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GEOTECHNICAL ENGINEER

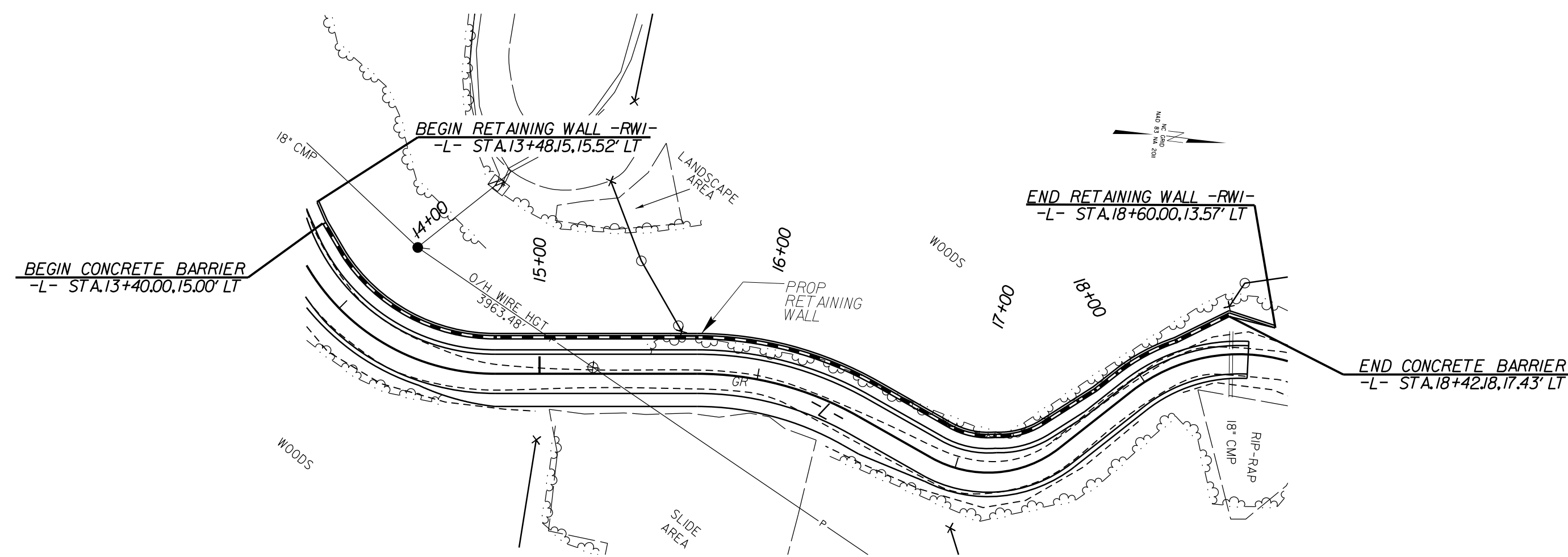
ENGINEER

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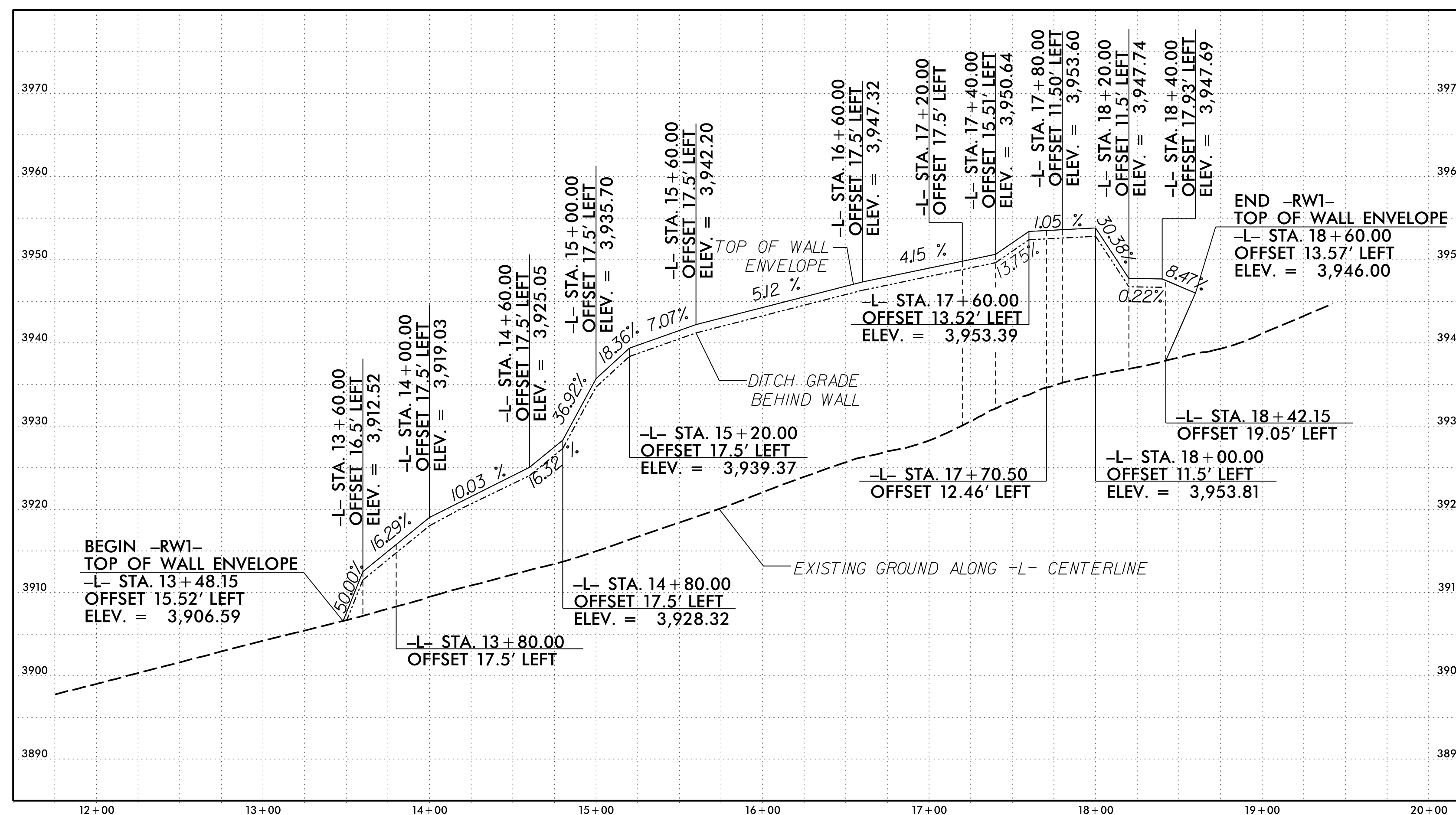
DocuSigned by:  
**Jeremy R. Hamm** 07-02-2019

ED793808522487 SIGNATURE DATE SIGNATURE DATE

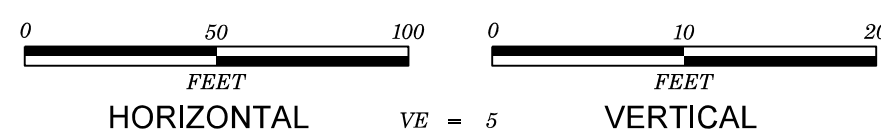
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RETAINING WALL -RW1- - PLAN VIEW



RETAINING WALL -RW1- - WALL ENVELOPE



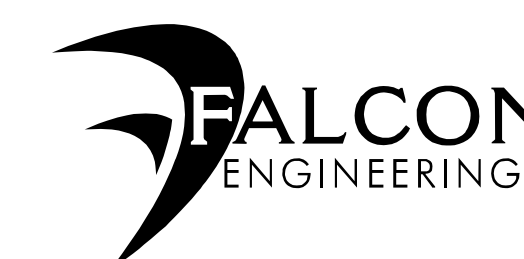
ESTIMATED SOIL NAIL WALL QUANTITIES

RETAINING WALL NO.	SOIL NAIL RETAINING WALLS (SQUARE FEET)	SOIL NAIL VERIFICATION TESTS	SOIL NAIL PROOF TESTS
1	9025 SF	2	25'

\*MINIMUM 5% OF PRODUCTION NAILS TO BE PROOF TESTED.

PROJECT NO.: R-5864  
 HAYWOOD COUNTY  
 STATION: -RW1-  
 SHEET 1 OF 2

PREPARED BY: S. C. CROCKETT      DATE: 6/6/19  
 REVIEWED BY: J. R. HAMM      DATE: 6/7/19

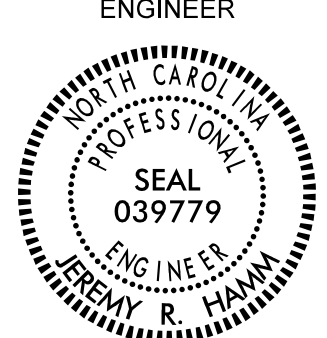


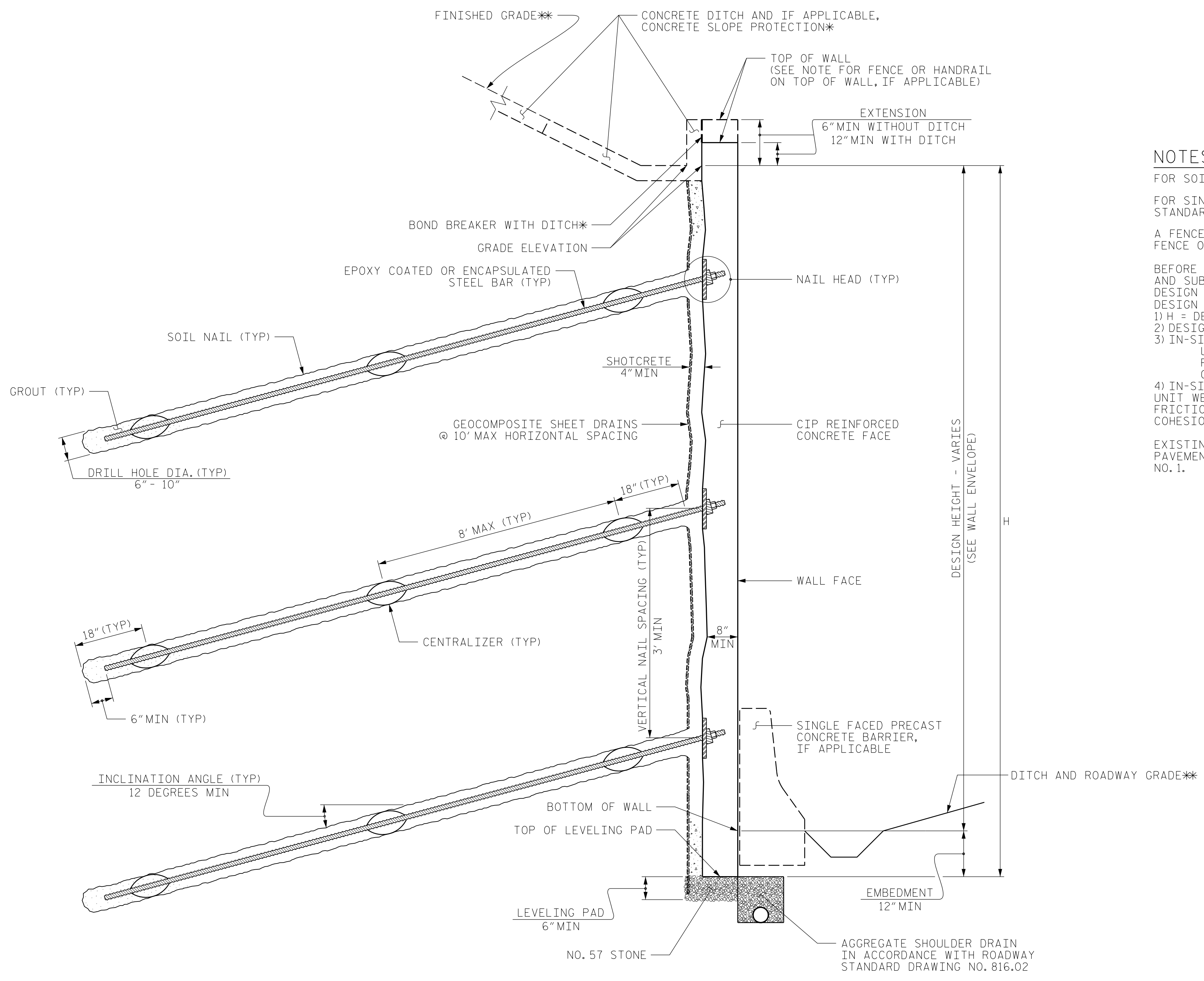
FALCON ENGINEERING, INC.  
 1210 TRINITY ROAD, SUITE 110  
 CARY, NC 27513  
 PHONE: 919.871.0800  
 www.falconengineers.com

RETAINING WALL #1, -RW1-  
WALL PLAN AND ENVELOPE

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

SHEET NO. W-1

GEOTECHNICAL ENGINEER  SEAL 039779 ENGINEER JEREMY R. HAMM	ENGINEER  _____ DATE _____
DocuSigned by: Jeremy R. Hamm ED7938892224 SIGNATURE	07-02-2019 DATE
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

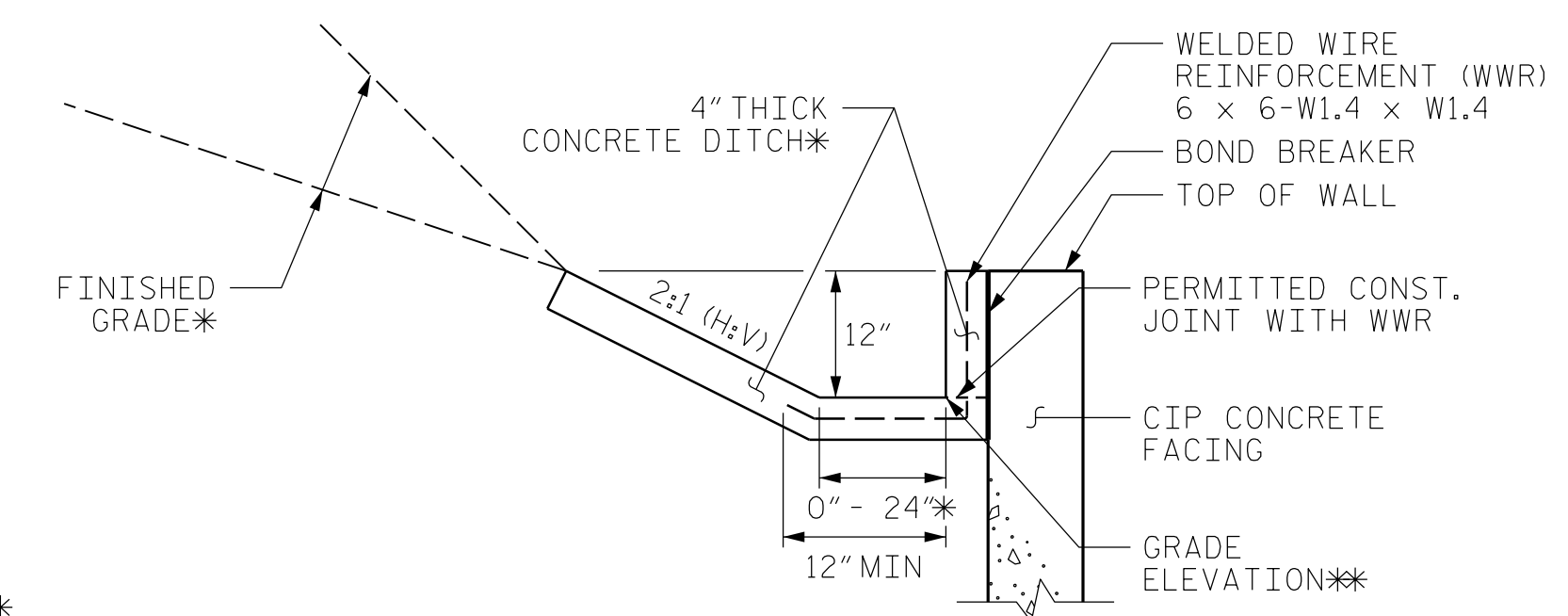


**SOIL NAIL WALL - TYPICAL SECTION**

\*SEE CONCRETE DITCH BEHIND WALL DETAILS.  
\*SEE PLANS FOR DITCH AND PAVEMENT DETAILS.

**NOTES:**

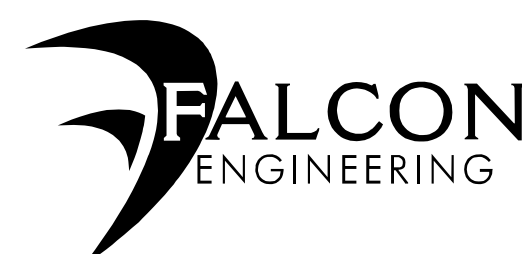
- FOR SOIL NAIL RETAINING WALLS, SEE SOIL NAIL RETAINING WALLS PROVISION.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- A FENCE OR HANDRAIL IS REQUIRED ON TOP OF RETAINING WALL NO. 1. SEE ROADWAY PLANS FOR FENCE OR HANDRAIL ATTACHMENT DETAILS.
- BEFORE BEGINNING SOIL NAIL 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 = 75 YEARS
  - 3) IN-SITU ASSUMED MATERIAL PARAMETERS FOR LOOSE TO MED. DENSE SOILS:
    - UNIT WEIGHT,  $\gamma = 120$  PCF
    - FRICTION ANGLE,  $\phi = 30$  DEGREES
    - COHESION,  $c = 0$  PSF
  - 4) IN-SITU ASSUMED MATERIAL PARAMETERS FOR DENSE/HARD SOILS AND WEATHERED ROCK:
    - UNIT WEIGHT,  $\gamma = 140$  PCF
    - FRICTION ANGLE,  $\phi = 38$  DEGREES
    - COHESION,  $c = 0$  PSF
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH SOIL NAILS FOR RETAINING WALL NO. 1.



**CONCRETE DITCH BEHIND WALL WITH CONCRETE FACING**

\*SEE ROADWAY PLANS FOR CONCRETE DITCH AND FINISHED GRADE DETAILS.  
\*SEE WALL ENVELOPE FOR GRADE ELEVATIONS.

PROJECT NO.: R-5864  
HAYWOOD COUNTY  
 STATION: -RW1-  
 SHEET 2 OF 2



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

SHEET NO. W-2

PREPARED BY: S. C. CROCKETT	DATE: 6/6/19
REVIEWED BY: J. R. HAMM	DATE: 6/7/19