

38356.1.2 (B-4407)

Shoring Location No. 1 and 2

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- ±21+50, ±2' LT, TO STATION -L- ±26+00, ±19' LT, AND FROM STATION -L- ±39+00, ±21.5' LT TO STATION, -L- ±40+02, ±15.5' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (φ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = N/A FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L- ±21+50, ±2' LT, TO STATION -L- ±26+00, ±19' LT, AND FROM STATION -L- ±39+00, ±21.5' LT TO STATION, -L- ±40+02, ±15.5' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

Shoring Location No. 3 and 4

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- ±29+33, ±24.5' LT, TO STATION -L- ±29+77, ±24.5' LT, AND FROM STATION -L- ±34+86, ±24.5' LT TO STATION, -L- ±35+28, ±24.5' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (φ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = N/A FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L- ±29+33, ±24.5' LT, TO STATION -L- ±29+77, ±24.5' LT, AND FROM STATION -L- ±34+86, ±24.5' LT TO STATION, -L- ±35+28, ±24.5' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L- ±29+33, ±24.5' LT, TO STATION -L- ±29+77, ±24.5' LT, AND FROM STATION -L- ±34+86, ±24.5' LT TO STATION, -L- ±35+28, ±24.5' LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

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Shoring Location No. 5 and 6

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L- ±29+31, ±20' LT, TO STATION -L- ±29+69, ±20' LT, AND FROM STATION ±34+94, ±20' LT TO STATION, -L- ±35+67, ±20' LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 PCF
FRICTION ANGLE (φ) = 30 DEGREES
COHESION (c) = 0 PSF
GROUNDWATER ELEVATION = N/A FT

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L- ±29+31, ±20' LT, TO STATION -L- ±29+69, ±20' LT, AND FROM STATION ±34+94, ±20' LT TO STATION, -L- ±35+67, ±20' LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

WHEN BACKFILL FOR RETAINING WALLS and/or BRIDGE APPROACH FILLS OVERLAPS WITH THE REINFORCED ZONE OF TEMPORARY WALLS, USE SHORING BACKFILL OR BACKFILL MATERIAL REQUIRED FOR RETAINING WALLS and/or BRIDGE APPROACH FILLS, WHICHEVER IS BETTER, IN THE REINFORCED ZONE OF TEMPORARY WALLS.

The GEU recommends including the Temporary Shoring and Temporary Soil Nail Walls provisions in the contract for the referenced project. Please contact Michael Stephens, PE or Shane Clark, PE at (704) 455-8902 if there are any questions concerning this memorandum.



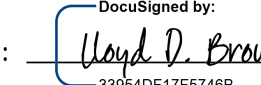
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Michael H. Stephens 2/23/2021

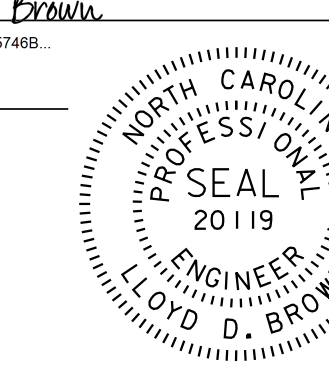
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Michael H. Stephens, P.E.
Geotechnical Design Engineer
NCDOT Geotechnical Engineering Unit – Western Region

JLP/ENW/SCC/MHS
SCC

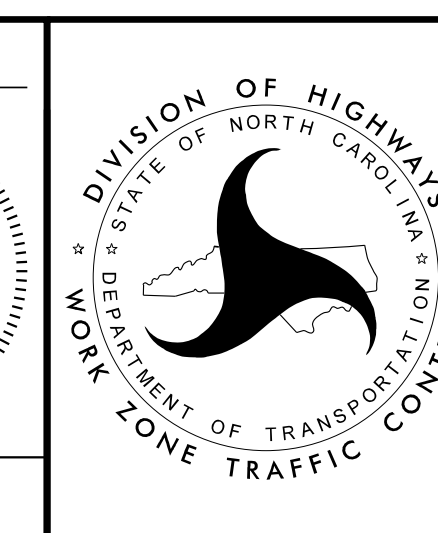
Attachments: Temporary Soil Nail Walls Provision

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APPROVED: 
DATE: 4/9/2021



**DOCUMENT NOT CONSIDERED FINAL
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**GEOTECHNICAL
RECOMMENDATIONS
FOR TEMPORARY
SHORING**