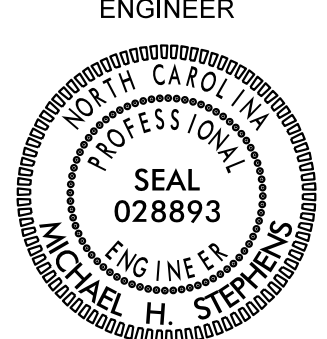


GEOTECHNICAL ENGINEER



ENGINEER

DocuSigned by: Michael Stephens 10/27/2016

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

NOTES:

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS FOR WALL NO. 5.

A FENCE IS REQUIRED ON TOP OF RETAINING WALL NOS. 2 AND 5. SEE ROADWAY PLANS FOR FENCE ATTACHMENT DETAILS.

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NOS. 2 AND 5.

CAST-IN-PLACE REINFORCED CONCRETE COPING IS REQUIRED FOR RETAINING WALL NOS. 2 AND 5.

A SIMULATED BRICK FORM LINER FINISH IS REQUIRED FOR THE PRECAST CONCRETE PANELS FOR RETAINING WALL NOS. 2 AND 5. SUBMIT BRICK FORM LINER SAMPLES FOR APPROVAL BEFORE BEGINNING MSE WALL CONSTRUCTION. SEE SIMULATED BRICK FORM LINER FINISH SPECIAL PROVISION.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NOS. 2 AND 5 IF COARSE AGGREGATE IS USED.

A DRAIN IS REQUIRED FOR RETAINING WALL NOS. 2 AND 5.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NOS. 2 AND 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 RETAINING WALL NOS. 2 AND 5 FOR THE FOLLOWING:

- 1) H = DESIGN HEIGHT + EMBEDMENT
- 2) DESIGN LIFE = 100 YEARS
- 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = $(3,300)$ LB/SF
- 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 6 FT, WHICHEVER IS LONGER
- 5) MINIMUM EMBEDMENT ELEVATION = SEE WALL EMBEDMENT TABLE
- 6) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	115	34	0

*SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.

7) IN-SITU ASSUMED MATERIAL PARAMETERS:

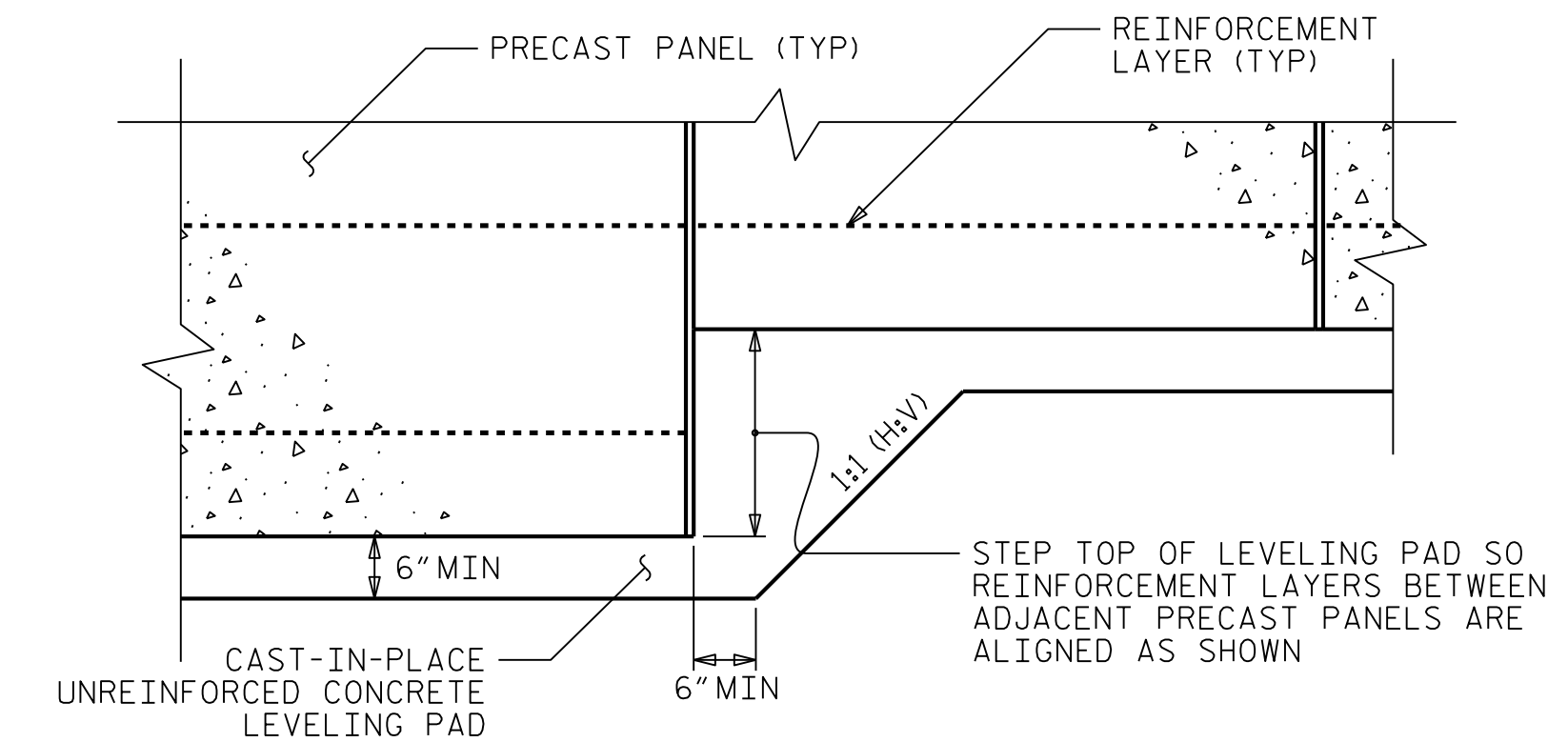
MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

DESIGN RETAINING WALL NOS. 2 AND 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 REINFORCEMENT FOR RETAINING WALL NOS. 2 AND 5.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NOS. 2 AND 5 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.


"TEMPORARY SHORING" MAYBE REQUIRED FOR RETAINING WALL NO. 5 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY, STRUCTURE or TRAFFIC CONTROL PLANS.



PRECAST CONCRETE PANELS

LEVELING PAD STEP DETAILS

PROJECT NO.: 39010.1.R2 (U-3440)
 CABARRUS COUNTY
 STATION: RWALL2: 138+50 -L- TO 137+00 -L-
 SHEET 5 OF 9 RWALL5: 133+40 -L- TO 132+90 -L-



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

**GEOTECHNICAL
ENGINEERING UNIT**

**RETAINING WALL NOS. 2 AND 5
MSE RETAINING WALL**

REVISIONS						SHEET NO. W5
NO.	BY	DATE	NO.	BY	DATE	
1	MHS	10/27/16	3			
2			4			

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