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GEOTECHNICAL ENGINEER

ENGINEER

SEAL 031361

Shi Ping Yang

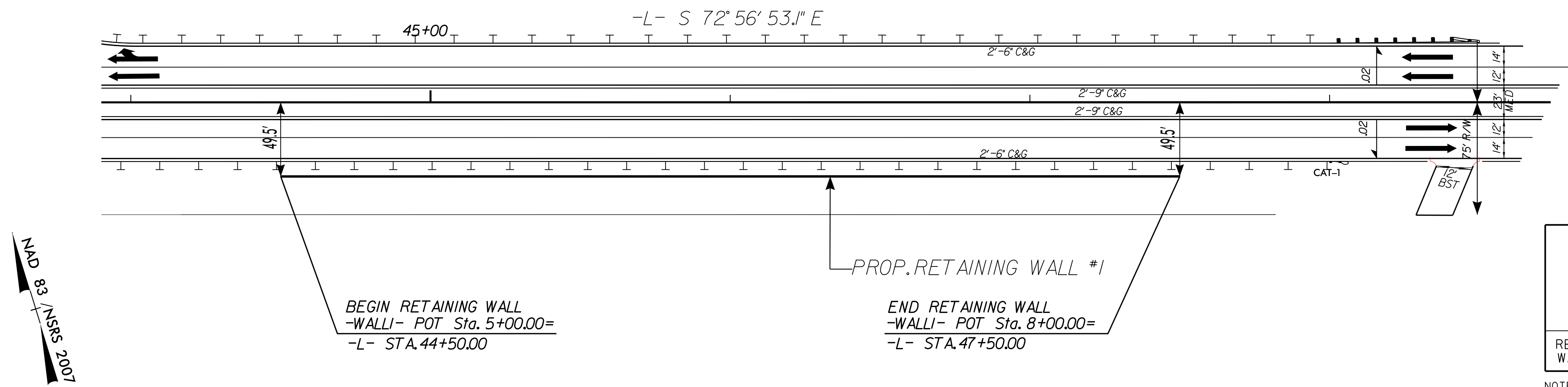
10/4/2016

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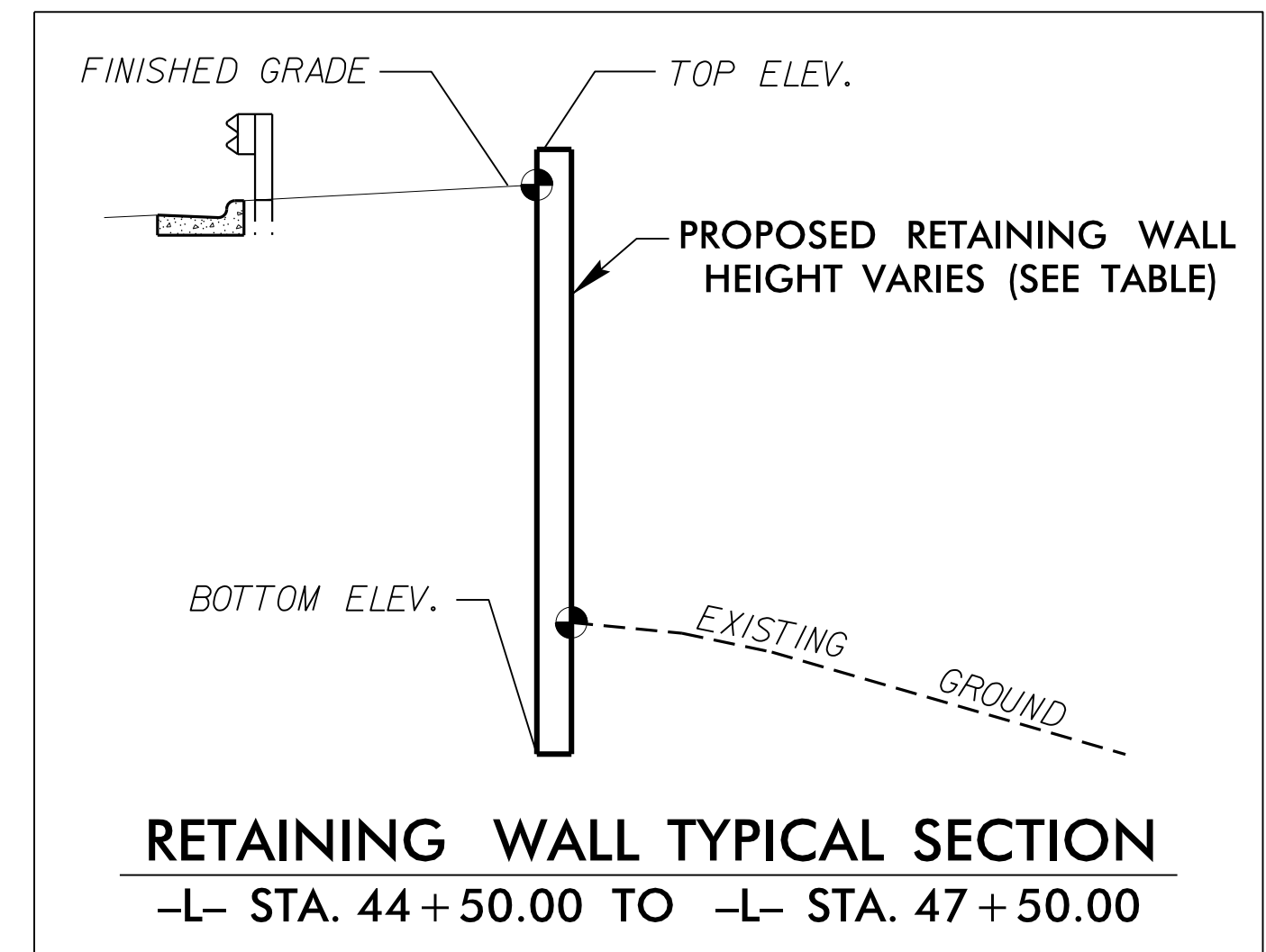
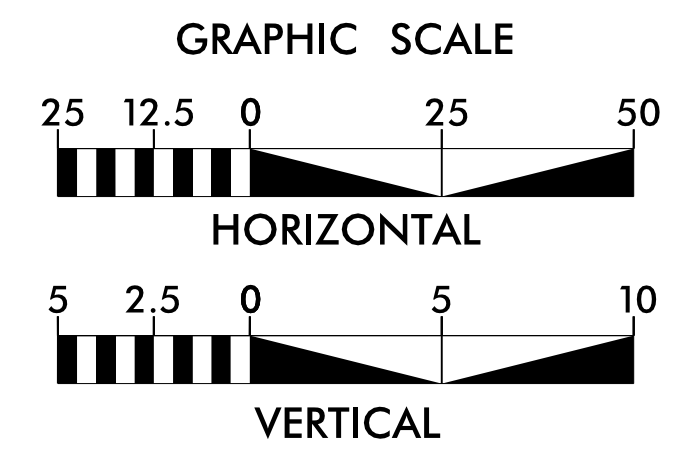
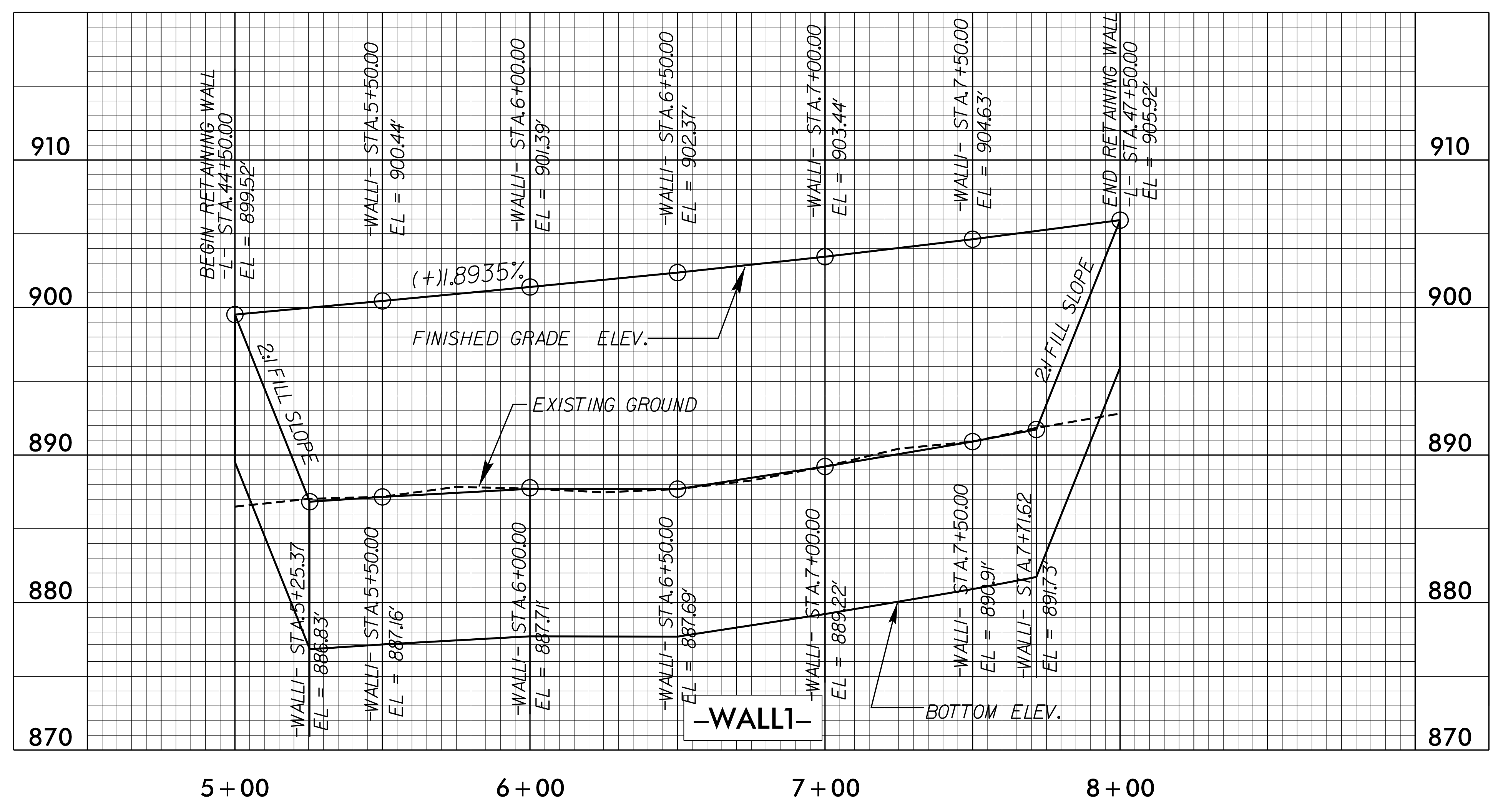


SHEET PILE RETAINING WALL QUANTITIES

RETAINING WALL NO. 1	-WL1-	6782 SQUARE FEET
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NOTE: 10 FEET EMBEEMENT IS INCLUDED IN THE QUANTITIES

PLAN VIEW - RETAINING WALL NO. 1



WALL ENVELOPE - RETAINING WALL NO. 1

NOTE: OFFSET DIMENSIONS ARE FROM FACE OF WALL

PROJECT NO.: 34522.2.FR4 (R-3100B)

CATAWBA COUNTY

STATION: RWALL1: 44+50 -L- TO 47+50 -L-

SHEET 1 OF 2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

RETAINING WALL NO. 1 SHEET PILE WALL

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			W1
2			4			

PREPARED BY: SY	DATE: 9/27/2016
REVIEWED BY: SCC	DATE: 9/28/2016

GEOTECHNICAL ENGINEER

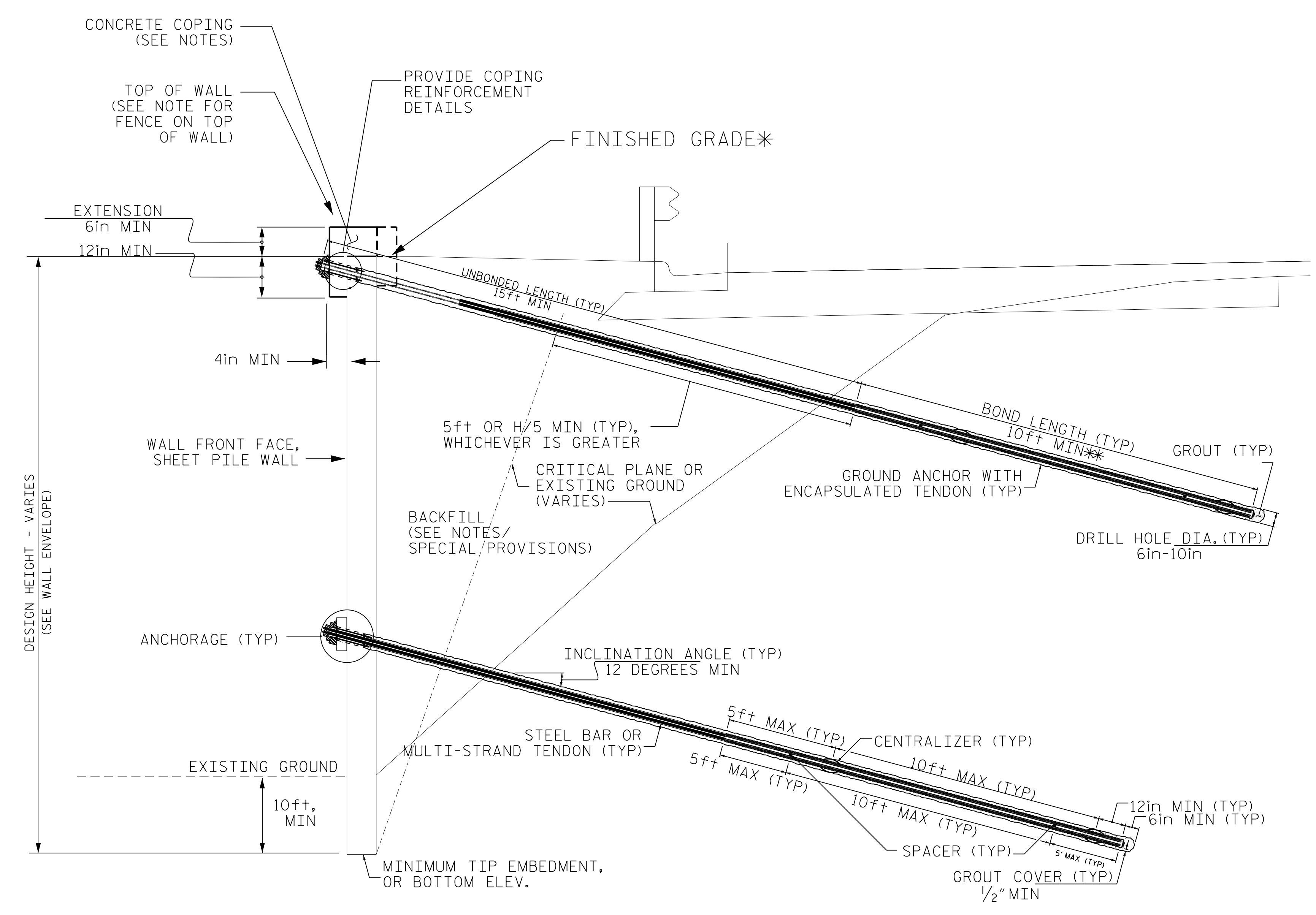
ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL  
ENGINEER  
SHIPING YANG  
031361

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SIGNATURE: DATE: 10/4/2016

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**NOTES:**

FOR ANCHORED SHEET PILE RETAINING WALLS, SEE ANCHORED SHEET PILE RETAINING WALLS PROVISION.

A FENCE IS REQUIRED ON TOP OF SHEET PILE RETAINING WALLS. SEE ROADWAY PLANS FOR FENCE ATTACHMENT DETAILS.

BEFORE BEGINNING ANCHORED SHEET PILE WALL DESIGN, SURVEY WALL LOCATIONS AND SUBMIT A REVISED WALL PROFILE VIEWS (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGNS OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPES ARE ACCEPTED.

DESIGN ANCHORED SHEET PILE RETAINING WALLS FOR WALL HEIGHTS EQUAL TO THE DESIGN HEIGHT (DIFFERENCE BETWEEN GRADE ELEVATION AND BOTTOM OF WALL) PLUS ADDITIONAL EMBEDMENT.

DESIGN ANCHORED SHEET PILE RETAINING WALLS FOR THE FOLLOWING:

- 1) MINIMUM DESIGN LIFE = 100 YEARS
- 2) MINIMUM EMBEDMENT DEPTH = 10 FEET BELOW EXISTING GRADE
- 3) IN-SITU ASSUMED MATERIAL PARAMETERS:  
 UNIT WEIGHT,  $\gamma = 125$  PCF  
 FRICTION ANGLE,  $\phi = 32$  DEGREES  
 COHESION,  $c = 0$  PSF
- 4) BACKFILL MINIMUM MATERIAL PARAMETERS:  
 UNIT WEIGHT,  $\gamma = 115$  PCF  
 FRICTION ANGLE,  $\phi = 34$  DEGREES  
 COHESION,  $c = 0$  PSF

DESIGN ANCHORED SHEET PILE RETAINING WALLS 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 GROUND ANCHORS FOR ANCHORED SHEET PILE RETAINING WALLS.

ANCHORS ARE SHOWN IN GENERAL LOCATIONS AND MAY BE RELOCATED BASED ON THE SUBMITTED DESIGN. DESIGN AND LOCATIONS OF WALERS SHOULD BE SUBMITTED WITH THE DESIGN SUBMITTAL.

GROUTED ANCHORS ARE SHOWN, HOWEVER, ALTERNATIVE ANCHOR SYSTEMS INCLUDING DEADMEN OR AN APPROVED ALTERNATE MAY BE CONSIDERED. ALL COMPONENTS ARE REQUIRED TO PROVIDE THE STATED DESIGN LIFE.

**ANCHORED SHEET PILE WALL - TYPICAL SECTION**

\*SEE ROADWAY PLANS FOR FINISHED GRADE DETAILS.  
 \*\*SEE SHEETPILE RETAINING WALLS PROVISION.

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CATAWBA COUNTY

STATION: RWALL1: 44+50 -L- TO 47+50 -L-

SHEET 1 OF 2

PREPARED BY: SY	DATE: 9/27/2016
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NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

GEOTECHNICAL  
ENGINEERING UNIT

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
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