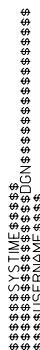


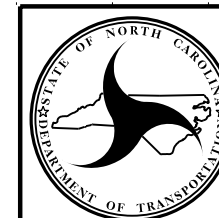
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CHARLOTTE, NC 28217
(704) 523-4726



**NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

**GEOTECHNICAL
ENGINEERING UNIT**

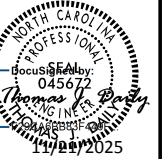
RETAINING WALL NO. 1

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

5/28/2025

PROJECT REFERENCE NO.
B-5921

SHEET NO.
W-2

ROADWAY DESIGN ENGINEER


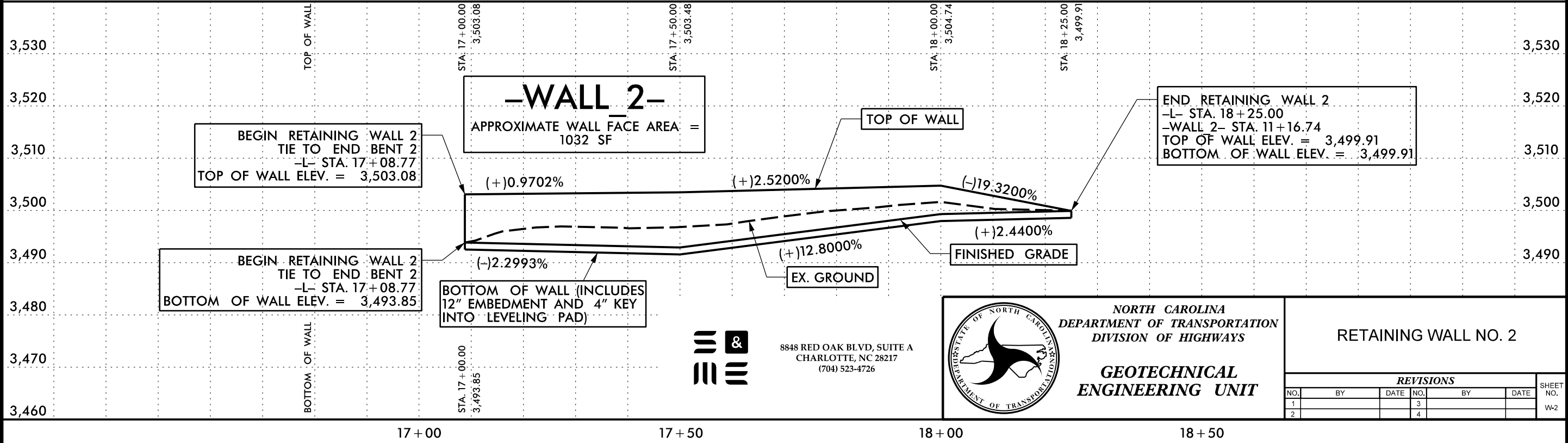
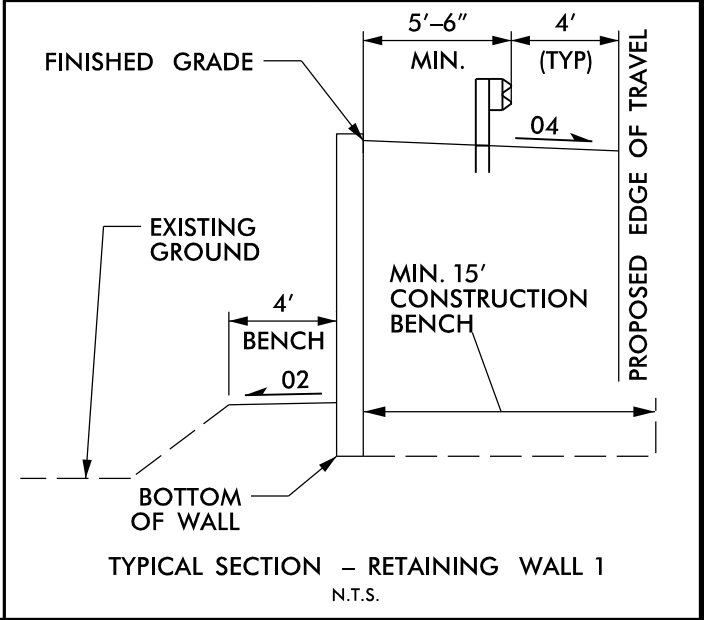
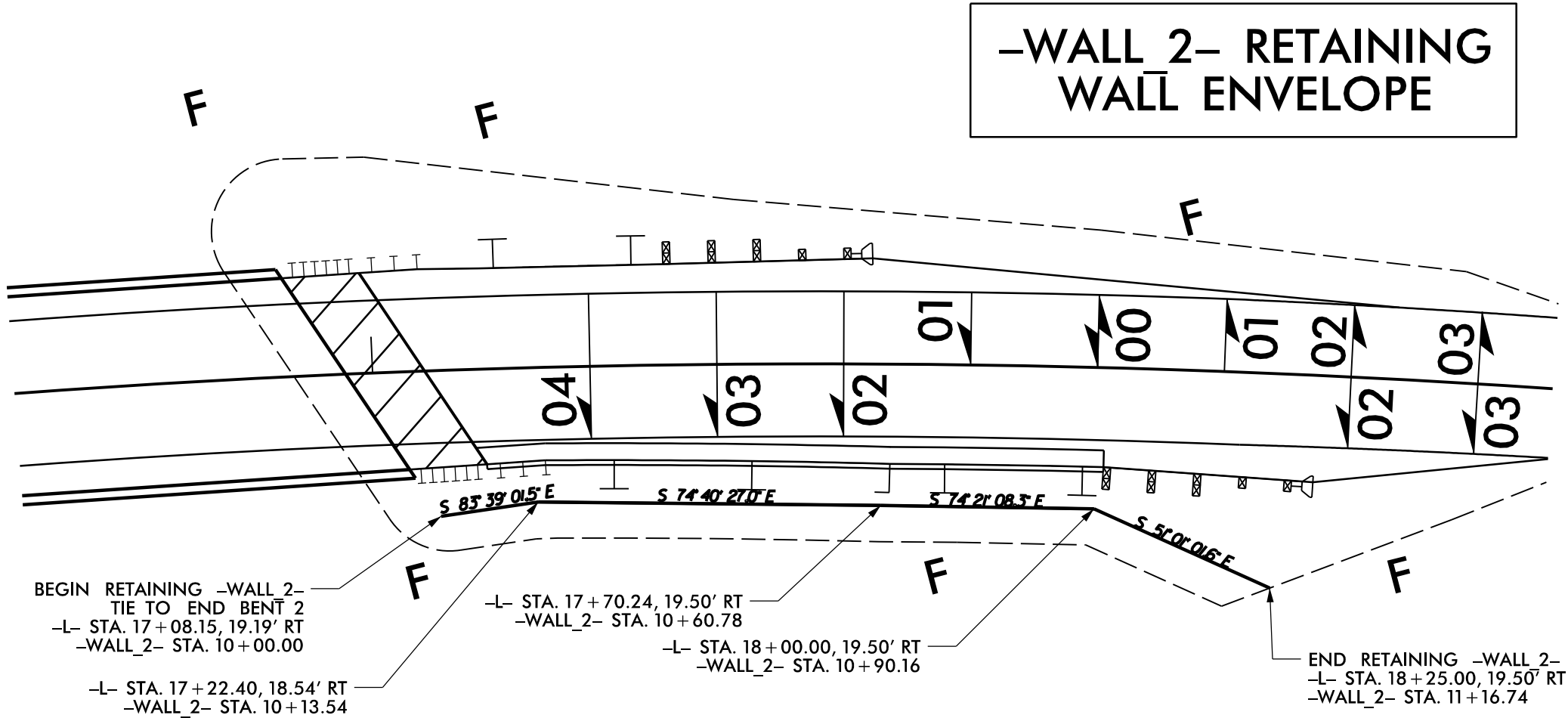
HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

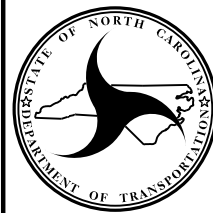
GRAPHIC SCALE
10 5 0 10 20
PLAN & PROFILE

NIV5

NV5 ENGINEERS & CONSULTANTS, INC.
3300 REGENCY PARKWAY, SUITE 100
CARY, NC 27518
P: 919.851.1912
www.NV5.com
NC License # F-1333



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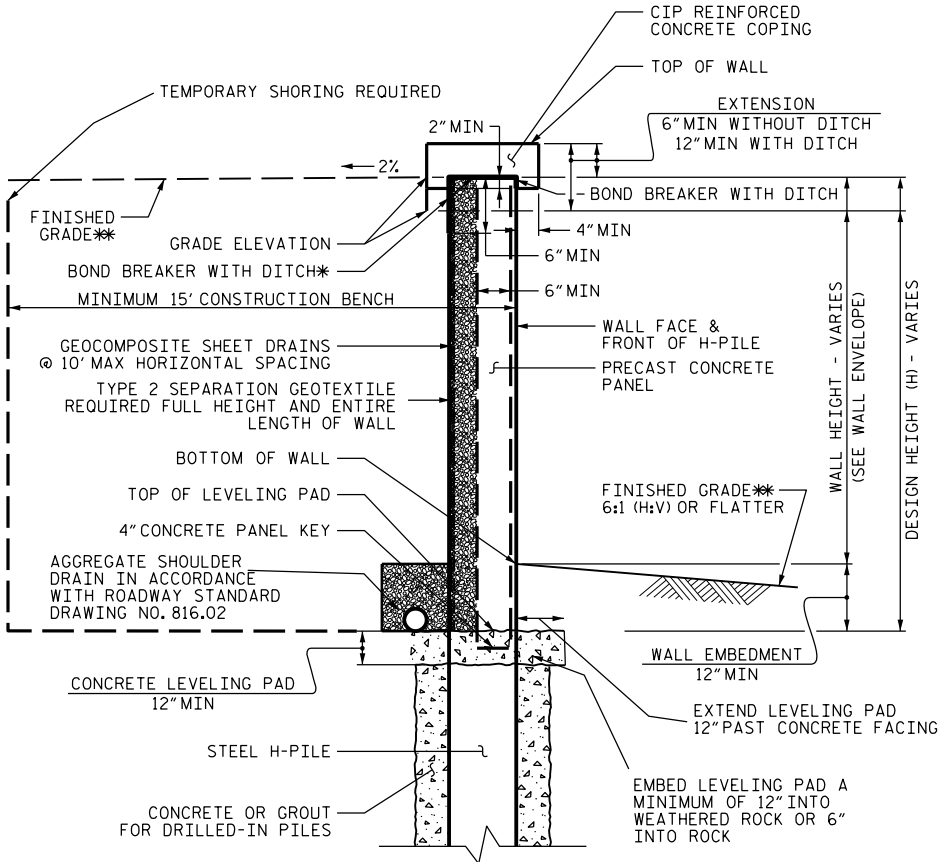


NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

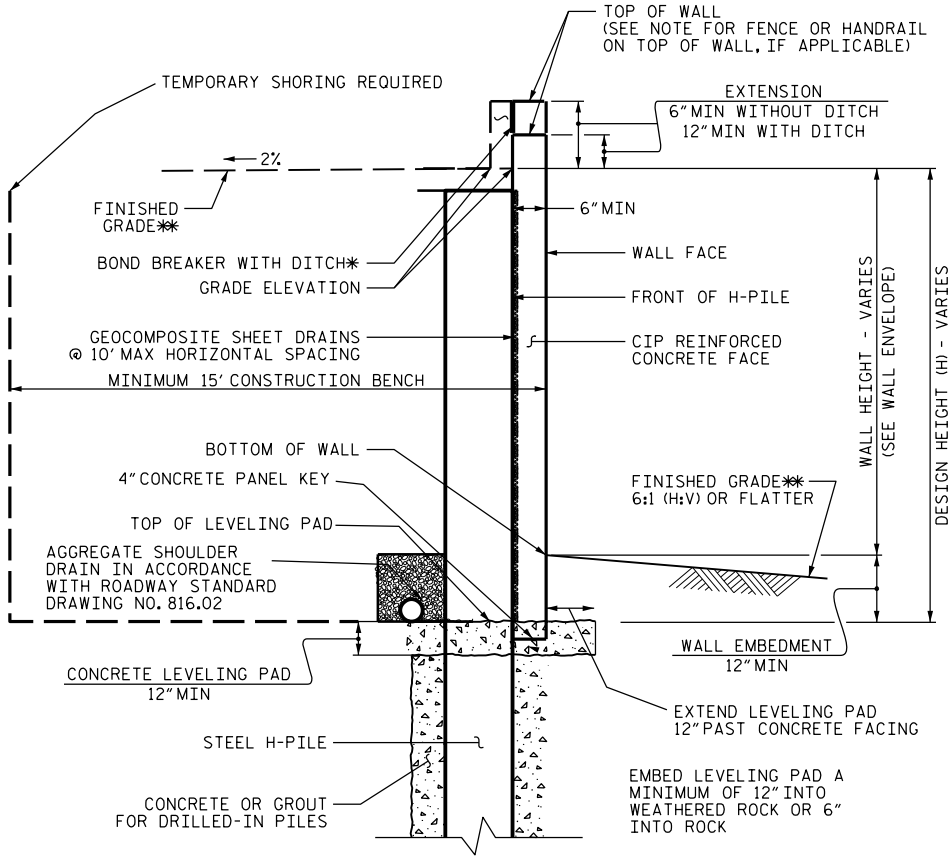
RETAINING WALL NO. 2

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



SOLDIER PILE WALL WITH
PRECAST PANEL - TYPICAL SECTIONS

AT THE CONTRACTOR'S OPTION, CONNECT COPING TO PANELS WITH DOWELS OR EXTEND COPING DOWN BACK OF PANELS AND PILES.
*SEE CONCRETE DITCH BEHIND WALL DETAILS.
**SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.



SOLDIER PILE WALL WITH
CIP FACE - TYPICAL SECTION

*SEE CONCRETE DITCH BEHIND WALL DETAILS.
**SEE PLANS FOR FINISHED GRADE OR END BENT SLOPE DETAILS.

NOTES:

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

FOR STEEL BEAM GUARDRAIL, SEE ROADWAY PLANS AND SECTION 862 OF THE STANDARD SPECIFICATIONS.

DRILLED-IN H-PILES ARE REQUIRED FOR RETAINING WALL NO.1 AND RETAINING WALL NO.2.

USE A SOLDIER PILE RETAINING WALL WITH PRECAST CONCRETE PANELS THAT MEET SECTION 1077 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO.1 AND RETAINING WALL NO.2.

PAINT GALVANIZED H-PILES BLACK IN ACCORDANCE WITH ARTICLE 442-13 OF THE STANDARD SPECIFICATIONS FOR RETAINING WALL NO.1 AND RETAINING WALL NO.2.

BEFORE BEGINNING SOLDIER PILE WALL DESIGN FOR RETAINING WALL NO.1 AND RETAINING WALL NO.2, 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.

AT THE CONTRACTOR'S OPTION USE A SOLDIER PILE RETAINING WALL WITH A CIP REINFORCED CONCRETE FACE FOR RETAINING WALL NO.1 AND RETAINING WALL NO.2.

A MINIMUM 15FT CONSTRUCTION BENCH IS REQUIRED BEHIND RETAINING WALL NO.1 AND RETAINING WALL NO.2.

TEMPORARY SHORING IS REQUIRED FOR RETAINING WALL NO.1 AND RETAINING WALL NO.2 IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION. SEE ROADWAY PLANS.

AT THE CONTRACTOR'S OPTION, USE A TEMPORARY SLOPE INSTEAD OF TEMPORARY SUPPORT OF EXCAVATIONS FOR RETAINING WALL NO.1 AND RETAINING WALL NO.2.

DESIGN RETAINING WALL NO.1 AND RETAINING WALL NO.2, FOR THE FOLLOWING:

- 1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
- 2) DESIGN LIFE = 100 YEARS
- 3) MINIMUM WALL EMBEDMENT DEPTH = 1 FT
- 4) IN-SITU ASSUMED SOIL MATERIAL PARAMETERS:
UNIT WEIGHT, γ = 115 PCF
FRICTION ANGLE, ϕ = 30 DEGREES
- 5) IN-SITU ASSUMED WEATHERED ROCK/ROCK MATERIAL PARAMETERS:
UNIT WEIGHT, γ = 145 PCF
FRICTION ANGLE, ϕ = 38 DEGREES
ROCK MASS SHEAR STRENGTH, S_m = 15 KSF

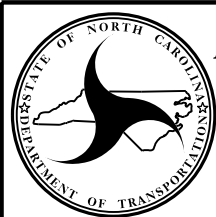
DESIGN RETAINING WALL NO.1 AND RETAINING WALL NO.2, FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

GEOTECHNICAL ENGINEER	ENGINEER
11/21/2025	
SIGNATURE	DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PREPARED BY: J. DAILY	DATE: 10/16/25
REVIEWED BY: K. HILL	DATE: 10/16/25



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CHARLOTTE, NC 28217
(704) 523-4726



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

PROJECT NO.: B-5921

JACKSON COUNTY

STATION: -L- 15+25.00 TO 16+12.54 (WALL 1)

STATION: -L- 17+08.77 TO 18+25.00 (WALL 2)

SOLDIER PILE RETAINING WALL NO. 1 AND RETAINING WALL NO. 2						SHEET NO. W-3
REVISIONS						
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			