

**This electronic collection of documents is provided  
for the convenience of the user  
and is Not a Certified Document –**

**The documents contained herein were originally issued  
and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

**This file or an individual page  
shall not be considered a certified document.**

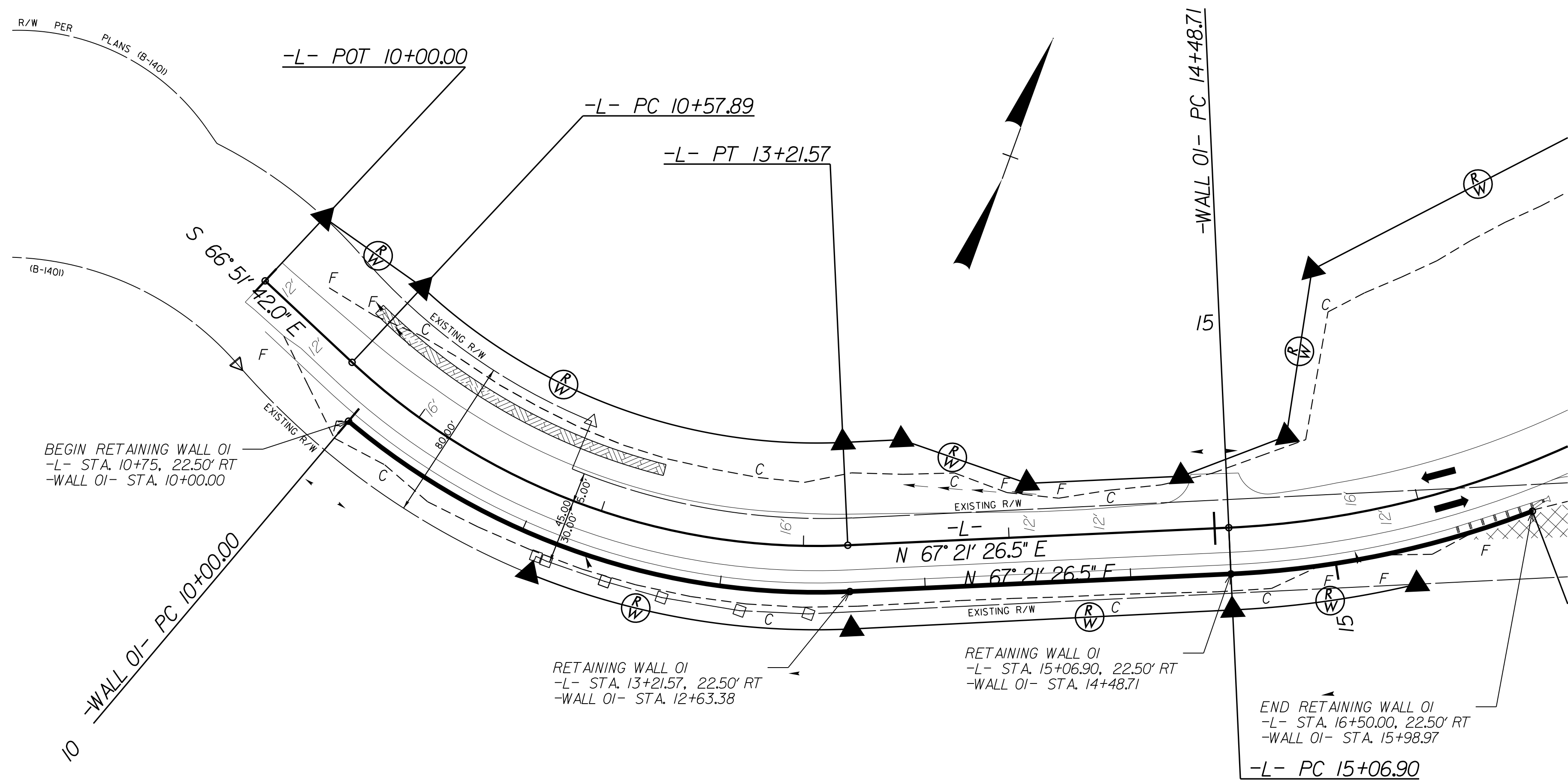
GEOTECHNICAL ENGINEER

ENGINEER

DocuSigned by:  
Shane C. Clark  
10/27/2015

SEAL 29869  
ENGINEER  
SHANE C. CLARK

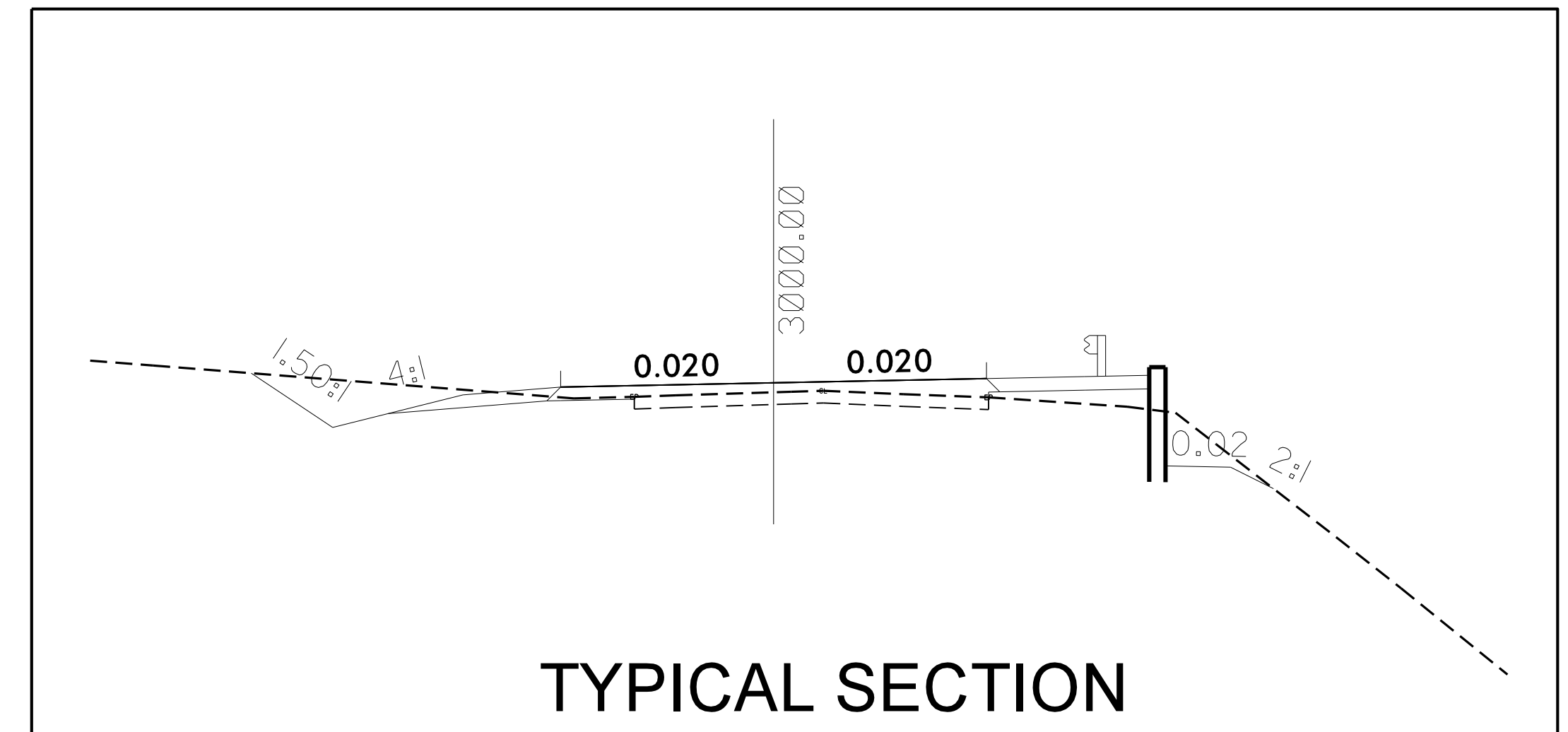
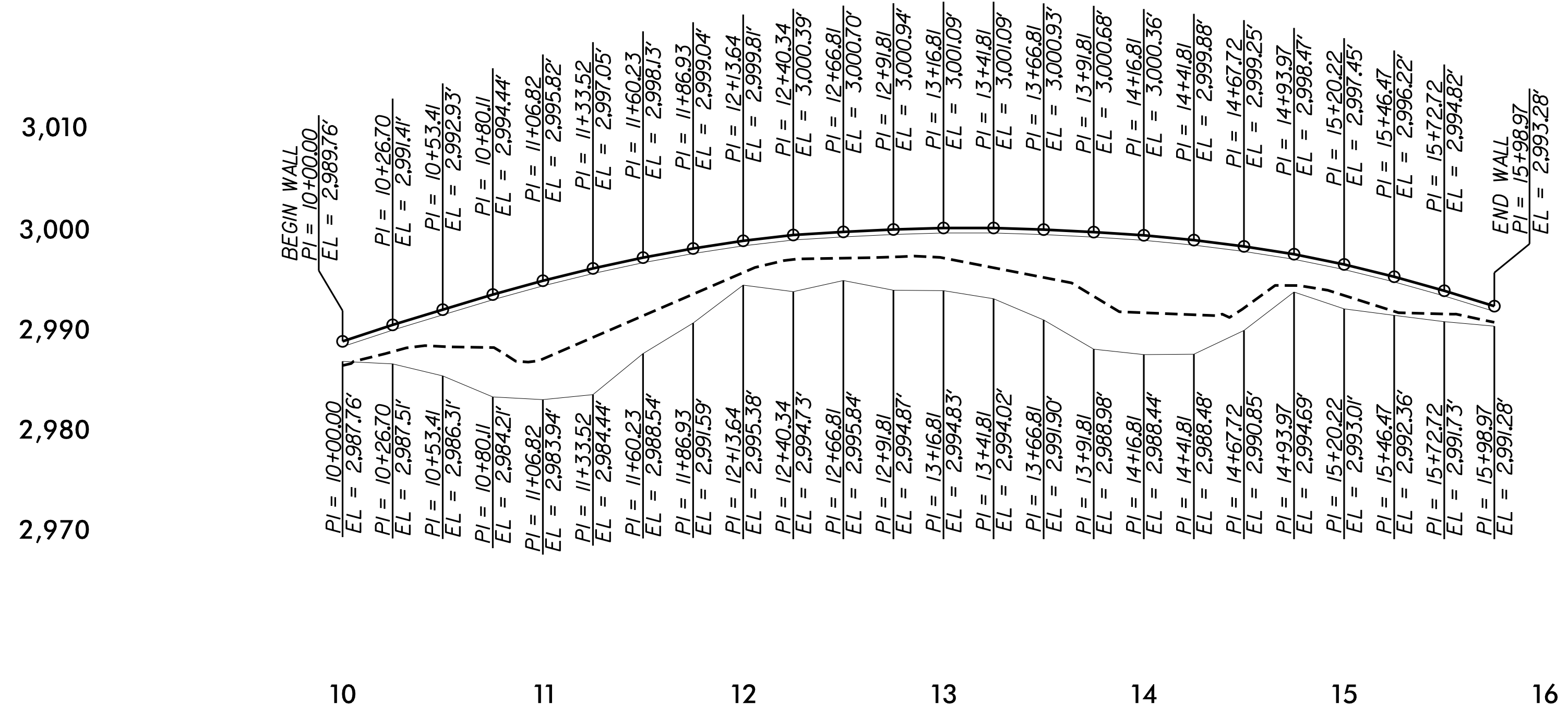
SIGNATURE DATE



ESTIMATED MSE WALL QUANTITIES (SQUARE FEET)

MSE RETAINING WALL NO. 1	4160 SF
--------------------------	---------

WALL ENVELOPE



PROJECT NO.: R-2409C

TRANSYLVANIA COUNTY

STATION: 10+75.00 -L- to 16+50.00 -L-

SHEET 1 OF 3

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MSE RETAINING WALL WALL #1

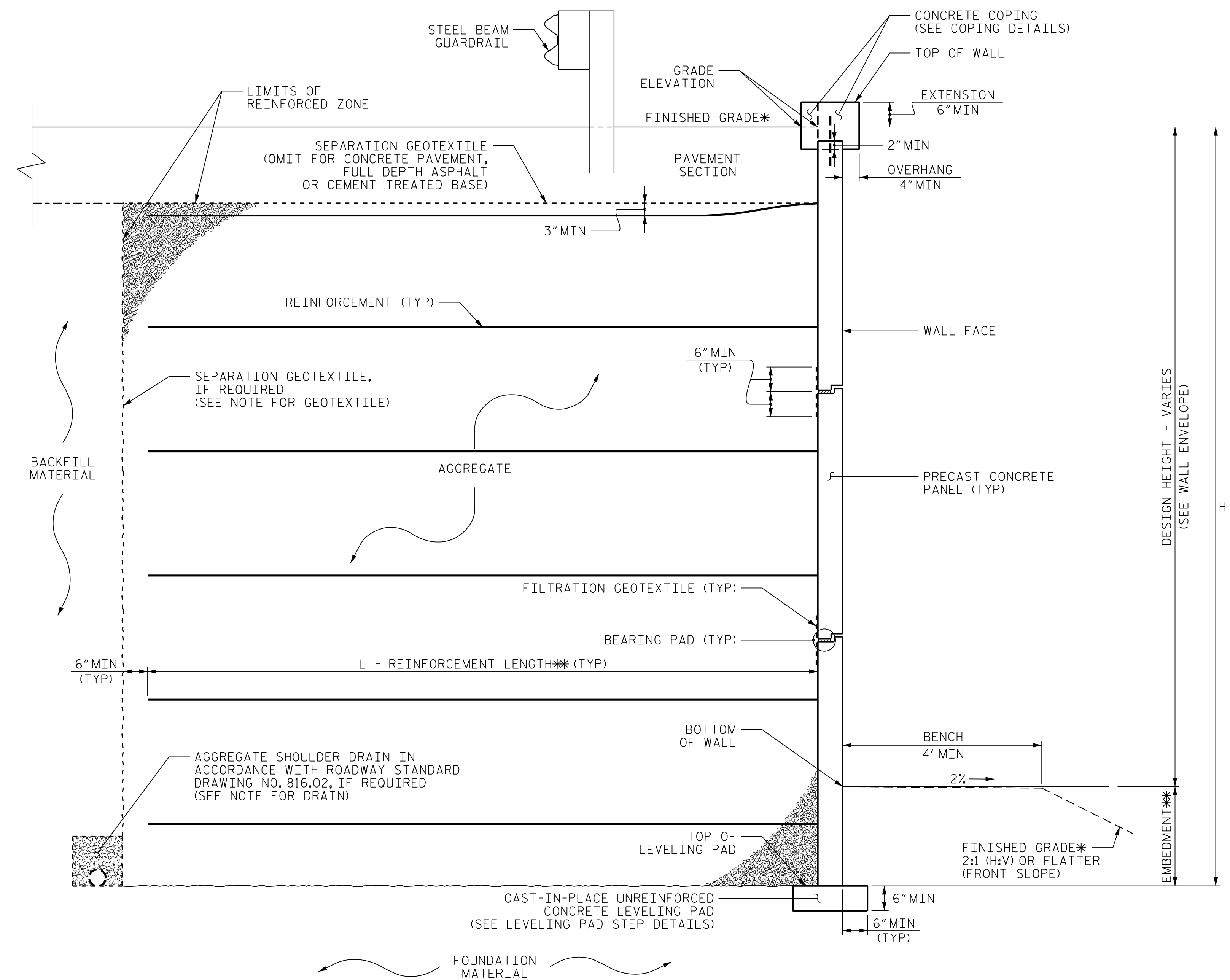
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO. W-1

PREPARED BY: EJS DATE: 10/15

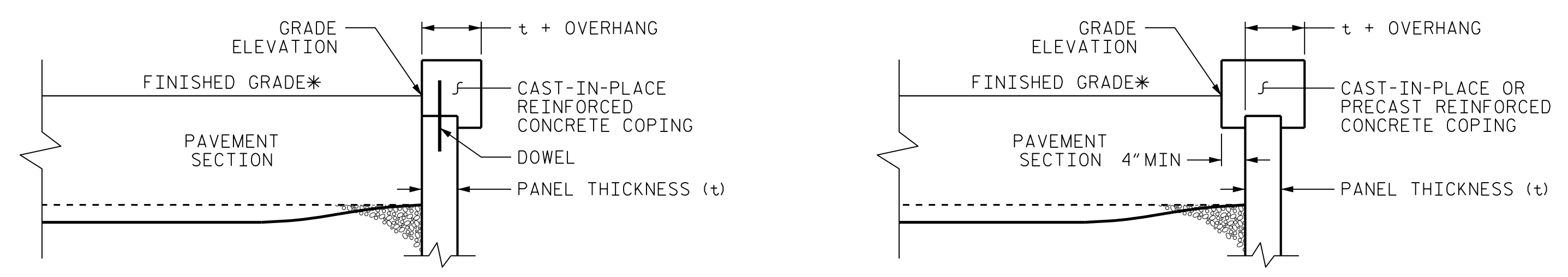
REVIEWED BY: SCC DATE: 10/15

WALL ENVELOPE



**MSE WALL WITH PRECAST PANELS - TYPICAL SECTION**

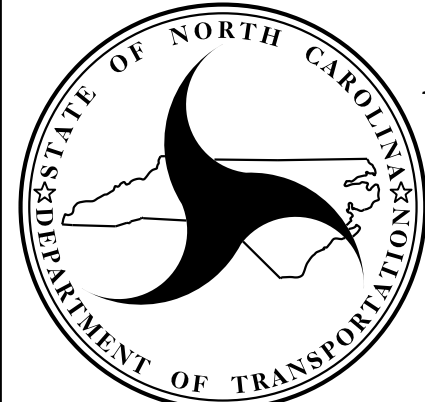
\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.  
 \*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.



**COPING DETAILS**

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS.  
 \*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.

PREPARED BY: EJS	DATE: 10/15
REVIEWED BY: SCC	DATE: 10/15

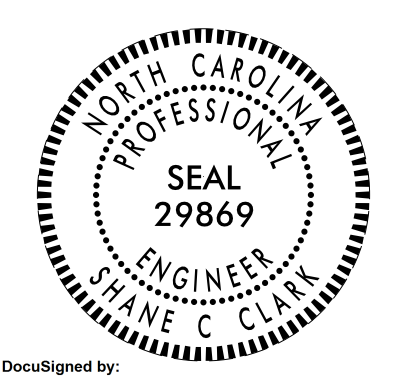
  
**NORTH CAROLINA**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**GEOTECHNICAL**  
**ENGINEERING UNIT**

PROJECT NO.: R-2409C  
 TRANSYLVANIA COUNTY  
 STATION: 10+75.00 -L- to 16+50.00 -L-  
 SHEET 2 OF 3

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

GEOTECHNICAL ENGINEER

ENGINEER



SEAL  
29869  
ENGINEER  
SHANE C. CLARK

Designed by: Shane C. Clark DATE: 10/27/2015

DATE: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**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.  
 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 = 5,000 LB/SF  
 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.7 H OR 6 FT, WHICHEVER IS LONGER  
 5) MINIMUM EMBEDMENT ELEVATION = SEE TABLE

**FRONT SLOPE WALL EMBEDMENT**

SLOPE IN FRONT OF STRUCTURES		MINIMUM EMBEDMENT DEPTH
HORIZONTAL	FOR WALLS	H/20
	FOR ABUTMENTS	H/10
3.0H:1.0V	WALLS	H/10
2.5H:1.0V	WALLS	H/8.5
2.0H:1.0V	WALLS	H/7
1.5H:1.0V	WALLS	H/5
1.25H:1.0V	WALLS	H/4
1.0H:1.0V	WALLS	H/3

**NOTE:**  
 1) MAINTAIN A MINIMUM BENCH WIDTH OF 4.0 IN FRONT OF THE WALL FOR ITS ENTIRE LENGTH.  
 2) MINIMUM EMBEDMENT DEPTH OF 2 FT, UNLESS LARGER DEPTHS DICTATED BY THE ABOVE TABLE.  
 3) MAXIMUM SLOPE OF 1H:1V WILL BE MAINTAINED ON FRONT SLOPES FOR THE ENTIRE LENGTH OF THE WALL.  
 4) SUBMIT WITH THE WALL DESIGN INTERNAL, EXTERNAL, AND GLOBAL STABILITY ANALYSES.

6) REINFORCED ZONE AGGREGATE PARAMETERS:

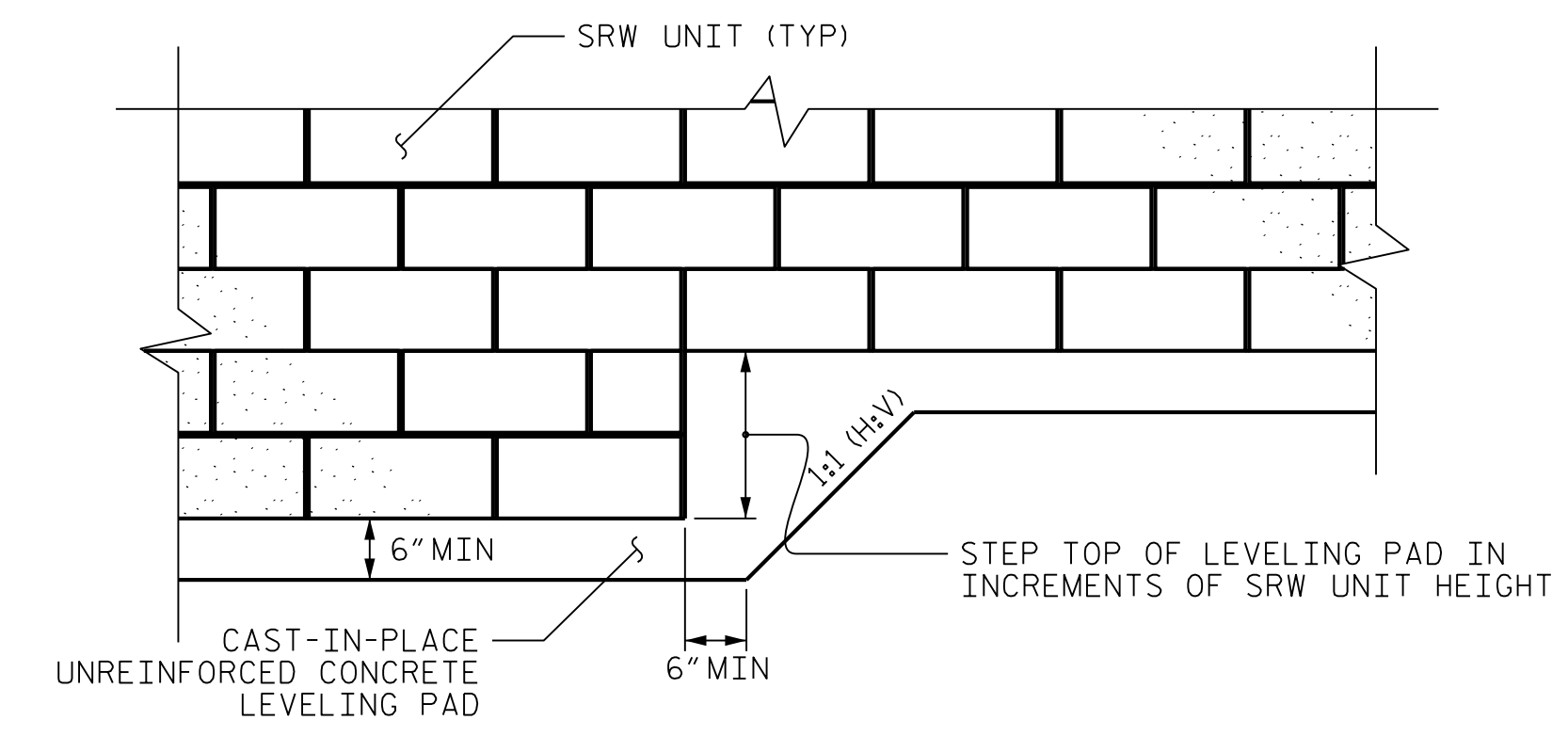
AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (C) LB/SF
COARSE	110	38	0

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

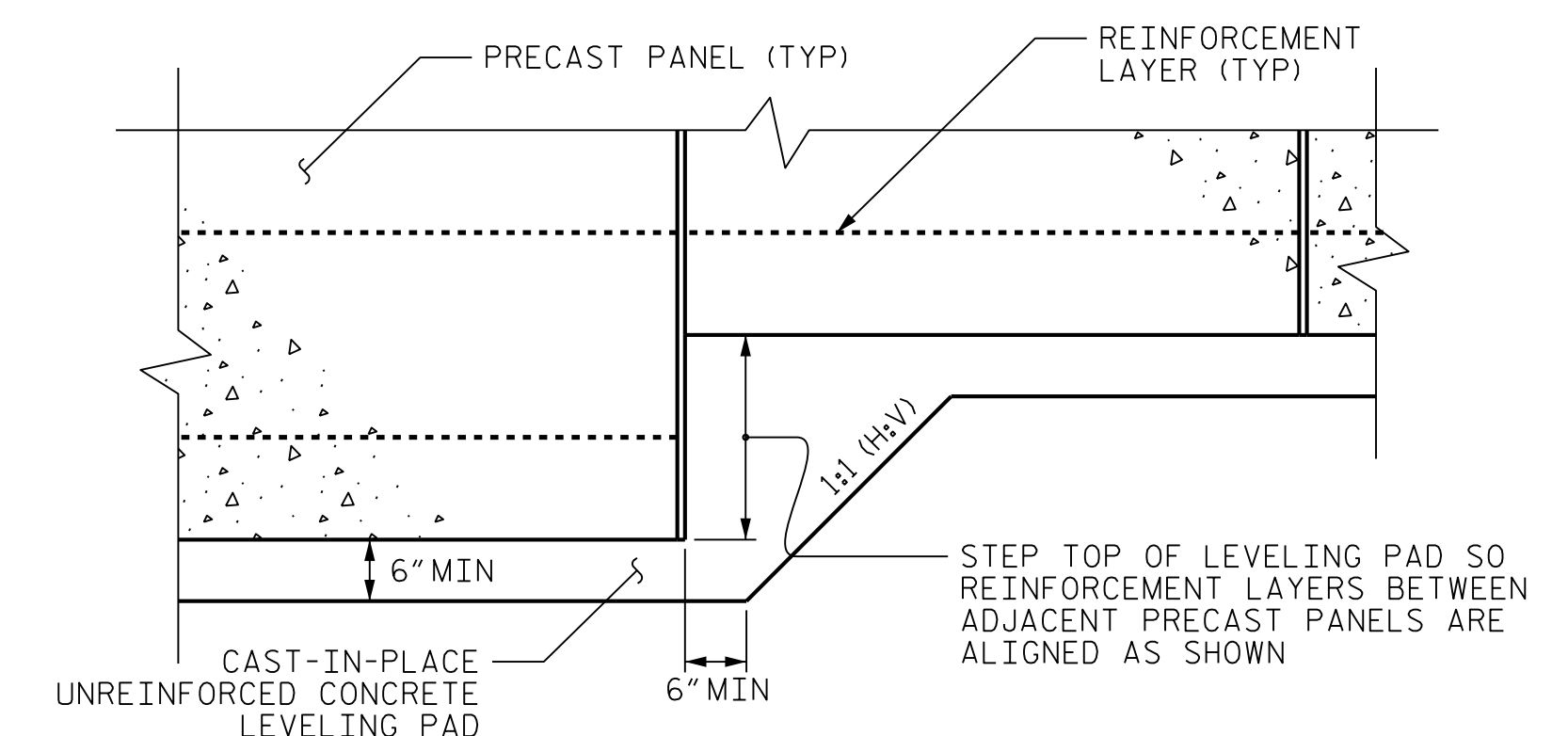
7) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (C) LB/SF
BACKFILL	135	34	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 MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 1.  
 DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 1 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.  
 "TEMPORARY SHORING" MAY BE REQUIRED FOR RETAINING WALL NO. 1 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE TRAFFIC CONTROL PLANS.  
 NO SEPARATE RETAINING WALL INVENTORIES WERE PRODUCED FOR THIS PROJECT, SEE ROADWAY INVENTORY FOR SUBSURFACE INFORMATION



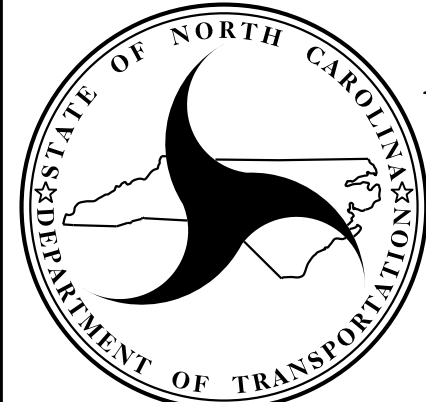
SEGMENTAL RETAINING WALL (SRW) UNITS



PRECAST CONCRETE PANELS

LEVELING PAD STEP DETAILS

PROJECT NO.: R-2409C  
TRANSYLVANIA COUNTY  
 STATION: 10+75.00 -L- to 16+50.00 -L-  
 SHEET 3 OF 3



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

**GEOTECHNICAL  
 ENGINEERING UNIT**

**MSE RETAINING WALL  
 WALL #1**

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

PREPARED BY: EJS	DATE: 10/15
REVIEWED BY: SCC	DATE: 10/15

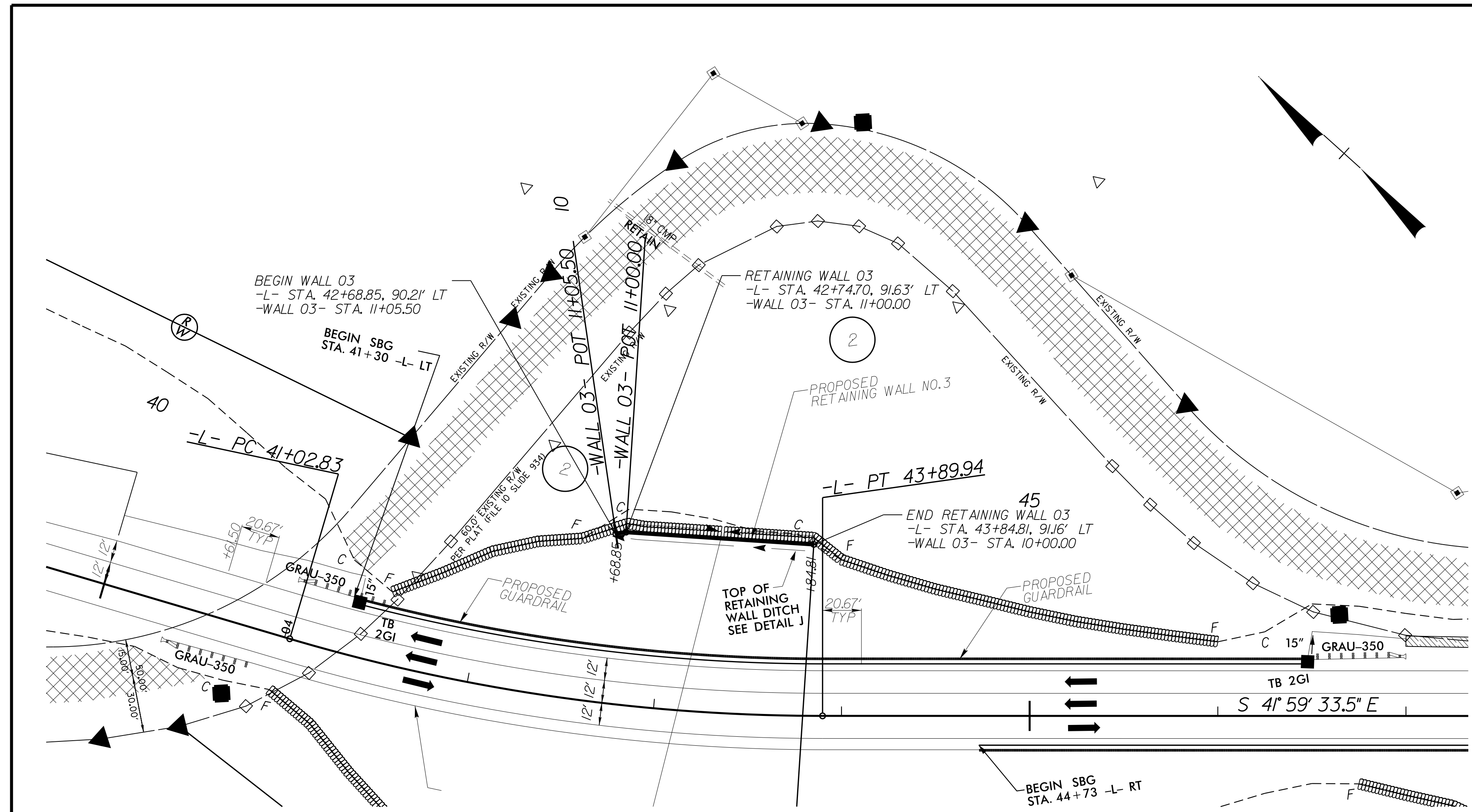
GEOTECHNICAL ENGINEER

ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 29869 ENGINEER SHANE C. CLARK

DocuSigned by: Shane C. Clark 10/27/2015

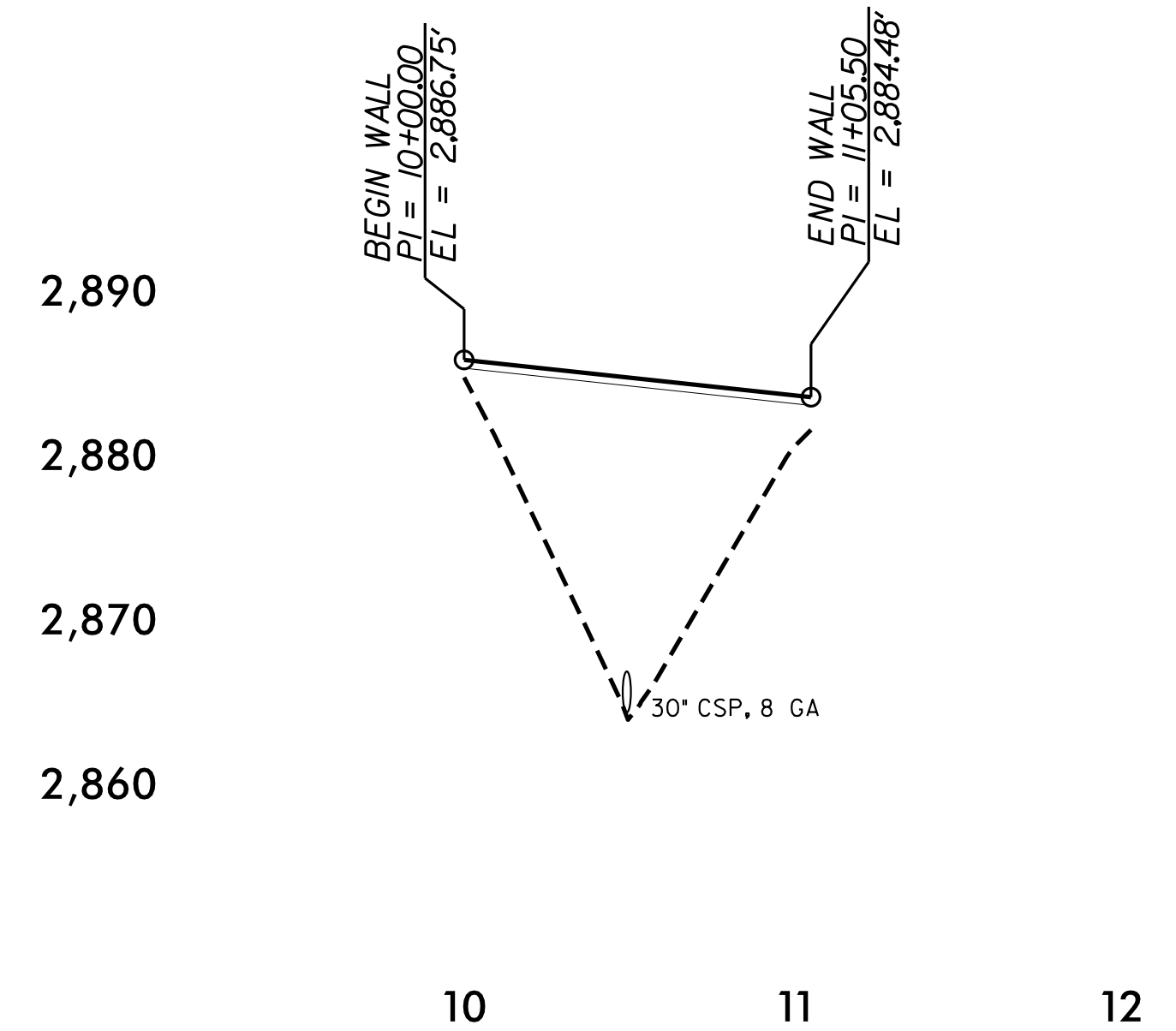
SIGNATURE DATE SIGNATURE DATE



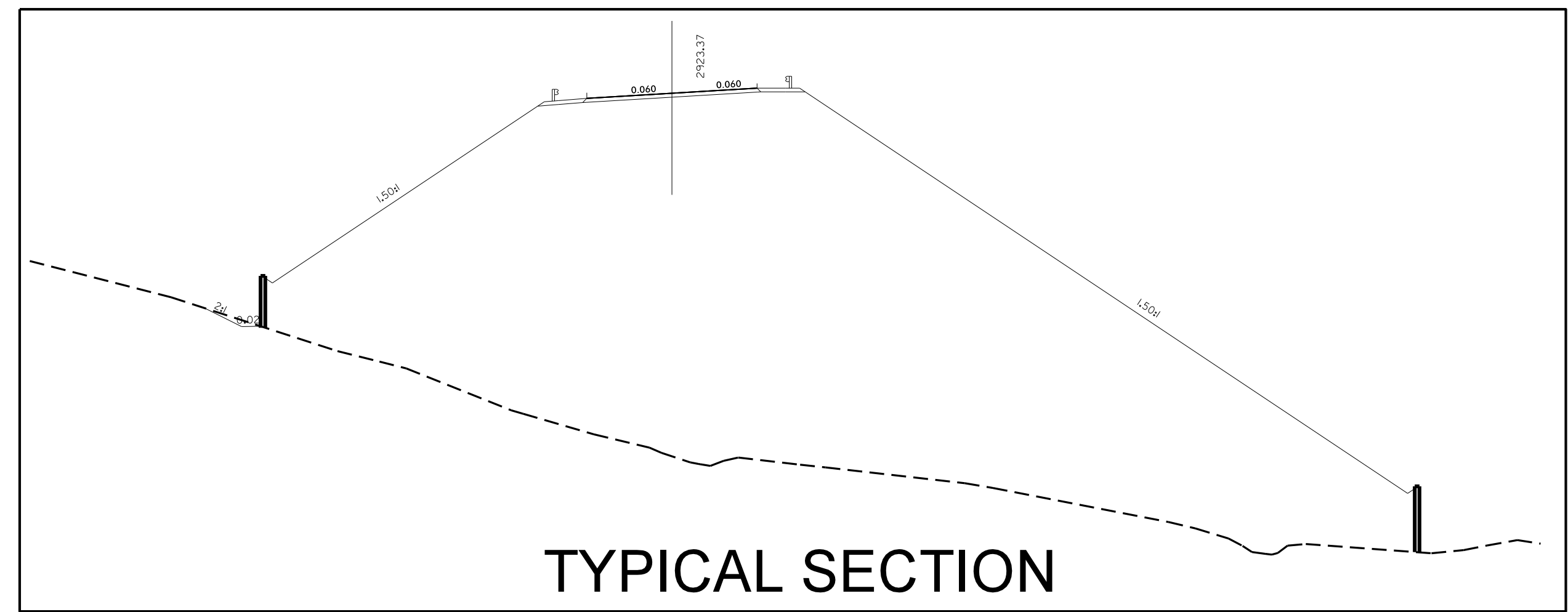
ESTIMATED MSE WALL QUANTITIES (SQUARE FEET)

MSE RETAINING WALL NO. 3	1160 SF
--------------------------	---------

WALL ENVELOPE



WALL ENVELOPE



TYPICAL SECTION

PROJECT NO.: R-2409C

TRANSYLVANIA COUNTY

STATION: 42+68.85 -L- to 43+84.81 -L-

SHEET 1 OF 5

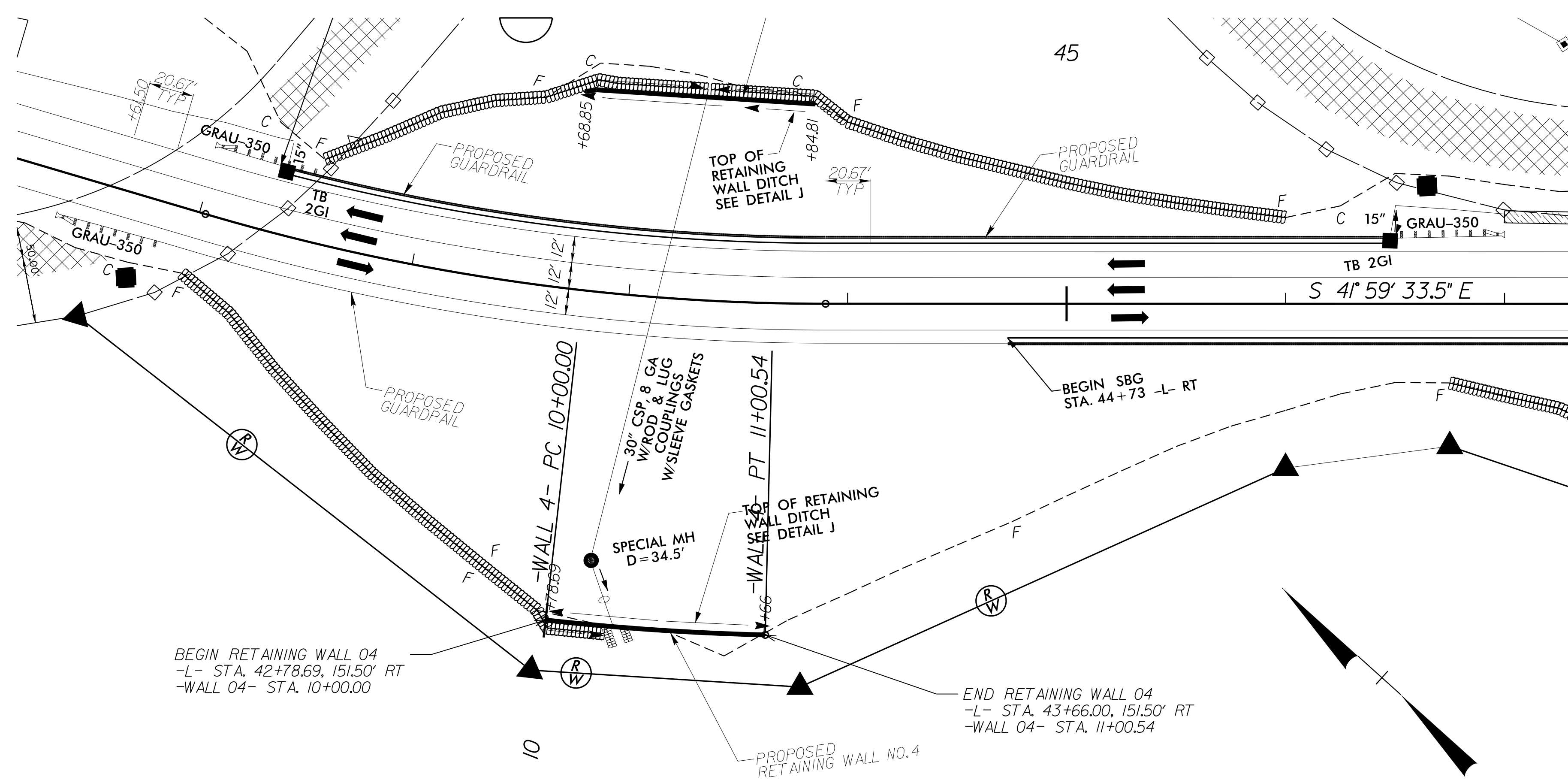
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MSE RETAINING WALL WALL #3

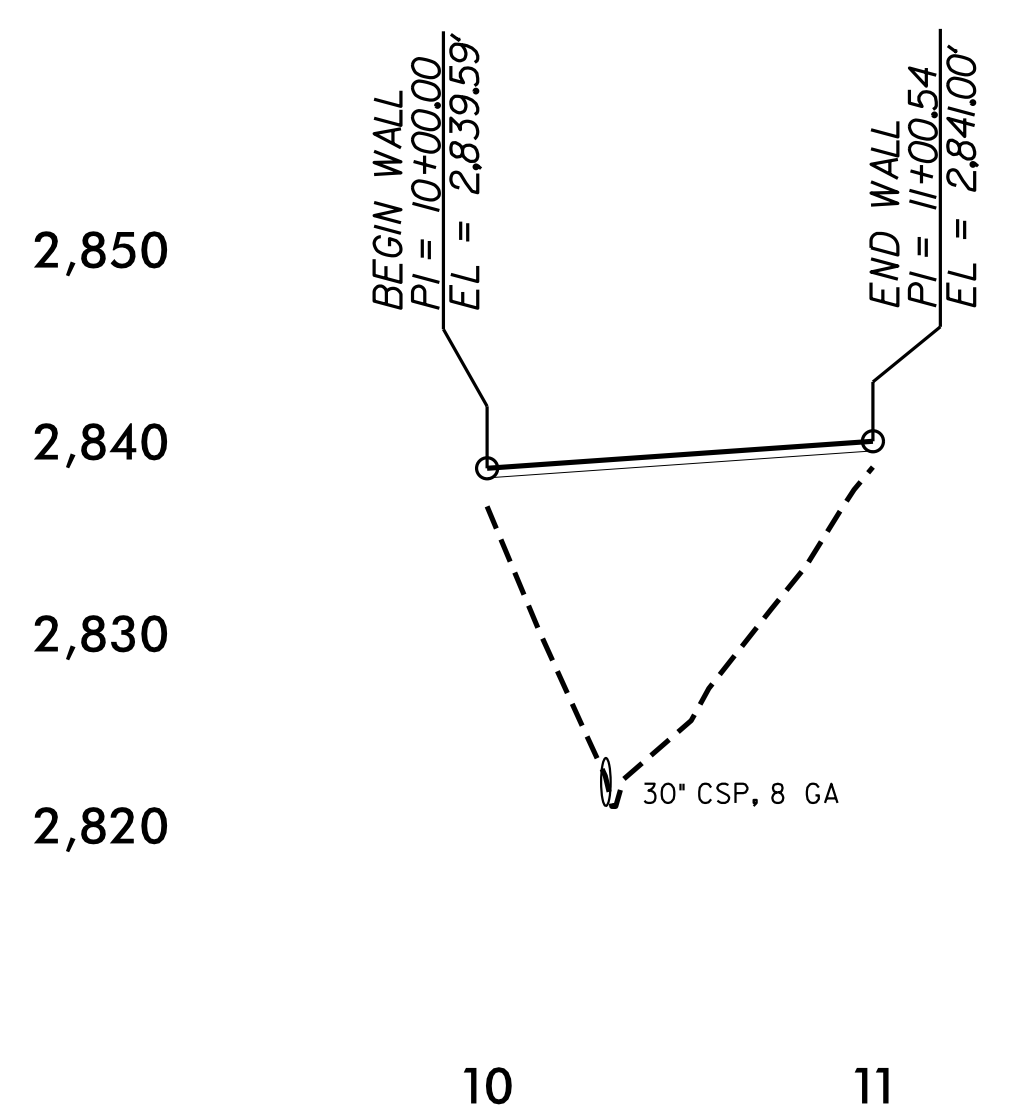
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	-	-	3	-	-	W-4
2	-	-	4	-	-	

PREPARED BY: EJS	DATE: 10/15
REVIEWED BY: SCC	DATE: 10/15

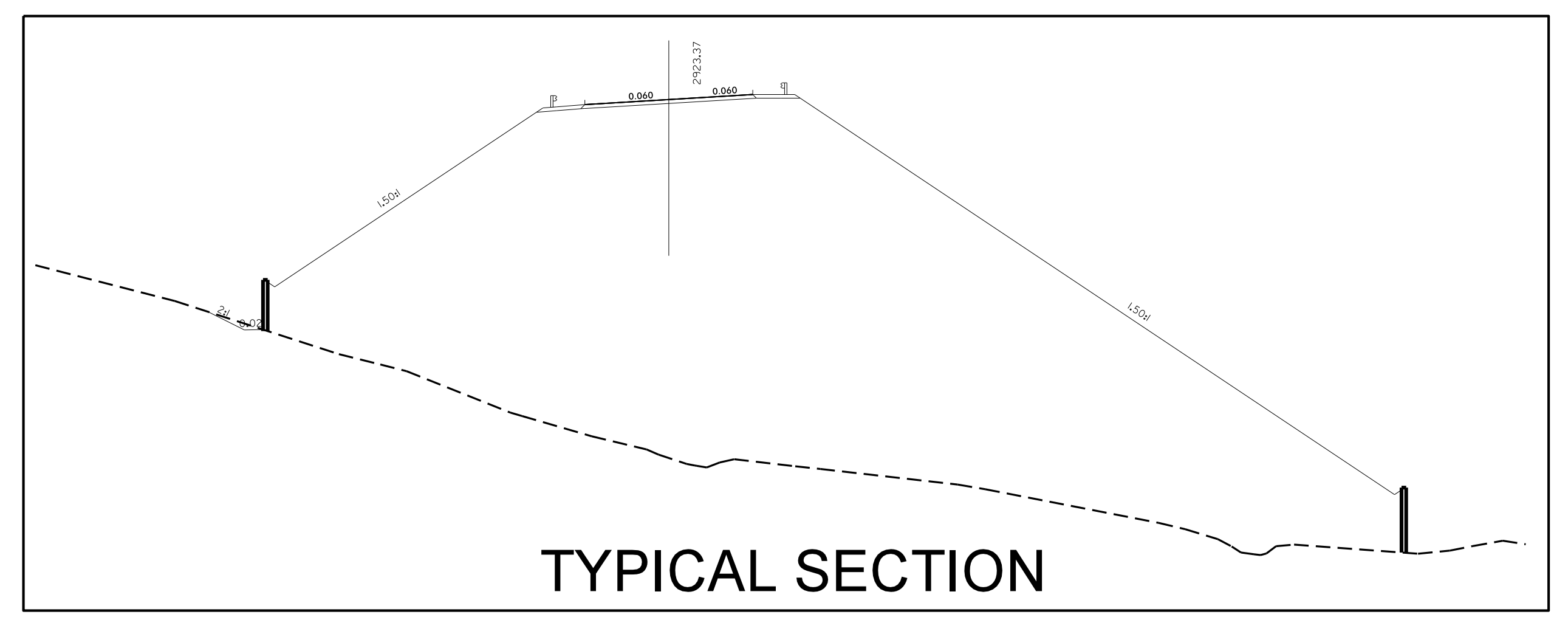


ESTIMATED MSE WALL QUANTITIES (SQUARE FEET)	
MSE RETAINING WALL NO. 4	1000 SF

### WALL ENVELOPE

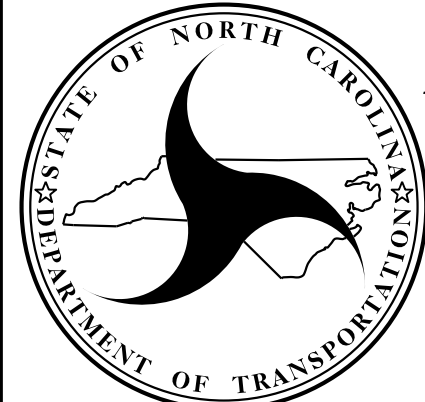


### WALL ENVELOPE



### TYPICAL SECTION

PROJECT NO.: R-2409C  
 TRANSYLVANIA COUNTY  
 STATION: 42+78.69 -L- to 43+66.00 -L-  
 SHEET 2 OF 5

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

MSE RETAINING WALL WALL #4					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	-	-	3	-	-
2	-	-	4	-	-

SHEET NO. W-5

GEOTECHNICAL ENGINEER

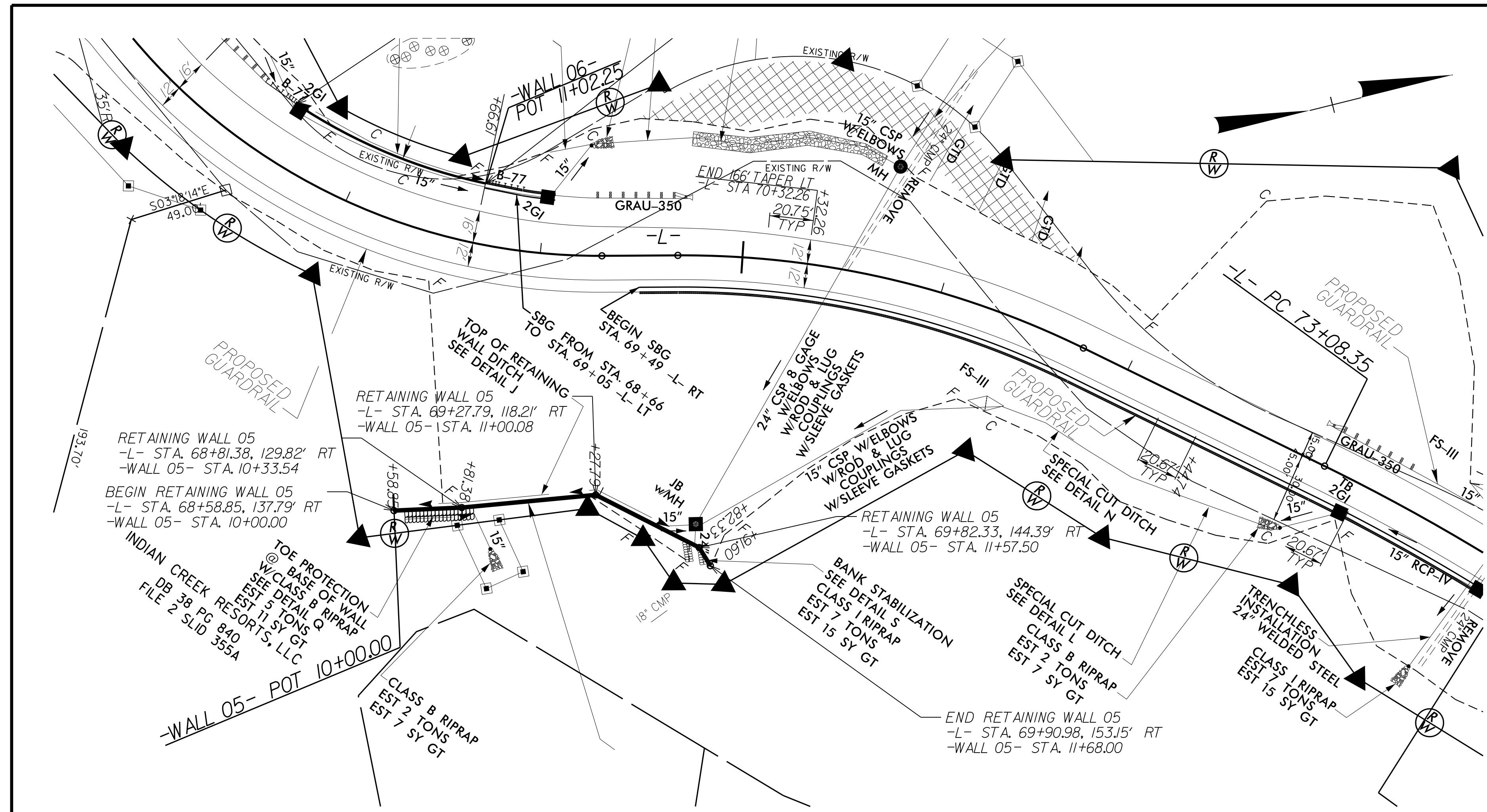
ENGINEER

**NORTH CAROLINA PROFESSIONAL SEAL 29869**

ENGINEER SHANE C. CLARK

DocuSigned by: **Shane C. Clark** 10/27/2015

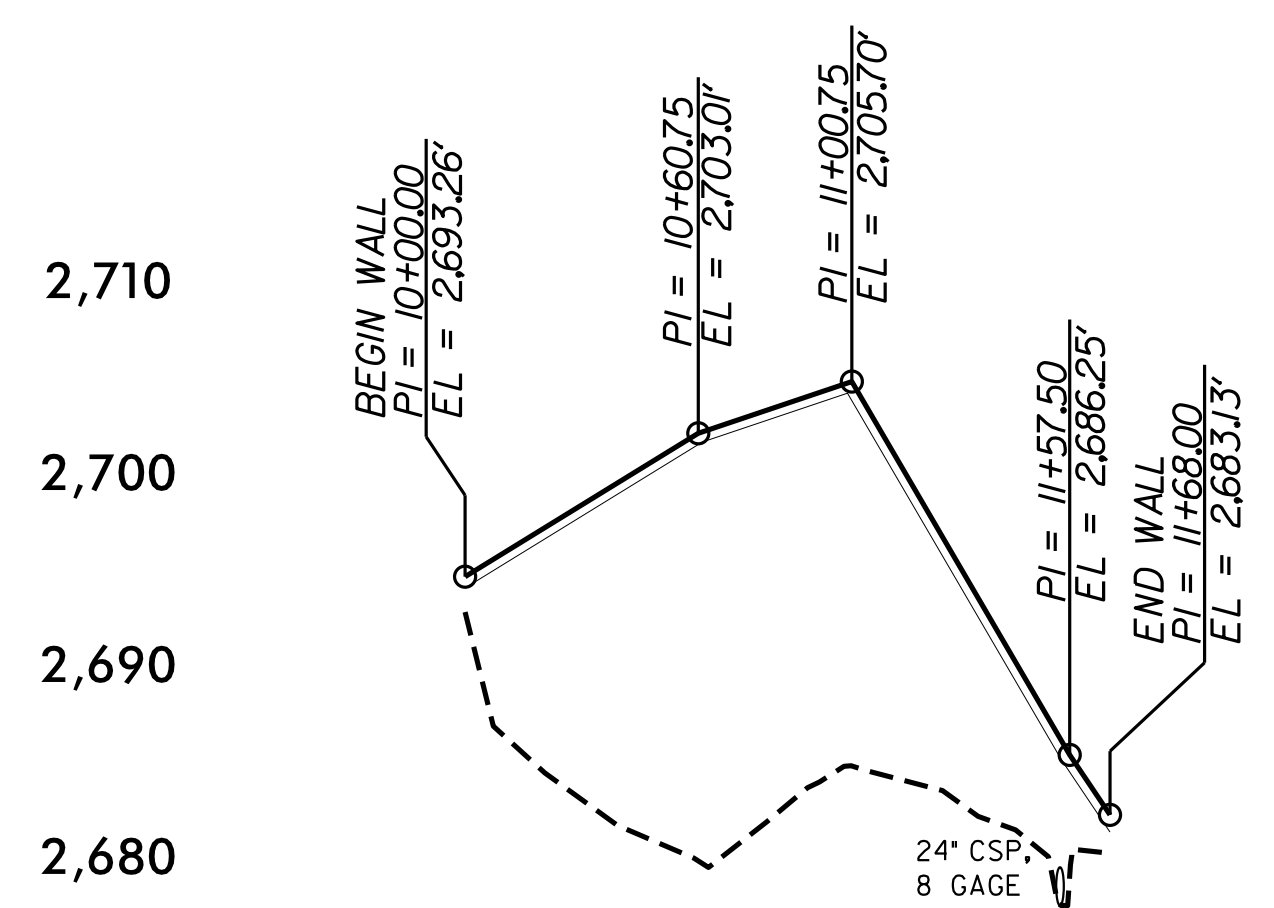
SIGNATURE DATE



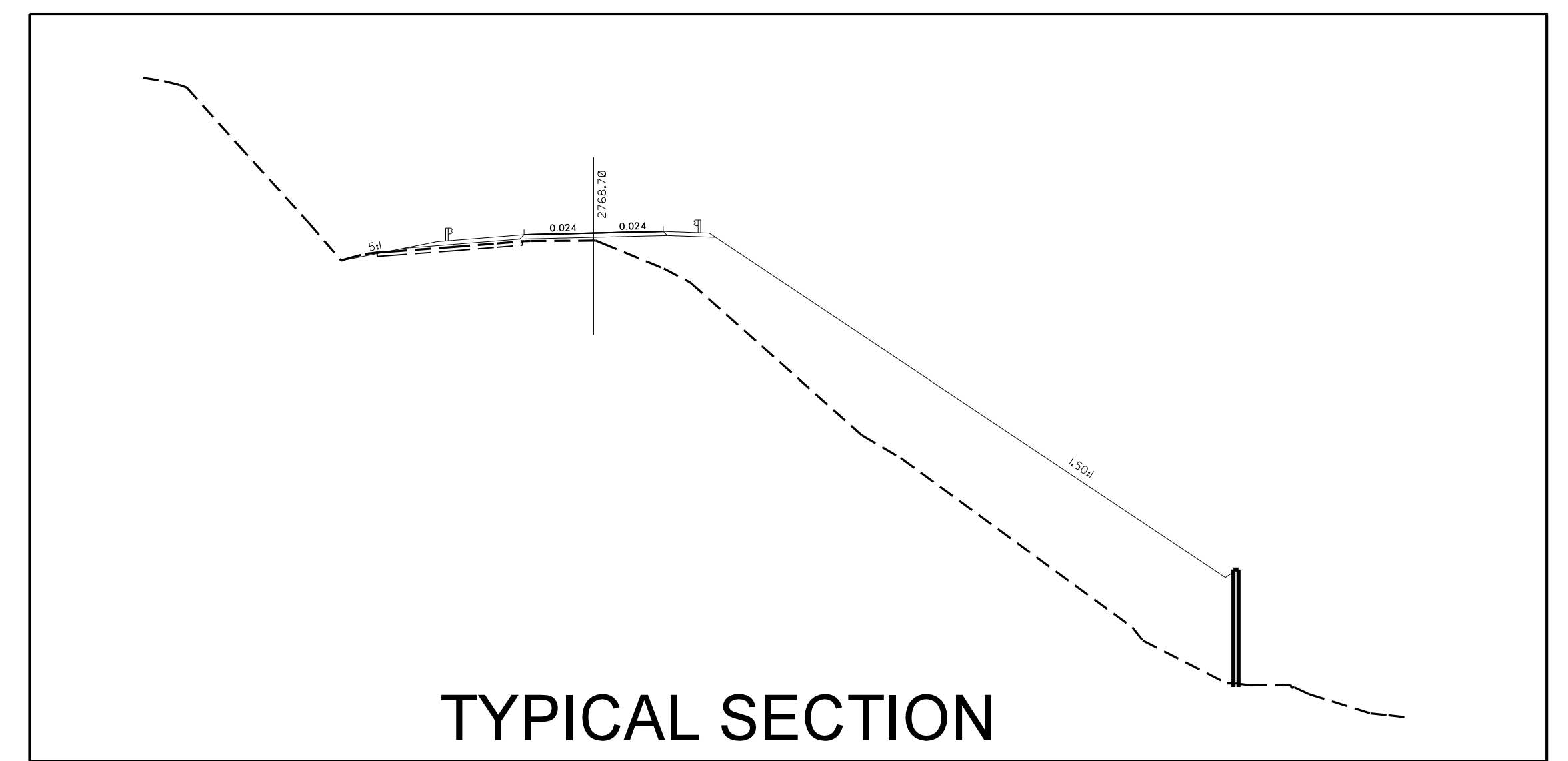
**ESTIMATED MSE WALL QUANTITIES**  
(SQUARE FEET)

MSE RETAINING WALL NO. 5	2500 SF
--------------------------	---------

**WALL ENVELOPE**



**WALL ENVELOPE**



**TYPICAL SECTION**

PROJECT NO.: R-2409C

TRANSYLVANIA COUNTY

STATION: 68+58.85 -L- to 69+90.98 -L-

SHEET 3 OF 5

PREPARED BY: EJS DATE: 10/15

REVIEWED BY: SCC DATE: 10/15

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

**GEOTECHNICAL ENGINEERING UNIT**

**MSE RETAINING WALL WALL #5**

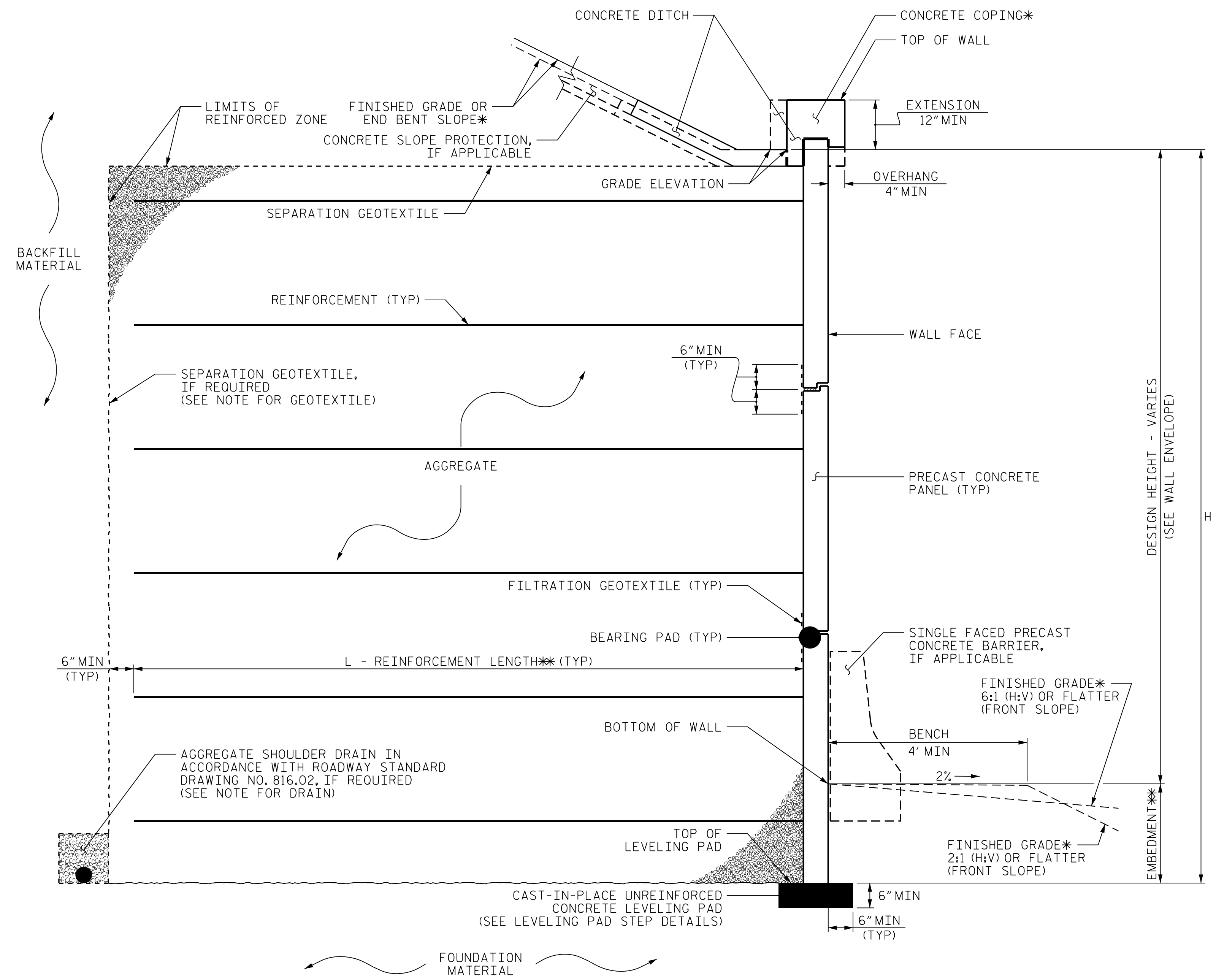
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	-	-	3	-	-	W-6
2	-	-	4	-	-	

GEOTECHNICAL ENGINEER

ENGINEER

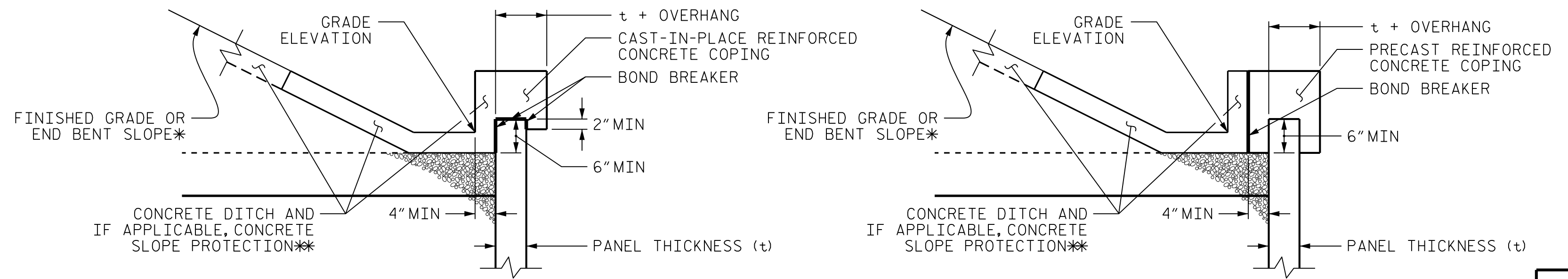
DocuSigned by:  
Shane C. Clark  
10/27/2015

DATE SIGNATURE DATE



**MSE WALL WITH PRECAST PANELS - TYPICAL SECTION**

\*SEE COPING DETAILS AND PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.  
 \*\*SEE MSE RETAINING WALLS PROVISION AND IF APPLICABLE, MSE WALL NOTES FOR EMBEDMENT AND REINFORCEMENT LENGTH REQUIREMENTS.



**COPING DETAILS**

\*SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.  
 \*\*SEE CONCRETE DITCH BEHIND WALL DETAILS.

PROJECT NO.: R-2409C  
 TRANSYLVANIA COUNTY  
 STATION: 42+68.85 -L- to 69+90.98 -L-  
 SHEET 4 OF 5

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

**GEOTECHNICAL  
 ENGINEERING UNIT**

**MSE RETAINING WALLS  
 WALLS #3, #4, #5**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1	-	-	3	-	-	W-7
2	-	-	4	-	-	

PREPARED BY: EJS	DATE: 10/15
REVIEWED BY: SCC	DATE: 10/15



**NOTES:**

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

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NOS. 3, 4, AND 5.

A DRAIN IS REQUIRED FOR RETAINING WALL NOS. 3, 4, AND 5.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 3, 4 OR 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. 3, 4, AND 5 FOR THE FOLLOWING:
- 1) H = DESIGN HEIGHT + EMBEDMENT
  - 2) DESIGN LIFE = 100 YEARS
  - 3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 5,000 LB/SF
  - 4) MINIMUM REINFORCEMENT LENGTH (L) = 1.0 H OR 6 FT, WHICHEVER IS LONGER
  - 5) MINIMUM EMBEDMENT ELEVATION = SEE TABLE

**FRONT SLOPE WALL EMBEDMENT**

SLOPE IN FRONT OF STRUCTURES		MINIMUM EMBEDMENT DEPTH
HORIZONTAL	FOR WALLS	H/20
	FOR ABUTMENTS	H/10
3.0H:1.0V	WALLS	H/10
2.5H:1.0V	WALLS	H/8.5
2.0H:1.0V	WALLS	H/7
1.5H:1.0V	WALLS	H/5
1.25H:1.0V	WALLS	H/4
1.0H:1.0V	WALLS	H/3

- NOTE:
- 1) MAINTAIN A MINIMUM BENCH WIDTH OF 4.0 IN FRONT OF THE WALL FOR ITS ENTIRE LENGTH.
  - 2) MINIMUM EMBEDMENT DEPTH OF 2 FT, UNLESS LARGER DEPTHS DICTATED BY THE ABOVE TABLE.
  - 3) MAXIMUM SLOPE OF 1H:1V WILL BE MAINTAINED ON FRONT SLOPES FOR THE ENTIRE LENGTH OF THE WALL.
  - 4) SUBMIT WITH THE WALL DESIGN INTERNAL, EXTERNAL, AND GLOBAL STABILITY ANALYSES.

6) REINFORCED ZONE AGGREGATE PARAMETERS:

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

\*SEE MSE RETAINING WALLS PROVISION FOR COARSE 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	135	34	0
FOUNDATION	120	30	0

THE MINIMUM EMBEDMENT ELEVATION FOR RETAINING WALL NOS. 3 AND 4 INCLUDES EMBEDMENT FOR SCOUR. EMBEDMENT SHALL INCLUDE A MINIMUM PENETRATION OF 1 FT INTO PARTIALLY WEATHER ROCK OR ROCK

DESIGN RETAINING WALL NOS. 3, 4, AND 5 FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

DESIGN RETAINING WALL NOS. 3, 4, AND 5 FOR A PIPE EXTENDING THROUGH THE WALL AS SHOWN. VERIFY PIPE LOCATION AND ELEVATION BEFORE BEGINNING MSE WALL DESIGN OR CONSTRUCTION.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NOS. 3, 4, AND 5.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NOS. 3, 4, AND 5 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

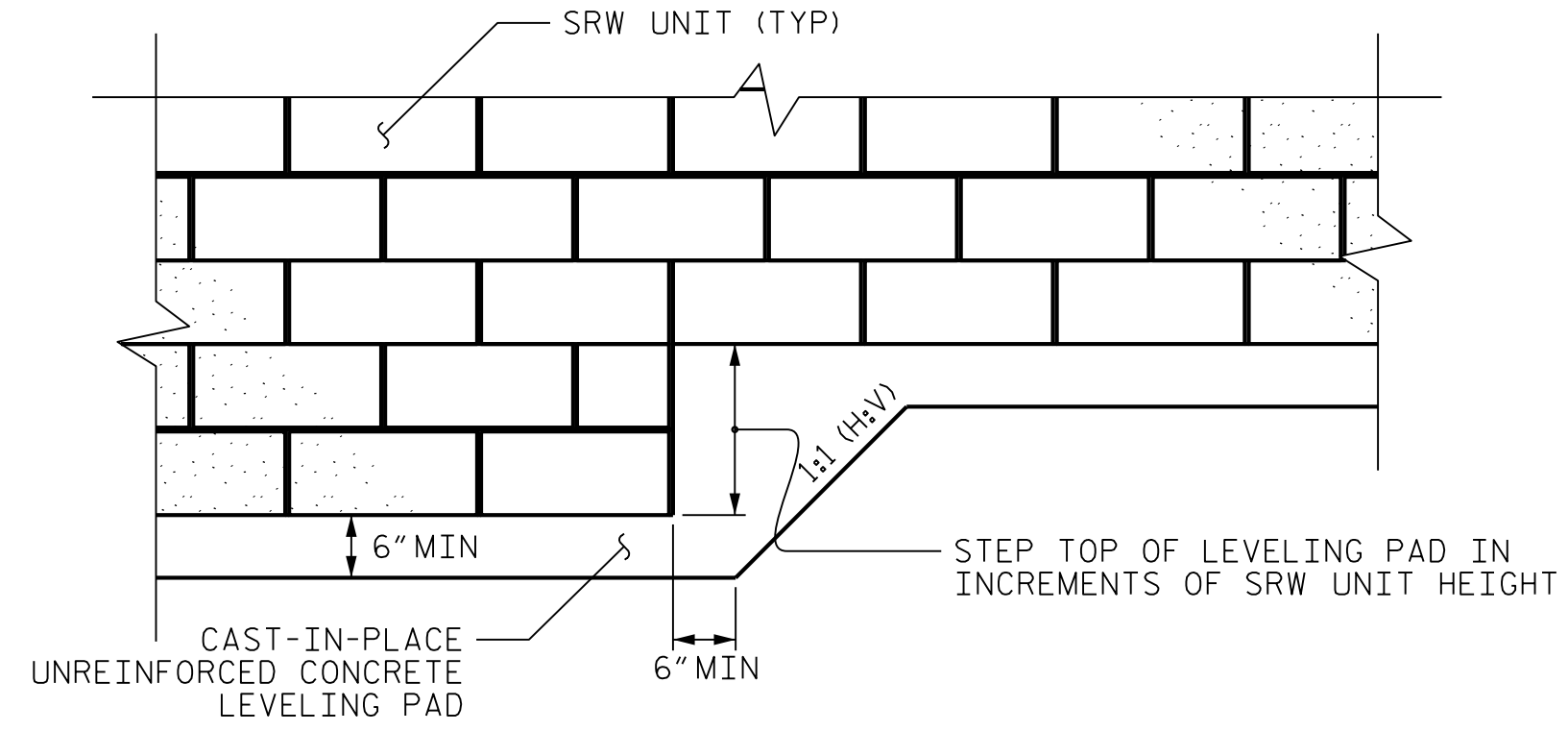
AT THE CONTRACTOR'S OPTION, "TEMPORARY SHORING FOR WALL CONSTRUCTION" MAY BE USED TO CONSTRUCT RETAINING WALL NOS. 3, 4, AND 5.

SEE MSE RETAINING WALLS PROVISION FOR TEMPORARY SHORING FOR WALL CONSTRUCTION.

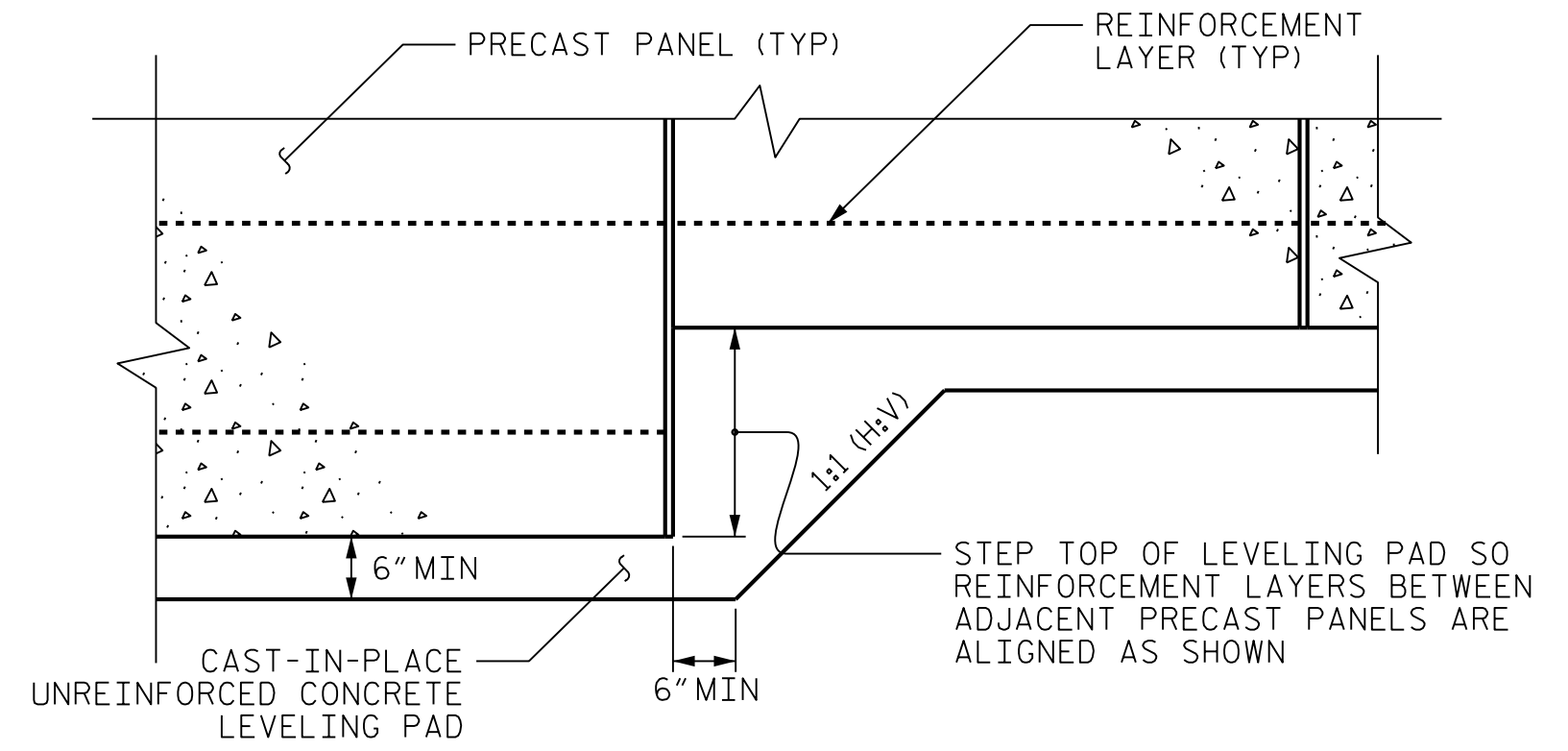
NO SEPARATE RETAINING WALL INVENTORIES WERE PRODUCED FOR THIS PROJECT, SEE ROADWAY INVENTORY FOR SUBSURFACE INFORMATION

FOR RETAINING WALL NO. 5 UNDERCUT ALL ALLUVIAL SOILS BENEATH THE WALL AND WALL REINFORCEMENT. BACKFILL WITH SITE DERIVED ROCK AS DIRECTED BY THE ENGINEER. UNDERCUT WILL BE PAID FOR AS UNCLASSIFIED EXCAVATION WITH NO ADDITIONAL COMPENSATION FOR BACKFILLING WITH PROJECT DERIVED ROCK. CONSTRUCT BACKFILL ACCORDING TO THE ROCK EMBANKMENTS SPECIAL PROVISION.

PREPARED BY: EJS	DATE: 10/15
REVIEWED BY: SCC	DATE: 10/15



SEGMENTAL RETAINING WALL (SRW) UNITS



PRECAST CONCRETE PANELS

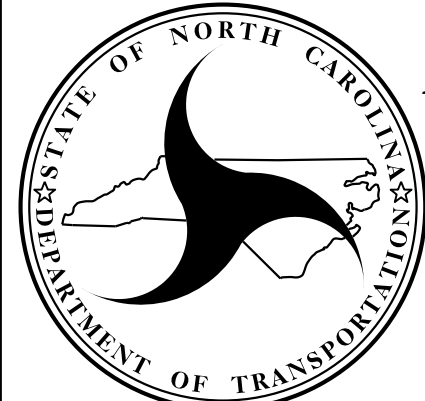
**LEVELING PAD STEP DETAILS**

PROJECT NO.: R-2409C

**TRANSYLVANIA COUNTY**

STATION: 42+68.85 -L- to 69+90.98 -L-

SHEET 5 OF 5



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

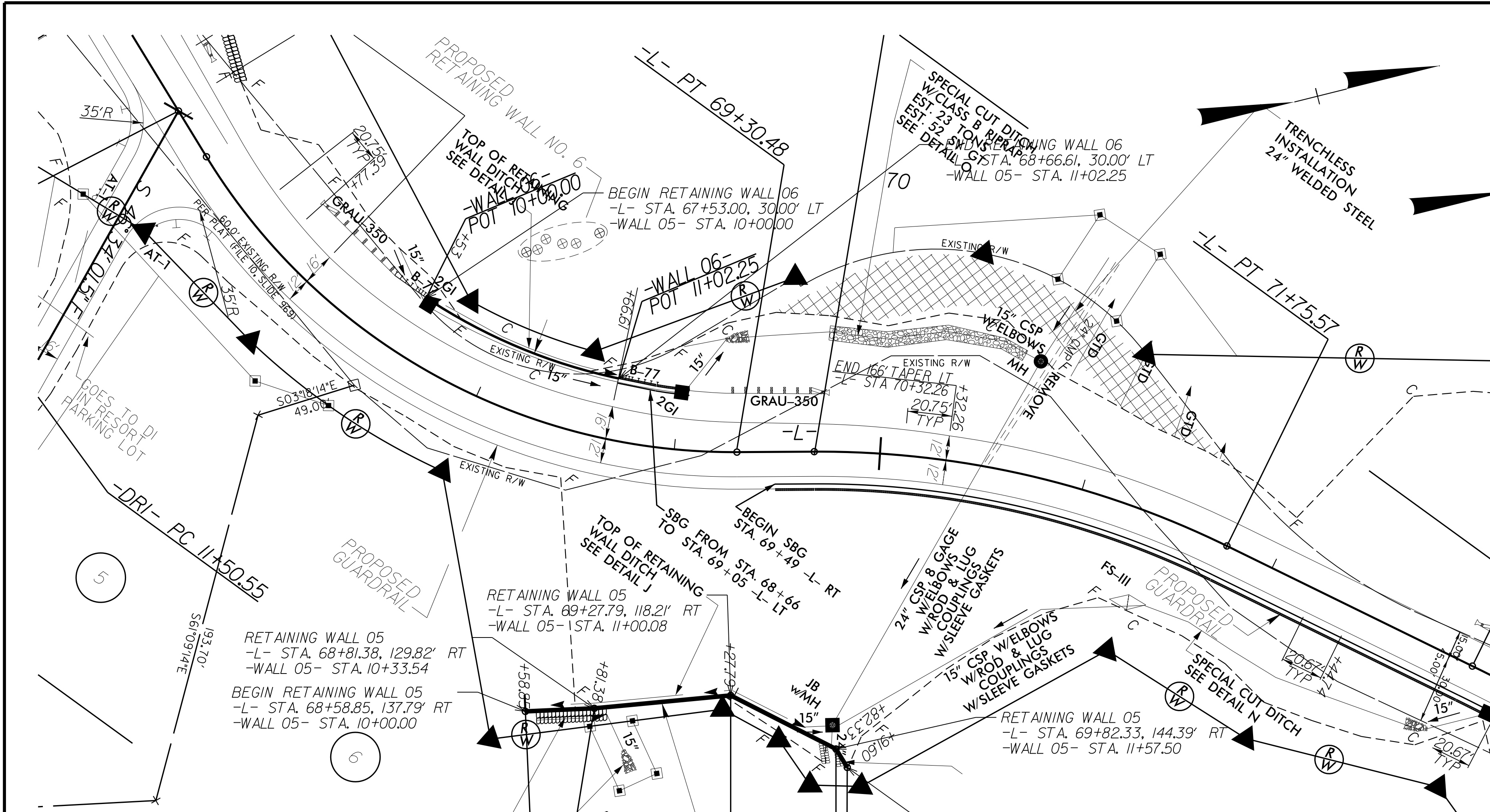
**GEOTECHNICAL  
ENGINEERING UNIT**

REVISIONS						SHEET NO. W-8
NO.	BY	DATE	NO.	BY	DATE	
1	-	-	3	-	-	
2	-	-	4	-	-	



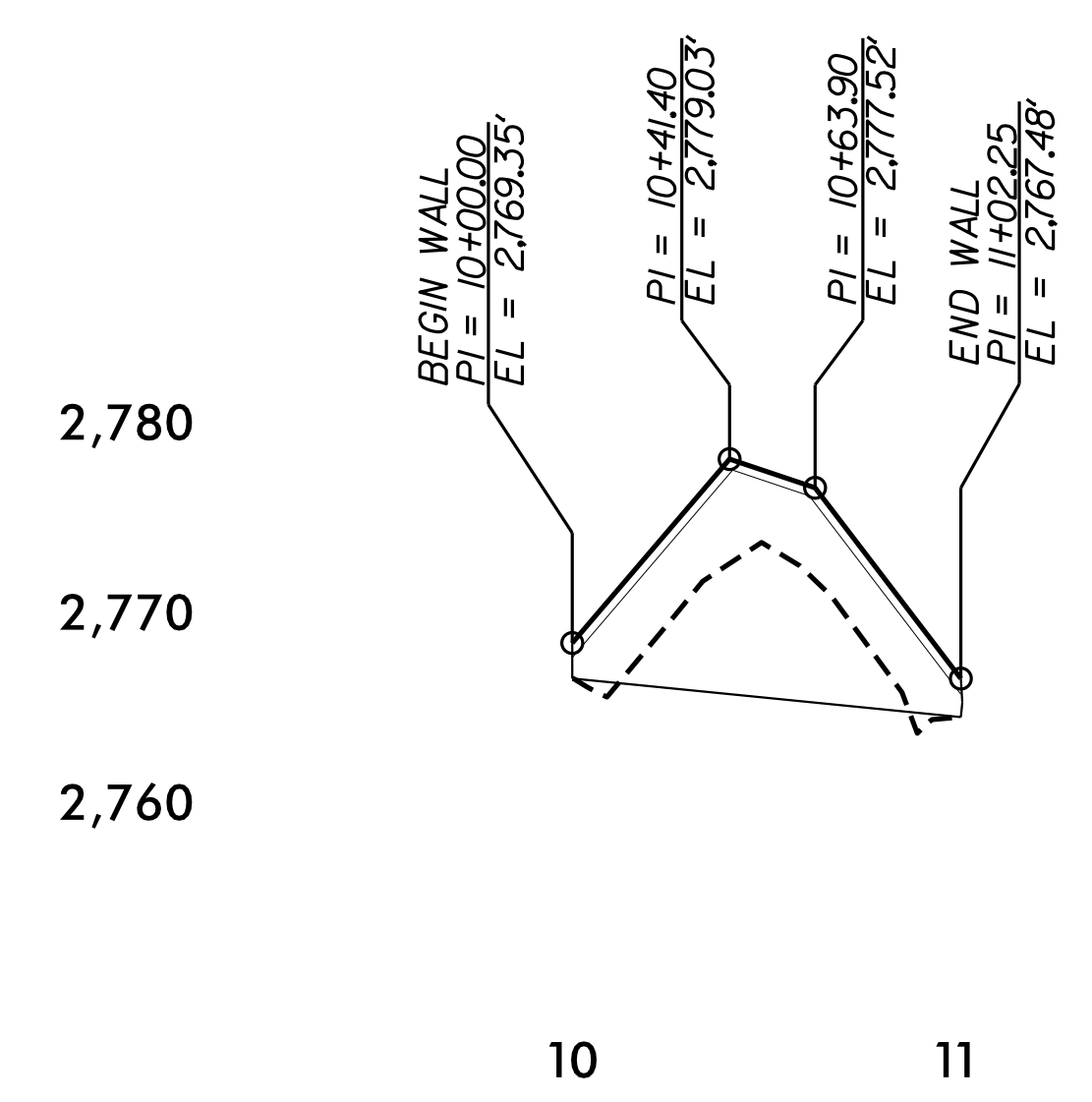
DocuSigned by: Shane C. Clark 10/27/2015

SIGNATURE DATE

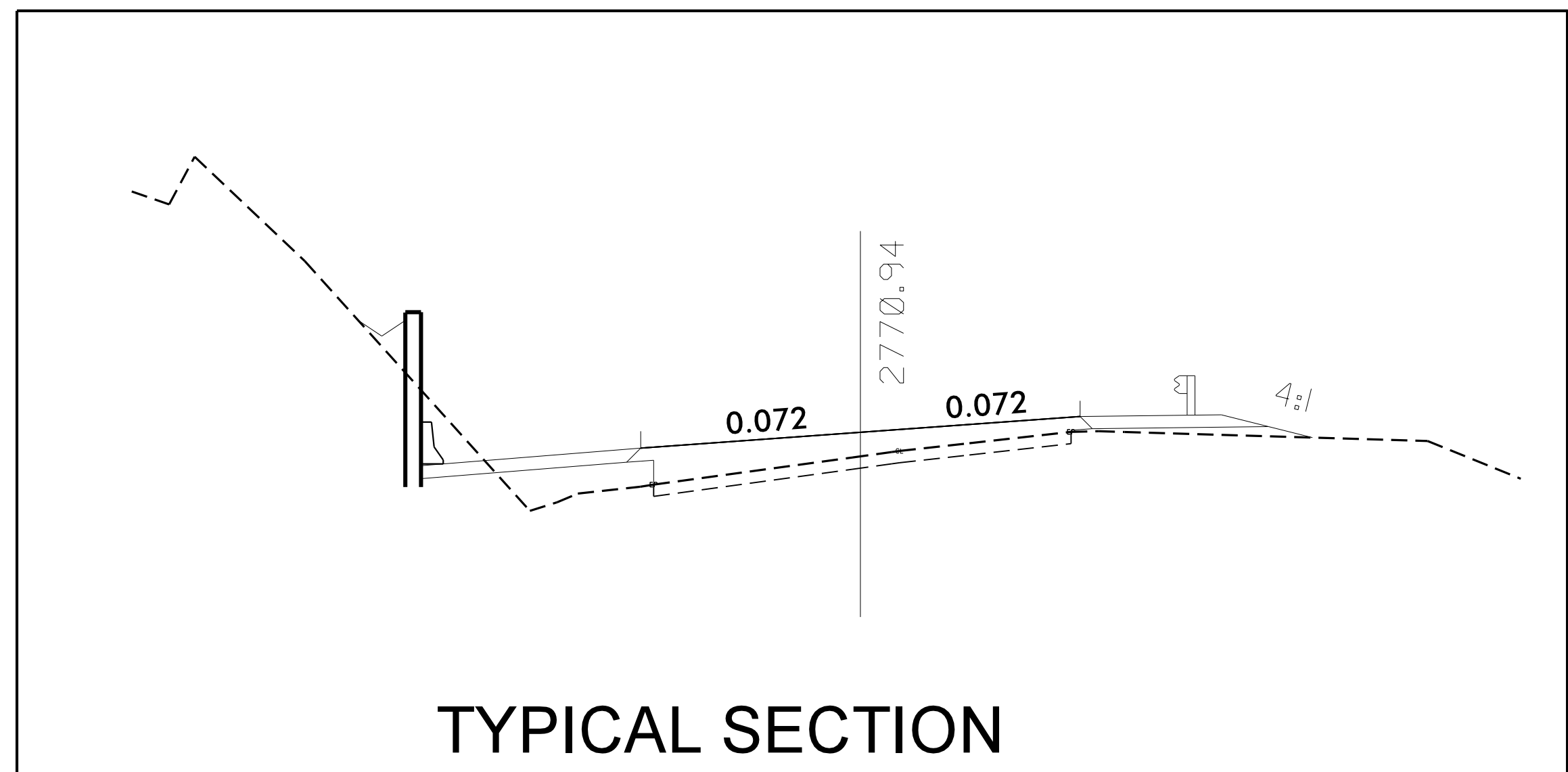


ESTIMATED SOLDIER PILE WALL QUANTITIES	
RETAINING WALL NO.	SOLDIER PILE RETAINING WALL (SQUARE FEET)
6	825

### WALL ENVELOPE

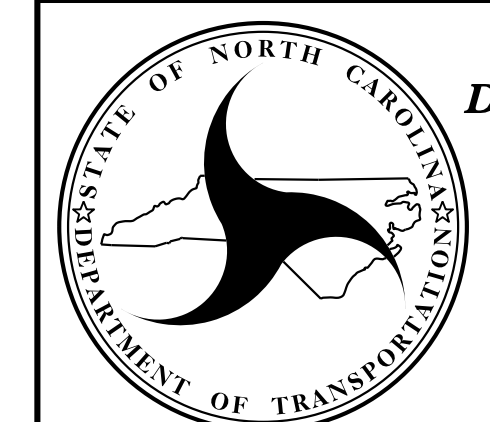


### WALL ENVELOPE



### TYPICAL SECTION

PROJECT NO.: R-2409C  
 TRANSYLVANIA COUNTY  
 STATION: 67+53.00 -L- to 68+66.61 -L-  
 SHEET 1 OF 2




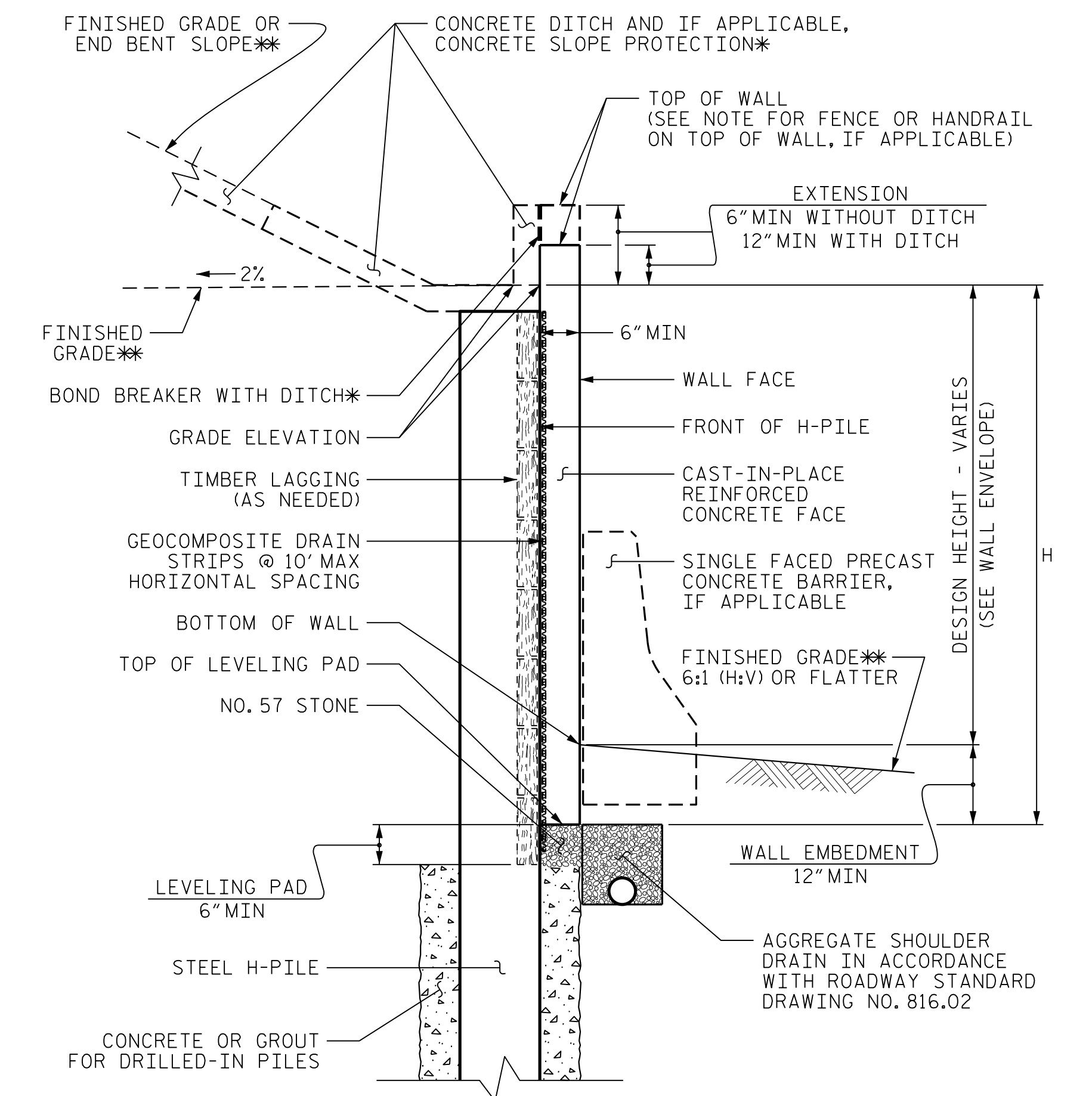
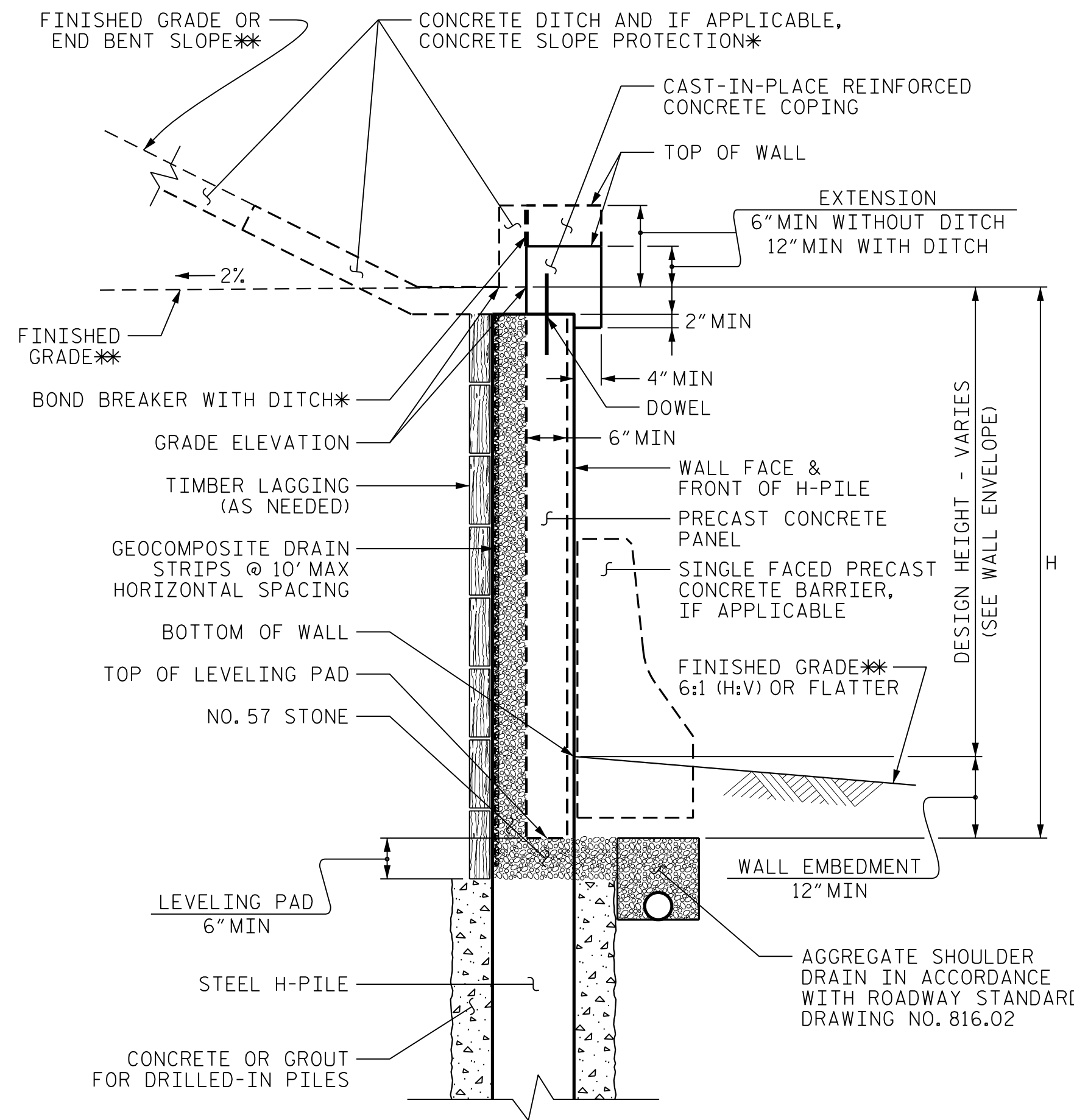
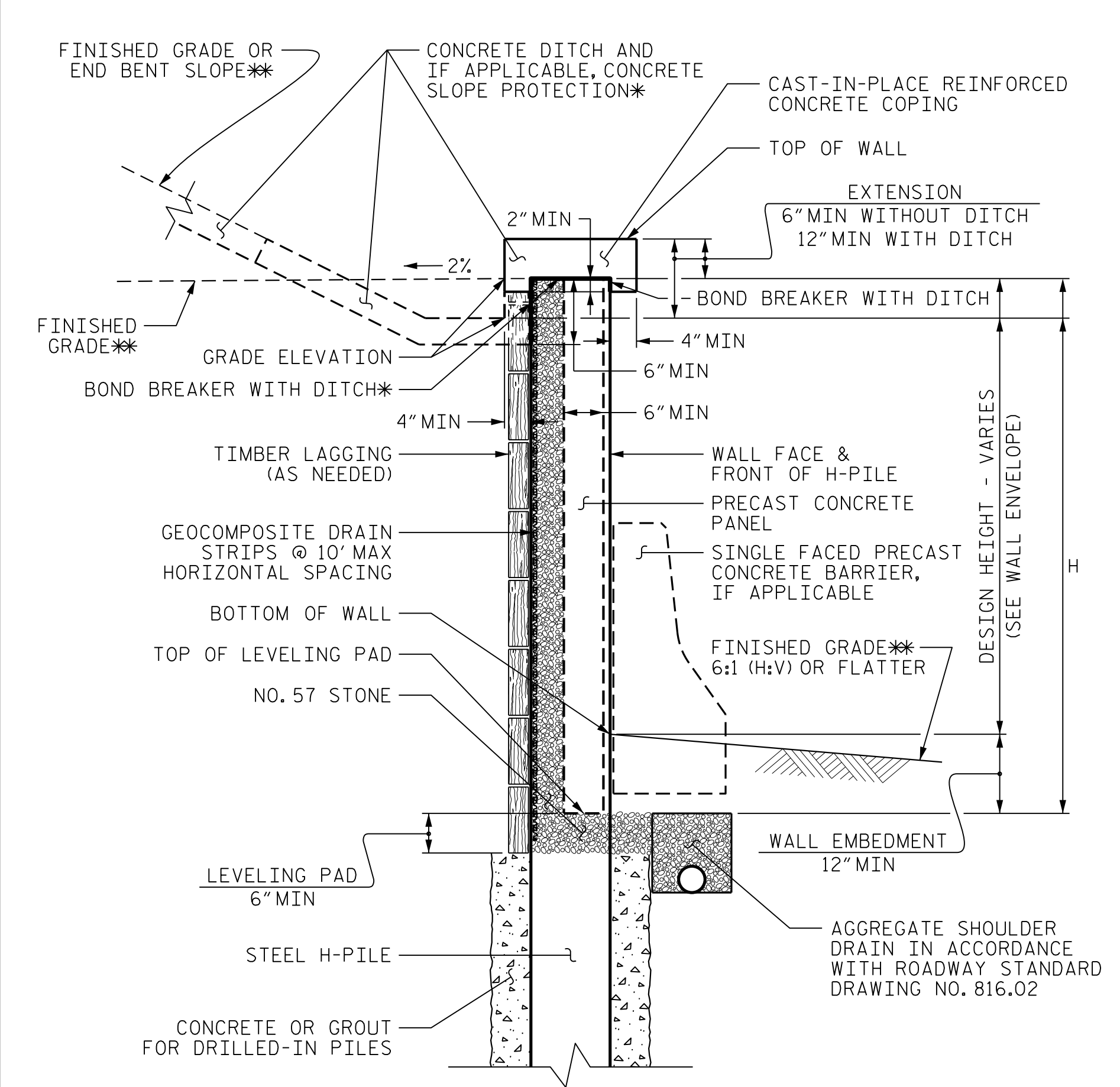
NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 GEOTECHNICAL  
 ENGINEERING UNIT

### SOLDIER PILE RETAINING WALL WALL #6

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W-9
2			4			

PREPARED BY: EJS DATE: 10/15  
 REVIEWED BY: SCC DATE: 10/15

GEOTECHNICAL ENGINEER  SEAL 29869 ENGINEER SHANE C. CLARK	ENGINEER  _____ SIGNATURE _____ DATE
DocuSigned by: Shane C. Clark 10/27/2015	_____ DATE



### SOLDIER PILE WALL WITH PRECAST PANEL - TYPICAL SECTIONS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS AND PILES.  
 \*SEE CONCRETE DITCH BEHIND WALL DETAILS.  
 \*\*SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.

#### NOTES:

- FOR SOLDIER PILE RETAINING WALLS, SEE SOLDIER PILE RETAINING WALLS PROVISION.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- A FENCE OR HANDRAIL MAYBE REQUIRED ON TOP OF RETAINING WALL NO. 6. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- DRILLED-IN H-PILES ARE REQUIRED FOR RETAINING WALL NO. 6.
- USE A SOLDIER PILE RETAINING WALL WITH PRECAST CONCRETE PANELS THAT MEET SECTION 1077 OF THE STANDARD SPECIFICATIONS OR CONSTRUCT A CAST-IN-PLACE REINFORCED CONCRETE FACE FOR RETAINING WALL NO. 6.
- IF PILES ARE EXPOSED, PAINT GALVANIZED H-PILES BLACK IN ACCORDANCE WITH ARTICLE 442-12 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO. 6.

BEFORE BEGINNING SOLDIER PILE WALL DESIGN FOR RETAINING WALL NO. 6, 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.

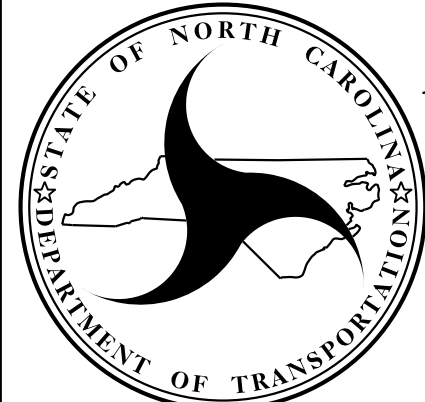
DESIGN RETAINING WALL NO. 6 FOR THE FOLLOWING:  
 1) H = DESIGN HEIGHT + WALL EMBEDMENT  
 2) DESIGN LIFE = 100 YEARS  
 3) MINIMUM WALL EMBEDMENT ELEVATION = 1 FT  
 4) MINIMUM PILE PENETRATION INTO ROCK = 5 FT  
 5) IN-SITU ASSUMED MATERIAL PARAMETERS ABOVE THE BOTTOM OF THE WALL:  
 UNIT WEIGHT,  $\gamma = 120$  LB/CF  
 FRICTION ANGLE,  $f = 30$  DEGREES  
 COHESION,  $c = 0$  LB/SF  
 6) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW THE BOTTOM OF THE WALL:  
 UNIT WEIGHT,  $\gamma = 120$  LB/CF  
 FRICTION ANGLE,  $f = 30$  DEGREES  
 COHESION,  $c = 0$  LB/SF

NO SEPARATE RETAINING WALL INVENTORIES WERE PRODUCED FOR THIS PROJECT, SEE ROADWAY INVENTORY FOR SUBSURFACE INFORMATION

### SOLDIER PILE WALL WITH CAST-IN-PLACE FACE - TYPICAL SECTION

\*SEE CONCRETE DITCH BEHIND WALL DETAILS.  
 \*\*SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.

PROJECT NO.: R-2409C  
 TRANSYLVANIA COUNTY  
 STATION: 67+53.00 -L- to 68+66.61 -L-  
 SHEET 2 OF 2

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

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

PREPARED BY: EJS	DATE: 10/15
REVIEWED BY: SCC	DATE: 10/15