GEOTECHNICAL ENGINEER	ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 29869 ENGINEER SHANE C. CLARK — Shane C. Clark 1F4E87E6D6A543... 8/13/2014	
SIGNATURE DATE	SIGNATURE DATE

NOTES:

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

FOR ARCHITECTURAL CONCRETE SURFACE TREATMENT, SEE SPECIAL PROVISIONS.

USE AN MSE WALL SYSTEM WITH PRECAST CONCRETE PANELS THAT MEET SECTION 1077 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALLS.

CAST-IN-PLACE REINFORCED CONCRETE COPING IS NOT REQUIRED FOR RETAINING WALLS.

A DRAIN IS NOT REQUIRED FOR RETAINING WALLS.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALLS, SURVEY WALL LOCATIONS AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPES ARE ACCEPTED.

DESIGN RETAINING WALL NO. FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 8500 LB/SF
4) MINIMUM REINFORCEMENT LENGTH (L) = 0.8 * H FT
5) MINIMUM EMBEDMENT ELEVATION = 2 FT
6) AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	125	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	32	0
FOUNDATION	110	28	0

DESIGN RETAINING WALLS FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

CONSTRUCTION OF RETAINING WALL AT END BT. #2 AND BRIDGE END BENT CONSTRUCTION WILL HAVE TO BE COORDINATED WITH EACH OTHER TO ENSURE PROPER INSTALLATION.

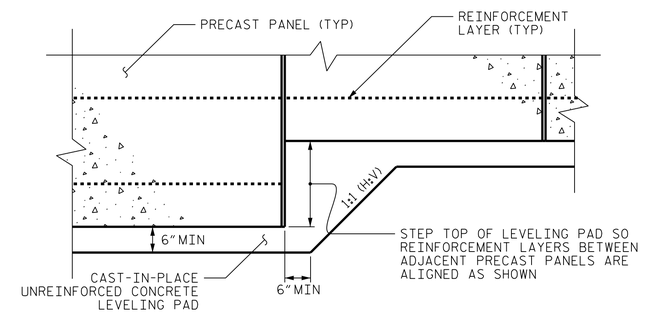
DESIGN REINFORCEMENT CONNECTED TO END BENT CAPS FOR FACTORED LOAD AND LENGTH OF REINFORCEMENT IN ACTIVE ZONE (L_e) SHOWN. CAST REINFORCEMENT CONNECTORS INTO CAP BACKWALL FOR END BENT NO. 2 LOCATED AT STATION 585+60.73 -L-. MAINTAIN A CLEARANCE OF AT LEAST 3" BETWEEN CONNECTORS AND REINFORCING STEEL IN CAP.

FOUNDATIONS FOR SIGNS, LIGHTING or SIGNALS MAY BE LOCATED BEHIND RETAINING WALLS AND MAY INTERFERE WITH REINFORCEMENT. BEFORE BEGINNING MSE WALL CONSTRUCTION, SUBMIT PROPOSED CONSTRUCTION METHODS FOR THESE FOUNDATIONS FOR APPROVAL.

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

FOUNDATIONS FOR END BENTS WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL. SEE "FOUNDATION LAYOUT" SHEET FOR FOUNDATION LOCATIONS.

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



PRECAST CONCRETE PANELS

LEVELING PAD STEP DETAILS

PROJECT NO.:	U-2579B
	FORSYTH COUNTY
STATION:	585+06.99 -L-
SHEET 4 OF 4	22+74.08 -Y3-

GEOTECHNICAL ENGINEERING UNIT

☐ EASTERN REGIONAL OFFICE
☒ WESTERN REGIONAL OFFICE
☐ CONTRACT OFFICE

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL #1

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	W-4
1			3			TOTAL SHEETS
2			4			13

PREPARED BY: EJS	DATE: 6/14
REVIEWED BY: SCC	DATE: 6/14