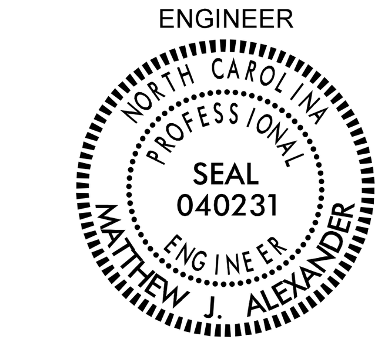
GEOTECHNICAL ENGINEER



DocuSigned by: Matt Alexander 8/23/2017
SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES:

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

FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALLS NO. 1 AND NO. 2.

WALL CONTRACTOR SHALL VERIFY THAT AN ARCHITECTURAL FINISH IS OR IS NOT REQUIRED FOR PRECAST CONCRETE PANELS.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALLS NO. 1 AND NO. 2.

A DRAIN IS NOT REQUIRED FOR RETAINING WALLS NO. 1 AND NO. 2.

1

PILE SLEEVES ARE REQUIRED AROUND THE HP 14X89 PILES FOR END BENT NO. 1 OF THE BRIDGE ON -RP_E- OVER -E_CONN_REV- LOCATED AT STATION 22+45.30 -RP_E-.

PILE SLEEVES ARE REQUIRED AROUND THE HP 14X89 PILES FOR END BENT NO. 2 OF THE BRIDGE ON -RP_E- OVER -E_CONN_REV- LOCATED AT STATION 23+21.76 -RP_E-.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALLS NO. 1 AND NO. 2, 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 WALLS NO. 1 AND NO. 2 FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 6,050 LB/SF
4) MINIMUM REINFORCEMENT LENGTH (L) = 0.95H OR 6 FT, WHICHEVER IS LONGER
5) MINIMUM EMBEDMENT DEPTH BELOW FINSIHED GRADE AT FRONT FACE OF WALL = 2 FT
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	110	29	0

DESIGN RETAINING WALLS NO. 1 AND NO. 2 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L) SHOWN. CAST REINFORCEMENT OR CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 1 LOCATED AT STATION 22+45.30 -RP_E- AND END BENT NO. 2 LOCATED AT STATION 23+21.76 -RP_E-. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN REINFORCEMENT OR CONNECTORS AND REINFORCING STEEL IN CAP.

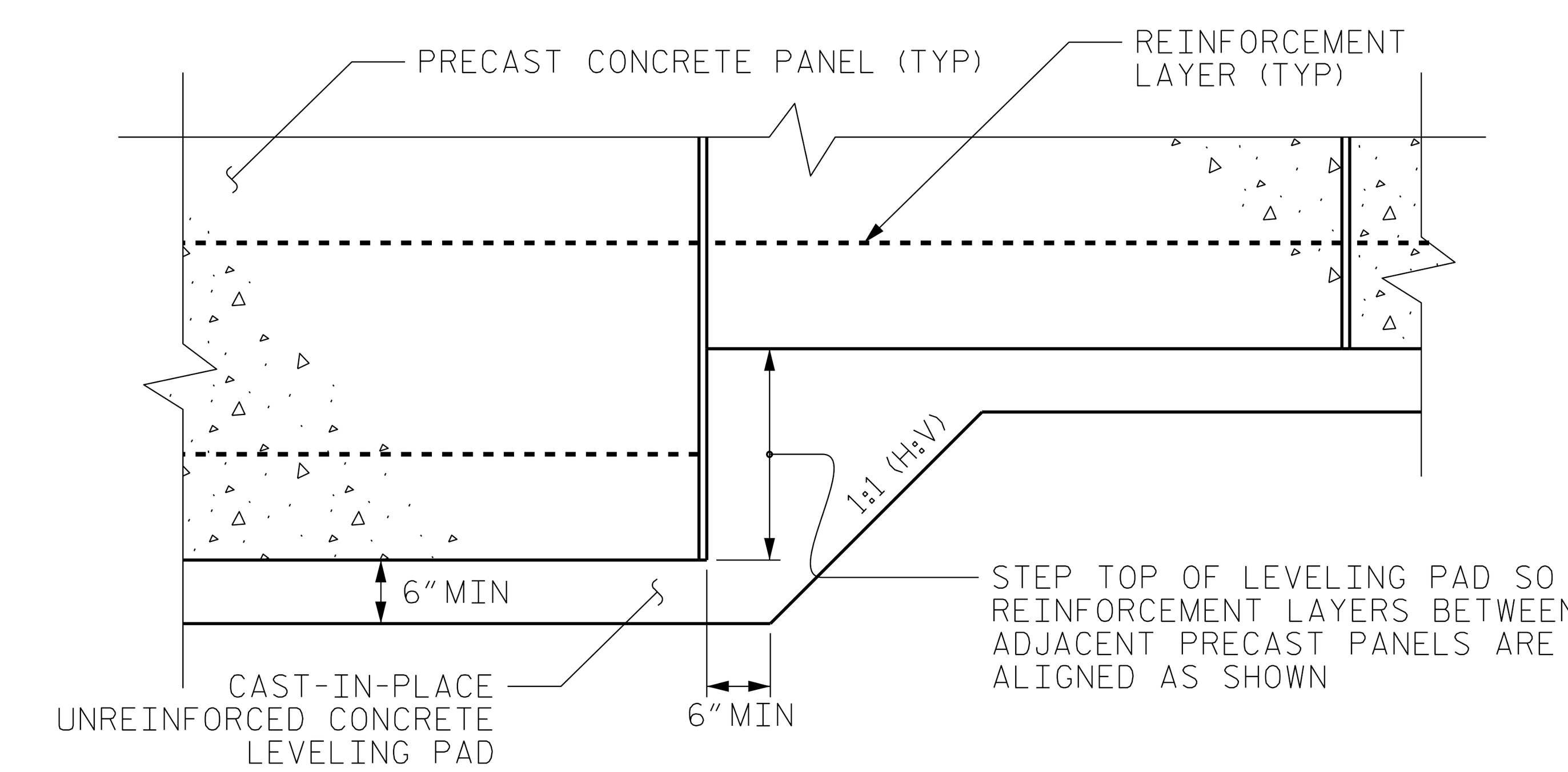
FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALLS NO. 1 AND NO. 2.

FOUNDATIONS FOR END BENT NO. 1 LOCATED AT STATION 22+45.30 -RP_E- AND END BENT NO. 2 LOCATED AT STATION 23+21.76 -RP_F- WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALLS NO. 1 AND 2, RESPECTIVELY. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

1

INSTALL PILE SLEEVES FOR END BENT NO. 1 LOCATED AT STATION 22+45.30 -RP_E- AND END BENT NO. 2 LOCATED AT STATION 23+21.76 -RP_E- WHILE CONSTRUCTING RETAINING WALLS NO. 1 AND NO. 2, RESPECTIVELY. FILL PILE SLEEVES WITH LOOSE UNCOMPACTED SAND BEFORE CONSTRUCTING END BENT CAPS.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALLS NO. 1 AND NO. 2 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.



PRECAST PANELS LEVELING PAD STEP DETAIL

PROJECT NO.: 34243.1.4 (I-4729A)

POLK COUNTY

STATION: 22+87.20 -RP_E- / 25+38.87 -E_CONN_REV-

SHEET 3 OF 8

Terracon
Consulting Engineers & Scientists
2401 BRENTWOOD ROAD, SUITE 107
RALEIGH, NORTH CAROLINA 27604
PHONE: (919) 873-2211 FAX: (919) 873-9555
NC REGISTERED FIRM: F-0869

MSE RETAINING WALLS NO. 1 AND NO. 2 NOTES

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1	MJA	8/22/17	3		
2			4		

SHEET NO. W-3

PREPARED BY: M. J. ALEXANDER	DATE: 8/4/2017
REVIEWED BY: A. F. RIGGS	DATE: 8/4/2017