

REFERENCE: I-2513AA

PROJECT: 34165

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<u>SHEET NO.</u>	<u>DESCRIPTION</u>
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 GEOTECHNICAL ENGINEERING UNIT

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY BUNCOMBE
 PROJECT DESCRIPTION I-40 FROM EAST OF SR 1224 (MONTE VISTA RD) TO PAVEMENT JOINT WEST OF SR 3412 (SAND HILL RD). INCLUDES INITIAL IMPROVEMENTS AT I-40EB TO I-26EB AT US 19/23 (SMOKEY PARK HIGHWAY)
 SITE DESCRIPTION NOISEWALL 5A, FROM -Y- STA. 63+46.57, 86.50' RT TO -Y- STA. 77+80.27, 86.50' RT
NOISEWALL 5B, FROM -Y- STA. 77+14.17, 99.00' RT TO -Y EB- STA. 13+66.36, 51.50' RT
NOISEWALL 5C, FROM -Y EB- STA. 13+39.81, 57.30' RT TO -Y EB- STA. 14+13.75, 65.92' RT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-2513AA	1	15

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES:
- THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
 - BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

CG2

GOODNIGHT, D.J.

ECS

NCDOT

INVESTIGATED BY FALCON ENG.

DRAWN BY CROCKETT, S.C.

CHECKED BY HAMM, J.R.

SUBMITTED BY FALCON ENG.

DATE SEPTEMBER 2023



DocuSigned by:
Stephen Crockett 9/15/2023
 C5CA5FED48E0435...
 SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

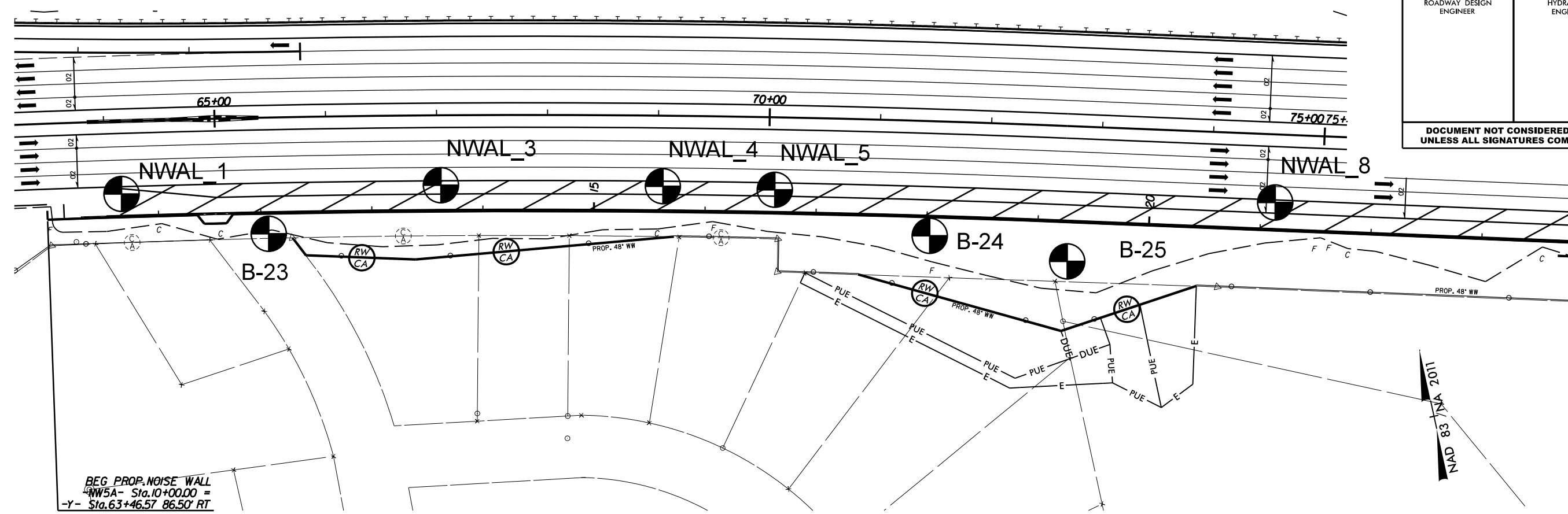
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

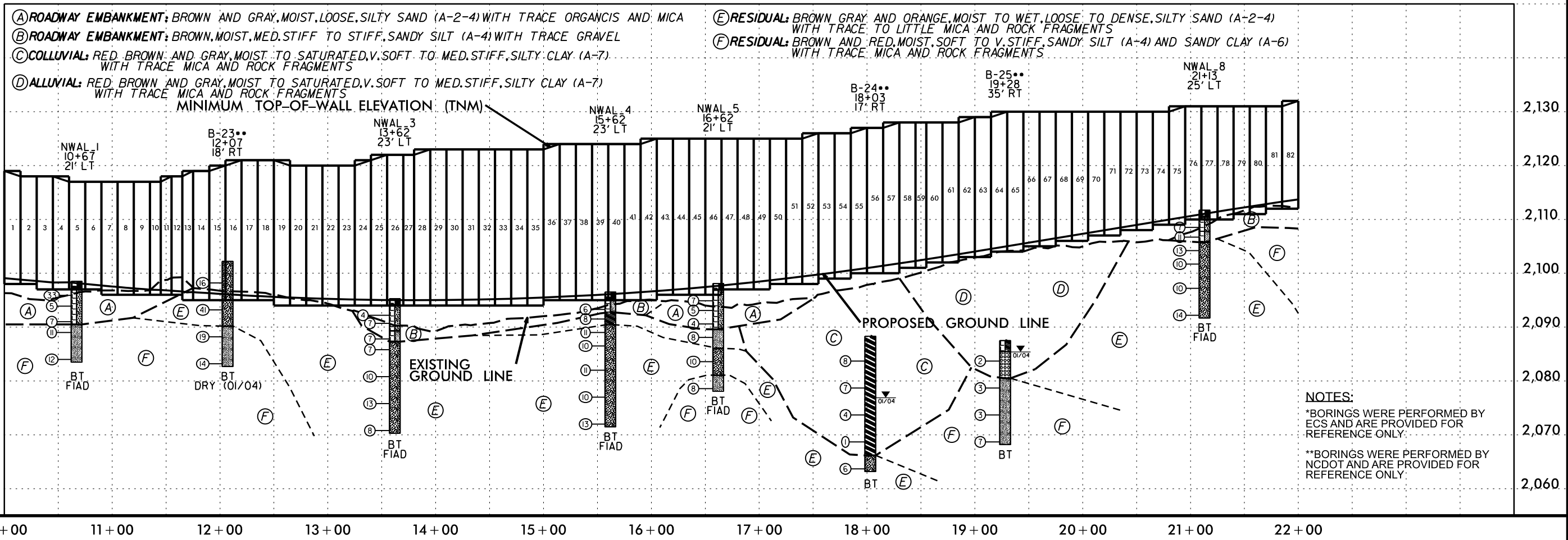
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION												GRADATION												ROCK DESCRIPTION												TERMS AND DEFINITIONS																																																																																																																																																								
<p>SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i></p>												<p>WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.</p>												<p>HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:</p>												<p>ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENISE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p>																																																																																																																																																								
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PROJECT REFERENCE NO. 1-2513AA/AB	SHEET NO. 3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



NOISE WALL -NW5A- STA 10+00.00 TO -NW5A- STA 22+00.00



- (A) ROADWAY EMBANKMENT: BROWN AND GRAY, MOIST, LOOSE, SILTY SAND (A-2-4) WITH TRACE ORGANICS AND MICA
- (B) ROADWAY EMBANKMENT: BROWN, MOIST, MED. STIFF TO STIFF, SANDY SILT (A-4) WITH TRACE GRAVEL
- (C) COLLUVIAL: RED, BROWN AND GRAY, MOIST TO SATURATED, V. SOFT TO MED. STIFF, SILTY CLAY (A-7) WITH TRACE MICA AND ROCK FRAGMENTS
- (D) ALLUVIAL: RED, BROWN AND GRAY, MOIST TO SATURATED, V. SOFT TO MED. STIFF, SILTY CLAY (A-7) WITH TRACE MICA AND ROCK FRAGMENTS

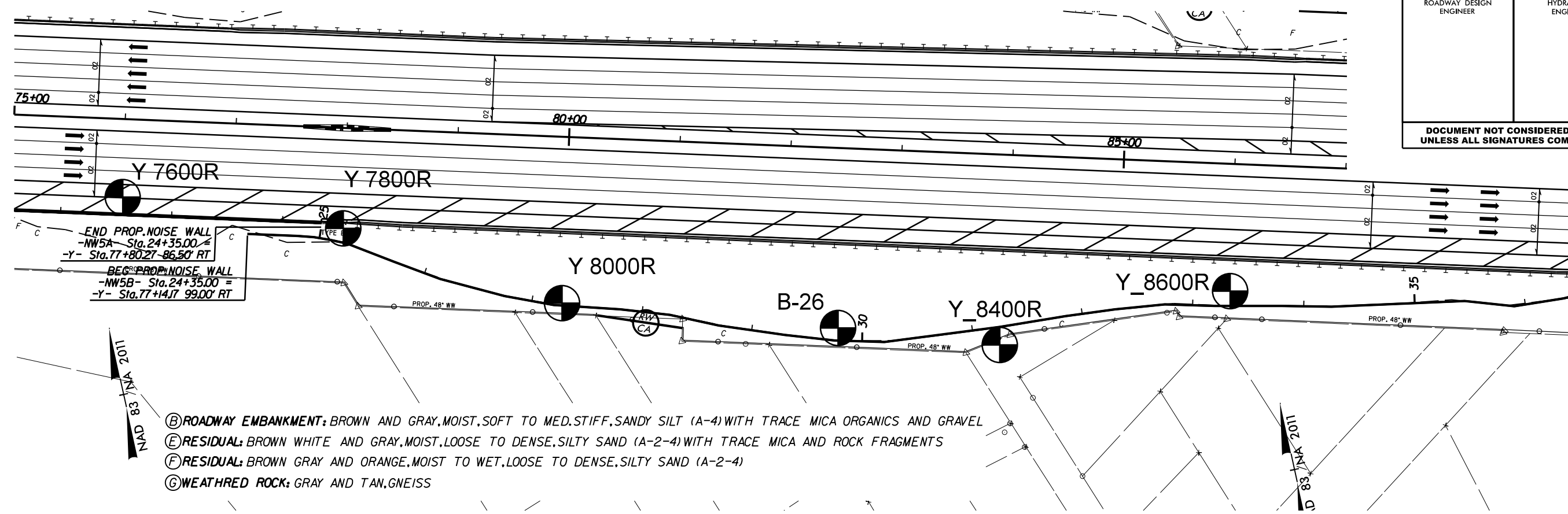
- (E) RESIDUAL: BROWN, GRAY AND ORANGE, MOIST TO WET, LOOSE TO DENSE, SILTY SAND (A-2-4) WITH TRACE TO LITTLE MICA AND ROCK FRAGMENTS
- (F) RESIDUAL: BROWN AND RED, MOIST, SOFT TO V. STIFF, SANDY SILT (A-4) AND SANDY CLAY (A-6) WITH TRACE MICA AND ROCK FRAGMENTS

NOTES:
 *BORINGS WERE PERFORMED BY ECS AND ARE PROVIDED FOR REFERENCE ONLY.
 **BORINGS WERE PERFORMED BY NCDOT AND ARE PROVIDED FOR REFERENCE ONLY.

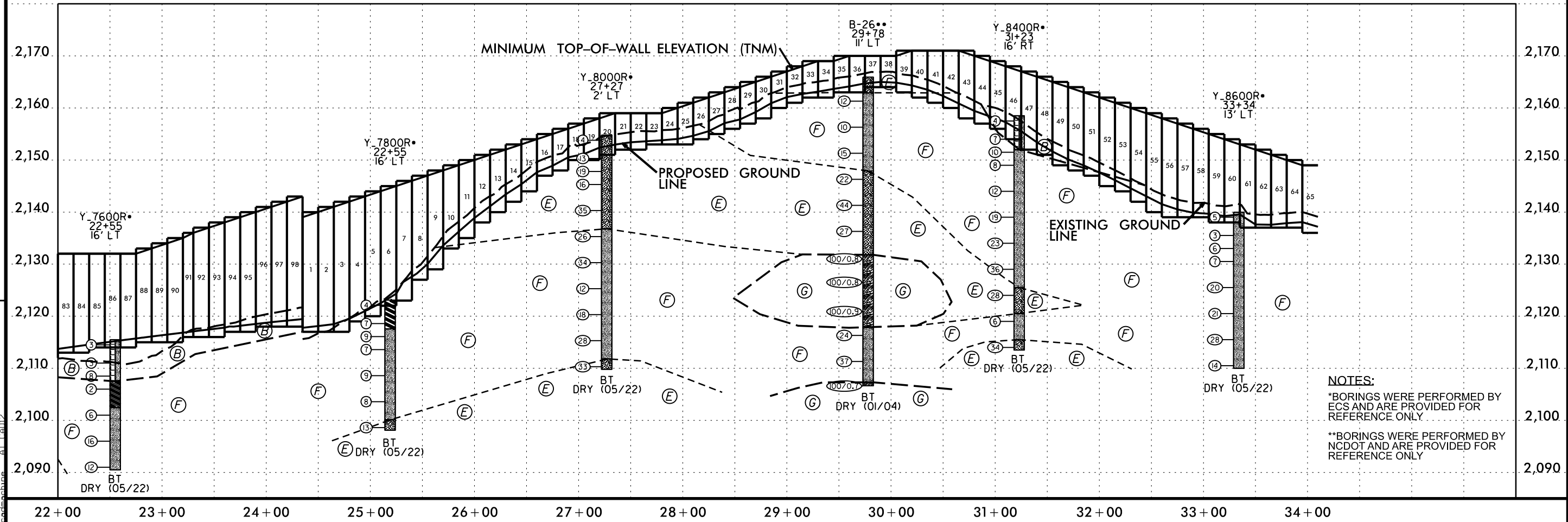
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PROJECT REFERENCE NO. I-25/3AA/AB	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



NOISE WALL -NW5A- STA 22+00.00 TO 24+35.00 AND -NW5B- STA 24+35.00 TO 34+10.00

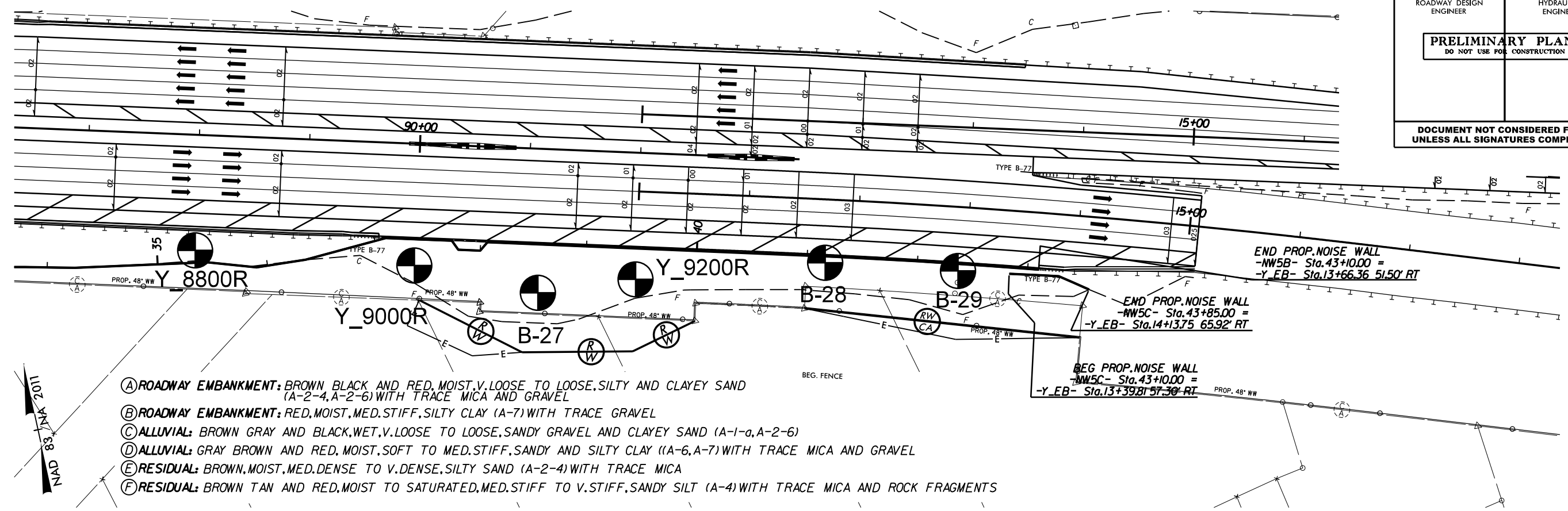


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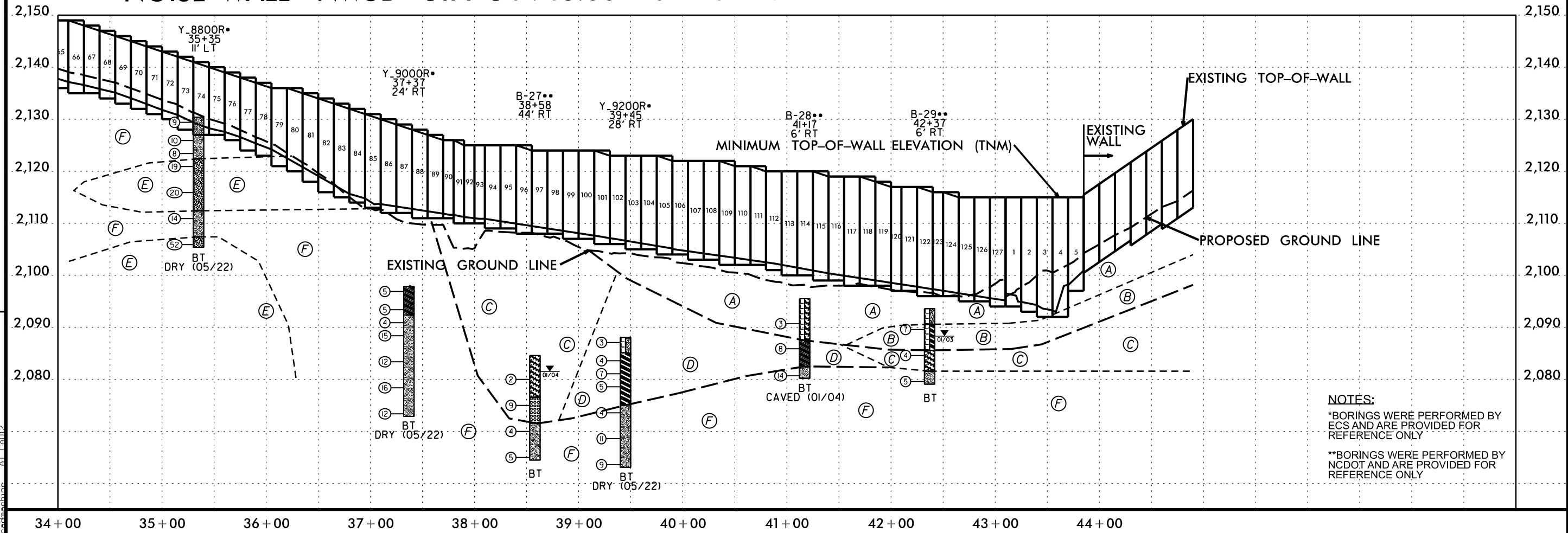
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PROJECT REFERENCE NO. 1-2513AA/AB	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



- (A) ROADWAY EMBANKMENT: BROWN BLACK AND RED, MOIST, V. LOOSE TO LOOSE, SILTY AND CLAYEY SAND (A-2-4, A-2-6) WITH TRACE MICA AND GRAVEL
- (B) ROADWAY EMBANKMENT: RED, MOIST, MED. STIFF, SILTY CLAY (A-7) WITH TRACE GRAVEL
- (C) ALLUVIAL: BROWN GRAY AND BLACK, WET, V. LOOSE TO LOOSE, SANDY GRAVEL AND CLAYEY SAND (A-1-a, A-2-6)
- (D) ALLUVIAL: GRAY BROWN AND RED, MOIST, SOFT TO MED. STIFF, SANDY AND SILTY CLAY ((A-6, A-7) WITH TRACE MICA AND GRAVEL
- (E) RESIDUAL: BROWN, MOIST, MED. DENSE TO V. DENSE, SILTY SAND (A-2-4) WITH TRACE MICA
- (F) RESIDUAL: BROWN TAN AND RED, MOIST TO SATURATED, MED. STIFF TO V. STIFF, SANDY SILT (A-4) WITH TRACE MICA AND ROCK FRAGMENTS

NOISE WALL -NW5B- STA 34+10.00 TO 43+10.00 AND -NW5C- STA 43+10.00 TO 43+85.00



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REVISIONS

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GEOTECHNICAL BORING REPORT

BORE LOG

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST Goodnight, D.J.									
SITE DESCRIPTION Noisewall 5A from -Y- Sta. 63+46.57, 86.50' RT to -Y- Sta. 77+80.27, 86.50' RT							GROUND WTR (ft)								
BORING NO. NWAL_1		STATION 10+67		OFFSET 21 ft LT		ALIGNMENT -NW5A-									
COLLAR ELEV. 2,098.5 ft		TOTAL DEPTH 15.0 ft		NORTHING 677,937		EASTING 919,842									
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic									
DRILLER Odom, C.		START DATE 08/16/23		COMP. DATE 08/16/23		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2100															
2095	2,096.9	1.6	7	19	14										
2090	2,094.9	3.6	7	3	2										
	2,092.0	6.5	2	3	4										
2085	2,090.0	8.5	4	5	6										
	2,085.0	13.5	4	5	7										

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST D. Cheek									
SITE DESCRIPTION Noisewall 5A from -Y- Sta. 63+46.57, 86.50' RT to -Y- Sta. 77+80.27, 86.50' RT							GROUND WTR (ft)								
BORING NO. B-23		STATION 12+07		OFFSET 18 ft RT		ALIGNMENT -NW5A-									
COLLAR ELEV. 2,102.2 ft		TOTAL DEPTH 19.5 ft		NORTHING 677,874		EASTING 919,964									
DRILL RIG/HAMMER EFF./DATE N/A			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic									
DRILLER N/A		START DATE 01/06/04		COMP. DATE 01/06/04		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2105															
2100	2,099.2	3.0	3	6	10										
2095	2,094.2	8.0	16	21	20										
2090	2,089.2	13.0	6	9	10										
2085	2,084.2	18.0	5	6	8										

NCDOT BORE DOUBLE 12513 NOISEWALLS.GPJ NC_DOT.GDT 9/15/23

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST Goodnight, D.J.									
SITE DESCRIPTION Noisewall 5A from -Y- Sta. 63+46.57, 86.50' RT to -Y- Sta. 77+80.27, 86.50' RT						GROUND WTR (ft)									
BORING NO. NWAL_3		STATION 13+62		OFFSET 23 ft LT		ALIGNMENT -NW5A-									
COLLAR ELEV. 2,095.3 ft		TOTAL DEPTH 25.0 ft		NORTHING 677,884		EASTING 920,125									
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER Odom, C.		START DATE 08/17/23		COMP. DATE 08/17/23		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2100															
2095															
	2,093.2	2.1	4	2	2										
	2,091.7	3.6	2	3	4										
2090	2,088.8	6.5	2	3	4										
	2,086.8	8.5	2	3	4										
2085	2,081.8	13.5	4	4	6										
2080	2,076.8	18.5	5	6	7										
2075	2,071.8	23.5	2	4	4										

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST Goodnight, D.J.									
SITE DESCRIPTION Noisewall 5A from -Y- Sta. 63+46.57, 86.50' RT to -Y- Sta. 77+80.27, 86.50' RT						GROUND WTR (ft)									
BORING NO. NWAL_4		STATION 15+62		OFFSET 23 ft LT		ALIGNMENT -NW5A-									
COLLAR ELEV. 2,096.5 ft		TOTAL DEPTH 25.0 ft		NORTHING 677,840		EASTING 920,320									
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER Odom, C.		START DATE 08/17/23		COMP. DATE 08/17/23		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2100															
2095															
	2,094.3	2.2	2	2	4										
	2,092.5	4.0	4	4	4										
2090	2,090.0	6.5	5	6	5										
	2,087.5	9.0	3	5	5										
2085	2,083.0	13.5	4	5	6										
2080	2,078.0	18.5	3	5	5										
2075	2,073.0	23.5	3	6	7										

NCDOT BORE DOUBLE I2513 NOISEWALLS.GPJ NC_DOT.GDT 9/15/23

Boring Terminated at Elevation 2,070.3 ft In Residual Silty SAND (A-2-4)

Boring Terminated at Elevation 2,071.5 ft In Residual Silty SAND (A-2-4)

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST Goodnight, D.J.										
SITE DESCRIPTION Noisewall 5A from -Y- Sta. 63+46.57, 86.50' RT to -Y- Sta. 77+80.27, 86.50' RT							GROUND WTR (ft)									
BORING NO. NWAL_5		STATION 16+62		OFFSET 21 ft LT		ALIGNMENT -NW5A-										
COLLAR ELEV. 2,098.1 ft		TOTAL DEPTH 20.0 ft		NORTHING 677,815		EASTING 920,418										
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER Odom, C.		START DATE 08/17/23		COMP. DATE 08/17/23		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2100																
2095	2,095.9	2.2														
	2,094.1	4.0	3	3	4											
	2,091.6	6.5	2	2	3											
2090	2,091.6	6.5	1	2	2											
	2,089.1	9.0	1	2	6											
2085	2,084.6	13.5	2	4	6											
	2,079.6	18.5	2	3	5											
2080	2,079.6	18.5														

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST D. Cheek										
SITE DESCRIPTION Noisewall 5A from -Y- Sta. 63+46.57, 86.50' RT to -Y- Sta. 77+80.27, 86.50' RT							GROUND WTR (ft)									
BORING NO. B-24		STATION 18+03		OFFSET 17 ft RT		ALIGNMENT -NW5A-										
COLLAR ELEV. 2,088.3 ft		TOTAL DEPTH 25.1 ft		NORTHING 677,745		EASTING 920,545										
DRILL RIG/HAMMER EFF./DATE N/A			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER N/A		START DATE 01/12/04		COMP. DATE 01/12/04		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2090																
2085	2,084.7	3.6														
	2,084.7	3.6	3	4	4											
2080	2,079.7	8.6	2	3	4											
	2,079.7	8.6														
2075	2,074.7	13.6	1	2	2											
	2,074.7	13.6														
2070	2,069.7	18.6														
	2,069.7	18.6	WOH	WOH	1											
2065	2,064.7	23.6	3	2	4											

NCDOT BORE DOUBLE I2513 NOISEWALLS.GPJ NC_DOT.GDT 9/15/23

GEOTECHNICAL BORING REPORT BORE LOG

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST D. Cheek										
SITE DESCRIPTION Noisewall 5A from -Y- Sta. 63+46.57, 86.50' RT to -Y- Sta. 77+80.27, 86.50' RT							GROUND WTR (ft)									
BORING NO. B-25		STATION 19+28		OFFSET 35 ft RT		ALIGNMENT -NW5A-										
COLLAR ELEV. 2,087.5 ft		TOTAL DEPTH 19.3 ft		NORTHING 677,696		EASTING 920,661										
DRILL RIG/HAMMER EFF./DATE N/A			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER N/A		START DATE 01/12/04		COMP. DATE 01/12/04		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2090														2,087.5	0.0	GROUND SURFACE
2085	2,084.7	2.8											M	2,085.5	2.0	ROADWAY EMBANKMENT Very Soft, Brown, Fine to Coarse Sandy CLAY (A-6), with trace rock fragments
2080	2,079.7	7.8	WOH	1	1								M	2,080.5	7.0	ALLUVIAL Very Loose, Gray, Clayey, Fine to Coarse Sandy Gravel (A-1-a), with trace mica
2075	2,074.7	12.8		1	1								M			RESIDUAL Soft to Medium Stiff, Brown-Black-Orange, Fine Sandy SILT (A-4), with trace mica and rock fragments
2070	2,069.7	17.8		1	3	4							M	2,068.2	19.3	Boring Terminated at Elevation 2,068.2 ft In Residual Sandy SILT (A-4) Boring Drilled by NCDOT and provided for reference only.

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST Goodnight, D.J.										
SITE DESCRIPTION Noisewall 5A from -Y- Sta. 63+46.57, 86.50' RT to -Y- Sta. 77+80.27, 86.50' RT							GROUND WTR (ft)									
BORING NO. NWAL_8		STATION 21+13		OFFSET 25 ft LT		ALIGNMENT -NW5A-										
COLLAR ELEV. 2,111.7 ft		TOTAL DEPTH 20.0 ft		NORTHING 677,708		EASTING 920,855										
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 87% 05/10/2022			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER Odom, C.		START DATE 08/17/23		COMP. DATE 08/17/23		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2115														2,111.7	0.0	GROUND SURFACE
2110	2,109.5	2.2											M	2,110.5	1.2	ASPHALT
													M	2,110.4	1.3	AGGREGATE BASE COURSE
													M	2,107.8	3.9	ROADWAY EMBANKMENT TAN, LOOSE, SILTY SAND (A-2-4) WITH TRACE MICA AND GRAVEL
2105	2,105.2	6.5											M	2,105.7	6.0	BROWN STIFF, SANDY SILT (A-4) WITH TRACE GRAVEL
													M			RESIDUAL TAN AND BROWN AND WHITE, LOOSE TO MED. DENSE, SILTY SAND (A-2-4) WITH SOME MICA
2100	2,102.7	9.0											M			
													M			
													M			
2095	2,093.2	18.5											M	2,091.7	20.0	Boring Terminated at Elevation 2,091.7 ft In Residual Silty SAND (A-2-4)

NCDOT BORE DOUBLE 12513 NOISEWALLS.GPJ NC_DOT.GDT 9/15/23

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore										
SITE DESCRIPTION Noisewall 5A from -Y- Sta. 63+46.57, 86.50' RT to -Y- Sta. 77+80.27, 86.50' RT							GROUND WTR (ft)									
BORING NO. Y_7600R		STATION 22+55		OFFSET 16 ft LT		ALIGNMENT -NW5A-										
						0 HR.	Dry									
COLLAR ELEV. 2,115.5 ft		TOTAL DEPTH 25.0 ft		NORTHING 677,663		EASTING 920,991										
						24 HR.	Dry									
DRILL RIG/HAMMER EFF./DATE M&W1032 GeoProbe 7822 DT 88% 04/18/2022				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER B. Lumpkin		START DATE 05/16/22		COMP. DATE 05/16/22		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2120																
2115	2,115.5	0.0	1	1	2										2,115.5	0.0
2110	2,112.0	3.5	1	1	2											
	2,109.5	6.0	1	1	7											
2105	2,107.0	8.5	1	1	1											
	2,102.0	13.5	3	2	4											
2100	2,097.0	18.5	4	7	9											
2095	2,092.0	23.5	4	5	7											

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore										
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)									
BORING NO. Y_7800R		STATION 25+19		OFFSET 13 ft LT		ALIGNMENT -NW5B-										
						0 HR.	Dry									
COLLAR ELEV. 2,123.1 ft		TOTAL DEPTH 25.0 ft		NORTHING 677,593		EASTING 921,179										
						24 HR.	Dry									
DRILL RIG/HAMMER EFF./DATE M&W1032 GeoProbe 7822 DT 88% 04/18/2022				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER B. Lumpkin		START DATE 05/16/22		COMP. DATE 05/16/22		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2125																
	2,123.1	0.0	1	1	3										2,123.1	0.0
2120	2,119.6	3.5	3	3	4											
	2,117.1	6.0	4	4	5											
2115	2,114.6	8.5	2	3	4											
2110	2,109.6	13.5	4	4	5											
2105	2,104.6	18.5	3	3	5											
2100	2,099.6	23.5	5	6	7											

NCDOT BORE DOUBLE 12513 NOISEWALLS.GPJ_NC_DOT.GDT 9/15/23

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore										
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y_EB- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)									
BORING NO. Y_8000R		STATION 27+27		OFFSET 2 ft LT		ALIGNMENT -NW5B-										
COLLAR ELEV. 2,154.8 ft		TOTAL DEPTH 45.0 ft		NORTHING 677,485		EASTING 921,357										
DRILL RIG/HAMMER EFF./DATE M&W1032 GeoProbe 7822 DT 88% 04/18/2022			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER B. Lumpkin		START DATE 05/13/22		COMP. DATE 05/13/22		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2155	2,154.8	0.0	3	3	1							M		2,154.8	GROUND SURFACE	0.0
2150	2,151.3	3.5	1	5	8							SS-300	12%	RESIDUAL Very Loose to Dense, Brown-Gray, Silty Fine to Coarse SAND (A-2-4(0)), with trace mica and rock fragments		
	2,148.8	6.0	8	10	9							M				
2145	2,146.3	8.5	4	8	8							M				
	2,141.3	13.5	25	18	17							SS-303	14%			
2140	2,136.3	18.5	9	13	13							M		2,136.8	18.0	
2135	2,131.3	23.5	15	16	18							M		Stiff to Very Stiff, Brown-Gray-White-Tan, Fine to Coarse Sandy SILT (A-4), with trace mica		
2130	2,126.3	28.5	6	5	7							M				
2125	2,121.3	33.5	8	9	9							M				
2120	2,116.3	38.5	9	13	15							M				
2115	2,111.3	43.5	13	17	16							M		2,111.8	43.0	
2110												M		2,109.8	45.0	
Boring Terminated at Elevation 2,109.8 ft In Residual Silty SAND (A-2-4) Surficial Organic Soil from 0.0 - 0.2 feet Boring Drilled by ECS and provided for reference only.																

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST D. Cheek										
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y_EB- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)									
BORING NO. B-26		STATION 29+78		OFFSET 11 ft LT		ALIGNMENT -NW5B-										
COLLAR ELEV. 2,165.9 ft		TOTAL DEPTH 59.3 ft		NORTHING 677,410		EASTING 921,595										
DRILL RIG/HAMMER EFF./DATE N/A			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER N/A		START DATE 01/12/04		COMP. DATE 01/12/04		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2170																
2165	2,165.9													2,165.9	GROUND SURFACE	0.0
	2,162.3	3.6	3	5	7							M		RESIDUAL Medium Dense, Red-Brown, Silty Fine to Coarse SAND (A-2-4), with trace organics Stiff, Tan-Orange-Black-Red, Fine Sandy SILT (A-4), with trace mica	3.0	
2160	2,157.3	8.6	4	4	6							M				
2155	2,152.3	13.6	4	6	9							M				
2150	2,147.3	18.6	7	8	14							M		2,147.9	18.0	
2145	2,142.3	23.6	12	18	26							M		Medium Dense to Dense, Tan-Brown, Silty Fine to Coarse SAND (A-2-4), with trace mica and rock fragments		
2140	2,137.3	28.6	10	11	16							D				
2135	2,132.3	33.6	41	65	35/0.3							D		2,131.8	34.1	
2130	2,127.3	38.6	56	44/0.3	100/0.8							D		WEATHERED ROCK Gray-Tan (GNEISS)		
2125	2,122.3	43.6	29	45	55/0.4							D				
2120	2,117.3	48.6	6	9	15							M		2,117.9	48.0	
2115	2,112.3	53.6	11	15	22							M		RESIDUAL Very Stiff to Hard, Gray-Orange, Fine Sandy SILT (A-4), with trace mica and rock fragments		
2110	2,107.3	58.6	50	50/0.2	100/0.7							M		2,107.3	58.6	
Boring Terminated at Elevation 2,106.7 ft In Weathered Rock (GNEISS) Boring Drilled by NCDOT and provided for reference only.																

NCDOT BORE DOUBLE I2513 NOISEWALLS.GPJ_NC_DOT.GDT 9/15/23

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore										
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y_EB- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)									
BORING NO. Y_8400R		STATION 31+23		OFFSET 16 ft RT		ALIGNMENT -NW5B-										
COLLAR ELEV. 2,158.5 ft		TOTAL DEPTH 45.0 ft		NORTHING 677,364		EASTING 921,734										
DRILL RIG/HAMMER EFF./DATE M&W1032 GeoProbe 7822 DT 88% 04/18/2022			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER B. Lumpkin		START DATE 05/12/22		COMP. DATE 05/13/22		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2160															2,158.5	0.0
	2,158.5	0.0	2	2	2											
2155	2,155.0	3.5	2	2	5											
	2,152.5	6.0	5	5	5											
2150	2,150.0	8.5	3	3	5											
2145	2,145.0	13.5	4	5	7											
2140	2,140.0	18.5	6	9	10											
2135	2,135.0	23.5	5	10	13											
2130	2,130.0	28.5	10	17	19											
2125	2,125.0	33.5	13	14	14											
2120	2,120.0	38.5	4	3	3											
2115	2,115.0	43.5	11	16	18											

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore										
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y_EB- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)									
BORING NO. Y_8600R		STATION 33+34		OFFSET 13 ft LT		ALIGNMENT -NW5B-										
COLLAR ELEV. 2,140.0 ft		TOTAL DEPTH 30.0 ft		NORTHING 677,367		EASTING 921,947										
DRILL RIG/HAMMER EFF./DATE M&W1032 GeoProbe 7822 DT 88% 04/18/2022			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER B. Lumpkin		START DATE 05/12/22		COMP. DATE 05/12/22		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2140	2,140.0	0.0	3	2	3										2,140.0	0.0
	2,136.5	3.5	5	2	1											
2135	2,134.0	6.0	3	2	4											
	2,131.5	8.5	3	4	3											
2130																
	2,126.5	13.5	6	9	11											
2125																
	2,121.5	18.5	7	9	12											
2120																
	2,116.5	23.5	6	11	17											
2115																
	2,111.5	28.5	6	6	8											
2110															2,110.0	30.0

NCDOT BORE DOUBLE I2513 NOISEWALLS.GPJ NC_DOT.GDT 9/15/23

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore										
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y_EB- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)									
BORING NO. Y_8800R		STATION 35+35		OFFSET 11 ft LT		ALIGNMENT -NW5B-										
COLLAR ELEV. 2,130.4 ft		TOTAL DEPTH 25.0 ft		NORTHING 677,326		EASTING 922,143										
DRILL RIG/HAMMER EFF./DATE M&W1032 GeoProbe 7822 DT 88% 04/18/2022			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER B. Lumpkin		START DATE 05/12/22		COMP. DATE 05/12/22		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2135																
2130	2,130.4	0.0	2	4	5										2,130.4	GROUND SURFACE 0.0
2125	2,126.9	3.5	4	4	6											RESIDUAL Medium Stiff to Stiff, Brown-Tan, Fine to Coarse Sandy SILT (A-4)
2120	2,124.4	6.0	3	3	5											
2115	2,121.9	8.5	6	10	9											Medium Dense, Brown-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica
2110	2,116.9	13.5	9	9	11											
	2,111.9	18.5	7	7	7											Stiff, Brown-Tan, Fine to Coarse Sandy SILT (A-4)
	2,106.9	23.5	16	26	26											Very Dense, Brown, Silty Fine to Coarse SAND (A-2-4)
																Boring Terminated at Elevation 2,105.4 ft In Residual Silty SAND (A-2-4)
																Surficial Organic Soil from 0.0 - 0.3 feet
																Boring Drilled by ECS and provided for reference only.

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore										
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y_EB- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)									
BORING NO. Y_9000R		STATION 37+37		OFFSET 24 ft RT		ALIGNMENT -NW5B-										
COLLAR ELEV. 2,097.9 ft		TOTAL DEPTH 25.0 ft		NORTHING 677,270		EASTING 922,334										
DRILL RIG/HAMMER EFF./DATE M&W1032 GeoProbe 7822 DT 88% 04/18/2022			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER B. Lumpkin		START DATE 05/12/22		COMP. DATE 05/12/22		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2100																
	2,097.9	0.0	2	2	3											2,097.9 GROUND SURFACE 0.0
2095	2,094.4	3.5	2	3	2											RESIDUAL Medium Stiff, Red-Brown, Fine to Coarse Sandy CLAY (A-6)
2090	2,091.9	6.0	3	2	2											Soft to Very Stiff, Red-Brown-Tan-White-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica and rock fragments
2085	2,089.4	8.5	4	7	8											
2080	2,084.4	13.5	2	5	7											
2075	2,079.4	18.5	3	5	11											
	2,074.4	23.5	8	6	6											Boring Terminated at Elevation 2,072.9 ft In Residual Sandy SILT (A-4)
																Surficial Organic Soil from 0.0 - 0.4 feet
																Boring Drilled by ECS and provided for reference only.

NCDOT BORE DOUBLE I2513 NOISEWALLS.GPJ NC_DOT.GDT 9/15/23

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST D. Cheek										
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y_EB- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)									
BORING NO. B-27		STATION 38+58		OFFSET 44 ft RT		ALIGNMENT -NW5B-										
COLLAR ELEV. 2,084.6 ft		TOTAL DEPTH 20.1 ft		NORTHING 677,222		EASTING 922,438										
DRILL RIG/HAMMER EFF./DATE N/A				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER N/A		START DATE 01/13/04		COMP. DATE 01/13/04		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2085														2,084.6	0.0	GROUND SURFACE
2080	2,081.0	3.6											W	2,081.0		ALLUVIAL Very Loose, Brown-Gray-Black, Clayey Fine to Coarse SAND (A-2-6), with trace organics and rock fragments
2075	2,076.0	8.6		1	5	4							W	2,076.6	8.0	Loose, Brown-Gray-Black, Fine to Coarse Sandy Gravel (A-1-a)
2070	2,071.0	13.6		2	2	2							Sat.	2,071.6	13.0	RESIDUAL Soft to Medium Stiff, Red-Brown-Orange-Black, Fine Sandy SILT (A-4), with trace mica
2065	2,066.0	18.6		1	2	3							Sat.	2,064.5	20.1	Boring Terminated at Elevation 2,064.5 ft In Residual Sandy SILT (A-4) Boring Drilled by NCDOT and provided for reference only.

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore										
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y_EB- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)									
BORING NO. Y_9200R		STATION 39+45		OFFSET 28 ft RT		ALIGNMENT -NW5B-										
COLLAR ELEV. 2,088.1 ft		TOTAL DEPTH 25.0 ft		NORTHING 677,215		EASTING 922,527										
DRILL RIG/HAMMER EFF./DATE M&W1032 GeoProbe 7822 DT 88% 04/18/2022				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER B. Lumpkin		START DATE 05/12/22		COMP. DATE 05/12/22		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2090														2,088.1	0.0	GROUND SURFACE
2085	2,084.6	3.5											M	2,085.1		ROADWAY EMBANKMENT Soft, Brown, Fine to Coarse Sandy SILT (A-4)
2080	2,082.1	6.0		3	1	3							SS-260 22%	2,085.1	3.0	ALLUVIAL Soft to Medium Stiff, Gray-Brown, Moderately Plastic Silty CLAY (A-7-6(9)), with trace mica
2075	2,074.6	13.5		2	1	3							M	2,075.1	13.0	RESIDUAL Soft to Stiff, Gray-Brown, Fine to Coarse Sandy SILT (A-4), with trace to little mica
2070	2,069.6	18.5		2	5	6							W			
2065	2,064.6	23.5		3	3	6							W	2,063.1	25.0	Boring Terminated at Elevation 2,063.1 ft In Residual Sandy SILT (A-4) Surficial Organic Soil from 0.0 - 0.3 feet Wet Spoon at 23.5 feet Boring Drilled by ECS and provided for reference only.

NCDOT BORE DOUBLE I2513 NOISEWALLS.GPJ NC_DOT.GDT 9/15/23

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST D. Cheek									
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y_EB- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)								
BORING NO. B-28		STATION 41+17		OFFSET 6 ft RT		ALIGNMENT -NW5B-									
COLLAR ELEV. 2,095.5 ft		TOTAL DEPTH 15.3 ft		NORTHING 677,193		EASTING 922,698									
DRILL RIG/HAMMER EFF./DATE N/A		DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER N/A		START DATE 01/13/04		COMP. DATE 01/13/04		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2100															
2095														2,095.5	0.0
2090	2,091.7	3.8	1	2	1								M		
2085	2,086.9	8.6	3	3	5								M		
	2,081.7	13.8	3	7	7								W		

WBS 34165.1.2		TIP 1-2513AA		COUNTY BUNCOMBE		GEOLOGIST D. Cheek									
SITE DESCRIPTION Noisewall 5B from -Y- Sta. 77+14.17, 99.00' RT to -Y_EB- Sta. 13+66.36, 51.50' RT							GROUND WTR (ft)								
BORING NO. B-29		STATION 42+37		OFFSET 6 ft RT		ALIGNMENT -NW5B-									
COLLAR ELEV. 2,093.6 ft		TOTAL DEPTH 14.5 ft		NORTHING 677,160		EASTING 922,814									
DRILL RIG/HAMMER EFF./DATE N/A		DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER N/A		START DATE 01/13/03		COMP. DATE 01/13/03		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2095															
														2,093.6	0.0
2090	2,090.6	3.0	2	3	4								M		
2085	2,085.6	8.0	2	1	3								M		
2080	2,080.6	13.0	2	3	2								W		

NCDOT BORE DOUBLE 12513 NOISEWALLS.GPJ NC_DOT.GDT 9/15/23