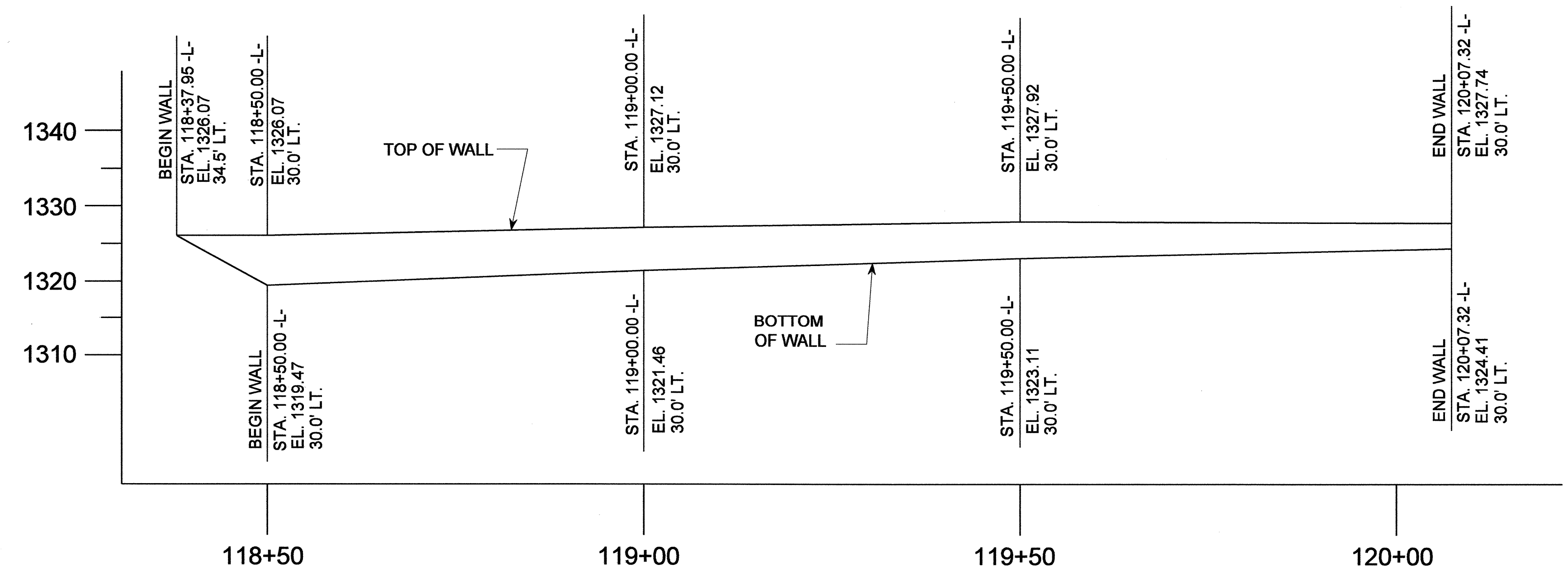
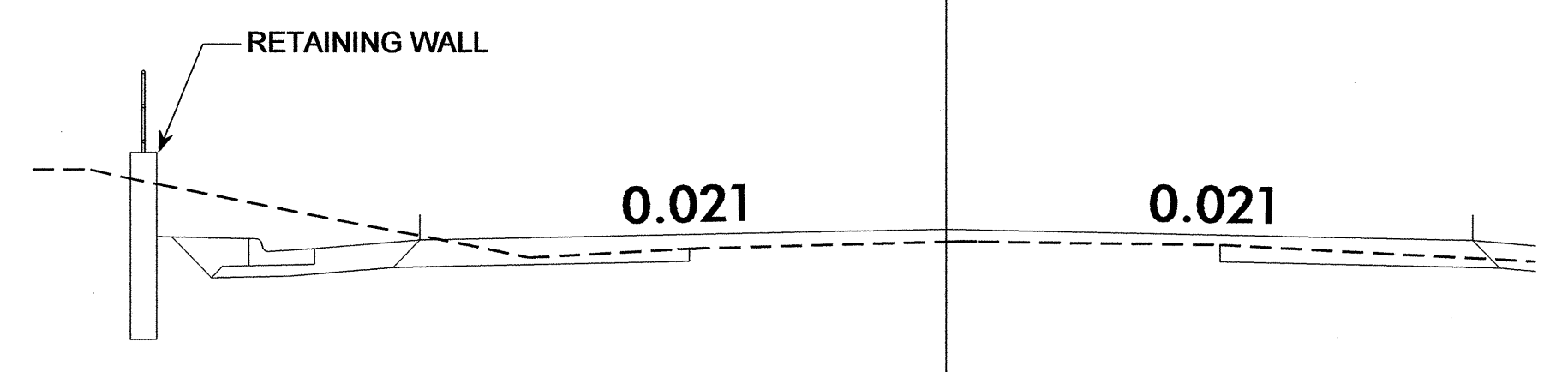


LOCATION SKETCH



WALL ENEVELOPE



SECTION THRU WALL

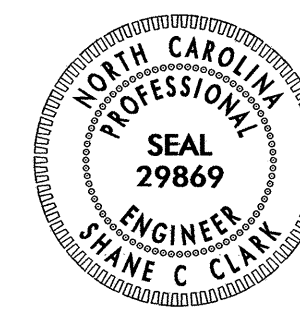
TOTAL STRUCTURE QUANTITIES	
SOLDIER PILE RETAINING WALL	846 SQ. FT.
PEDESTRIAN SAFTEY RAIL	235 LN. FT.

PROJECT NO.: R-3405
WILKES COUNTY
STATION: 118+50.00 -L- TO 120+07.32 -L-
 SHEET 1 OF 3

GEOTECHNICAL ENGINEERING UNIT
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
RALEIGH

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

PREPARED BY: EJS DATE: 6/2012
 REVIEWED BY: SCC DATE: 6/2012



Signature: *Shane C. Clark* DATE: _____

Signature: _____ DATE: _____

NOTES:

FOR SOLDIER PILE RETAINING WALLS, SEE SOLDIER PILE RETAINING WALLS PROVISION.

A HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. 1. SEE PEDESTRAIN SAFETY RAIL FOR CONSTRUCTION AND ATTACHMENT DETAILS.

AT THE CONTRACTOR'S OPTION, USE DRIVEN H-PILES FOR RETAINING WALL NO. 1.

USE A SOLDIER PILE RETAINING WALL WITH PRECAST CONCRETE PANELS THAT MEET SECTION 1077 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO. 1.

AN EXPOSED AGGREGATE FINISH THAT MEETS ARTICLE 1077-12 OF THE STANDARD SPECIFICATIONS IS REQUIRED FOR PRECAST CONCRETE PANELS FOR RETAINING WALL NO. 1.

PAINT GALVANIZED H-PILES BLACK IN ACCORDANCE WITH ARTICLE 442-12 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO. 1.

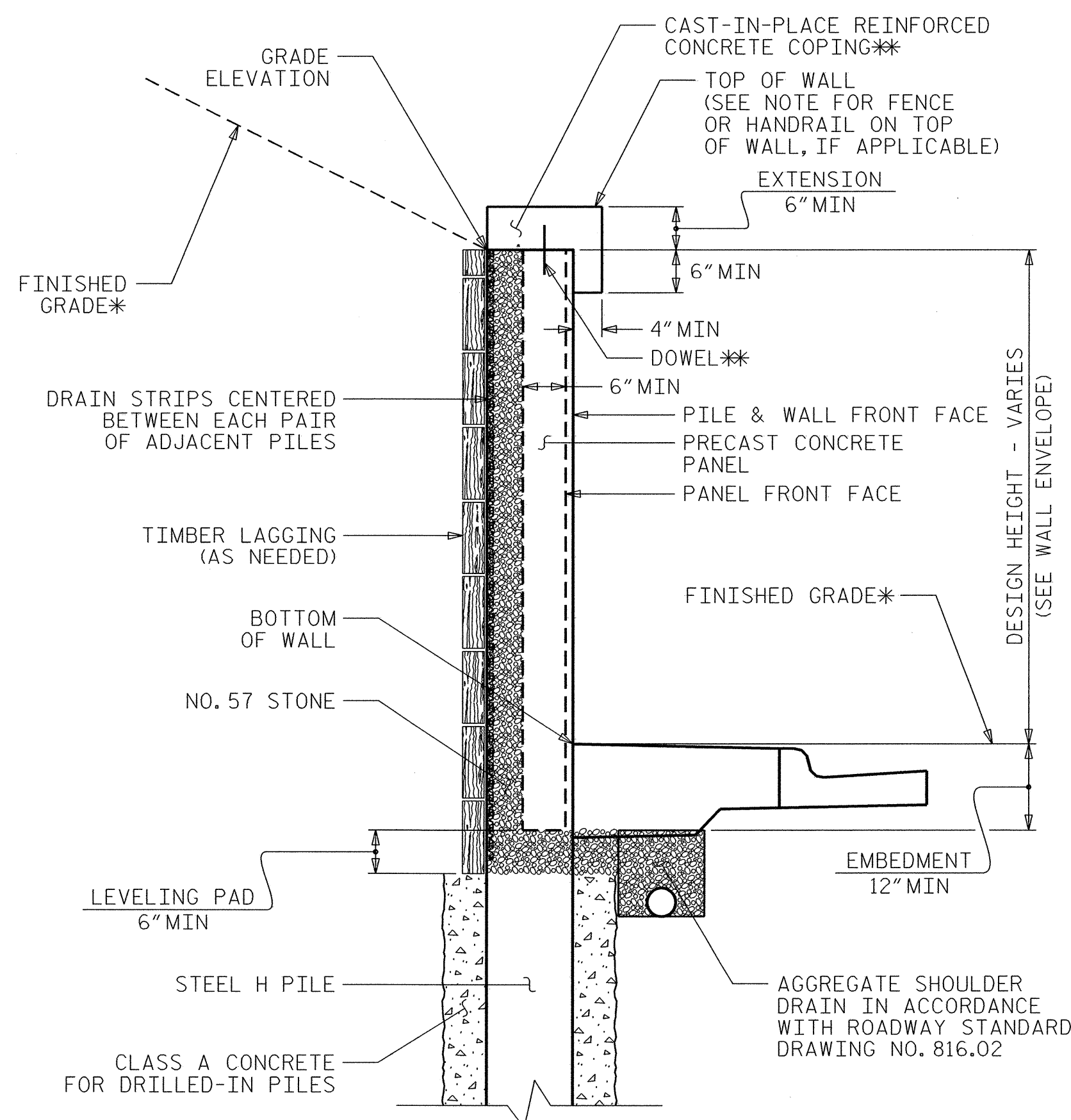
WHERE THE CAST IN PLACE COPING DOES NOT INTERSECT THE FINISHED GRADE AT THE WALL ENDS, EXTEND THE COPING VERTICALLY TO 1 FT BELOW FINISHED GRADE. ANY REQUIRED EXTENSIONS WILL BE CONSIDERED INCIDENTAL TO THE WALL.

BEFORE BEGINNING SOLDIER PILE 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. FOR WALL HEIGHTS EQUAL TO THE DESIGN HEIGHT (DIFFERENCE BETWEEN GRADE ELEVATION AND BOTTOM OF WALL ELEVATION) PLUS EMBEDMENT (DIFFERENCE BETWEEN BOTTOM OF WALL ELEVATION AND TOP OF LEVELING PAD ELEVATION).

DESIGN RETAINING WALL NO. FOR THE FOLLOWING:

- 1) MINIMUM DESIGN LIFE = 100 YEARS
- 2) MINIMUM EMBEDMENT ELEVATION = 1 FT
- 3) IN-SITU ASSUMED MATERIAL PARAMETERS ABOVE ELEVATION 1323 FT:
 UNIT WEIGHT, $\gamma = 120$ PCF
 FRICTION ANGLE, $\phi = 30$ DEGREES
 COHESION, $c = 0$ PSF
- 4) IN-SITU ASSUMED MATERIAL PARAMETERS BELOW ELEVATION 1323 FT:
 UNIT WEIGHT, $\gamma = 120$ PCF
 FRICTION ANGLE, $\phi = 30$ DEGREES
 COHESION, $c = 0$ PSF



SOLDIER PILE WALL WITH PRECAST PANEL - TYPICAL SECTION

*SEE ROADWAY PLANS FOR FINISHED GRADE AND DITCH DETAILS.
 **AT THE CONTRACTOR'S OPTION, EXTEND COPING DOWN BACK OF PANELS A MINIMUM OF 6" IN LIEU OF USING DOWELS.

PROJECT NO.: R-3405
WILKES COUNTY
STATION: 118+50.00 -L- TO 120+07.32 -L-
 SHEET 2 OF 3

SOLDIER PILE RETAINING WALL


GEOTECHNICAL ENGINEERING UNIT

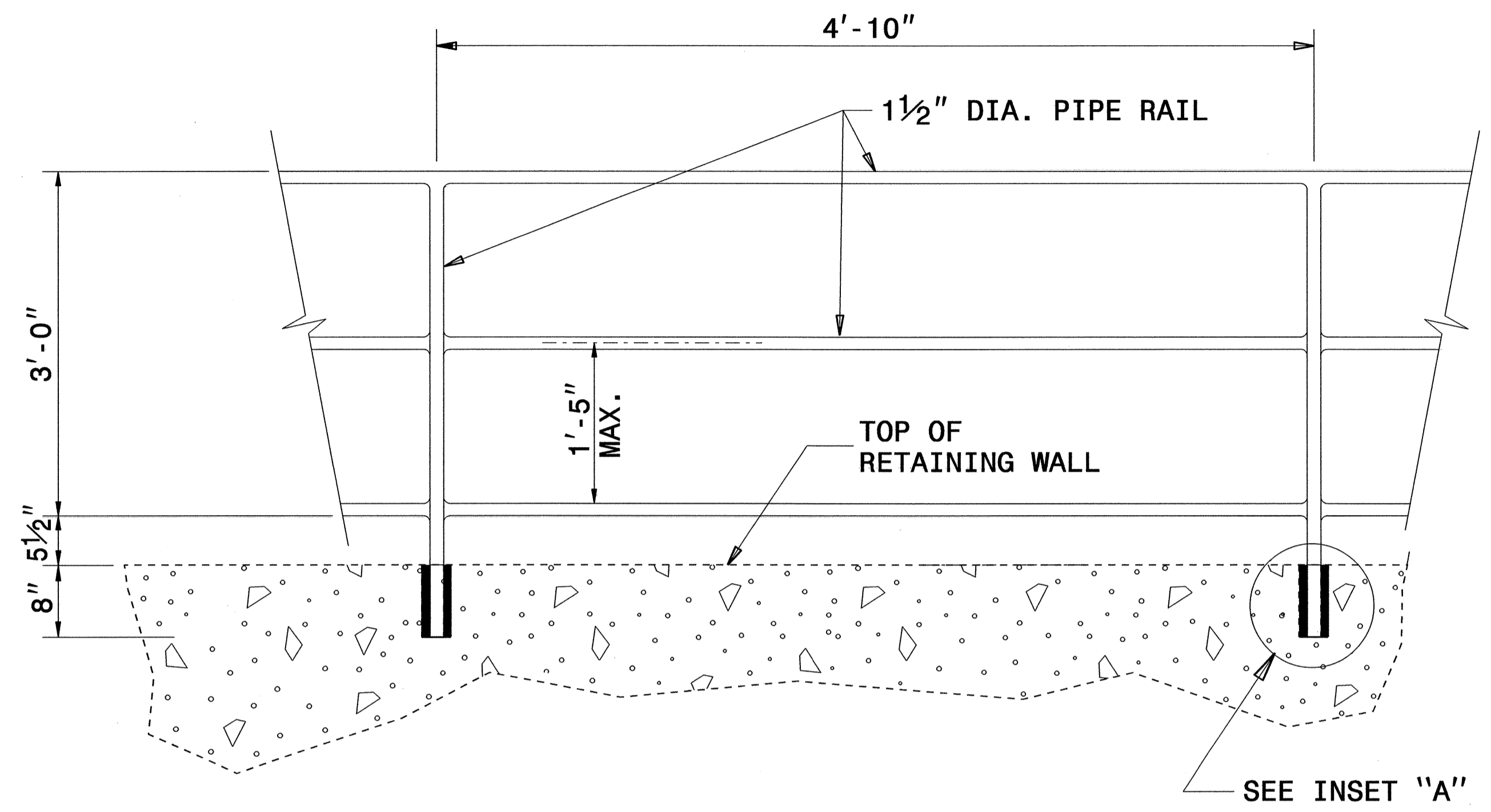
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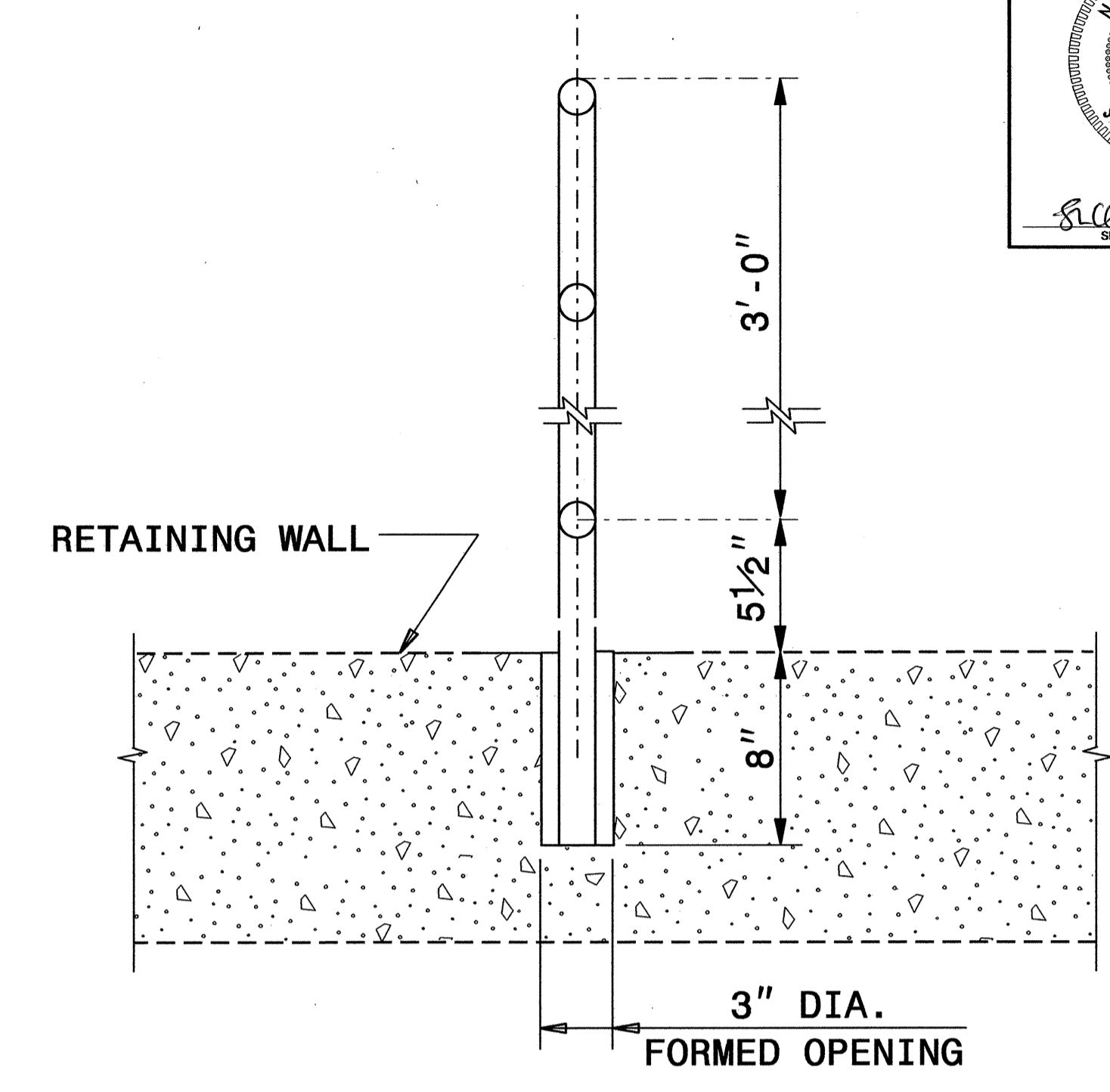
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	W-2
1	-	-	3	-	-	TOTAL SHEETS
2	-	-	4	-	-	-

PREPARED BY: EJS	DATE: 6/2012
REVIEWED BY: SCC	DATE: 6/2012

GEOTECHNICAL ENGINEER  SIGNATURE: <u>Shane C. Clark</u> DATE: <u>7/11/12</u>	ENGINEER SIGNATURE: _____ DATE: _____
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ELEVATION OF PROPOSED PEDESTRIAN HANDRAIL



INSET 'A'

NOTES:

CONSTRUCT PROPOSED STEEL PIPE RAIL OF 1 1/2" DIAMETER SCHEDULE 40 PLAIN END GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53.

REPAIR GALVANIZING IN ACCORDANCE WITH SECTION 1076 OF THE NCDOT STANDARD SPECIFICATIONS.

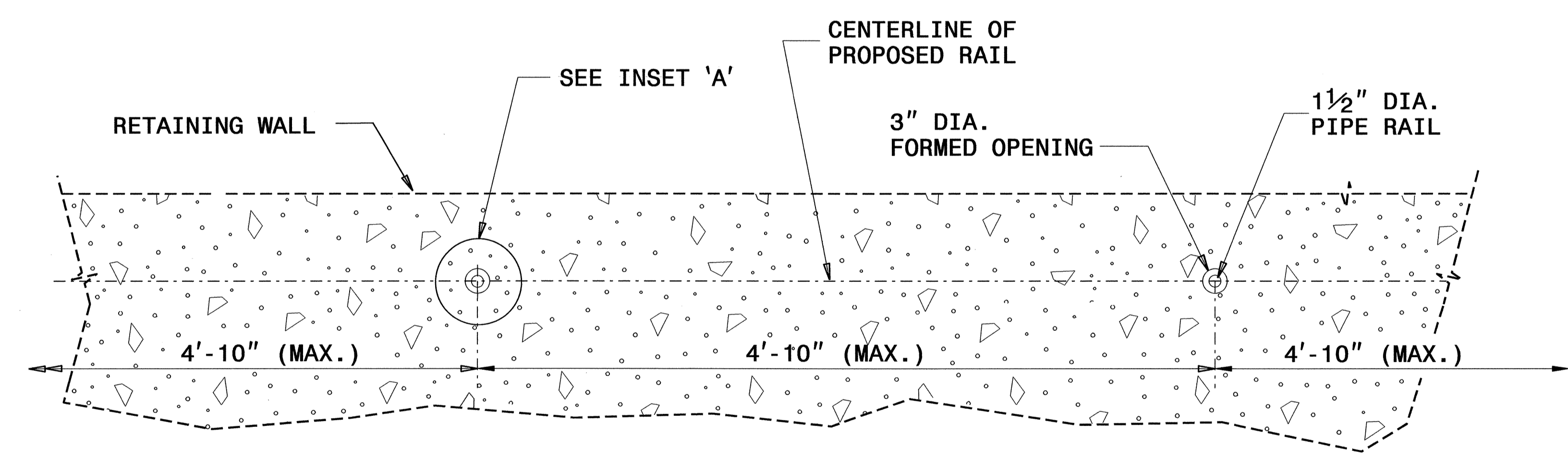
PAINT, IF REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH ARTICLE 442-12 OF THE STANDARD SPECIFICATIONS.

WELD IN ACCORDANCE WITH ARTICLE 1072-20 OF THE STANDARD SPECIFICATIONS.

1 1/2" DIA. STEEL PIPE SHALL MEET THE REQUIREMENTS OF ASTM A53 FOR STANDARD WEIGHT PIPE AND SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

POSTS AND VERTICAL ELEMENTS OF THE RAIL SHALL BE PLUMB.

THE PIPE RAIL POSTS SHALL BE GROUTED IN PLACE USING NON-SHRINK, NON-METALLIC GROUT AS APPROVED BY THE ENGINEER.



PLAN VIEW

PROJECT NO.: R-3405
WILKES COUNTY
STATION: 118+50.00 -L- TO 120+07.32 -L-
 SHEET 3 OF 3

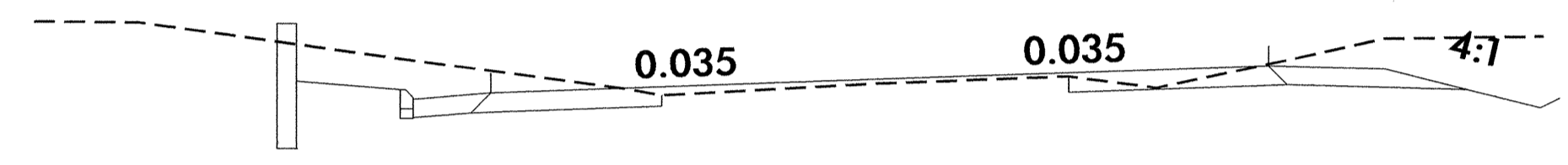
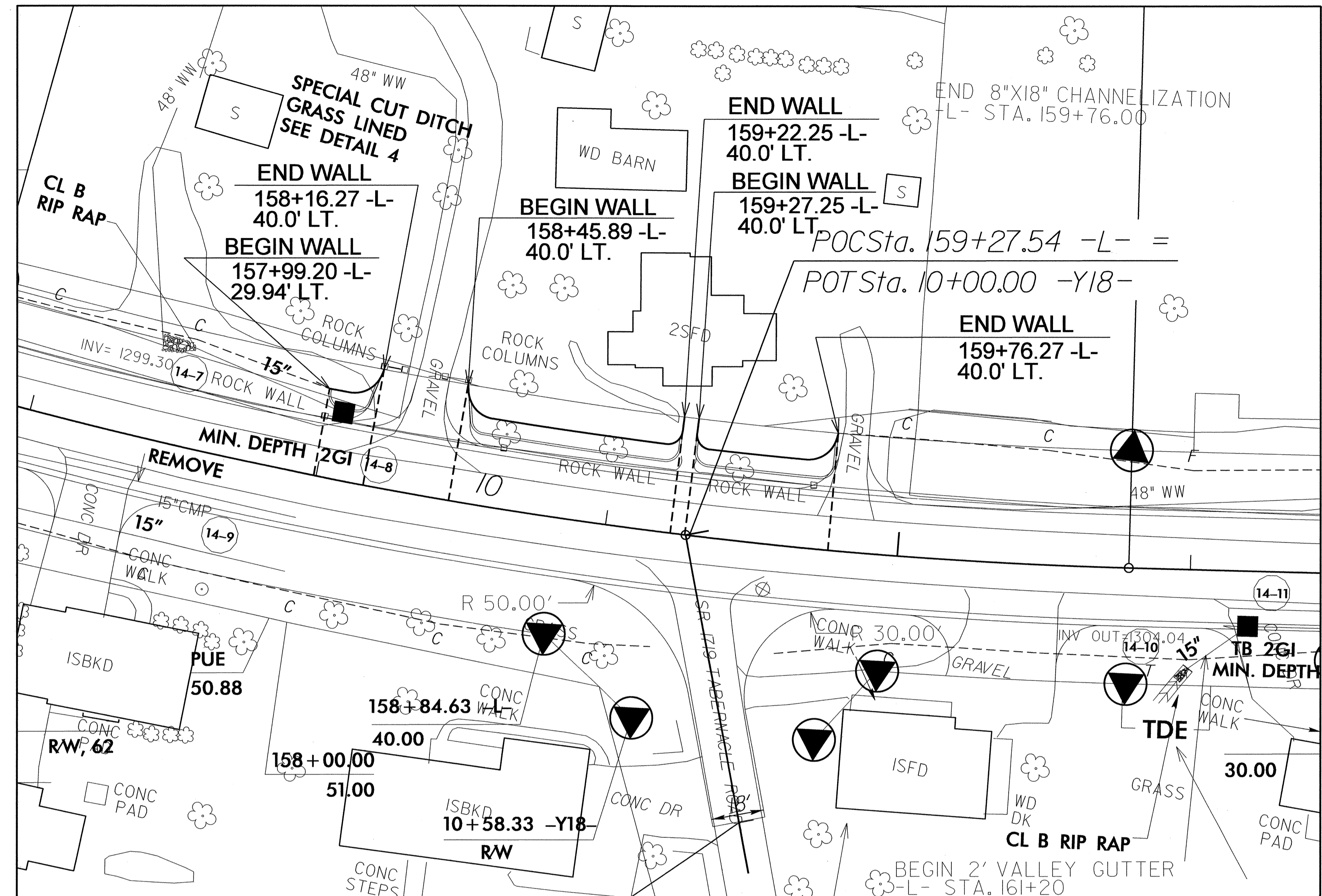
PREPARED BY: EJS	DATE: 6/2012
REVIEWED BY: SCC	DATE: 6/2012

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

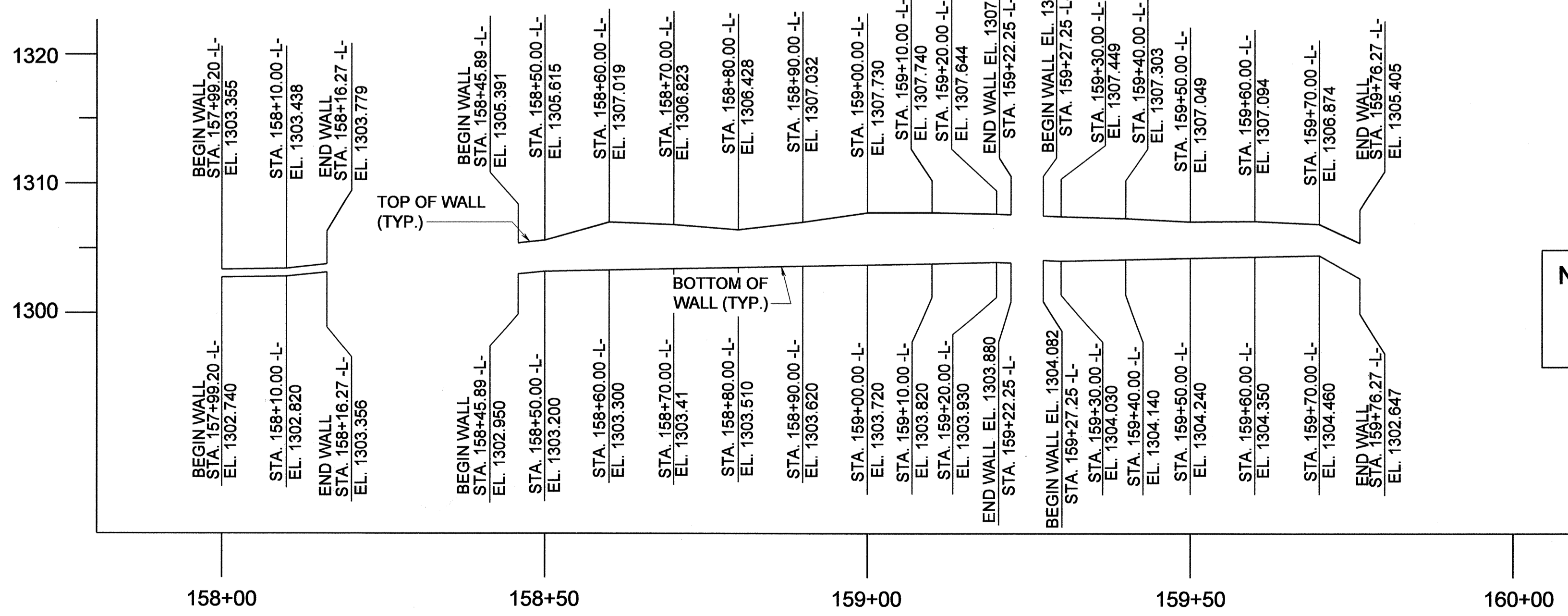


SECTION THRU WALL

TOTAL STRUCTURE QUANTITIES

STONE VENEERED CMU RETAINING WALL PART 1	11.0	SQ. FT.
STONE VENEERED CMU RETAINING WALL PART 2	263.0	SQ. FT.
STONE VENEERED CMU RETAINING WALL PART 3	142.0	SQ. FT.
STONE VENEERED CMU RETAINING WALL TOTAL	416.0	SQ. FT.

LOCATION SKETCH



WALL ENEVELOPE

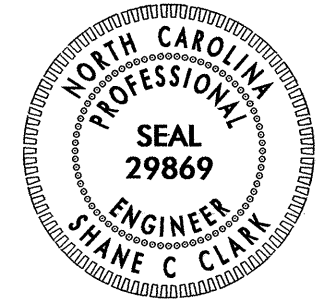
NOTE: FOR WALL OFFSETS, SEE PLAN VIEW OF WALL, SHEET 2 OF 3.

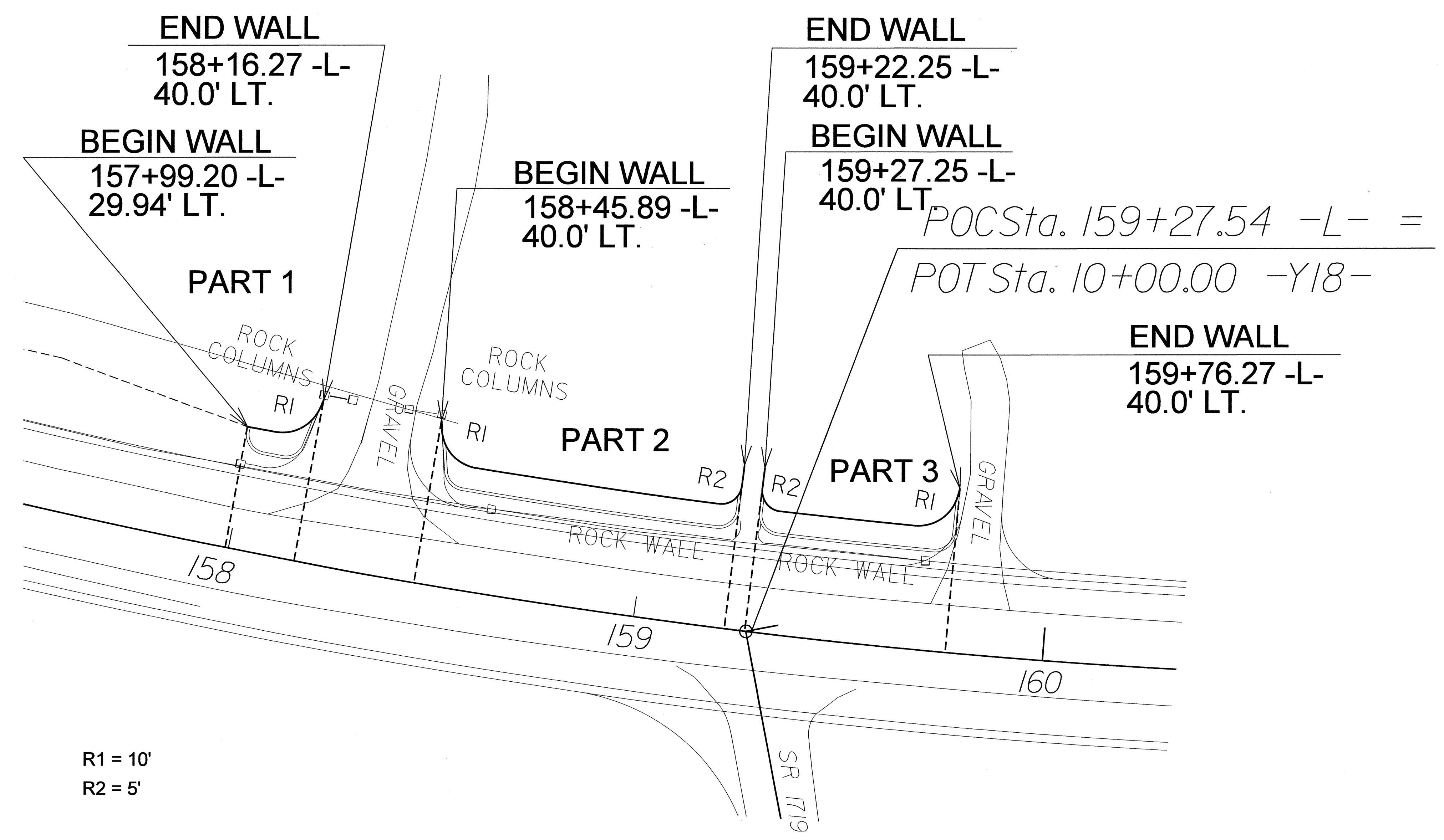
PROJECT NO.: R-3405
 WILKES COUNTY
 STATION: 157+99.20 -L- TO 159+76.27 -L-
 SHEET 1 OF 3

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STONE VENEERED CONCRETE MASONRY UNIT (CMU) RETAINING WALL

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

GEOTECHNICAL ENGINEER  SIGNATURE: <i>St. Clark</i> DATE: 8-2-12	ENGINEER SIGNATURE: _____ DATE: _____
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R1 = 10'
R2 = 5'

— PLAN VIEW OF WALL —

	PART 1	PART 2	PART 3
BEGIN WALL	157+99.20 -L- 29.94' LT.	158+45.89 -L- 40.0' LT.	159+27.25 -L- 40.0' LT.
END WALL	158+16.27 -L- 40.0' LT.	159+22.25 -L- 40.0' LT.	159+76.27 -L- 40.0' LT.

PROJECT NO.: R-3405
 WILKES COUNTY
 STATION: 157+99.20 -L- TO 159+76.27 -L-
 SHEET 2 OF 3

PREPARED BY: SCC DATE: 8/2012
 REVIEWED BY: EJS DATE: 8/2012

GEOTECHNICAL ENGINEERING UNIT

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STONE VENEERED CONCRETE MASONRY UNIT (CMU) RETAINING WALL

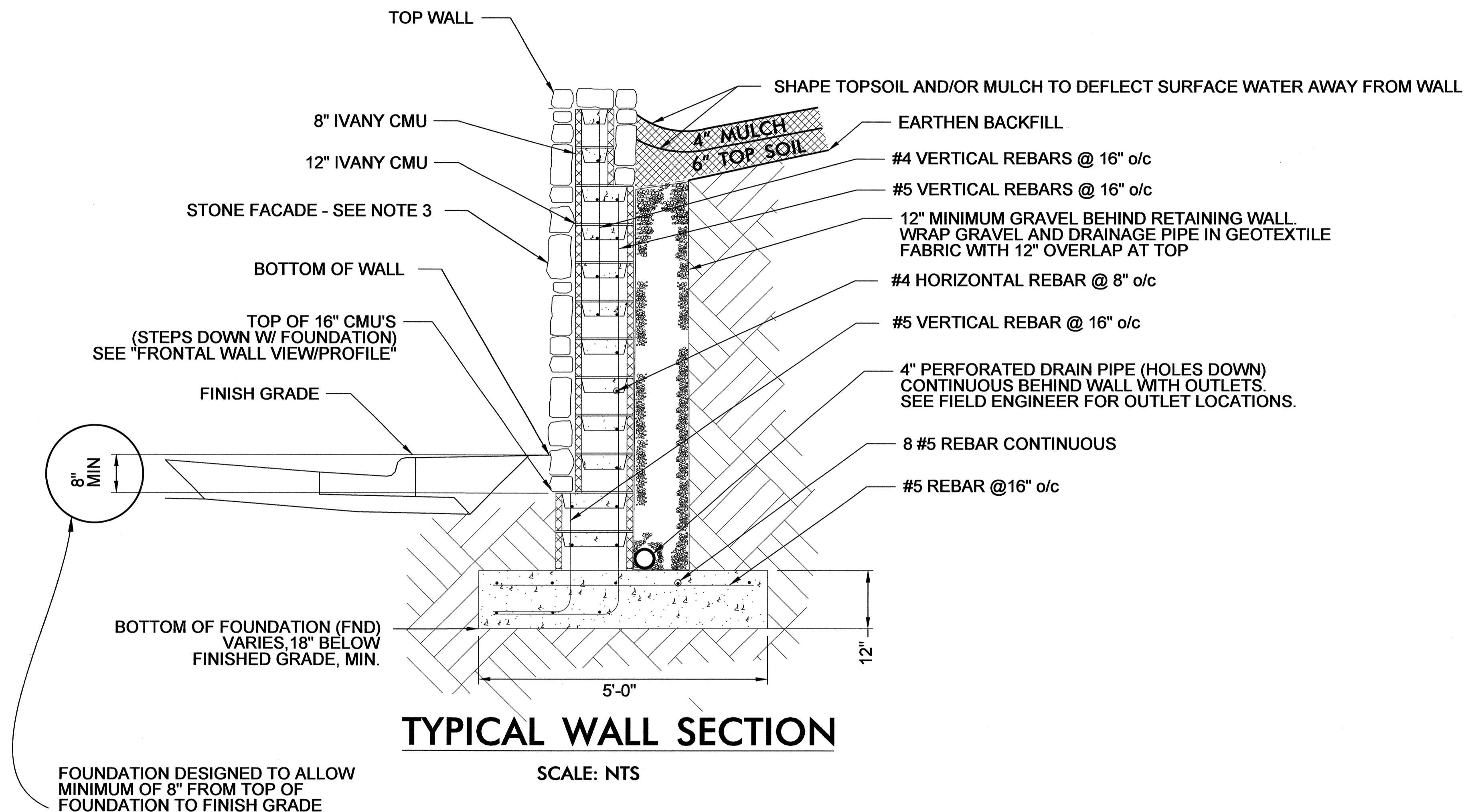
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	W-5
1	-	-	3	-	-	TOTAL SHEETS
2	-	-	4	-	-	

GEOTECHNICAL ENGINEER

ENGINEER



8/2/12
SIGNATURE DATE



- NOTES:**
- 1) SEE WALL ENVELOPE FOR WALL LOCATION AND SHAPE
 - 2) ALL CMU SHALL BE POUR-THROUGH BOND BEAM TYPE UNITS.
 - 3) STONE TREATMENT FOR WALL TO BE IRREGULARLY SIZED NATURAL STONE, MORTARED (TO REPLICATE THE EXISTING STONE MASONRY), AND TIED INTO CMU WALL. (STONE & TREATMENT SHALL MATCH ON-SITE STONE WALLS)

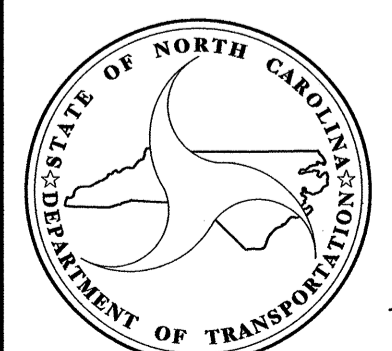
PROJECT NO.: R-3405
 WILKES COUNTY
 STATION: 157+99.20 -L- TO 159+76.27 -L-
 SHEET 3 OF 3

PREPARED BY: SCC	DATE: 8/2012
REVIEWED BY: EJS	DATE: 8/2012

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 RALEIGH



STONE VENEERED CONCRETE MASONRY UNIT (CMU) RETAINING WALL

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