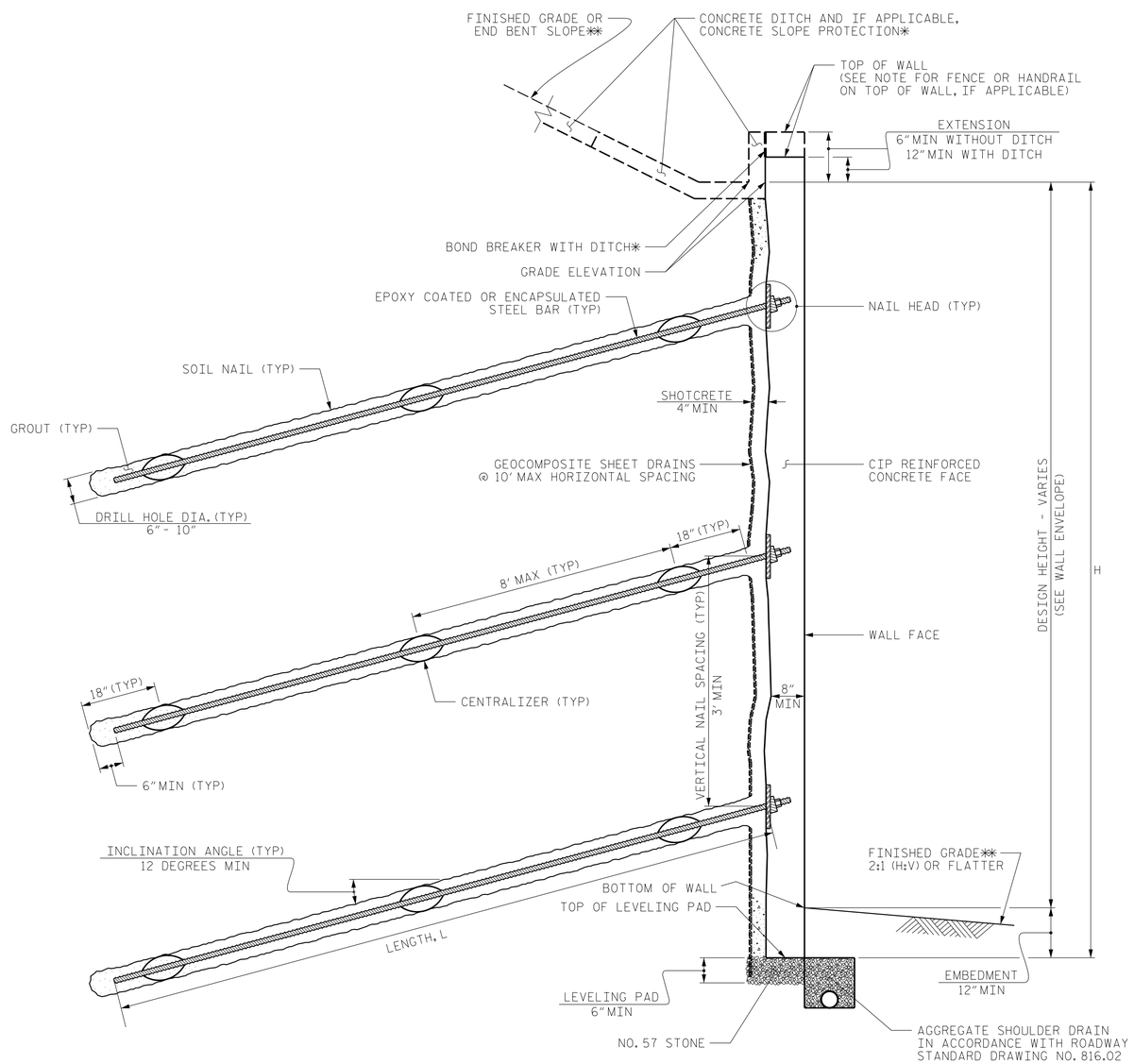
GEOTECHNICAL ENGINEER	ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 045672 ENGINEER THOMAS J. DAILY DocuSigned by: Thomas J. Daily F29CA6BB83F449F... 6/16/2026 SIGNATURE DATE	SIGNATURE DATE

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 WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.

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 RETAINING WALL NO. 1 FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MINIMUM EMBEDMENT DEPTH = 12 INCHES
4) MINIMUM SOIL NAIL LENGTH = 1.2H OR 10 FEET, WHICHEVER IS LONGER
5) IN-SITU ASSUMED RESIDUAL MATERIAL PARAMETERS:
   UNIT WEIGHT, γ = 120 PCF
   FRICTION ANGLE, ϕ = 30 DEGREES
   COHESION, c = 0 PSF
6) IN-SITU ASSUMED WEATHERED ROCK MATERIAL PARAMETERS:
   UNIT WEIGHT, γ = 145 PCF
   FRICTION ANGLE, ϕ = 38 DEGREES
   COHESION, c = 200 PSF

A WEATHER CUT ASHLAR FORM LINER ARCHITECTURAL FINISH IS REQUIRED FOR THE CIP REINFORCED CONCRETE FACE FOR RETAINING WALL NO. 1. SEE WEATHER CUT ASHLAR FORM LINER ARCHITECTURAL FINISH SPECIAL PROVISION.

DESIGN RETAINING WALL NO. 1 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

PROJECT NO.: U-5810
WATAUGA COUNTY
STATION: -WALL01- STA. 10+00 TO 11+65.58

SHEET 2 OF 2 WALL ID RW-1

S&ME
8848 RED OAK BLVD., SUITE A
CHARLOTTE, NC 28217
(704) 523-4726

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 1
TYPICAL SECTION AND NOTES

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

PREPARED BY: JOEY DAILY	DATE: 8/14/25
REVIEWED BY: KRISTEN HILL	DATE: 8/14/25