

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

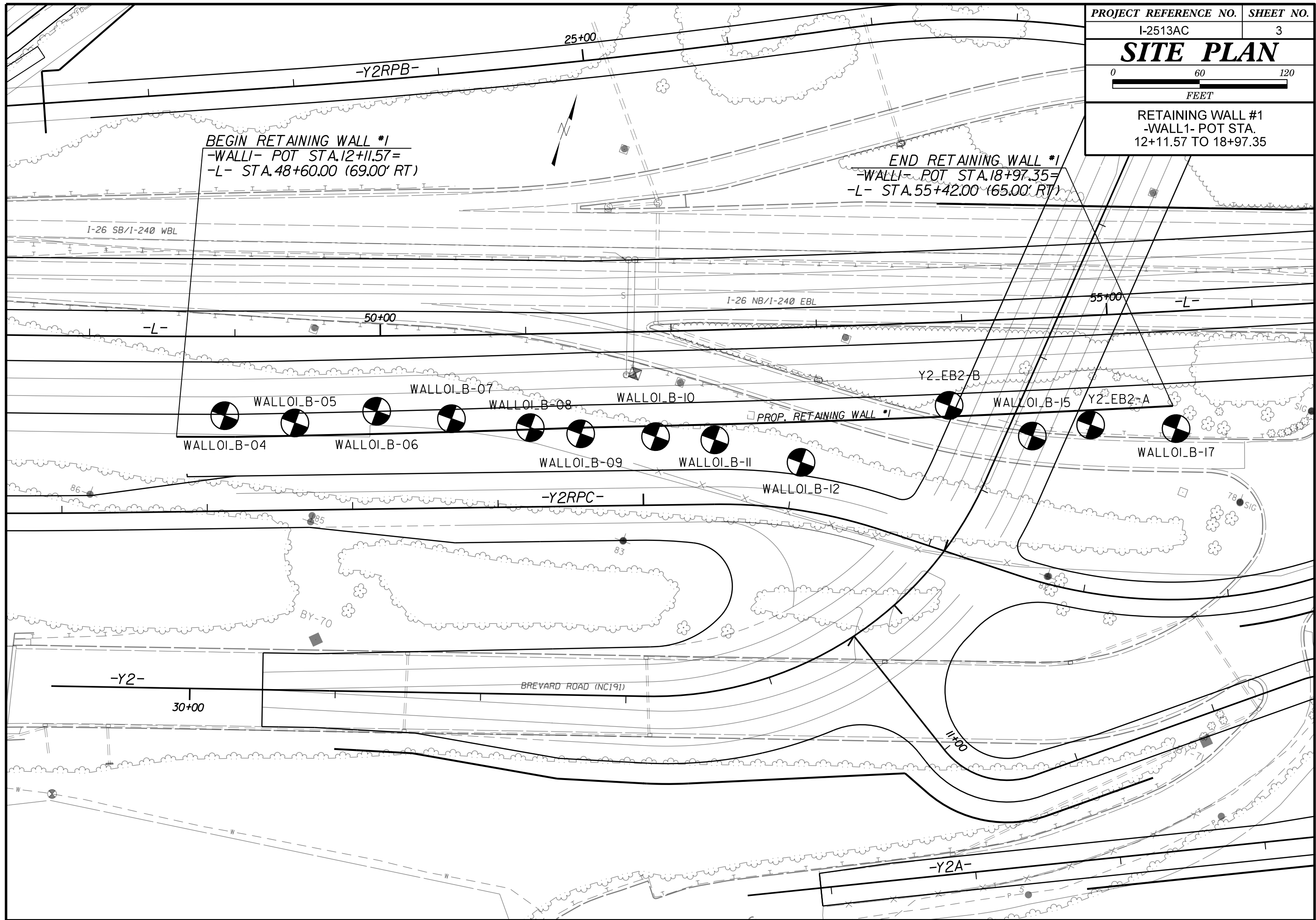
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION										GRADATION										ROCK DESCRIPTION										TERMS AND DEFINITIONS									
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>										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.										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:										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 DISLOOGED 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. SLICKENSIDE - 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.									
SOIL LEGEND AND AASHTO CLASSIFICATION										MINERALOGICAL COMPOSITION										WEATHERING																			
GENERAL CLASS.										MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.										FRESH																			
GROUP CLASS.										SLIGHTLY COMPRESSIBLE MODERATELY COMPRESSIBLE HIGHLY COMPRESSIBLE										VERY SLIGHT (V SL.)																			
SYMBOL										PERCENTAGE OF MATERIAL										SLIGHT (SL.)																			
%										GROUND WATER										MODERATE (MOD.)																			
MATERIAL PASSING #40 #100 #200										MISCELLANEOUS SYMBOLS										SEVERE (MOD. SEV.)																			
GROUP INDEX										RECOMMENDATION SYMBOLS										SEVERE (SEV.)																			
USUAL TYPES OF MAJOR MATERIALS										ABBREVIATIONS										VERY SEVERE (V SEV.)																			
GEN. RATING AS SUBGRADE										EQUIPMENT USED ON SUBJECT PROJECT										COMPLETE																			
PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30																				ROCK HARDNESS																			
CONSISTENCY OR DENSENESS																				VERY HARD																			
PRIMARY SOIL TYPE																				HARD																			
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)																				MODERATELY HARD																			
GENERALLY SILT-CLAY MATERIAL (COHESIVE)																				MEDIUM HARD																			
TEXTURE OR GRAIN SIZE																				SOFT																			
U.S. STD. SIEVE SIZE OPENING (MM)																				VERY SOFT																			
BOULDER (BLDR.) COBBLE (COB.) GRAVEL (GR.) COARSE SAND (CSE. SD.) FINE SAND (F SD.) SILT (SL.) CLAY (CL.)																				MEDIUM SOFT																			
GRAIN SIZE																				SOIL MOISTURE - CORRELATION OF TERMS																			
SOIL MOISTURE SCALE (ATTERBERG LIMITS)																				PLASTICITY																			
FIELD MOISTURE DESCRIPTION																				NON PLASTIC																			
GUIDE FOR FIELD MOISTURE DESCRIPTION																				SLIGHTLY PLASTIC																			
- SATURATED - (SAT.)																				MODERATELY PLASTIC																			
- WET - (W)																				HIGHLY PLASTIC																			
- MOIST - (M)																				COLOR																			
- DRY - (D)																				DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.																			

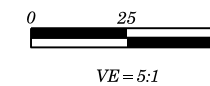
PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	3
SITE PLAN	
0 60 120 FEET	
RETAINING WALL #1 -WALL1- POT STA. 12+11.57 TO 18+97.35	



-WALL1- PROFILE ALONG EXISTING GROUND LINE FROM ROADWAY
DESIGN FILES, PROVIDED BY AECOM JUNE 2025 AND I2513 Is tn.tin. INFERRED
STRATIGRAPHY IS DRAWN THROUGH THE BORING, PROJECTED ON THE PROFILE.

-WALL1-

Prepared in the Office of:



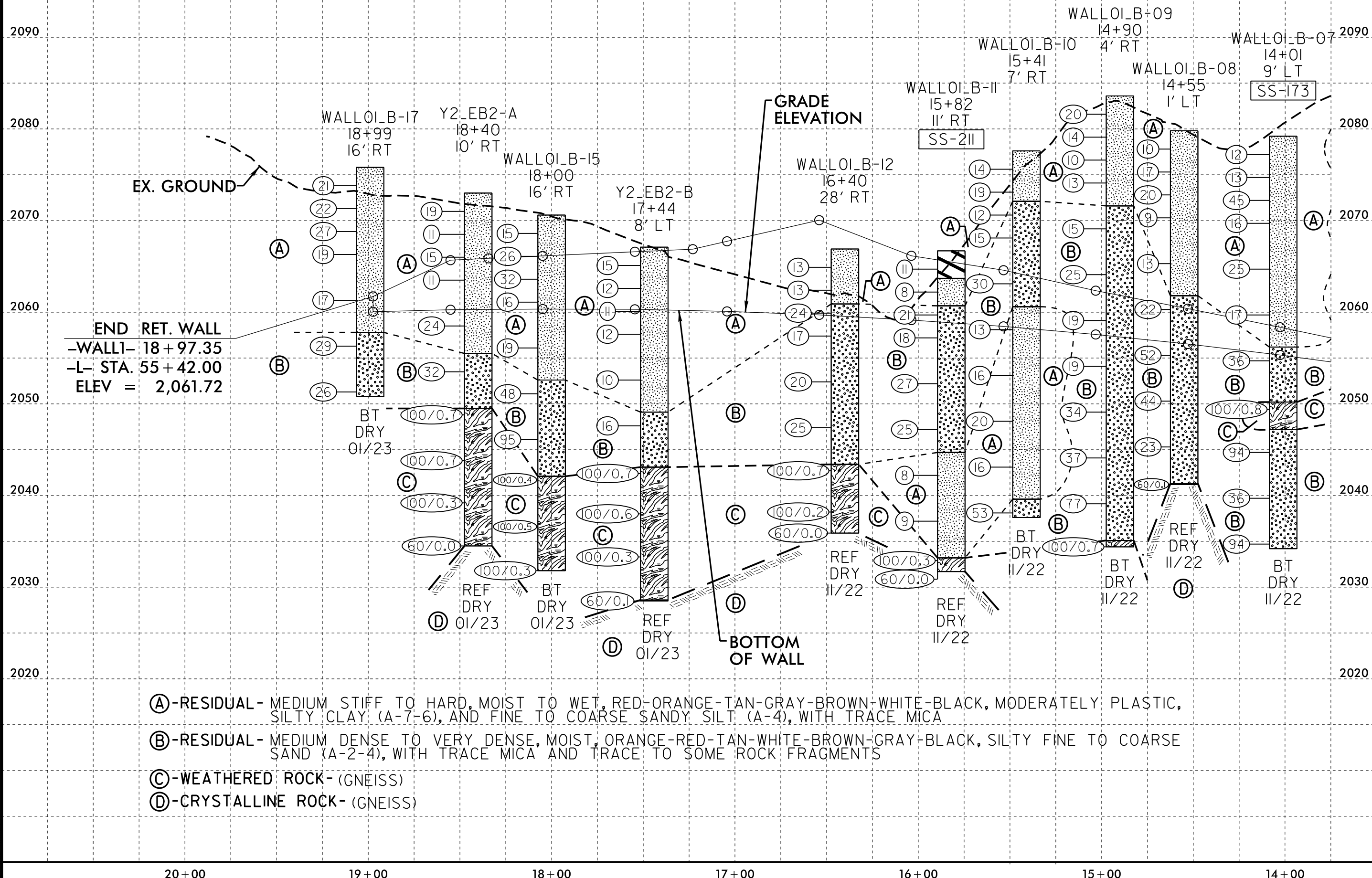
PROJECT REFERENCE NO.

I-2513AC

SHEET NO.

4

PROFILE BORINGS PROJECTED ON
-WALL1- ALONG WALL NO. 1



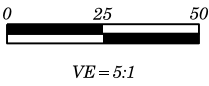
- (A)-RESIDUAL- MEDIUM STIFF TO HARD, MOIST TO WET, RED-ORANGE-TAN-GRAY-BROWN-WHITE-BLACK, MODERATELY PLASTIC, SILTY CLAY (A-7-6), AND FINE TO COARSE SANDY SILT (A-4), WITH TRACE MICA
- (B)-RESIDUAL- MEDIUM DENSE TO VERY DENSE, MOIST, ORANGE-RED-TAN-WHITE-BROWN-GRAY-BLACK, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE MICA AND TRACE TO SOME ROCK FRAGMENTS
- (C)-WEATHERED ROCK- (GNEISS)
- (D)-CRYSTALLINE ROCK- (GNEISS)

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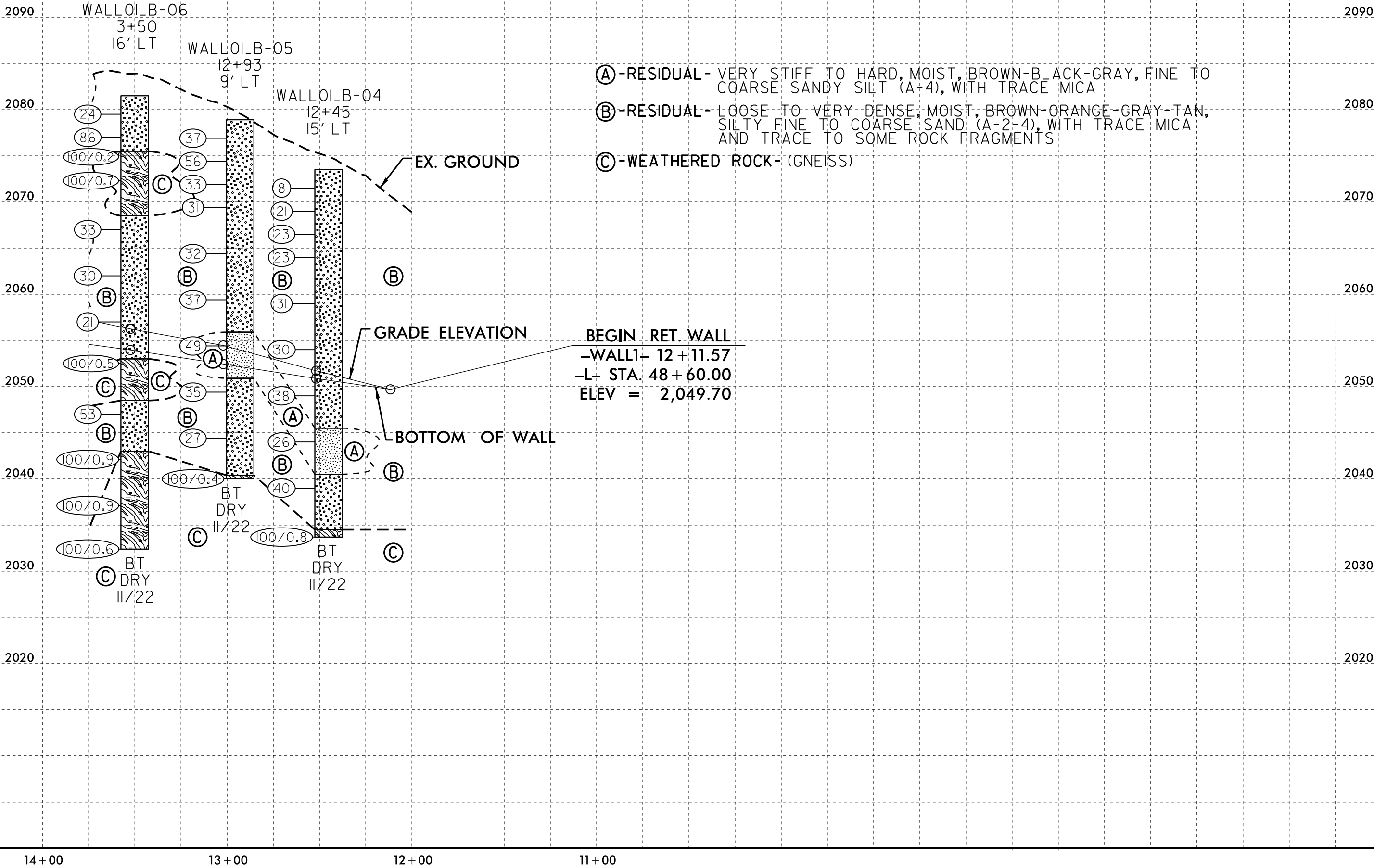
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-WALL1- PROFILE ALONG EXISTING GROUND LINE FROM ROADWAY
DESIGN FILES, PROVIDED BY AECOM JUNE 2025 AND I2513 Is tn.tin. INFERRED
STRATIGRAPHY IS DRAWN THROUGH THE BORING, PROJECTED ON THE PROFILE.

-WALL1-



PROJECT REFERENCE NO.	SHEET NO.
I-2513AC	5
PROFILE BORINGS PROJECTED ON -WALL1- ALONG WALL NO. 1	



T-2513AC



6

NCDDOT BORE DOUBLE ECS WALL 1.GPJ ECS GINT DATA-TEMPLATE.GDT 6/16/25

WBS: 34165.1.13			TIP: I-2513AC			COUNTY: BUNCOMBE			GEOLOGIST: A. Blackmore					
SITE DESCRIPTION: RETAINING WALL NO. 1, STA. -L- 12+11.57 TO -L- STA. 18+97.35									GROUND WTR (ft)					
BORING NO.: WALL01_B-05			STATION: 12+93			OFFSET: 9 ft LT			ALIGNMENT: -WALL1-		0 HR. Dry			
COLLAR ELEV.: 2,078.9 ft			TOTAL DEPTH: 38.9 ft			NORTHING: 679,171			EASTING: 930,760		24 HR. Dry			
DRILL RIG/HAMMER EFF./DATE: GEO366 Diedrich D-50 80% 03/18/2022						DRILL METHOD: H.S. Augers			HAMMER TYPE: AUTOMATIC					
DRILLER: J. Messick			START DATE: 11/16/22			COMP. DATE: 11/16/22			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
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2080														
	2,077.9	1.0	4	11	26									2,078.9 GROUND SURFACE 0.0
2075	2,075.4	3.5	25	28	28									Dense to Very Dense, Brown-Gray, Silty Fine to Coarse SAND (A-2-4), with trace mica and some rock fragments
	2,072.9	6.0	10	17	16									
2070	2,070.4	8.5	8	14	17									
2065	2,065.4	13.5	17	13	19									
2060	2,060.4	18.5	17	17	20									
2055	2,055.4	23.5	35	22	27									2,055.9 23.0
														Hard, Brown-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica
2050	2,050.4	28.5	26	17	18									2,050.9 28.0
														Medium Dense to Dense, Brown-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica
2045	2,045.4	33.5	9	12	15									
2040	2,040.4	38.5	100/0.4											2,040.4 38.5
														2,040.0 38.9
														WEATHERED ROCK Brown (GNEISS) Boring Terminated at Elevation 2,040.0 ft in Weathered Rock (GNEISS) Surficial Organic Soil 0.0 to 0.3 feet

T-2513AC



7

UNCNOT BORE DOUBLE ECS WALL 1.GPJ ECS GINT DATA-TEMPLATE.GDT 6/16/25

WBS: 34165.1.13			TIP: I-2513AC			COUNTY: BUNCOMBE			GEOLOGIST: A. Blackmore					
SITE DESCRIPTION: RETAINING WALL NO. 1, STA. -L- 12+11.57 TO -L- STA. 18+97.35									GROUND WTR (ft)					
BORING NO.: WALL01_B-07			STATION: 14+01			OFFSET: 9 ft LT			ALIGNMENT: -WALL1-					
COLLAR ELEV.: 2,079.2 ft			TOTAL DEPTH: 45.0 ft			NORTHING: 679,211			EASTING: 930,860					
DRILL RIG/HAMMER EFF./DATE: GEO366 Diedrich D-50 80% 03/18/2022						DRILL METHOD: H.S. Augers			HAMMER TYPE: AUTOMATIC					
DRILLER: J. Messick			START DATE: 11/17/22			COMP. DATE: 11/17/22			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
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2080														
	2,078.2	1.0	3	5	7									2,079.2 GROUND SURFACE 0.0
2075	2,075.7	3.5	3	6	7									RESIDUAL Stiff to Hard, Brown-Red-Tan, Fine to Coarse Sandy SILT (A-4(0))
	2,073.2	6.0	16	24	21									
2070	2,070.7	8.5	10	8	8									
	2,065.7	13.5	15	12	13									
2065	2,060.7	18.5	22	7	10									
2060	2,055.7	23.5	8	12	24									2,056.2 Dense, Brown-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica 23.0
2055	2,050.7	28.5	39	48	52/0.3									2,050.2 WEATHERED ROCK Brown (GNEISS) 29.0
2050	2,045.7	33.5	20	30	64									2,047.2 RESIDUAL Dense to Very Dense, Brown-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica 32.0
2045	2,040.7	38.5	10	15	21									
2040	2,035.7	43.5	15	32	62									
2035														2,034.2 Boring Terminated at Elevation 2,034.2 ft In Residual Silty SAND (A-2-4) 45.0
														Surficial Organic Soil 0.0 to 0.3 feet

F-2513AC



PROJECT REFERENCE

SHEET

I-2513AC

3

NCDOT BORE DOUBLE ECS WALL 1.GPJ ECS GINT DATA-TEMPLATE.GDT 6/16/25

WBS: 34165.1.13			TIP: I-2513AC			COUNTY: BUNCOMBE			GEOLOGIST: A. Blackmore						
SITE DESCRIPTION: RETAINING WALL NO. 1, STA. -L- 12+11.57 TO -L- STA. 18+97.35									GROUND WTR (ft)						
BORING NO.: WALL01_B-09			STATION: 14+90			OFFSET: 4 ft RT			ALIGNMENT: -WALL1-			0 HR.	Dry		
COLLAR ELEV.: 2,083.6 ft			TOTAL DEPTH: 49.2 ft			NORTHING: 679,232			EASTING: 930,947			24 HR.	Dry		
DRILL RIG/HAMMER EFF./DATE: GEO366 Diedrich D-50 80% 03/18/2022						DRILL METHOD: H.S. Augers			HAMMER TYPE: AUTOMATIC						
DRILLER: J. Messick			START DATE: 11/17/22			COMP. DATE: 11/18/22			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	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2085															
	2,082.6	1.0													
2080	2,080.1	3.5	8	9	11							M		2,083.6 GROUND SURFACE 0.0	
	2,077.6	6.0	6	7	7							M			
	2,075.1	8.5	4	5	5							M			
2075			5	5	8										
	2,070.1	13.5	7	7	8							M		2,071.6 12.0	
2070														Medium Dense to Very Dense, Gray-Brown-Tan, Silty Fine to Coarse SAND (A-2-4), with trace mica	
	2,065.1	18.5	13	12	13							M			
2065															
	2,060.1	23.5	10	10	9							M			
2060															
	2,055.1	28.5	6	7	12							M			
2055															
	2,050.1	33.5	12	15	19							M			
2050															
	2,045.1	38.5	16	14	23							M			
2045															
	2,040.1	43.5	12	28	49							M			
2040															
	2,035.1	48.5	75	25/0.2								M		2,035.1 48.5	
2035														2,034.4 49.2	
														WEATHERED ROCK Brown (GNEISS) Boring Terminated at Elevation 2,034.4 ft In Weathered Rock (GNEISS) Surficial Organic Soil 0.0 to 0.3 feet	

T-2513AC



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NCDOT BORE DOUBLE ECS WALL 1.GPJ ECS GINT DATA-TEMPLATE.GDT 6/16/25

WBS: 34165.1.13			TIP: I-2513AC			COUNTY: BUNCOMBE			GEOLOGIST: A. Blackmore					
SITE DESCRIPTION: RETAINING WALL NO. 1, STA. -L- 12+11.57 TO -L- STA. 18+97.35											GROUND WTR (ft)			
BORING NO.: WALL01_B-11			STATION: 15+82			OFFSET: 11 ft RT			ALIGNMENT: -WALL1-		0 HR.	Dry		
COLLAR ELEV.: 2,066.7 ft			TOTAL DEPTH: 35.0 ft			NORTHING: 679,260			EASTING: 931,035		24 HR.	Dry		
DRILL RIG/HAMMER EFF./DATE: GEO366 Diedrich D-50 80% 03/18/2022						DRILL METHOD: H.S. Augers			HAMMER TYPE: AUTOMATIC					
DRILLER: J. Messick			START DATE: 11/18/22			COMP. DATE: 11/18/22			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
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2070														
2065	2,065.7	1.0	3	3	8									2,066.7 GROUND SURFACE 0.0
	2,063.2	3.5	3	4	4						SS-211	21%		RESIDUAL Stiff, Red-Brown, Moderately Plastic, Silty CLAY (A-7-6(13)) 3.0
2060	2,060.7	6.0	7	8	13							M		2,063.7 Medium Stiff, Brown, Fine to Coarse Sandy SILT (A-4) 3.0
	2,058.2	8.5	10	11	7							M		2,060.7 Medium Dense, Brown-Tan-White, Silty Fine to Coarse SAND (A-2-4), with trace mica 6.0
2055	2,053.2	13.5	11	13	14							M		
2050	2,048.2	18.5	10	9	16							M		
2045	2,043.2	23.5	5	4	4							M		2,044.7 Medium Stiff to Stiff, White-Tan-Gray-Brown, Fine to Coarse Sandy SILT (A-4), with trace rock fragments and mica 22.0
2040	2,038.2	28.5	3	4	5							M		
2035	2,033.2	33.5	100/0.3									W		2,033.2 WEATHERED ROCK 33.5
	2,031.7	35.0	60/0.0											2,031.7 Gray-Brown (GNEISS) 35.0
														Boring Terminated with Standard Penetration Test Refusal at Elevation 2,031.7 ft On Crystalline Rock (GNEISS)
														Surficial Organic Soil 0.0 to 0.3 feet

F-2513AC



SHEET

10

NCDOT BORE DOUBLE ECS WALL 1.GPJ ECS GINT DATA-TEMPLATE.GDT 6/16/25

WBS: 34165.1.13			TIP: I-2513AC			COUNTY: BUNCOMBE			GEOLOGIST: A. Blackmore					
SITE DESCRIPTION: RETAINING WALL NO. 1, STA. -L- 12+11.57 TO -L- STA. 18+97.35												GROUND WTR (ft)		
BORING NO.: Y2_EB2-B			STATION: 17+44			OFFSET: 8 ft LT			ALIGNMENT: -WALL1-			0 HR.	Dry	
COLLAR ELEV.: 2,067.1 ft			TOTAL DEPTH: 38.6 ft			NORTHING: 679,338			EASTING: 931,178			24 HR.	Dry	
DRILL RIG/HAMMER EFF./DATE: GEO366 Diedrich D-50 80% 03/18/2022						DRILL METHOD: H.S. Augers			HAMMER TYPE: AUTOMATIC					
DRILLER: J. Messick			START DATE: 01/25/23			COMP. DATE: 01/25/23			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
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2070														
	2,066.1	1.0	5	6	9	15								2,067.1 GROUND SURFACE 0.0
2065	2,063.6	3.5	7	7	5	12						M		RESIDUAL Stiff, Brown-Tan-Orange-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica
	2,061.1	6.0	5	6	5	11						M		
2060	2,058.6	8.5	5	5	7	12						M		
	2,053.6	13.5	4	5	5	10						M		
2055	2,048.6	18.5	4	7	9	16						M		2,049.1 Medium Dense, Tan-White-Brown, Silty Fine to Coarse SAND (A-2-4) 18.0
2045	2,043.6	23.5	19	73	27/0.2									2,043.1 WEATHERED ROCK 24.0
2040	2,038.6	28.5	76	24/0.1						100/0.7				Gray (GNEISS)
	2,033.6	33.5	100/0.3							100/0.6				
2035	2,033.6	33.5	100/0.3							100/0.3				
2030	2,028.6	38.5	60/0.1											2,028.6 CRYSTALLINE ROCK (GNEISS) 38.5
														2,028.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 2,028.5 ft In Crystalline Rock (GNEISS) 38.6
														Suficial Organic Soil 0.0 to 0.3 feet

T-2513AC



I-2513AC

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NCDOT BORE DOUBLE ECS WALL 1.GPJ ECS GINT DATA-TEMPLATE.GDT 6/16/25

WBS: 34165.1.13			TIP: I-2513AC			COUNTY: BUNCOMBE			GEOLOGIST: A. Blackmore					
SITE DESCRIPTION: RETAINING WALL NO. 1, STA. -L- 12+11.57 TO -L- STA. 18+97.35									GROUND WTR (ft)					
BORING NO.: Y2_EB2-A			STATION: 18+40			OFFSET: 10 ft RT			ALIGNMENT: -WALL1-		0 HR. Dry			
COLLAR ELEV.: 2,073.0 ft			TOTAL DEPTH: 38.5 ft			NORTHING: 679,359			EASTING: 931,274		24 HR. Dry			
DRILL RIG/HAMMER EFF./DATE: GEO366 Diedrich D-50 80% 03/18/2022						DRILL METHOD: H.S. Augers			HAMMER TYPE: AUTOMATIC					
DRILLER: J. Messick			START DATE: 01/26/23			COMP. DATE: 01/26/23			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
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2075														
	2,072.0	1.0	5	8	11									2,073.0 GROUND SURFACE 0.0
2070	2,069.5	3.5	6	6	5									
	2,067.0	6.0	4	6	9									
2065	2,064.5	8.5	6	5	6									
	2,059.5	13.5	5	11	13									
2055	2,054.5	18.5	12	17	15									2,055.5 17.5
	2,049.5	23.5	44	56/0.2						100/0.7				2,049.5 23.5
2045	2,044.5	28.5	87	13/0.2						100/0.7				
2040	2,039.5	33.5	100/0.3							100/0.3				
2035	2,034.5	38.5	60/0.0							60/0.0				2,034.5 38.5
														Boring Terminated with Standard Penetration Test Refusal at Elevation 2,034.5 ft On Crystalline Rock (GNEISS)
														Surficial Organic Soil 0.0 to 0.2 feet

F-2513AC



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NCNDOT BORE DOUBLE ECS WALL 1.GPJ ECS_GINT_DATA-TEMPLATE GDT_6/16/25

SOIL TEST RESULTS																
BORING NO.	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
								C. SAND	F. SAND	SILT	CLAY	10	40	200		
WALL1 B-07	SS-173	24' LT	14+01 -WALL1-	18.5 - 20.0	A-4(0)	35	NP	15.7	38.3	35.5	10.5	99.3	91.7	57.2	17.1	–
WALL1 B-11	SS-211	5' LT	15+82 -WALL1-	1.0 - 2.5	A-7-6(13)	47	19	15.7	20.5	34.7	29.1	98.5	88.5	69.3	21.1	–

LAB TECHNICIAN: DANIEL REEVE

NCDOT CERTIFICATION NO. 135-03-0816