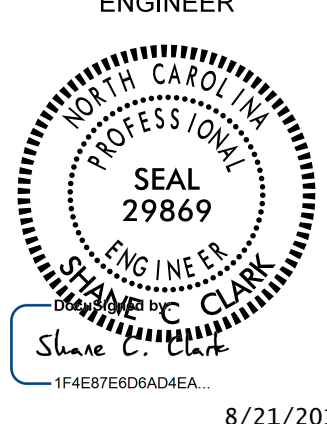


GEOTECHNICAL ENGINEER  JAMES C. CLARK 1F4E87E8D6A4E4A 8/21/2015 SIGNATURE DATE	ENGINEER SIGNATURE DATE
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NOTES:

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.
 AT THE CONTRACTOR'S OPTION, USE AN MSE WALL SYSTEM WITH SEGMENTAL RETAINING WALL (SRW) UNITS THAT MEET ARTICLE 1040-4 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO. 1.
 WHEN USING AN MSE WALL SYSTEM WITH SRW UNITS FOR RETAINING WALL NO. 1, FREEZE-THAW DURABLE SRW UNITS THAT MEET ARTICLE 1040-4 OF THE STANDARD SPECIFICATIONS ARE REQUIRED.
 AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. 1.
 A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 1.
 A DRAIN IS REQUIRED FOR RETAINING WALL NO. 1.
 BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 1, 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 FOR THE FOLLOWING:
 1) H = DESIGN HEIGHT + EMBEDMENT
 2) DESIGN LIFE = 100 YEARS
 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 3000 LB/SF
 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7H OR 6 FT, WHICHEVER IS LONGER
 5) MINIMUM EMBEDMENT ELEVATION = H/7 OR 2FT, WHICH EVER IS GREATER
 6) REINFORCED ZONE AGGREGATE PARAMETERS:

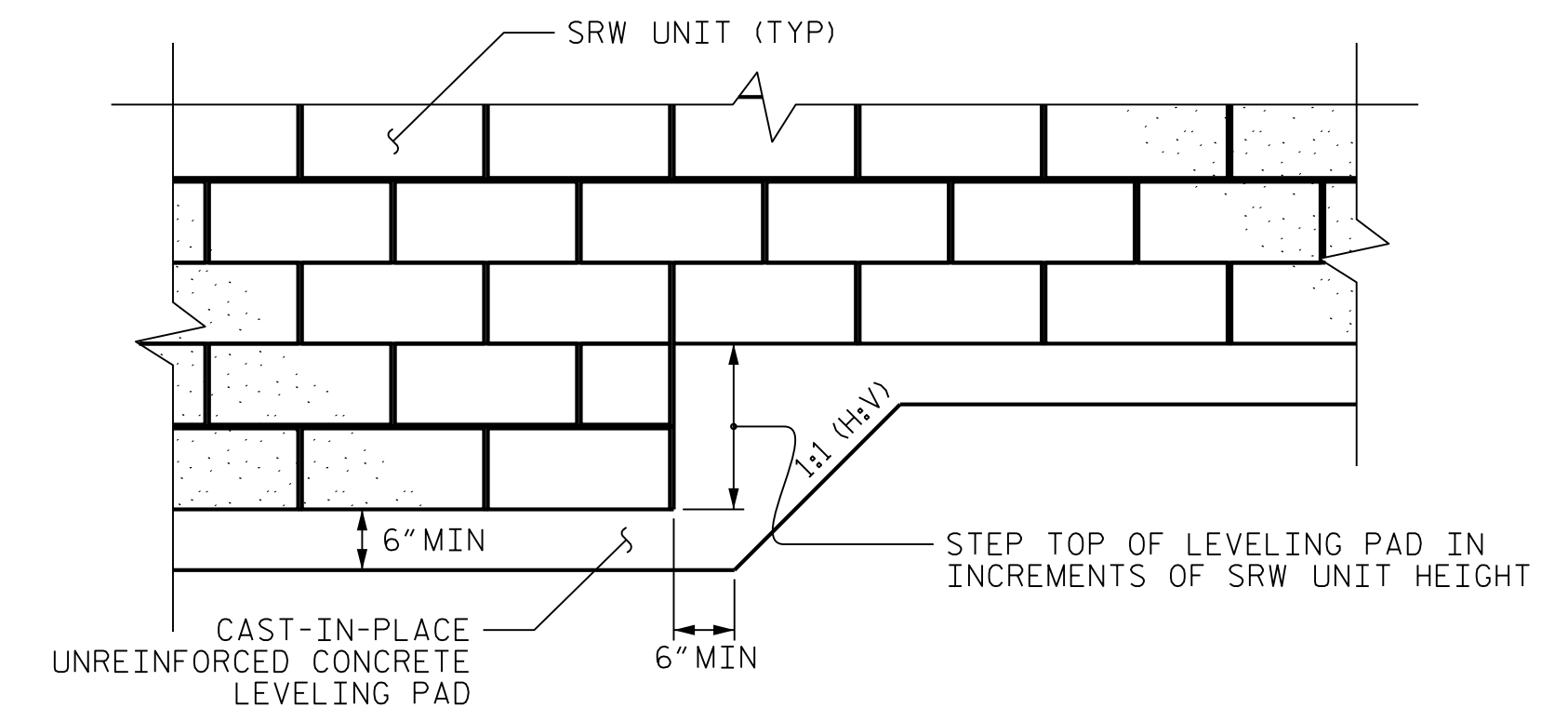
AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	115	34	0

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

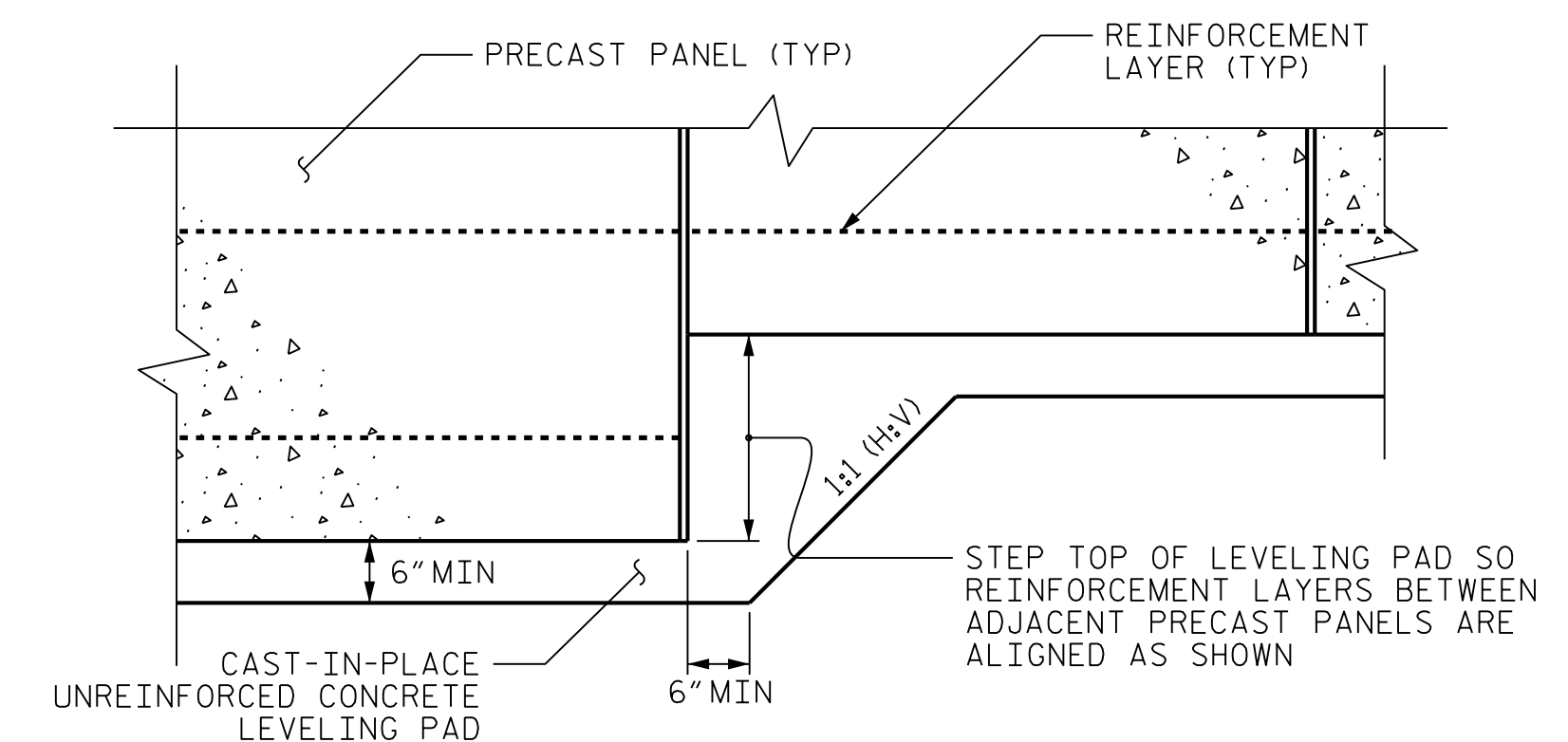
7) IN-SITU ASSUMED MATERIAL PARAMETERS:

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 NO. 1 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
 EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 1.
 DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
 "TEMPORARY SHORING" IS REQUIRED FOR RETAINING WALL NO. 1 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE TRAFFIC CONTROL PLANS.



SEGMENTAL RETAINING WALL (SRW) UNITS

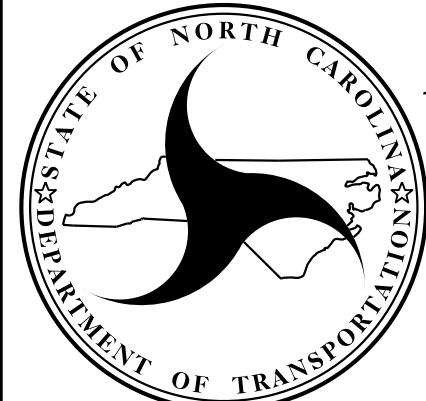


PRECAST CONCRETE PANELS

LEVELING PAD STEP DETAILS

PROJECT NO.: U-5104
 TRANSYLVANIA COUNTY
 STATION: 10+58.97 -L- TO 13+35.35 -L-
 SHEET 4 OF 4

PREPARED BY: EJS	DATE: 7/15
REVIEWED BY: SCC	DATE: 7/15


NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

**MECHANICALLY STABILIZED
EARTH (MSE)
DETAILS AND NOTES**

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