

REFERENCE: A-0009CB

PROJECT: 32572.1.FS10

CONTENTS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4	WALL ENVELOPE
5-7	BORE LOGS

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY GRAHAM
 PROJECT DESCRIPTION UPGRADE NC 143 FROM SR
1223 (BEECH CREEK ROAD) TO 0.5 MILES NORTH
OF APPALACHIAN TRAIL
 SITE DESCRIPTION RETAINING WALL #7:
CAST-IN-PLACE CONCRETE WALL ON -L- FROM
269+25 RT TO 272+19 RT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-0009CB	1	7

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 EXPLORATION
S. BRAUN
N. MCLAREN

INVESTIGATED BY CG2
 DRAWN BY M. BREWER, P.E.
 CHECKED BY R. KRAL, P.E.
 SUBMITTED BY M. BREWER, P.E.
 DATE MAY 2022

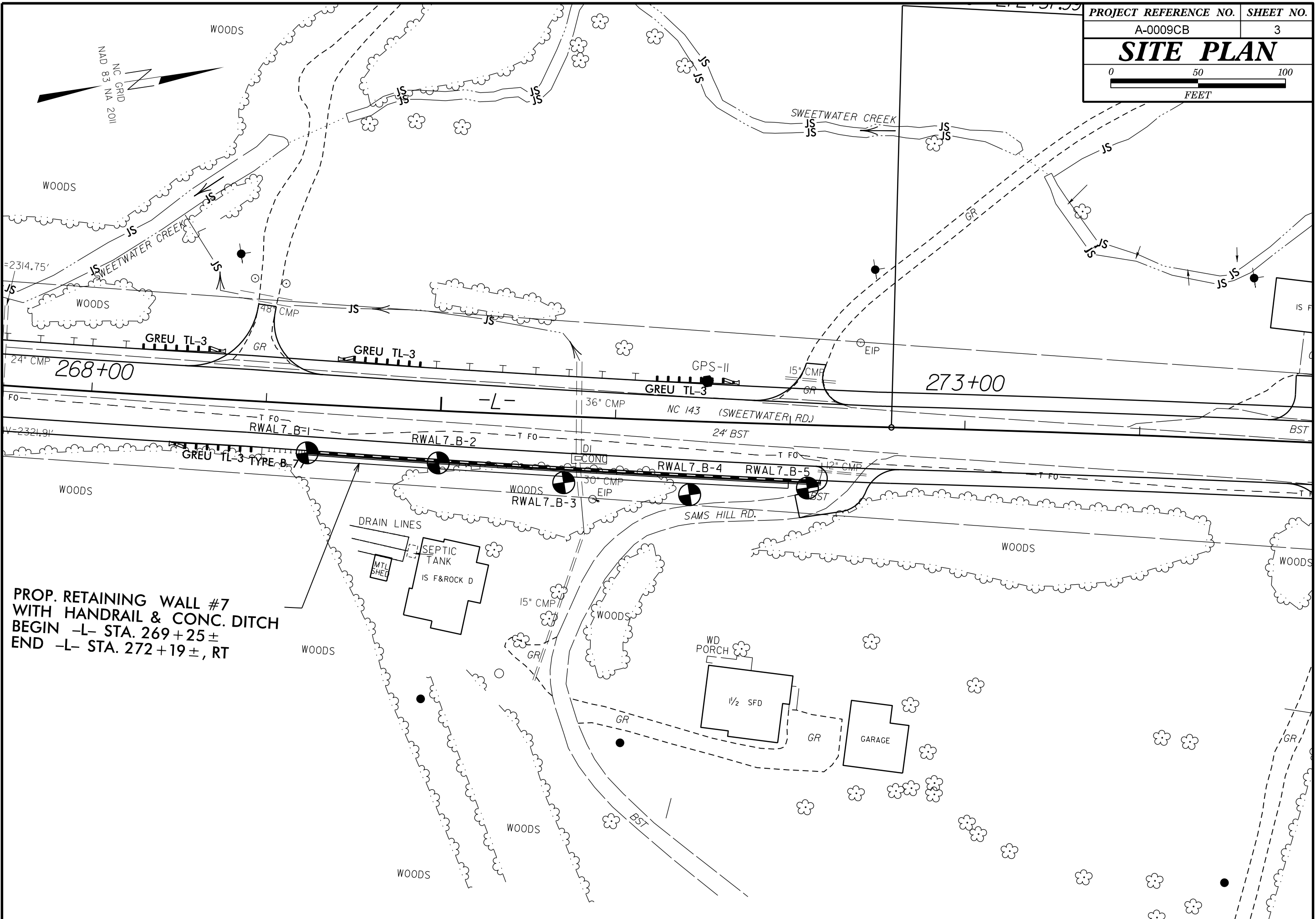
Prepared in the Office of:
 **CAROLINAS GEOTECHNICAL GROUP**
 2400 CROWNPOINT EXECUTIVE DRIVE
 SUITE 800
 CHARLOTTE, NC 28227
 (980) 339-8684



DocuSigned by:

 386129C0A4C1462
 SIGNATURE DATE 05/06/2022

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



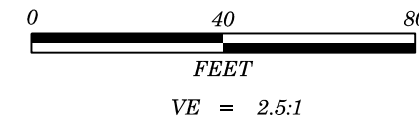
**PROP. RETAINING WALL #7
WITH HANDRAIL & CONC. DITCH
BEGIN -L- STA. 269+25±
END -L- STA. 272+19±, RT**



Prepared in the Office of:



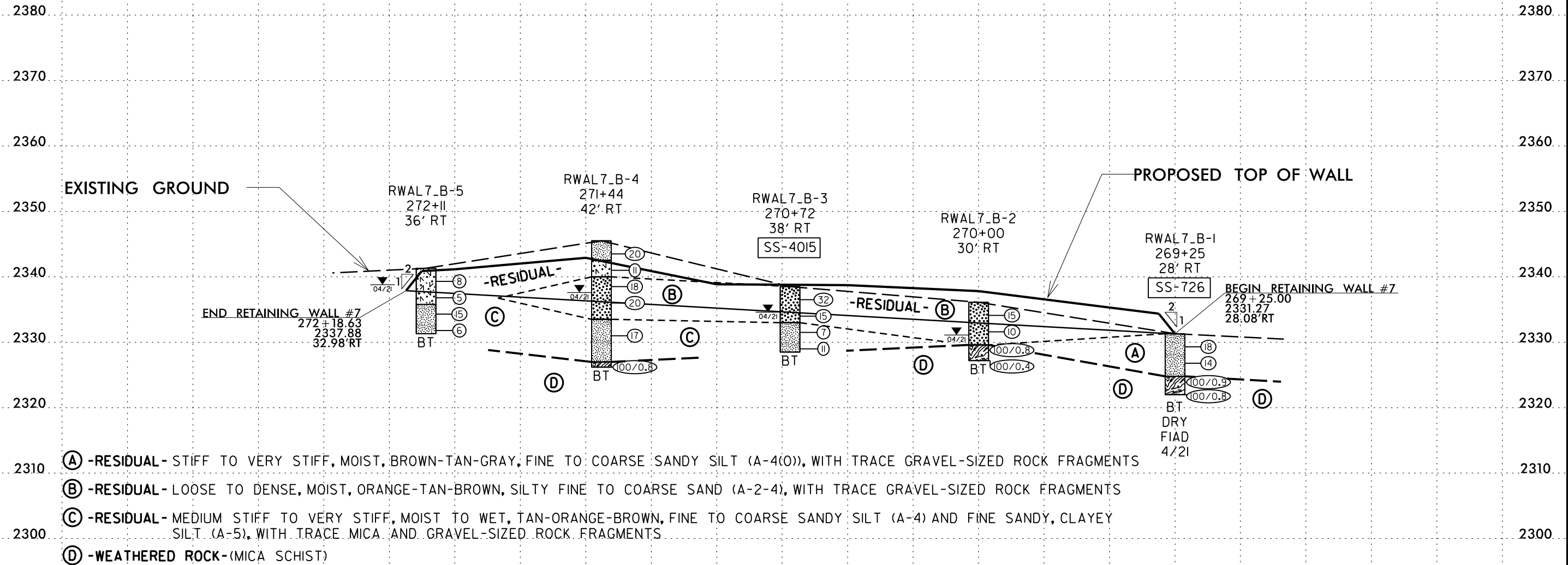
CAROLINAS
GEOTECHNICAL
GROUP



PROJECT REFERENCE NO.	SHEET NO.
A-0009CB	4
RETAINING WALL #7 PROFILE BORINGS PROJECTED ALONG WALL ENVELOPE	

SOIL TEST RESULTS

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		
SS-726	28' RT	269+25 -L-	1.0' - 2.5'	A-4(0)	25	NP	22	28	30	20	71	61	41	12	-
SS-4015	38' RT	270+72 -L-	6.0' - 7.5'	A-4(0)	32	NP	21	29	33	17	88	75	51	26	-



WALL ENVELOPE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/5/21.
INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE
PROFILE. EXISTING GROUND LINE IS DRAWN BORING TO BORING.

273+50 273+00 272+50 272+00 271+50 271+00 270+50 270+00 269+50 269+00 268+50 268+00

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 32572.1.FS10		TIP A-0009CB		COUNTY GRAHAM		GEOLOGIST S. Braun										
SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail							GROUND WTR (ft)									
BORING NO. RWAL7_B-1		STATION 269+25		OFFSET 28 ft RT		ALIGNMENT L										
COLLAR ELEV. 2,331.3 ft		TOTAL DEPTH 9.3 ft		NORTHING 617,092		EASTING 589,567										
DRILL RIGHAMMER EFF./DATE CG20446 Diedrich D50 83%/06/16/2020				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER J. Estep		START DATE 04/13/21		COMP. DATE 04/13/21		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						
2335																
2330	2,330.3	1.0	8	11	7										2,331.3	0.0
	2,327.8	3.5	2	7	7						SS-726	12%		RESIDUAL		
														Stiff to Very Stiff, Brown-Tan-Gray, Fine to Coarse Sandy SILT (A-4(0)), with trace gravel-sized rock fragments		
2325	2,325.3	6.0	34	48	52/0.4							M			2,324.8	6.5
	2,322.8	8.5	50	50/0.3										WEATHERED ROCK		
														Brown-Gray-Tan, (MICA SCHIST)		
														Boring Terminated at Elevation 2,322.0 ft In Weathered Rock (MICA SCHIST)		

WBS 32572.1.FS10		TIP A-0009CB		COUNTY GRAHAM		GEOLOGIST N. McLaren										
SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail							GROUND WTR (ft)									
BORING NO. RWAL7_B-2		STATION 270+00		OFFSET 30 ft RT		ALIGNMENT L										
COLLAR ELEV. 2,336.1 ft		TOTAL DEPTH 8.9 ft		NORTHING 617,165		EASTING 589,584										
DRILL RIGHAMMER EFF./DATE CG20446 Diedrich D50 83%/06/16/2020				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER C. Odom		START DATE 04/20/21		COMP. DATE 04/20/21		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						
2340																
2335	2,335.1	1.0	7	8	7										2,336.1	0.0
	2,332.6	3.5	5	5	5									RESIDUAL		
														Loose to Medium Dense, Orange-Tan-Brown, Silty Fine to Coarse SAND (A-2-4)		
2330	2,330.1	6.0	3	17	83/0.3										2,329.6	6.5
	2,327.6	8.5	100/0.4											WEATHERED ROCK		
														Gray-Tan-Brown, (MICA SCHIST)		
														Boring Terminated at Elevation 2,327.2 ft In Weathered Rock (MICA SCHIST)		

NCDOT BORE DOUBLE A-0009CB_GEO_RDY_GTM.GPJ NC_DOT.GDT 4/26/22

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 32572.1.FS10		TIP A-0009CB		COUNTY GRAHAM		GEOLOGIST N. McLaren										
SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail							GROUND WTR (ft)									
BORING NO. RWAL7_B-3		STATION 270+72		OFFSET 38 ft RT		ALIGNMENT L										
COLLAR ELEV. 2,338.5 ft		TOTAL DEPTH 10.0 ft		NORTHING 617,234		EASTING 589,606										
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 83%/06/16/2020			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER C. Odom		START DATE 04/20/21		COMP. DATE 04/20/21		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2340																
	2,337.5	1.0	4	7	25										2,338.5	GROUND SURFACE
2335	2,335.0	3.5	4	7	8								M			RESIDUAL Medium Dense to Dense, Tan-Orange-Brown, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments
	2,332.5	6.0	4	3	4								M		2,333.0	5.5
2330	2,330.0	8.5	5	5	6								M		2,328.5	10.0
Boring Terminated at Elevation 2,328.5 ft In Residual Sandy Silt (A-4(0))																

WBS 32572.1.FS10		TIP A-0009CB		COUNTY GRAHAM		GEOLOGIST S. Braun										
SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail							GROUND WTR (ft)									
BORING NO. RWAL7_B-4		STATION 271+44		OFFSET 42 ft RT		ALIGNMENT L										
COLLAR ELEV. 2,345.5 ft		TOTAL DEPTH 19.3 ft		NORTHING 617,305		EASTING 589,624										
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 83%/06/16/2020			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER J. Estep		START DATE 04/06/21		COMP. DATE 04/06/21		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2350																
	2,345.5														2,345.5	GROUND SURFACE
2345	2,344.5	1.0	7	10	10								M			RESIDUAL Very Stiff, Brown, Fine to Coarse Sandy SILT (A-4)
	2,342.0	3.5	6	6	5								M		2,340.0	3.0
2340	2,339.5	6.0	3	2	16								M		2,340.0	5.5
	2,337.0	8.5	6	8	12								W			Medium Dense, Tan, Silty Fine to Coarse SAND (A-2-4), with trace gravel-sized rock fragments
2335															2,333.5	12.0
	2,332.0	13.5	6	8	9								W			Very Stiff, Brown, Fine Sandy SILT (A-4)
2330	2,327.0	18.5	20	80/0.3											2,327.0	18.5
															2,326.2	19.3
WEATHERED ROCK Brown-Gray, (MICA SCHIST) Boring Terminated at Elevation 2,326.2 ft In Weathered Rock (MICA SCHIST)																

NCDOT BORE DOUBLE A-0009CB_GEO_RDY_GTM.GPJ NC_DOT.GDT 4/26/22

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 32572.1.FS10		TIP A-0009CB		COUNTY GRAHAM		GEOLOGIST S. Braun									
SITE DESCRIPTION Upgrade NC 143 from SR 1223 (Beech Creek Road) to 0.5 Miles North of Appalachian Trail							GROUND WTR (ft)								
BORING NO. RWAL7_B-5		STATION 272+11		OFFSET 36 ft RT		ALIGNMENT L									
COLLAR ELEV. 2,341.3 ft		TOTAL DEPTH 10.0 ft		NORTHING 617,372		EASTING 589,630									
DRILL RIGHAMMER EFF./DATE CG20446 Diedrich D50 83%/06/16/2020				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER J. Estep		START DATE 04/06/21		COMP. DATE 04/06/21		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			ELEV. (ft)	DEPTH (ft)	
2345															
														2,341.3	0.0
2340	2,340.3	1.0	3	3	5	•	•	•	•	•		M	RESIDUAL Medium Stiff to Stiff, Tan, Fine Sandy, Clayey SILT (A-5)		
	2,337.8	3.5	3	3	2	•	•	•	•	•		M			
2335	2,335.3	6.0	10	10	5	•	•	•	•	•		M	Medium Stiff to Very Stiff, Tan-Orange-Brown-Gray, Fine Sandy SILT (A-4), with trace gravel-sized rock fragments		5.5
	2,332.8	8.5	2	2	4	•	•	•	•	•		M			
														2,331.3	10.0
														Boring Terminated at Elevation 2,331.3 ft In Residual Sandy Silt (A-4)	

NCDOT BORE DOUBLE A-0009CB_GEO_RDY_GTM.GPJ NC_DOT.GDT 4/26/22