
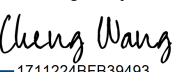
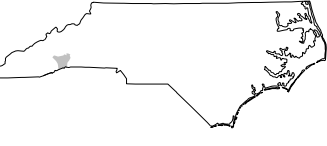


GEOTECHNICAL ENGINEER		ENGINEER	
			
DocuSigned by:  17112246ED38453 SIGNATURE		8/8/2025 DATE	
		SIGNATURE	DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

DF18314.  
2045465

FINAL2G-5B

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
HENDERSON COUNTY



HIGHWAY DIVISION 14

NOTES:

FOR SHOTCRETE SLOPE STABILIZATION, SEE SHOTCRETE SLOPE STABILIZATION PROVISION.

BEFORE BEGINNING SOIL NAIL DESIGN FOR SHOTCRETE SLOPE STABILIZATION, SURVEY LOCATION AND SUBMIT A REVISED PROFILE VIEW FOR REVIEW. DO NOT START DESIGN OR CONSTRUCTION UNTIL THE REVISED PROFILE VIEW IS ACCEPTED.

DESIGN SOIL NAILS FOR THE FOLLOWING SUGGESTED SOIL PARAMETERS:

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

UNIT WEIGHT,  $\gamma$  = 120 PCF

FRICTION ANGLE,  $\phi$  = 30 DEGREES

COHESION,  $c$  = 0 PSF
- 3) IN-SITU ASSUMED MATERIAL PARAMETERS (WEATHERED ROCK):

UNIT WEIGHT,  $\gamma$ =130 PCF

FRICTION ANGLE,  $\phi$ = 41 DEGREES

COHESION,  $c$  = 0 PSF

DESIGN FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

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.

ADDITIONAL SHOTCRETE SLOPE STABILIZATION MAY BE REQUIRED BASED ON EXISTING CONDITIONS ENCOUNTERED DURING CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.

PROJECT NO.: DF18314.2045465

COUNTY: HENDERSON

PREPARED BY: C. WANG, P.E.	DATE: 08/25
REVIEWED BY: P. ALTON, P.E.	DATE: 08/25

SINCE



1881

Prepared in the Office of:

FROEHLING & ROBERTSON, INC.

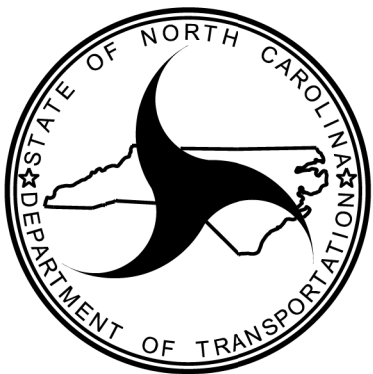
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NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

GEOTECHNICAL  
ENGINEERING UNIT

HURRICANE HELENE EMERGENCY REPAIRS  
SHOTCRETE SLOPE STABILIZATION  
SITE 5- BALD ROCK RD.

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

SHEET  
NO.  
2G-5b

REVISIONS