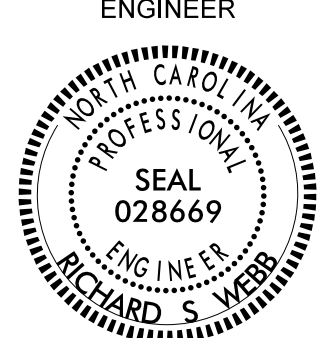
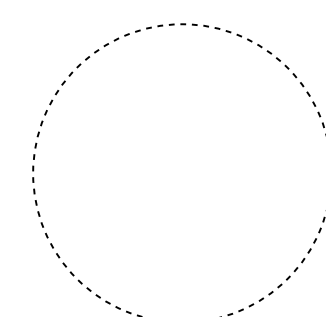
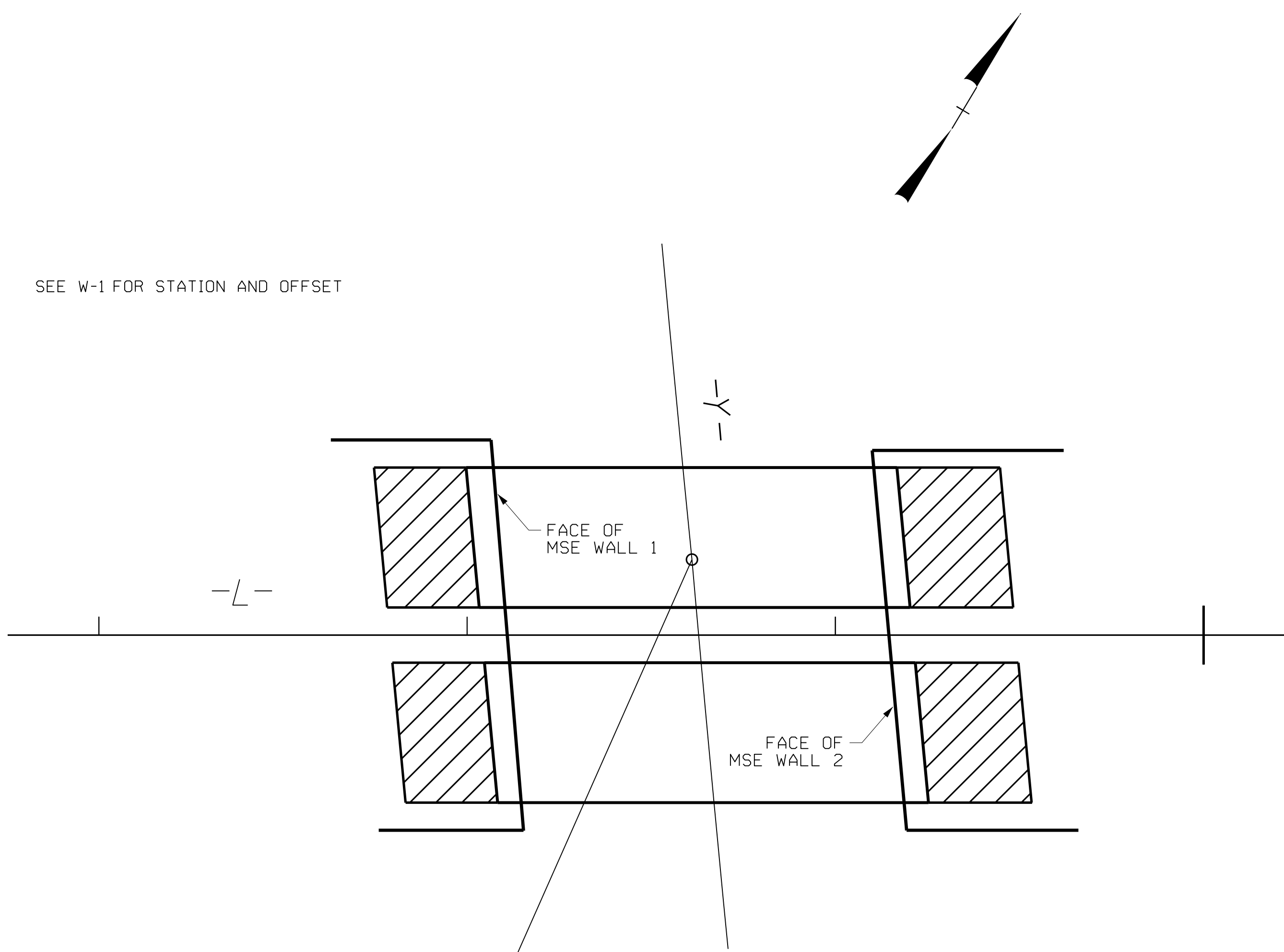


GEOTECHNICAL ENGINEER  Dec 16, 2021 DATE	ENGINEER  SIGNATURE DATE
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

SEE W-1 FOR STATION AND OFFSET



-Y- PC Sta. 16+70.74

PLAN

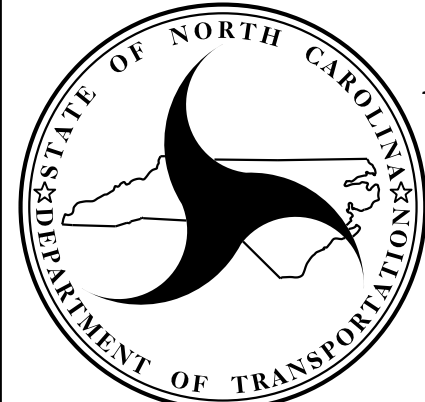
**NOTES:**

- FOR MSE ABUTMENT WALLS, SEE MECHANICALLY STABILIZED EARTH ABUTMENT WALLS PROVISION.
- FOR TYPE III REINFORCED BRIDGE APPROACH FILL, SEE BRIDGE APPROACH FILLS PROVISION AND ROADWAY DETAIL DRAWING NO. 422D10.
- FOR SINGLE FACED PRECAST CONCRETE BARRIER, SEE ROADWAY PLANS AND SECTION 857 OF THE STANDARD SPECIFICATIONS.
- AT THE CONTRACTOR'S OPTION, USE FINE AGGREGATE IN THE REINFORCED ZONE OF RETAINING WALL NO. 1 & 2.
- A SEPARATION GEOTEXTILE IS REQUIRED AT THE BACK OF THE REINFORCED ZONE FOR MSE ABUTMENT WALLS.
- A DRAIN IS REQUIRED FOR MSE ABUTMENT WALLS.
- BEFORE BEGINNING WALL DESIGN FOR MSE ABUTMENT WALLS, VERIFY WALL LOCATION INCLUDING LOCATION OF BRIDGE WINGWALLS. IF NECESSARY, SUBMIT A REVISED WALL PLAN AND PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.
- DESIGN MSE ABUTMENT WALLS FOR THE FOLLOWING:
  - H = DESIGN HEIGHT + EMBEDMENT
  - DESIGN LIFE = 100 YEARS
  - MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 6500 PSF
  - MINIMUM REINFORCEMENT LENGTH (L) = 0.7 H
  - DESIGN PARAMETERS:
- DESIGN MSE ABUTMENT WALLS FOR A LIVE LOAD (TRAFFIC) SURCHARGE.
- EXISTING OR FUTURE OBSTRUCTIONS SUCH AS GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR MSE ABUTMENT WALLS.
- FOUNDATION FOR END BENT NO. 1, LOCATED AT STATION -L- 23+11, AND END BENT NO. 2, LOCATED AT STATION -L- 24+24.75, WILL INTERFERE WITH REINFORCEMENT FOR RETAINING WALLS NO. 1 & 2. SEE FOUNDATION LAYOUT SHEET FOR FOUNDATION LOCATIONS.
- DESIGN RETAINING WALL NO. 1 AND 2 FOR A LATERAL LOAD FROM FOUNDATIONS LOCATED BEHIND THE MSE WALL APPLIED AS A FACTORED UNIFORM PRESSURE OF 320 PSF TO THE BACK OF PANELS OVER TOP TEN FEET OF WALL. THIS LATERAL LOAD DOES NOT AFFECT PULLOUT.
- DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR MSE ABUTMENT WALLS UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
- AT THE CONTRACTOR'S OPTION, "TEMPORARY SHORING FOR WALL CONSTRUCTION" MAY BE USED TO CONSTRUCT MSE ABUTMENT WALLS. SEE MSE ABUTMENT WALLS PROVISION FOR TEMPORARY SHORING FOR WALL CONSTRUCTION.
- FOR CONCRETE DITCHES, SEE SECTION 850 OF THE STANDARD SPECIFICATIONS PROVISION.
- COORDINATE WITH BRIDGE CONTRACTOR TO CONSTRUCT VERTICAL COPING FOR MSE ABUTMENT WALLS.
- AN ASHLAR STONE ARCHITECTURAL FINISH WITH COLOR FS 36559 IS REQUIRED FOR PRECAST CONCRETE PANELS FOR RETAINING WALL NO. 1 & 2.

MATERIAL TYPE	UNIT WEIGHT (g) LB/CF	FRICTION ANGLE (f) DEGREES	COHESION (c) LB/SF
COARSE AGGREGATE	110	38	0
FINE AGGREGATE	120	34	0
RETAINED SOIL	120	30	0
FOUNDATION SOIL	120	30	0

ESTIMATED MSE WALL QUANTITIES (SQUARE FEET)	
MSE ABUTMENT WALL NO. 1	2900 SF
MSE ABUTMENT WALL NO. 2	3500 SF
TOTAL	6400 SF

PREPARED BY: R. WEBB	DATE: 11-20
REVIEWED BY: D. TEAGUE	DATE: 11-20

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

PROJECT NO.: B-5353  
 GUILFORD COUNTY  
 STATION: \_\_\_\_\_  
 SHEET 4 OF 4

MSE ABUTMENT WALLS PLAN AND NOTES					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO. W2-4