
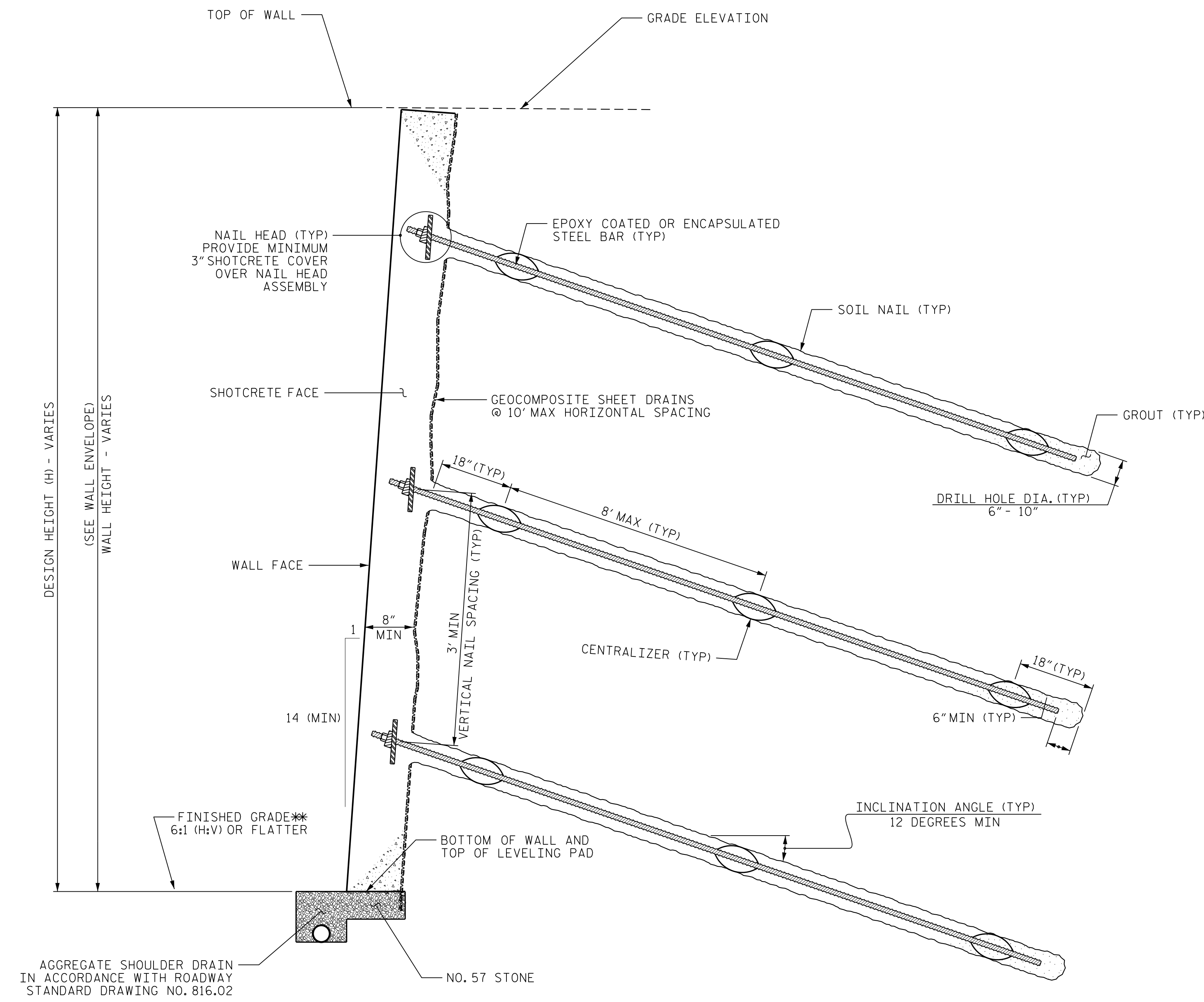


PROJECT REFERENCE NO. B-5869 (48063.1.FR1)	SHEET NO. W-8
GEOTECHNICAL ENGINEER  DocuSigned by: <i>Michael H. Stephens</i> 12/20/2022 <small>DATE SIGNATURE DATE</small>	ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



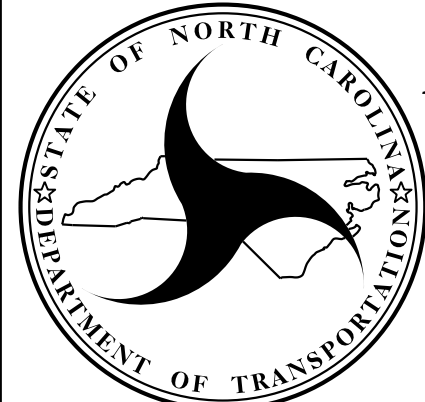
SOIL NAIL WALL - TYPICAL SECTION

*SEE CONCRETE DITCH BEHIND WALL DETAILS.
*SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.

NOTES:

- FOR SOIL NAIL RETAINING WALL, SEE SMSE SPECIAL PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. 1, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.
- DESIGN SOIL NAIL RETAINING WALL NO. 1 FOR THE FOLLOWING:
 - 1) SOIL NAIL WALL DESIGN HEIGHT (H) = SMSE WALL DESIGN HEIGHT
 - 2) DESIGN LIFE = 100 YEARS
 - 3) MINIMUM WALL EMBEDMENT ELEVATION = 0 FT
 - 4) IN-SITU ASSUMED MATERIAL PARAMETERS:
 - UNIT WEIGHT, $\gamma = 120$ PCF
 - FRICTION ANGLE, $\phi = 30$ DEGREES
 - COHESION, $c = 0$ PSF
- DESIGN RETAINING WALL NO. 1 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 1.
- "TOP OF SOIL NAIL WALL" AS SHOWN IN WALL ENVELOPES REPRESENTS THE APPROXIMATE SLOPE HINGE POINT ELEVATION.
- THE ESTIMATED SOIL NAIL WALL QUANTITY IS BASED ON DIFFERENCE BETWEEN THE SLOPE HINGE POINT AND THE SMSE TOP OF LEVELING PAD. THESE VALUES ARE PROVIDED AS AN ESTIMATE ONLY AND MAY VARY DUE TO SITE CONDITIONS.
- THE SOIL NAIL WALL DESIGNER IS RESPONSIBLE FOR DETERMINING GLOBAL STABILITY BASED ON THE FULLY EXCAVATED CUT AND THE SMSE WALL. SUBMIT THESE RESULTS WITH THE WALL DESIGN PACKAGE.

PREPARED BY: MHS	DATE: 12/20/22
REVIEWED BY: SCC	DATE: 12/20/22



**NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

**GEOTECHNICAL
ENGINEERING UNIT**

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

**RETAINING WALL NO. 1
SOIL NAIL WALL
TYPICAL SECTION AND NOTES**