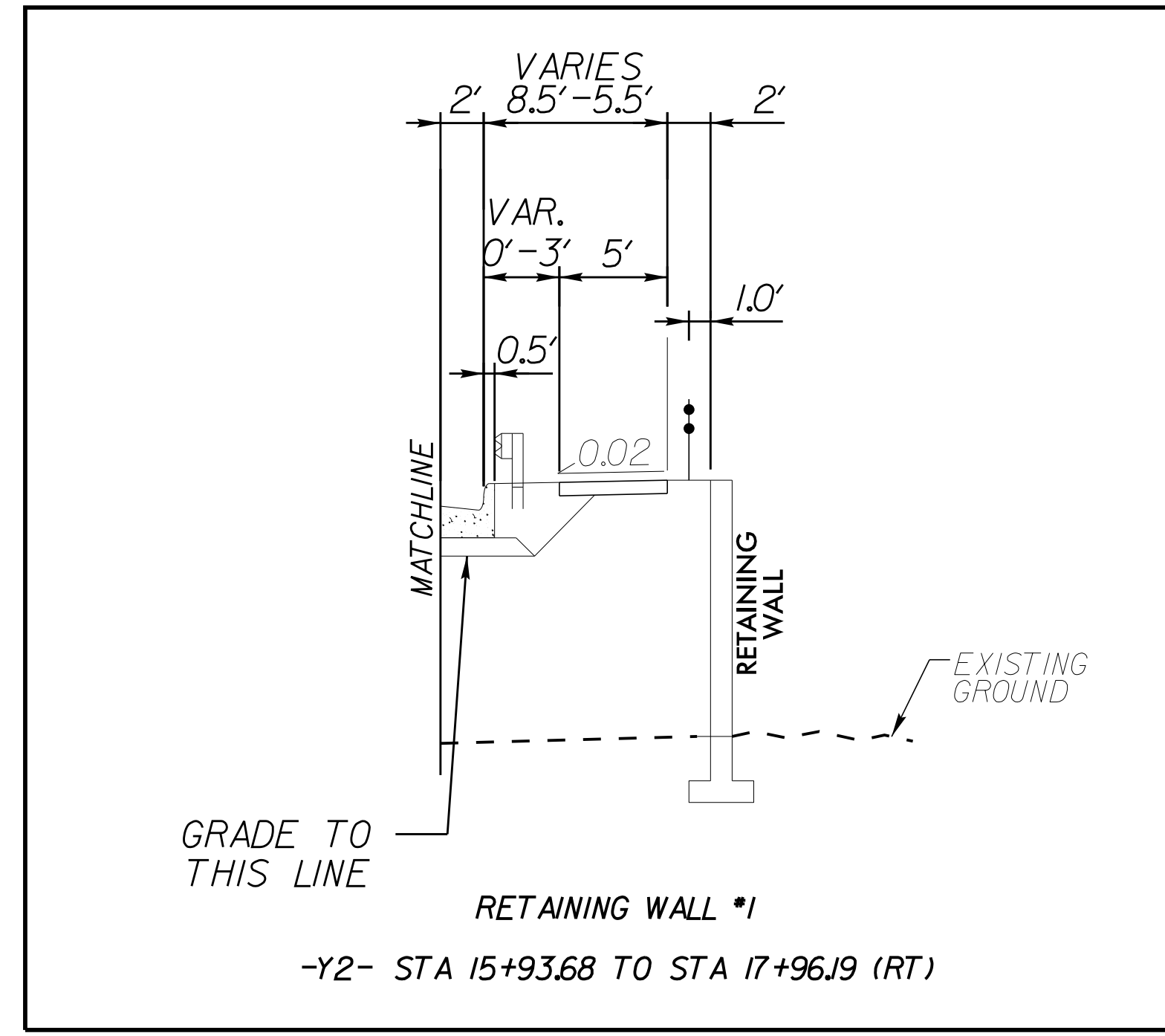
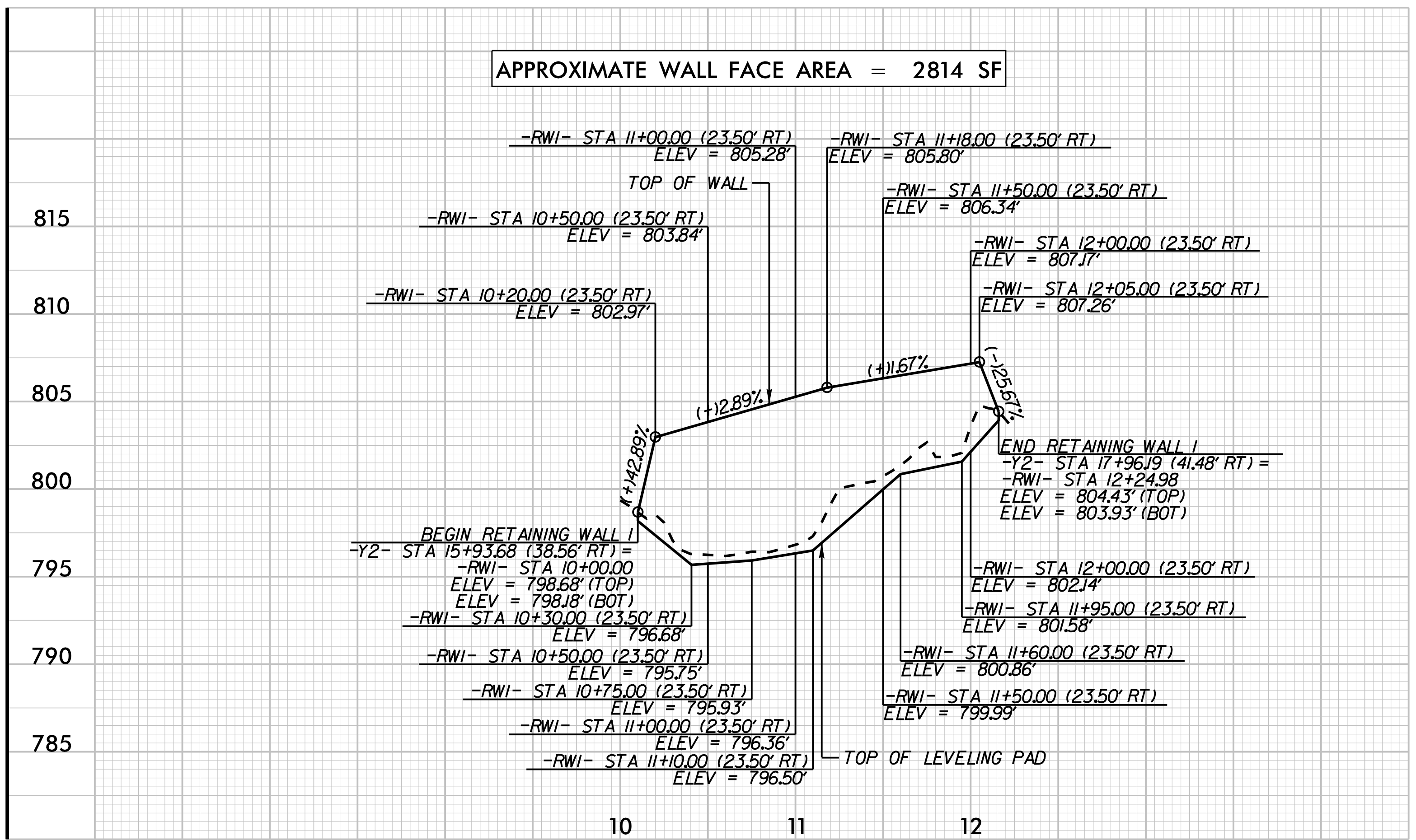


RETAINING WALL NO. 1 PLAN

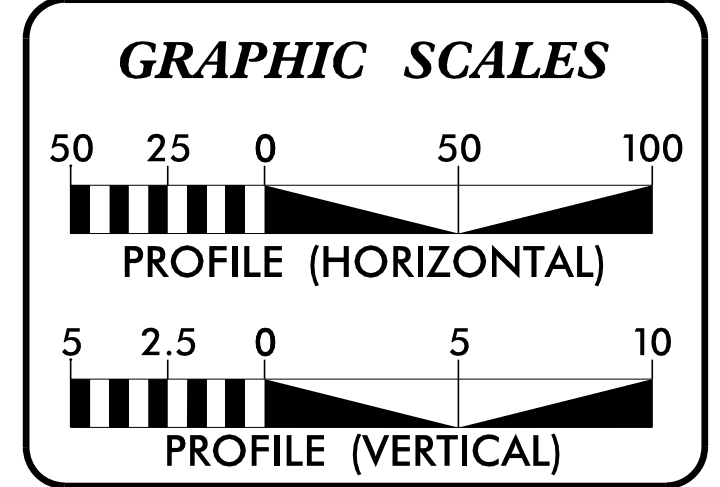


TYPICAL SECTION



APPROXIMATE WALL FACE AREA = 2814 SF

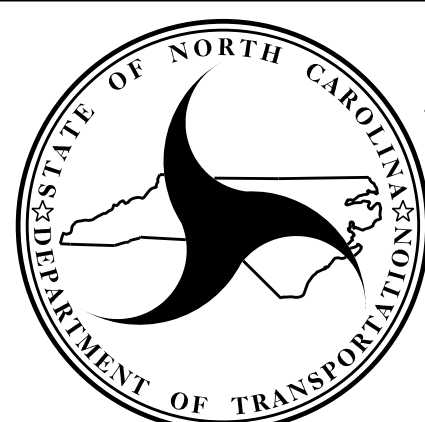
RETAINING WALL NO. 1 ELEVATION



PROJECT NO.: U-5873
 MECKLENBURG COUNTY
 STATION: -RWI- STA. 10+00 TO 12+24.98

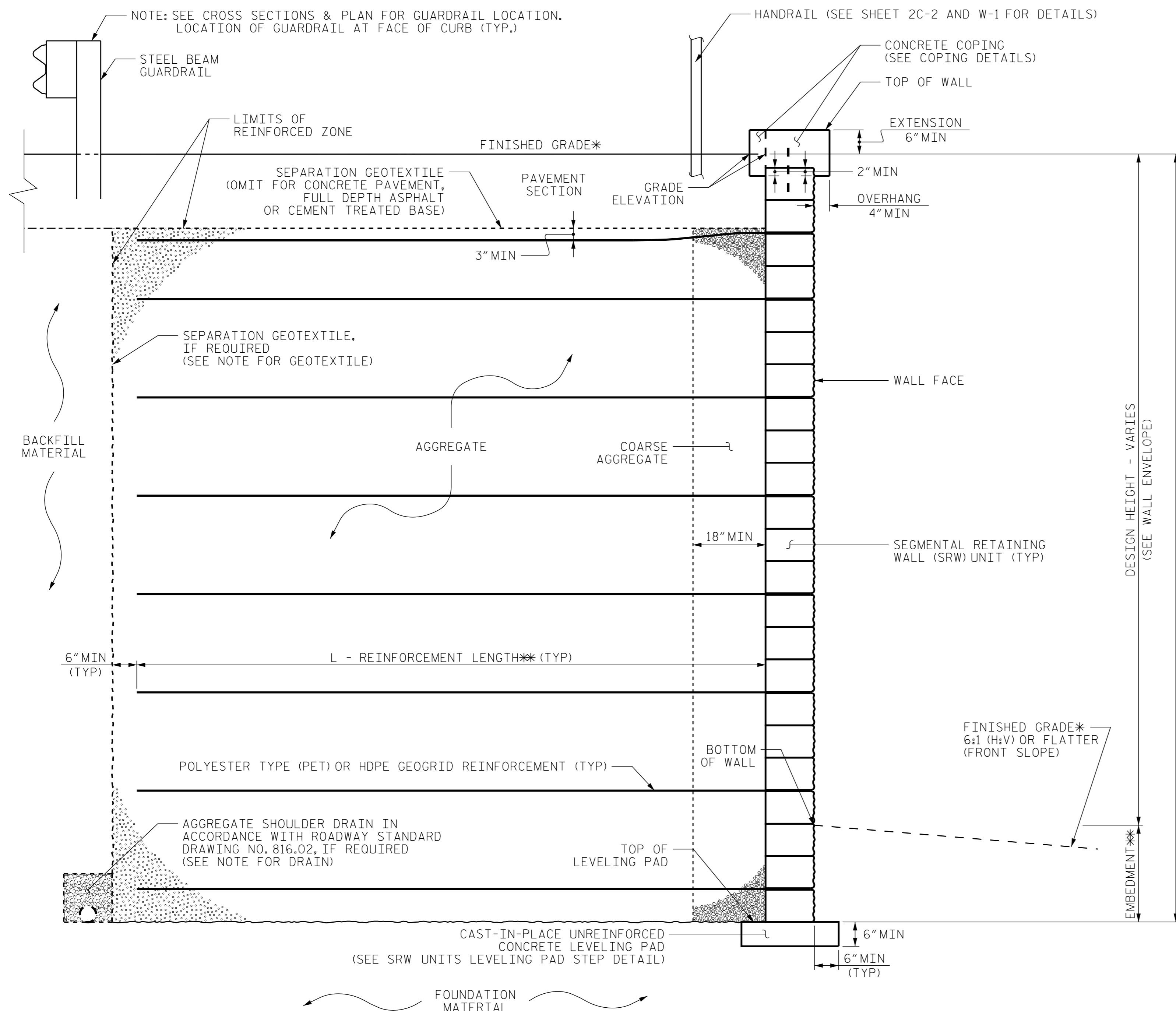
PREPARED BY: ANDREW J. WEEKS, E.I.	DATE: 9/23/2023
REVIEWED BY: FRANK D. MASTERSON, P.E.	DATE: 9/23/2023

Kimley»Horn
 NC LICENSE #F-0102
 200 SOUTH TRYON, SUITE 200
 CHARLOTTE, N.C. 28202



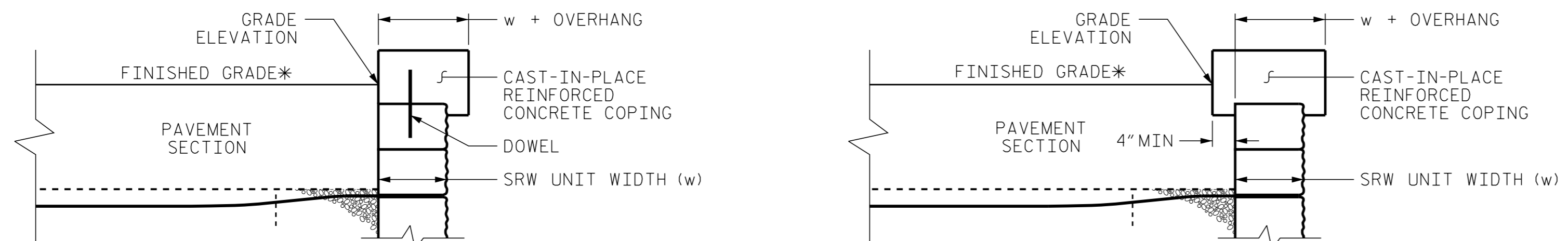
NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
**GEOTECHNICAL
 ENGINEERING UNIT**

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



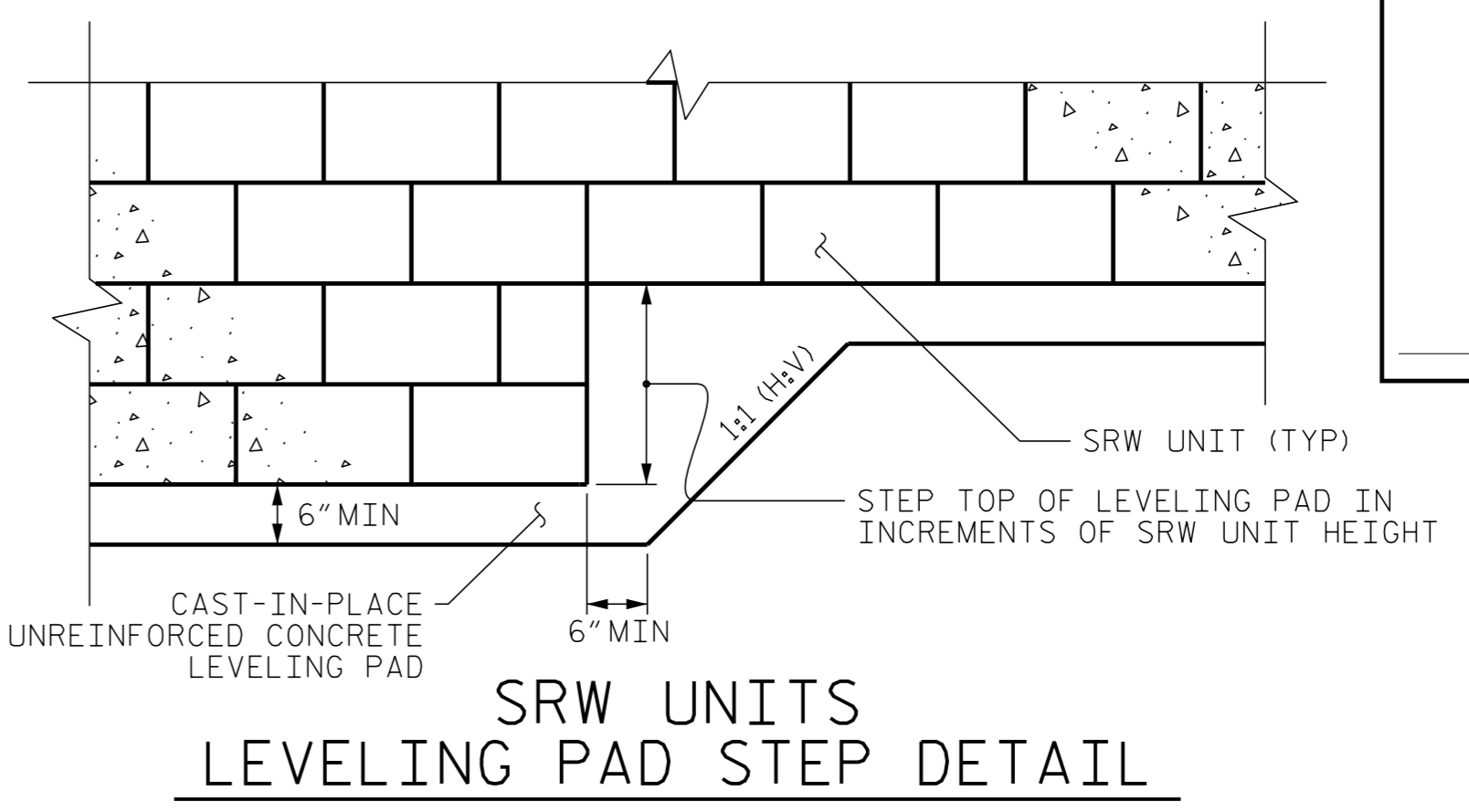
MSE WALL WITH SRW UNITS - TYPICAL SECTION

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



COPING DETAILS

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



SRW UNITS LEVELING PAD STEP DETAIL

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.
 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.
 WHEN USING AN MSE WALL SYSTEM WITH SRW UNITS FOR RETAINING WALL NO. 1, FREEZE-THAW DURABLE SRW UNITS THAT MEET ARTICLE 1040-4 OF THE STANDARD SPECIFICATIONS ARE REQUIRED.
 AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. 1.
 CIP REINFORCED CONCRETE COPING IS REQUIRED FOR RETAINING WALL NO. 1.
 USE SRW UNITS WITH A TAN COLOR FOR RETAINING WALL NO. 1, OR AS DIRECTED BY THE ENGINEER.
 USE SRW UNITS WITH A FLAT FACE FOR RETAINING WALL NO. 1, OR AS DIRECTED BY THE ENGINEER.
 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.

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 = 3,500 PSF
- 4) MINIMUM REINFORCEMENT LENGTH (L) = 0.70 H OR 6 FT, WHICHEVER IS LONGER
- 5) MINIMUM EMBEDMENT ELEVATION = 2 FT
- 6) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (g) PCF	FRICTION ANGLE (f) DEGREES	COHESION (c) PSF
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 (g) PCF	FRICTION ANGLE (f) DEGREES	COHESION (c) PSF
BACKFILL	120	30	0
FOUNDATION	120	31	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.

AT THE CONTRACTOR'S OPTION, "TEMPORARY SHORING FOR WALL CONSTRUCTION" MAY BE USED TO CONSTRUCT RETAINING WALL NO. 1. SEE MSE RETAINING WALLS PROVISION FOR TEMPORARY SHORING FOR WALL CONSTRUCTION.

PROJECT NO.: **U-5873**
MECKLENBURG COUNTY
 STATION: **-RWI- STA. 10+00 TO 12+24.98**

GEOTECHNICAL ENGINEER

ENGINEER

FRANK D. MASTERSON, JR.
 SEAL 037923
 ENGINEER

DocuSigned by:
 Frank Masterson
 10/26/2023

SIGNATURE DATE SIGNATURE DATE

Kimley»Horn

NC LICENSE #F-0102
 200 SOUTH TRYON, SUITE 200
 CHARLOTTE, N.C. 28202

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

MSE WALL - PRECAST PANELS LEVELING PAD STEP DETAILS, SRW UNITS, AND GUARDRAIL TYPICAL AND COPING DETAILS

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