GEOTECHNICAL ENGINEER

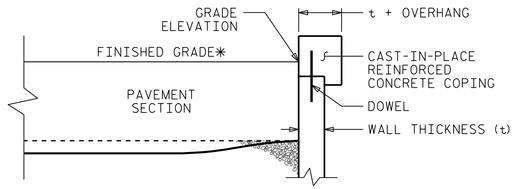
NORTH CAROLINA PROFESSIONAL SEAL 028893 ENGINEER MICHAEL H. STEPHENS

DocuSigned by: Michael H. Stephens C447682092314CC... SIGNATURE 8/1/2016 DATE

ENGINEER

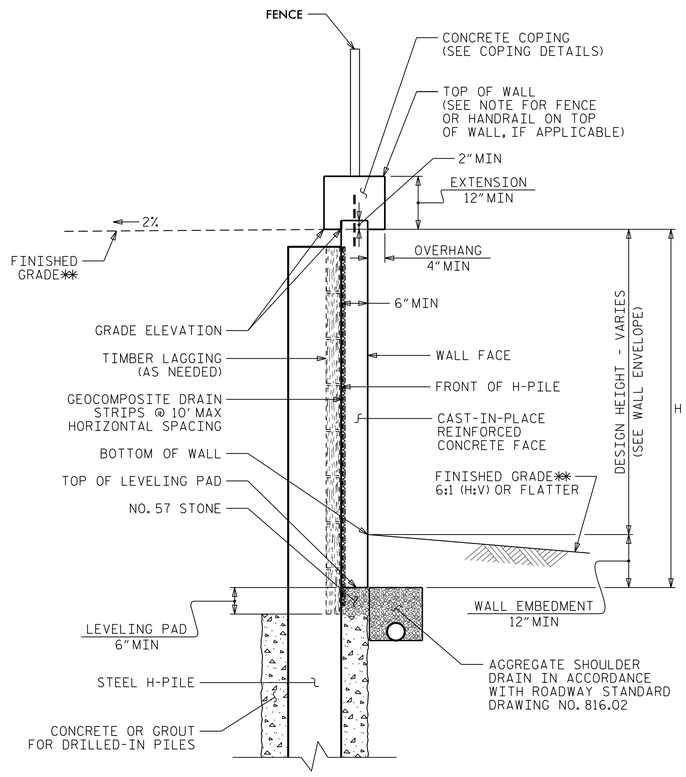
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



COPING DETAILS

*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



SOLDIER PILE WALL WITH CAST-IN-PLACE FACE - TYPICAL SECTION

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

NOTES:

FOR SOLDIER PILE RETAINING WALLS, SEE SOLDIER PILE RETAINING WALLS PROVISION.

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

A FENCE IS REQUIRED ON TOP OF RETAINING WALL NO. 4. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.

DRILLED-IN H-PILES ARE REQUIRED FOR RETAINING WALL NO. 4.

USE A SOLDIER PILE RETAINING WALL WITH A CAST-IN-PLACE REINFORCED CONCRETE FACE FOR RETAINING WALL NO. 4.

A SIMULATED BRICK FORM LINER FINISH IS REQUIRED FOR THE CAST-IN-PLACE REINFORCED CONCRETE FACE FOR RETAINING WALL NO. 4. SUBMIT BRICK FORM LINER SAMPLES FOR APPROVAL BEFORE BEGINNING SOLDIER PILE WALL CONSTRUCTION. SEE SIMULATED BRICK FORM LINER FINISH SPECIAL PROVISION.

BEFORE BEGINNING SOLDIER PILE WALL DESIGN FOR RETAINING WALL NO. 4, 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. 4 FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + WALL EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MINIMUM WALL EMBEDMENT ELEVATION = 1 FT
4) MINIMUM PILE EMBEDMENT = 15 FT
5) IN-SITU ASSUMED MATERIAL PARAMETERS FOR RESIDUAL SOILS:
UNIT WEIGHT, γ = 120 LB/CF
FRICTION ANGLE, ϕ = 30 DEGREES
6) IN-SITU ASSUMED MATERIAL PARAMETERS FOR PARTIALLY WEATHER ROCK:
UNIT WEIGHT, γ = 135 LB/CF
FRICTION ANGLE, ϕ = 38 DEGREES

DESIGN RETAINING WALL NO. 4 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

PROJECT NO.: 39010.1.R2 (U-3440)

CABARRUS COUNTY

STATION: 145+73 -L- TO 148+50 -L-

SHEET 9 OF 9

PREPARED BY: MHS	DATE: 7/25/2016
REVIEWED BY: SCC	DATE: 7/25/2016

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 4
SOLDIER PILE RETAINING WALL

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W9
2			4			