Parking Smith-Putnam County, Tennessee

Boring EB-1 (Lane) 545+07.0 | 47.0 RT

A24138.00136.001

Photograph 1

Description: 21 ½ inches of asphalt. Photograph taken on May 22, 2025.



I-40 Bridge Replacement/ Rest Area Truck Parking Smith-Putnam County, Tennessee

Boring EB-1 (Shoulder) 545+07.0 | 47.0 RT

A24138.00136.001

Photograph 2

Description: 16 ¾ inches of asphalt. Photograph taken on May 22, 2025.



I-40 Bridge Replacement / Rest Area Truck Parking Smith-Putnam County, Tennessee

Boring EB-2 (Lane) 551+07.5 | 39.0 RT

A24138.00136.001

Photograph 3

Description: 21 ¼ inches of asphalt. Photograph taken on May 22, 2025.



I-40 Bridge Replacement/ Rest Area Truck Parking Smith-Putnam County, Tennessee

Boring EB-2 (Shoulder) 551+07.5 | 39.0 RT

A24138.00136.001

Photograph 4

Description: 8 ½ inches of asphalt. Photograph taken on May 22, 2025.



I-40 Bridge Replacement / Rest Area Truck Parking Smith-Putnam County, Tennessee

Boring WB-1 (Lane) 541+01.5 | 14.5 LT

A24138.00136.001

Photograph 5

Description: 24 ½ inches of asphalt. Photograph taken on May 22, 2025.



I-40 Bridge Replacement/ Rest Area Truck Parking Smith-Putnam County, Tennessee

Boring WB-1 (Shoulder) 541+01.5 | 14.5 LT

A24138.00136.001

Photograph 6

Description: 9 ½ inches of asphalt. Photograph taken on May 22, 2025.



I-40 Bridge Replacement / Rest Area Truck Parking						
Smith-Putnam County, Tennessee						
Boring WB-2 (Lane) 552+41.5 13.5 LT						
A24138.00136.001	Photograph 7					
Description: 18 ¾ inches of asphalt.						
Photograph taken on May 22, 2025.						



I-40 Bridge Replacement/ Rest Area Truck Parking Smith-Putnam County, Tennessee					
Boring WB-2 (Shoulder) 552+41.5 13.5 LT					
A24138.00136.001	Photograph 8				
Description: 5 ¼ inches of asphalt. Photograph taken on May 22, 2025.					