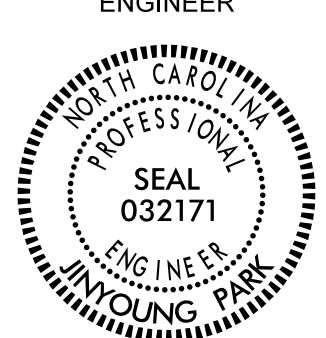
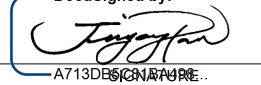


GEOTECHNICAL ENGINEER  DocuSigned by:  ATTEST TO SIGNATURE	ENGINEER    DATE: 4/17/2015 SIGNATURE: _____ DATE: _____
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**NOTES:**

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

USE AN MSE WALL SYSTEM WITH SEGMENTAL RETAINING WALL UNITS (SRW) UNITS THAT MEET ARTICLE 1040-4 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO. 1, NO. 4 AND NO. 5.

AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. 1, NO. 4 AND NO. 5.

CAST-IN-PLACE REINFORCED CONCRETE COPING IS REQUIRED FOR RETAINING WALL NO. 1.

A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR RETAINING WALL NO. 1, NO. 4 AND NO. 5 WHEN COARSE AGGREGATE IS USED IN THE REINFORCED ZONE OF RETAINING WALL NO. 1, NO. 4 AND NO. 5.

A DRAIN IS NOT REQUIRED FOR RETAINING WALL NO. 1, NO. 4 AND NO. 5.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALL NO. 1, NO. 4 AND NO. 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 NO. 1, NO. 4 AND 5 FOR THE FOLLOWING:  
 1) H = DESIGN HEIGHT + EMBEDMENT  
 2) DESIGN LIFE = 100 YEARS  
 3) 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:

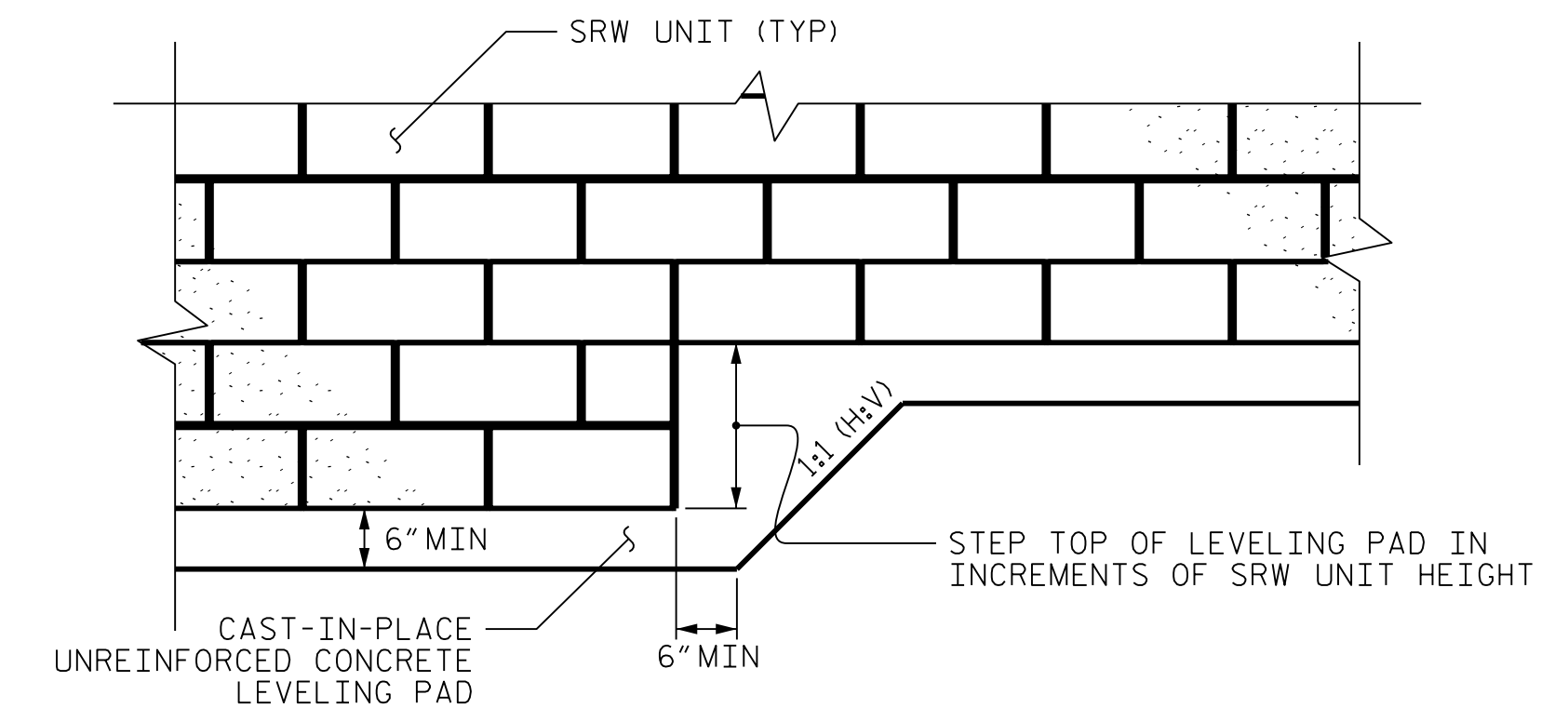
MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (φ) DEGREES	COHESION (c) LB/SF
BACKFILL	120	30	0
FOUNDATION	120	30	0

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALL NO. 1, NO. 4 AND NO. 5.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALL NO. 1, NO. 4 AND NO. 5 UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

HANDRAIL SHALL BE INSTALLED FOR WALL NO. 1, NO. 4 AND NO. 5. SEE ROADWAY PLANS FOR HANDRAIL DETAILS.

USE AASHTO RAILING LOAD (50 PLF) FOR HANDRAIL LATERAL LOAD.




SEGMENTAL RETAINING WALL (SRW) UNITS

LEVELING PAD STEP DETAILS

ESTIMATED MSE WALL QUANTITIES	
MSE RETAINING WALL NO. 1	1,090 SF
MSE RETAINING WALL NO. 4	1,360 SF
MSE RETAINING WALL NO. 5	935 SF

PROJECT NO.: U-3308 (34915.1.1)  
 DURHAM COUNTY  
 STATION: SEE WALL NO. 1, 4 AND 5  
 SHEET 6 OF 8

PREPARED BY: J. PARK	DATE: 04 / 2015
REVIEWED BY: J. BATTS	DATE: 04 / 2015

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

**NOTES AND LEVELING PAD STEP DETAILS FOR MSE RETAINING WALL**

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