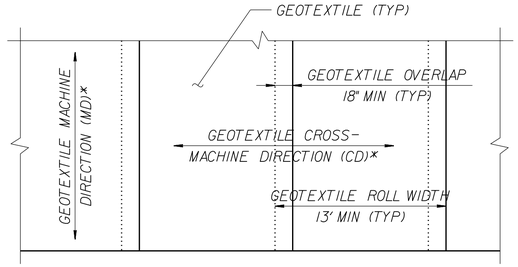
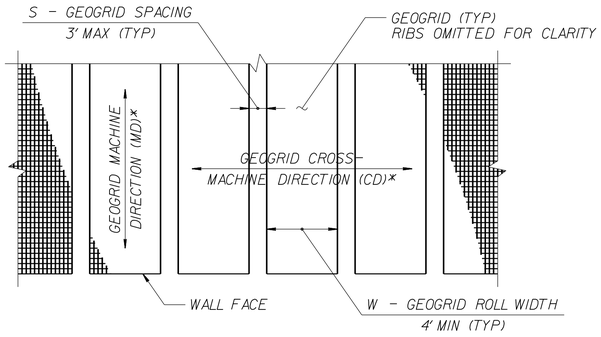


GEOTEXTILE PLACEMENT

(100% COVERAGE MIN FOR GEOTEXTILE REINFORCEMENT)

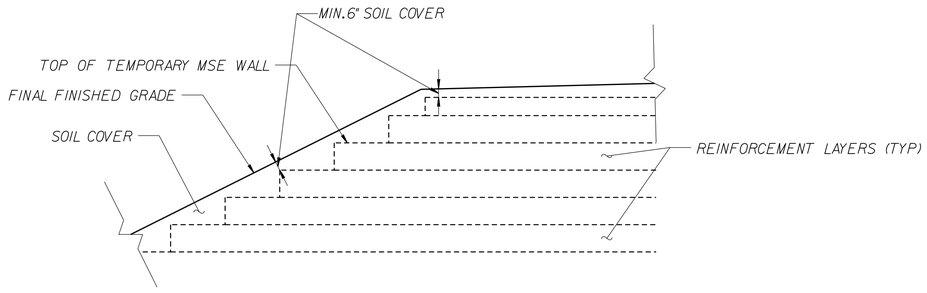


GEOGRID PLACEMENT

(80% COVERAGE MIN FOR GEOGRID REINFORCEMENT – $\frac{W}{W+S}$ x 100 $\geq$ 80%, SEE NOTE 8)

GEOSYNTHETIC PLACEMENT DETAILS

(PLAN VIEW)
*SEE NOTE 9.



PERMANENT SOIL COVER DETAILS

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 039779 ENGINEER JEREMY R HAMM

DocuSigned by: Jeremy R Hamm 9/17/2021
46220230 4BBC46A...
SIGNATURE DATE

ENGINEER

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES:

1. FOR TEMPORARY MSE WALL, SEE TEMPORARY SHORING PROVISION.
2. TEMPORARY MSE WALL IS REQUIRED FROM -L- STATION 20+66.45, 50.91 FT LT TO -L- STATION 20+63.25, 45.13 FT RT FOR SURCHARGING THE PROPOSED WATER MAIN.
3. BEFORE BEGINNING TEMPORARY MSE WALL DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF WALL LOCATION TO DETERMINE ACTUAL WALL HEIGHT.
4. DESIGN TEMPORARY MSE WALL FROM -L- STATION 20+66.45, 50.91 FT LT, TO STATION 20+63.25, 45.13 FT LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

   1) DESIGN HEIGHT (H) = WALL HEIGHT + WALL EMBEDMENT
   2) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 3,200 PSF
   3) MINIMUM REINFORCEMENT LENGTH = 14.5 FEET
   4) MINIMUM EMBEDMENT DEPTH = 2 FEET
   5) ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) PCF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) PSF
RETAINED	120	30	0
FOUNDATION	110	26	0

5. DO NOT USE CLASS VI SELECT MATERIAL IN THE REINFORCED ZONE OF MSE FABRIC WALL WITH GEOTEXTILE REINFORCEMENT.
6. GEOGRIDS FOR GEOGRID REINFORCEMENT ARE APPROVED FOR SHORT TERM DESIGN STRENGTHS (3-YEAR DESIGN LIFE) IN THE MD AND CD BASED ON MATERIAL TYPE. THE LIST OF APPROVED GEOGRIDS WITH DESIGN STRENGTHS IS AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Products.aspx
   DEFINE MATERIAL TYPE FROM THE WEBSITE ABOVE FOR SHORING BACKFILL AS FOLLOWS:

MATERIAL TYPE	SHORING BACKFILL
BORROW	A-2-4 SOIL
FINE AGGREGATE	CLASS II, TYPE I OR CLASS III SELECT MATERIAL
COARSE AGGREGATE	CLASS V OR VI SELECT MATERIAL

7. FOR GEOGRID REINFORCEMENT WITH LESS THAN 100% COVERAGE, STAGGER REINFORCEMENT SO GEOGRIDS ARE CENTERED OVER GAPS IN THE REINFORCEMENT LAYER BELOW.
8. AT THE CONTRACTOR'S OPTION, REINFORCEMENT MAY BE INSTALLED WITH THE MD PARALLEL TO THE WALL FACE IF BOTH OF THE FOLLOWING CONDITIONS OCCUR:
   - W (REINFORCEMENT ROLL WIDTH) $\geq$ (MINIMUM REQUIRED REINFORCEMENT LENGTH) + 4.5' AND
   - REINFORCEMENT STRENGTH IN CD $\geq$ MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD.
9. DO NOT PLACE REINFORCED ZONE BACKFILL OR REINFORCEMENT UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
10. DO NOT SPLICE OR OVERLAP REINFORCEMENT SO SEAMS ARE PARALLEL TO THE WALL FACE.
11. CONTACT THE ENGINEER WHEN EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT.
12. PLACE 96 INCH CASING PIPE BEFORE CONSTRUCTING TEMPORARY MSE WALL AND PLACING RETAINED EMBANKMENT.
13. OBSERVE A 3 MONTH WAITING PERIOD AFTER CONSTRUCTING TEMPORARY MSE WALL AND RETAINED EMBANKMENT TO WITHIN 6 INCHES OF RAIL SUBGRADE BEFORE PLACING CARRIER PIPE WITHIN CASING.
14. DO NOT PLACE EMBANKMENT FILL OVER EXISTING WATER MAIN UNTIL IT IS REMOVED.
15. FOLLOWING REMOVAL OF EXISTING WATER MAIN AND PLACEMENT OF EMBANKMENT UP TO RAIL SUBGRADE, OBSERVE AN ADDITIONAL 3 MONTH WAITING PERIOD BEFORE PLACING BALLAST AND RAIL.

PROJECT NO.: P-5705A
MECKLENBURG COUNTY
STATION: -L- 20+49.45
SHEET 3 OF 3

PREPARED BY: S. C. CROCKETT	DATE: 9/16/21
REVIEWED BY: J. R. HAMM	DATE: 9/16/21

FALCON ENGINEERING

FALCON ENGINEERING, INC.
1210 TRINITY ROAD, SUITE 110
CARY, NC 27513

PHONE: 919.871.0800
www.falconengineers.com

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

TEMPORARY MSE WALL TYPICAL DETAILS AND NOTES

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