

NOTES:

FOR SOIL NAIL RETAINING WALLS BUILD-OUT, SEE SOIL NAIL RETAINING WALLS PROVISION.

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS

FOR MICROPILES AND MICROPILE FOOTING, SEE MICROPILE SLOPE STABILIZATION PROVISION.

AVOID SOIL NAILS WITH INSTALLING GUARDRAIL POSTS.

DESIGN SOIL NAIL RETAINING WALLS AND MICROPILE SLOPE STABILIZATION FOR INTERNAL, EXTERNAL, AND GLOBAL STABILITY.

PER THE TYPICAL SECTION, THE EXISTING GROUND IS LOCATED BEHIND THE FUTURE SOIL NAIL WALL FACE. AT THE CONTRACTOR'S OPTION, CONSTRUCT NEW GROUND PRIOR TO BEGINNING SOIL NAIL WALL CONSTRUCTION OR INSTALL SOIL NAILS INTO THE EXISTING GROUND AND EXTEND THE NAILS TO FACING FALSEWORK. BACKFILL BEHIND THE FALSEWORK AFTER CONSTRUCTING THE WALL FINAL FACING.

BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR SOIL NAIL RETAINING WALL AT SITE 6, SURVEY WALL LOCATION AND SUBMIT A WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE WALL ENVELOPE IS ACCEPTED.

DESIGN SOIL NAIL RETAINING WALL AT SITE 6 FOR THE FOLLOWING:

- 1) H= DESIGN HEIGHT
- 2) DESIGN LIFE = 75 YEARS
- 3) IN-SITU ASSUMED MATERIAL PARAMETERS (RESIDUAL SOILS):

UNIT WEIGHT,  $\gamma$  = 120 PCF  
FRICTION ANGLE,  $\phi$  = 30 DEGREES  
COHESION, c = 0 PSF

- 4) IN-SITU ASSUMED MATERIAL PARAMETERS (WEATHERED ROCK):

UNIT WEIGHT,  $\gamma$  = 130 PCF  
FRICTION ANGLE,  $\phi$  = 41 DEGREES  
COHESION, c = 0 PSF

- 5) DESIGN FAILURE PLANE AT WALL AND FOOTING EQUAL TO AN INFERRED ROCK LINE AT A DEPTH OF 5 FT BELOW PROPOSED BOTTOM OF FOOTING.

DESIGN SOIL NAIL RETAINING WALL FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

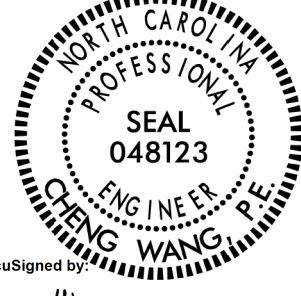
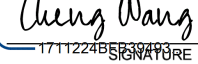
DESIGN SOIL NAIL RETAINING WALL FOR A 300 LB/FT HORIZONTAL TRAFFIC IMPACT LOAD.

EXISTING AND FUTURE OBSTRUCTIONS SUCH AS GUARDRAIL, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH SOIL NAILS FOR RETAINING WALL.

REMOVE THE LOOSE DEBRIS ON THE SURFACE OF THE SLOPE TO THE SATISFACTION OF THE ENGINEER BEFORE INSTALLING SOIL NAILS.

DO NOT DISTURB EXISTING VEGETATION BEYOND THE LIMITS OF THE SOIL NAILS INSTALLATION AREA.

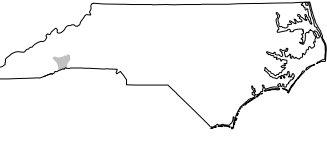
LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF SITE 6. THE INFORMATION PROVIDED FOR DESIGN WAS SUPPLEMENTED BASED ON VISUAL OBSERVATIONS AND APPROXIMATIONS AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

GEOTECHNICAL ENGINEER	ENGINEER
	
DocuSigned by:  17112228	8/8/2025
SIGNATURE	DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

DF18314.  
2045064

FINAL2G-6B

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
HENDERSON COUNTY




HIGHWAY DIVISION 14

PROJECT NO.: DF18314.2045064

COUNTY: HENDERSON

PREPARED BY: C. WANG, P.E.	DATE: 08/2025
REVIEWED BY: P. ALTON, P.E.	DATE: 08/2025

SINCE



1881

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NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

GEOTECHNICAL  
ENGINEERING UNIT

HURRICANE HELENE EMERGENCY REPAIRS  
SOIL NAIL SHOULDER BUILD OUT  
SITE 6- BALD ROCK RD.

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET  
NO.  
2G-6b

REVISIONS