

**NOTES:**

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

FOR TYPE III REINFORCED BRIDGE APPROACH FILLS, SEE BRIDGE APPROACH FILLS PROVISION AND ROADWAY DETAIL DRAWING NO. 422D10.

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

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

AN ASHLAR STONE PATTERN ARCHITECTURAL FINISH IS REQUIRED FOR PRECAST CONCRETE PANELS FOR RETAINING WALLS NO.1 AND NO.2.

FOR ARCHITECTURAL FINISH, SEE THE ARCHITECTURAL CONCRETE SURFACE TREATMENT SPECIAL PROVISION. ANTI-GRAFFITI COATING ON THE PRECAST CONCRETE PANELS IS REQUIRED FOR RETAINING WALLS NO.1 AND NO.2.

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

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

PILE SLEEVES ARE REQUIRED AROUND PILES FOR END BENT NO.1 LOCATED AT STATION -LREV- 1002+26.85 AND END BENT NO.2 LOCATED AT STATION -LREV- 1003+31.60.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL 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 WALL 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 = 6500 PSF
- 4) MINIMUM REINFORCEMENT LENGTH (L) = .7 H OR 6 FT, WHICHEVER IS LONGER.
- 5) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT ( $\gamma$ ) LB/CF	FRICTION ANGLE ( $\phi$ ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	115	34	0

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

7) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT ( $\gamma$ ) LB/CF	FRICTION ANGLE ( $\phi$ ) DEGREES	COHESION (c) LB/SF
BACKFILL	110	30	0
FOUNDATION	115	30	0

DESIGN RETAINING WALL 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 ( $L_d$ ) SHOWN. CAST REINFORCEMENT OR CONNECTORS INTO CAP BACKWALL FOR END BENT NO.1 LOCATED AT -LREV- STA.1002+26.85 AND END BENT NO.2 LOCATED AT -LREV- STA.1003+31.60. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN REINFORCEMENT OR CONNECTORS AND REINFORCING STEEL IN CAP.

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

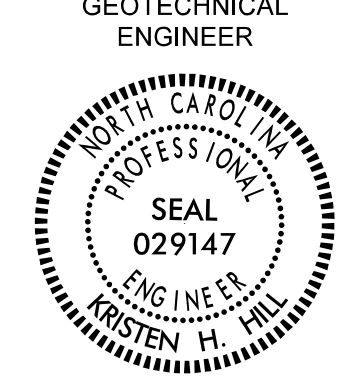
FOUNDATIONS FOR END BENT NO.1 LOCATED AT STATION -LREV- 1002+26.85 WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO.1. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

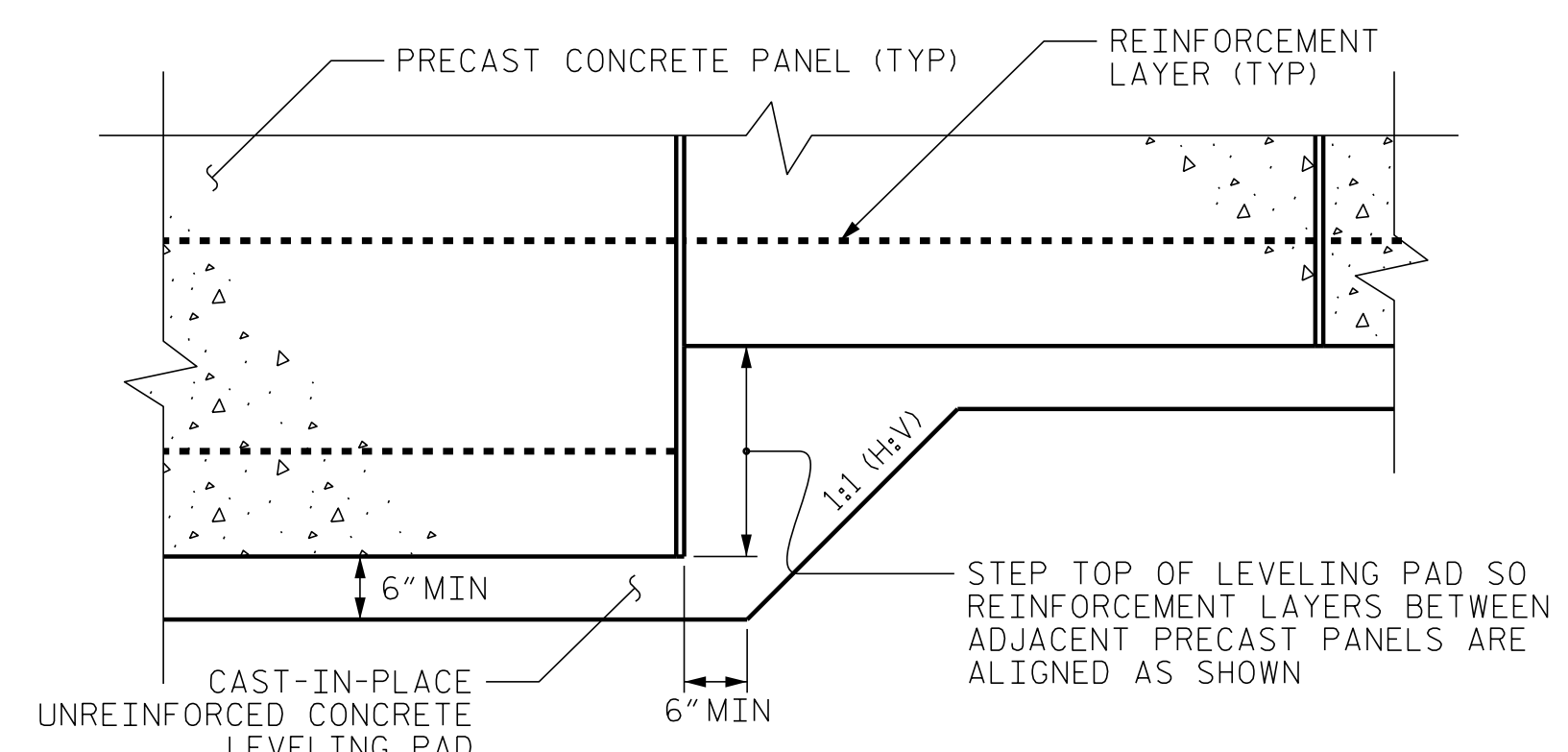
FOUNDATIONS FOR END BENT NO.2 LOCATED AT STATION -LREV- 1003+31.60 WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO.2. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

INSTALL PILE SLEEVES FOR END BENT NO.1 LOCATED AT STATION -LREV- 1002+26.85 WHILE CONSTRUCTING RETAINING WALL NO.1. INSTALL PILES THROUGH THE CORRUGATED STEEL PIPES AND FILL PIPES WITH LOOSE UNCOMPACTED SAND BEFORE CONSTRUCTING END BENT CAPS.

INSTALL PILE SLEEVES FOR END BENT NO.2 LOCATED AT STATION -LREV- 1003+31.60 WHILE CONSTRUCTING RETAINING WALL NO.2. INSTALL PILES THROUGH THE CORRUGATED STEEL PIPES AND FILL PIPES WITH LOOSE UNCOMPACTED SAND BEFORE CONSTRUCTING END BENT CAPS.

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


GEOTECHNICAL ENGINEER  DocuSigned by: Kristen Hill 5/12/2021	ENGINEER     SIGNATURE _____ DATE _____
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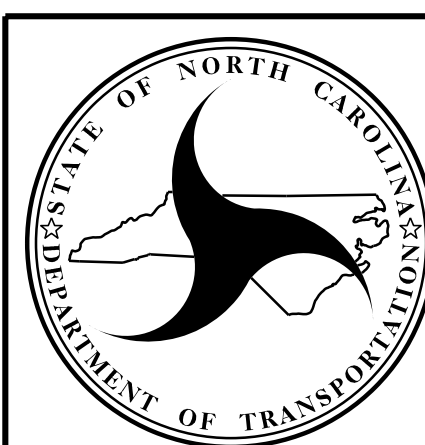


**PRECAST PANELS  
LEVELING PAD STEP DETAIL**

PROJECT NO.: I-5878  
 HARNETT COUNTY  
 STATION: 1002+79.68 -LREV- / 28+40.13 -Y15-  
 SHEET 5 OF 5

PREPARED BY: KHH	DATE: 5/14/2020
REVIEWED BY: SEM	DATE: 5/14/2020

  
 9751 SOUTHERN PINE BLVD  
 CHARLOTTE, NC 28273  
 (704) 523-4726

  
**NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**  
  
**GEOTECHNICAL  
ENGINEERING UNIT**

REVISIONS						SHEET NO. W-10
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			