

GEOTECHNICAL
ENGINEER



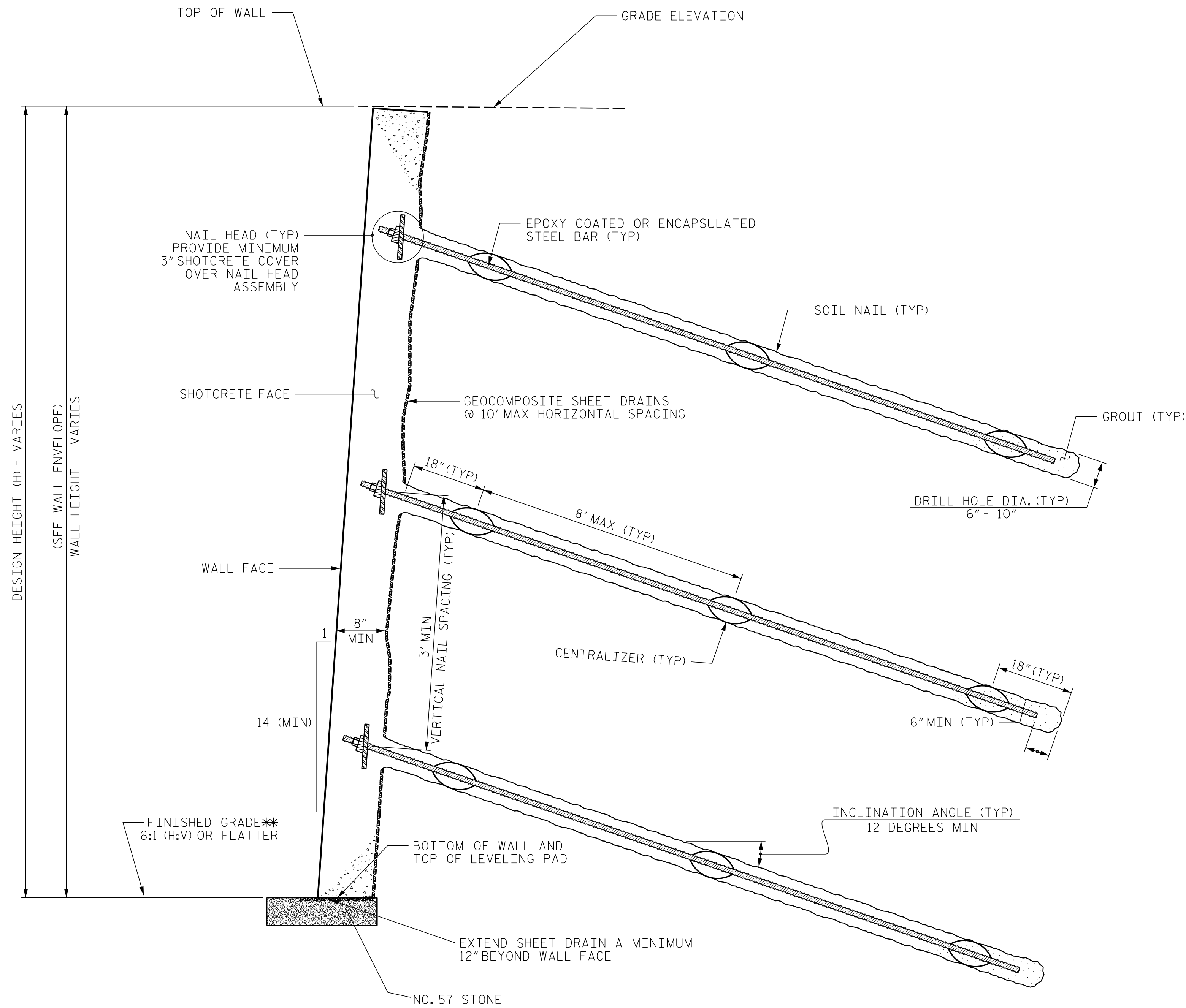
DocuSigned by:
Thomas J. Daily
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ENGINEER

SIGNATURE

DATE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SOIL NAIL WALL - TYPICAL SECTION

*SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.

NOTES:

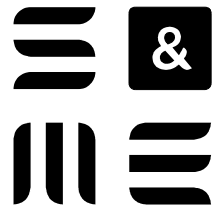
- FOR SOIL NAIL RETAINING WALL, SEE SMSE SPECIAL PROVISION.
- FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.
- BEFORE BEGINNING SOIL NAIL WALL DESIGN FOR RETAINING WALL NO. 5, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.
- DESIGN SOIL NAIL RETAINING WALL NO. 5 FOR THE FOLLOWING:
1) SOIL NAIL WALL DESIGN HEIGHT (H) = SMSE WALL DESIGN HEIGHT
2) DESIGN LIFE = 100 YEARS
3) MINIMUM WALL EMBEDMENT DEPTH = TOP OF SMSE WALL LEVELING PAD
4) IN-SITU ASSUMED RESIDUAL MATERIAL PARAMETERS:
UNIT WEIGHT, γ = 120 PCF
FRICTION ANGLE, ϕ = 30 DEGREES
COHESION, c = 0 PSF
- DESIGN RETAINING WALL NO. 5 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. 5.
- THE ESTIMATED SOIL NAIL WALL QUANTITY IS BASED ON 0.4H OR 6 FEET BEHIND THE FINISHED FACE OF THE SMSE AND THE TOP OF LEVELING PAD OF THE SOIL NAIL WALL. 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.

PROJECT NO.: U-5810

WATAUGA COUNTY

STATION: -WALL05- STA. 10+00 TO 19+89.56

PREPARED BY: J. DAILY	DATE: 1/17/25
REVIEWED BY: K. HILL	DATE: 1/17/25



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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

RETAINING WALL NO. 5

REVISIONS						SHEET NO. W-13
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			